

LEAGUE OF NATIONS

Geneva, 1936.

**RECORDS**  
OF THE  
**Conference for the Reduction and Limitation  
of Armaments**

—————  
**Series D**  
**VOLUME 3**  
—————

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**MINUTES**  
OF THE  
**AIR COMMISSION**

**February 27th - June 24th, 1932**

Series of League of Nations Publications

IX. DISARMAMENT  
1936. IX. 7.

The Air Commission, which was in session from February 27th to June 24th, 1932, was set up by the General Commission on February 25th, 1932, in consequence of the following resolution, adopted by the Conference on the 24th of the same month :

“ The Conference,

“ Approving the proposals of the Bureau on the action to be taken in regard to the plans and proposals which have been placed before it :

“ (1) Decides to transmit to the General Commission these plans and proposals, as well as the draft Convention (with annexes) prepared by the Preparatory Commission, which may serve as a framework for the work of the Conference ;

“ (2) Requests the General Commission to proceed to a preliminary study of, and to co-ordinate, the said plans and proposals and the draft Convention ;

“ (3) Decides that, without prejudice to the rules of procedure,<sup>1</sup> the General Commission shall be authorised to constitute, as and when the need arises, such commissions, sub-commissions or committees as it may consider desirable, and, in particular, the land, naval, air and national defence expenditure commissions.

“ Such commissions, sub-commissions or committees will report to the General Commission on the matters which it refers to them.”

The Air Commission appointed the following officers :

*President* : M. S. DE MADARIAGA (Spain) ;

*Vice-Presidents* : M. COSTA DU RELS (Bolivia), succeeded from May 24th, 1932, by M. VALLOTTON (Switzerland) ; M. MARINOFF (Bulgaria) ;

*Rapporteur* : M. BOHEMAN (Sweden), succeeded from June 15th, 1932, by M. LANGE (Norway) ;

*Secretary* : Colonel L. CHIAPPELLI, Secretary of the Air Sub-Commission of the Permanent Advisory Commission for Military, Naval and Air Questions ; Member of the Disarmament Section of the League of Nations.

\* \* \*

This volume contains the Minutes of the Commission and the documents submitted to it. It was not considered necessary to reproduce documents Conf.D./C.A.35 to 69, dealing with the question of the internationalisation of civil aviation, this question having been referred to a Sub-Committee, whose Minutes have not been published. Document Conf. D./C.A.70, which shows the position of the Sub-Committee's work after the meeting on July 18th, 1932, has alone been printed in this volume.

It will be recalled that the question of the internationalisation of civil aviation was afterwards referred by the General Commission to a Committee which sat from February 20th, 1933, to March 17th, 1933. This date coincides with the submission to the General Commission of the United Kingdom draft Convention.

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<sup>1</sup> Part V of the Rules of Procedure reads as follows :

“ V. COMMISSIONS.

“ 1. The Conference shall have the right, according to the exigencies of the business on hand and convenience of work, to set up commissions on which all delegations may be represented by a delegate, who may be assisted by advisers, experts and secretaries. Committees may also be set up consisting of delegates of a limited number of countries.

“ 2. Each commission shall appoint its Chairman and its Vice-Chairman or its Vice-Chairmen and shall, at the appropriate time, appoint one or more rapporteurs.

“ 3. The commissions may themselves set up sub-commissions.”

CONTENTS.

	Page
<b>FIRST MEETING, February 27th, 1932, at 11.30 a.m. :</b>	
1. Election of the President of the Commission . . . . .	1
<b>SECOND MEETING, March 10th, 1932, at 10.30 a.m. :</b>	
2. Election of the Vice-Presidents and Rapporteur . . . . .	1
3. Examination of the List of Questions referred by the General Commission to the Air Commission (document Conf.D.103) . . . . .	1
<b>THIRD MEETING, March 14th, 1932, at 11 a.m. :</b>	
4. Examination of the List of Questions referred by the General Commission to the Air Commission (document Conf.D.103): Sub-Commission's Report . . . . .	6
<b>FOURTH MEETING, March 16th, 1932, at 5.30 p.m. :</b>	
5. Communication of the Resolution adopted by the General Commission on the Internationalisation of Civil Aviation: Discussion of Methods of Work . . . . .	7
<b>FIFTH MEETING, March 17th, 1932, at 11 a.m. :</b>	
6. Discussion of Methods of Work ( <i>continuation</i> ) . . . . .	10
<b>SIXTH MEETING, April 27th, 1932, at 10 a.m. :</b>	
7. Consideration of the Questions referred to the Commission by the Resolution of the General Commission dated April 22nd, 1932 (document Conf.D./C.G.28(2)) . . . . .	10
<b>SEVENTH MEETING, May 18th, 1932, at 3.30 p.m. :</b>	
8. Consideration of the Questions referred to the Commission in the Resolution of the General Commission dated April 22nd, 1932 (document Conf. D./C.G.28(2)): Report by Sub-Committee . . . . .	15
9. General Discussion of Sections I, II and III of the Sub-Committee's Report and the German Delegation's Reservation . . . . .	19
10. Consideration of Section I as a whole . . . . .	20
<b>EIGHTH MEETING, May 19th, 1932, at 3.30 p.m. :</b>	
11. Consideration of the Questions referred to the Commission in the Resolution of the General Commission dated April 22nd, 1932 (document Conf. D./C.G.28(2)): Report by the Sub-Committee ( <i>continuation of the discussion</i> ) . . . . .	24
<b>NINTH MEETING, May 20th, 1932, at 3.30 p.m. :</b>	
12. Consideration of the Questions referred to the Commission in the Resolution of the General Commission dated April 22nd, 1932 (document Conf. D./C.G.28(2)): Report by the Sub-Committee ( <i>continuation of the discussion</i> ) . . . . .	30
<b>TENTH MEETING, May 23rd, 1932, at 10.30 a.m. :</b>	
13. Consideration of the Questions referred to the Commission in the Resolution of the General Commission dated April 22nd, 1932 (document Conf. D./C.G.28(2)): Report by the Sub-Committee ( <i>continuation of the discussion</i> ) . . . . .	36
<b>ELEVENTH MEETING, May 23rd, 1932, at 4 p.m. :</b>	
14. Consideration of the Questions referred to the Commission in the Resolution of the General Commission dated April 22nd, 1932 (document Conf. D./C.G.28(2)): Report by the Sub-Committee ( <i>continuation of the discussion</i> ) . . . . .	41

	Page
<b>TWELFTH MEETING, May 24th, 1932, at 3.30 p.m. :</b>	
15. Resignation of M. Costa du Rels, Vice-President of the Commission : Election of New Vice-President . . . . .	44
16. Consideration of the Questions referred to the Commission by the Resolution of the General Commission dated April 22nd, 1932 (document Conf. D./C.G.28(2)) : Report by the Sub-Committee ( <i>continuation of the discussion</i> ) . . . . .	44
<b>THIRTEENTH MEETING, May 25th, 1932, at 10.30 a.m. :</b>	
17. Consideration of the Questions referred to the Commission by the Resolution of the General Commission, dated April 22nd, 1932 (document Conf. D./C.G.28(2)) : Report by the Sub-Committee ( <i>continuation of the discussion</i> ) . . . . .	52
<b>FOURTEENTH MEETING, May 26th, 1932, at 10.30 a.m. :</b>	
18. Consideration of the Questions referred to the Commission by the Resolution of the General Commission dated April 22nd, 1932 (document Conf. D./C.G.28(2)) : Report by the Sub-Committee ( <i>continuation of the discussion</i> ) . . . . .	57
19. Statement by the President as to the Action taken on the Air Commission's Decision with regard to Aeroplanes carried on Aircraft-carriers . . . . .	61
<b>FIFTEENTH MEETING, May 26th, 1932, at 3.30 p.m. :</b>	
20. Consideration of the Questions referred to the Commission by the Resolution of the General Commission dated April 22nd, 1932 (document Conf. D./C.G.28(2)) : Report by the Sub-Committee ( <i>continuation of the discussion</i> ) . . . . .	62
<b>SIXTEENTH MEETING, May 27th, 1932, at 3.30 p.m. :</b>	
21. Consideration of the Questions referred to the Commission by the Resolution of the General Commission dated April 22nd, 1932 (document Conf. D./C.G.28(2)) : Report by the Sub-Committee ( <i>continuation of the discussion</i> ) . . . . .	68
<b>SEVENTEENTH MEETING, May 31st, 1932, at 10.30 a.m. :</b>	
22. Consideration of the Questions referred to the Commission by the Resolution of the General Commission dated April 22nd, 1932 (document Conf. D./C.G.28(2)) : Report by the Sub-Committee ( <i>continuation of the discussion</i> ) . . . . .	74
<b>EIGHTEENTH MEETING, June 3rd, 1932, at 10.30 a.m. :</b>	
23. Consideration of the Questions referred to the Commission by the Resolution of the General Commission dated April 22nd, 1932 (document Conf. D./C.G.28(2)) : Draft Report to the General Commission (document Conf.D./C.A.29) . . . . .	79
<b>NINETEENTH MEETING, June 4th, 1932, at 10.30 a.m. :</b>	
24. Consideration of the Questions referred to the Commission by the Resolution of the General Commission dated April 22nd, 1932 (document Conf. D./C.G.28(2)) : Draft Report to the General Commission (document Conf.D./C.A.29) ( <i>continuation of the discussion</i> ) . . . . .	82
<b>TWENTIETH MEETING, June 7th, 1932, at 10.30 a.m. :</b>	
25. Consideration of the Questions referred to the Commission by the Resolution of the General Commission dated April 22nd, 1932 (document Conf. D./C.G.28(2)) : Report of the Sub-Committee on the Draft Resolution submitted by the French Delegation (document Conf.D./C.A.30) . . . . .	85
26. Draft Report to the General Commission (document Conf.D./C.A.29) ( <i>continuation</i> ) . . . . .	91
<b>TWENTY-FIRST MEETING, June 8th, 1932, at 4 p.m. :</b>	
27. Consideration of the Questions referred to the Commission by the Resolution of the General Commission dated April 22nd, 1932 (document Conf. D./C.G.28(2)) : Adoption at Second Reading of the Report to the General Commission (document Conf.D.123 (C.A.34(1))) . . . . .	92
<b>TWENTY-SECOND MEETING, June 14th, 1932, at 10.30 a.m. :</b>	
28. Technical Study of the Internationalisation of Civil Aviation . . . . .	93

	Page
<b>TWENTY-THIRD MEETING, June 15th, 1932, at 10.30 a.m. :</b>	
29. Technical Study of the Internationalisation of Civil Aviation ( <i>continuation</i> ) . . . . .	94
30. Appointment of a Rapporteur during the absence of M. Boheman . . . . .	100
<b>TWENTY-FOURTH MEETING, June 17th, 1932, at 10.30 a.m. :</b>	
31. Technical Study of the Internationalisation of Civil Aviation ( <i>continuation</i> ) : Examination of the Basis of Discussion submitted by the Spanish Delegation . . . . .	100
<b>TWENTY-FIFTH MEETING, June 22nd, 1932, at 10.30 a.m. :</b>	
32. Technical Study on the Internationalisation of Civil Aviation ( <i>continuation</i> ) : Examination of the Basis of Discussion submitted by the Spanish Delegation ( <i>continuation</i> ) . . . . .	106
<b>TWENTY-SIXTH MEETING, June 24th, 1932, at 10.30 a.m. :</b>	
33. Technical Study of the Internationalisation of Civil Aviation ( <i>continuation</i> ) : Examination of the Basis of Discussion submitted by the Spanish Delegation ( <i>continuation</i> ) . . . . .	110
34. Appointment of a Sub-Committee and Publicity of its Meetings . . . . .	116

ANNEXES

DOCUMENTS OF THE AIR COMMISSION.

	Page
Conf.D./C.A.1. List of Members . . . . .	117
Conf.D./C.A.2. Resolution concerning the Internationalisation of Civil Aviation, proposed by the Sub-Committee of the Air Commission (see Air Commission Minutes, page 6).	
Conf.D./C.A.3. Proposal by the Belgian Delegation concerning the Internationalisation of Civil Aviation (see Air Commission Minutes, page 9).	
Conf.D./C.A.4. Draft Resolution sent to the Drafting Committee (see Air Commission Minutes, page 9).	
Conf.D./C.A.5(1). Resolution concerning the Internationalisation of Civil Aviation, adopted by the Air Commission on March 17th, 1932 (see Air Commission Minutes, page 10).	
Conf.D./C.A.6, Conf.D./C.A.7, Conf.D./C.A.8 and Conf.D./C.A.8(Addendum). Collection of Replies to the Questionnaires concerning the Organisation of National Civil Aviations, prepared in execution of the Resolution adopted by the Air Commission on March 17th, 1932 . . . . .	121
Conf.D./C.A.9. Objective Study on the Internationalisation of Civil Aviation and on any other Measure calculated to prevent the Signatory States from utilising Civil Aviation for Military Purposes, prepared in execution of the Decision taken by the Air Commission on March 17th, 1932 . . . . .	229
Conf.D./C.A.10. Memorandum by the Swedish Delegation on the Internationalisation of Civil Aviation . . . . .	279
Conf.D./C.A.11. Resolution proposed by the German Delegation regarding the Examination of the Character of Armaments (see also Air Commission Minutes, page 20) . . . . .	280
Conf.D./C.A.12. Note by the President asking Delegations for the List of Armaments possessing the Characteristics specified in the General Commission's Resolution (document Conf.D./C.G.28(2) <sup>1</sup> ) of April 22nd, 1932 . . . . .	280
Conf.D./C.A.13. Replies to the Note by the President (document Conf.D./C.A.12).	281
Conf.D./C.A.14. Report of the Sub-Committee on the Questions referred to the Commission in the Resolution of the General Commission dated April 22nd, 1932 (document Conf.D./C.G.28(2) <sup>1</sup> ) (see Air Commission Minutes, pages 15-18).	
Conf.D./C.A.15 (C.467.M.237. 1932.VIII). Report of the Air Transport Co-operation Committee on its Second Session, held at Geneva, May 9th to 12th, 1932. . . .	286
Conf.D./C.A.16. Amendment proposed by the Roumanian, Czechoslovak and Yugoslav Delegations to the Report of the Sub-Committee (document Conf.D./C.A.14) (see Air Commission Minutes, page 34).	

<sup>1</sup> This resolution is reproduced on page 10 of the Air Commission's Minutes.

Conf.D./C.A.17.	Amendment proposed by the Netherlands Delegation to the Report of the Sub-Committee (document Conf.D./C.A.14) (see Air Commission Minutes, page 34).	
Conf.D./C.A.18.	Amendment proposed by the Rapporteur to the Report of the Sub-Committee (document Conf.D./C.A.14) (see Air Commission Minutes, page 30).	
Conf.D./C.A.19.	Amendment proposed by the United Kingdom Delegation to the Report of the Sub-Committee (document Conf.D./C.A.14) (see Air Commission Minutes, page 50).	
Conf.D./C.A.20.	Proposal by the Spanish Delegation (see Air Commission Minutes, pages 46 and 47).	
Conf.D./C.A.21.	Amendment proposed by the French Delegation to the Report of the Sub-Committee (document Conf.D./C.A.14) (see Air Commission Minutes, page 50).	
Conf.D./C.A.22.	Amendment proposed by the Japanese Delegation to the Report of the Sub-Committee (document Conf.D./C.A.14) (see Air Commission Minutes, page 36).	
Conf.D./C.A.23.	Amendment proposed by the Italian Delegation to the Report of the Sub-Committee (document Conf.D./C.A.14) (see Air Commission Minutes, page 52).	
Conf.D./C.A.24.	Definition of Unladen Weight of an Aeroplane proposed by the Sub-Committee (see Air Commission Minutes, pages 57 and 58).	
Conf.D./C.A.25.	Amendment proposed by the Swedish Delegation to the Report of the Sub-Committee (document Conf.D./C.A.14) (see Air Commission Minutes, page 58).	
Conf.D./C.A.26.	Amendment proposed by the Belgian Delegation to the Report of the Sub-Committee (document Conf.D./C.A.14) (see Air Commission Minutes, page 62).	
Conf.D./C.A.27.	Definitions of Wing Area proposed by the Spanish Delegation (see Air Commission Minutes, page 63).	
Conf.D./C.A.28.	Draft Resolution submitted by the French Delegation . . . . .	293
Conf.D./C.A.29.	Draft Report of the Air Commission on the Questions referred to it in the Resolution of the General Commission dated April 22nd, 1932 (document Conf.D./C.G.28(2)). Became later document Conf.D./C.A.34(1) (document Conf.D.123).	
Conf.D./C.A.30.	Report by the Sub-Committee on the Draft Resolution submitted by the French Delegation (document Conf.D./C.A.28) . . . . .	295
Conf.D./C.A.31.	Definitions of Horse-power and of Wing Area proposed by the Italian Delegation (see Air Commission Minutes, pages 82 and 83).	
Conf.D./C.A.32.	Declaration by the Delegations of Belgium, Mexico, the Netherlands, Spain and Sweden (see Air Commission Minutes, pages 83 and 84).	
Conf.D./C.A.33.	Amendment proposed by the Rapporteur to the Draft Report of the Commission (document Conf.D./C.A.29) (see Air Commission Minutes, page 83).	

	Page
Conf.D./C.A.34(1). Report to the General Commission (Rapporteur: M. Boheman (Sweden)) on the Determination of the Weapons possessing the Characteristics enumerated in the General Commission's Resolution dated April 22nd, 1932 (document (Conf.D./C.G.28(2)). Became later document Conf.D.123 . . . . .	299
* * *	
Conf.D./C.A.35. Technical Study on the Internationalisation of Civil Aviation. Resolution adopted by the General Commission on March 16th, 1932. Memorandum by the President.	[Not reproduced.]
Conf.D./C.A.36 and Conf.D./C.A.37. Technical Study on the Internationalisation of Civil Aviation. Draft Basis of Discussion submitted by the Spanish Delegation (see Air Commission Minutes, pages 93-95).	
Conf.D./C.A.38. Questionnaire submitted by the German Delegation concerning Point 2 of the Draft Basis of Discussion (document Conf.D./C.A.36) (see Air Commission Minutes, pages 104 and 105).	
Conf.D./C.A.39. Draft Reply submitted by the Spanish Delegation to Paragraphs (2) and (3) of the Basis of Discussion submitted by them (document Conf.D./C.A.36 and 37) (see Air Commission Minutes, pages 112 and 113).	
Conf.D./C.A.39a. Addendum to the Draft Reply submitted by the Spanish Delegation (document Conf.D./C.A.39).	[Not reproduced.]
Conf.D./C.A.40. Proposals by the French Delegation (see Air Commission Minutes, pages 108 and 109).	
Conf.D./C.A.41. Reply of the Hungarian Delegation to Paragraph 2 of Document Conf.D./C.A.36 (see Air Commission Minutes, page 115).	
Conf.D./C.A.42. Proposal by the Delegation of the United States of America. Text submitted to the Sub-Committee set up on June 24th.	
Conf.D./C.A.43. Proposal by the German Delegation in reply to the Questionnaire on the Military Value of Civil Aircraft (document Conf.D./C.A.38). Text submitted to the Sub-Committee set up on June 24th.	
Conf.D./C.A.44. Declaration and Proposals of the Swiss Delegation. Text submitted to the Sub-Committee set up on June 24th.	
Conf.D./C.A.45. Measures to be taken in regard to Civil Aviation from the Standpoint of International Security. Proposal by the Belgian Delegation for the Discussion of Paragraph 5 of Document Conf.D./C.A.36. Text submitted to the Sub-Committee set up on June 24th.	[Not reproduced.]
Conf.D./C.A.46. Proposal by the German Delegation with regard to Paragraph 5 of Document Conf.D./C.A.36. Text submitted to the Sub-Committee set up on June 24th.	
Conf.D./C.A.47. Plan of Work proposed by the Belgian Delegation. Text submitted to the Sub-Committee set up on June 24th.	
Conf.D./C.A.48. Memorandum by the Netherlands Delegation. Text submitted to the Sub-Committee set up on June 24th.	



- Conf.D./C.A.49. Table of Proposals concerning Measures of International Supervision and Regulation for Civil Aviation, prepared by the Bureau of the Commission.
- Conf.D./C.A.50. Proposals of the United Kingdom Delegation in relation to Civil Aviation.
- Conf.D./C.A.51. Memorandum by the Italian Delegation regarding Measures to be taken in connection with Civil Aviation. Text submitted to the Sub-Committee set up on June 24th.
- Conf.D./C.A.52. Draft Basis of Discussion for the Regulation of Civil Aviation. Text submitted by M. Lange (Norway), Rapporteur, to the Sub-Committee set up on June 24th.
- Conf.D./C.A.53. Draft Rules for Civil Aviation. Text submitted by M. Lange (Rapporteur) to the Sub-Committee set up on June 24th.
- Conf.D./C.A.53(1). Draft Rules for Civil Aviation. Revised Text submitted by M. Lange (Rapporteur) to the Sub-Committee set up on June 24th.
- Conf.D./C.A.54. Proposals concerning Measures of Control relating to Civil Aviation. Text submitted to the Sub-Committee set up on June 24th.
- Conf.D./C.A.55. Draft Articles concerning Measures of Control relating to Civil Aviation. Text submitted by M. Lange (Rapporteur) to the Sub-Committee set up on June 24th.
- Conf.D./C.A.56. Draft Rules for Civil Aviation (document Conf.D./C.A. 53(1)). Text proposed by the President for Article 2.
- Conf.D./C.A.57. Draft Rules for Civil Aviation (document Conf.D./C.A. 53(1)). Text proposed by the French Delegation for Article 5.
- Conf.D./C.A.58. Draft Rules for Civil Aviation (document Conf.D./C.A. 53(1)). Text of Articles 3, 5, 6 and 7 revised on the Basis of the Decisions reached at the Meeting on July 8th, submitted by M. Lange (Rapporteur).
- Conf.D./C.A.59. Amendment by the Polish Delegation to Draft Article 11 of Document Conf.D./C.A.53(1) concerning Publicity for Civil Aviation not subject to Internationalisation.
- Conf.D./C.A.60. Draft Rules for Civil Aviation (document Conf.D./C.A. 53(1)). Text proposed by the Delegation of the United States of America for Article 8.
- Conf.D./C.A.61. Draft Rules for Civil Aviation (document Conf.D./C.A. 53(1)). Text proposed by the Polish Delegation for Article 9.
- Conf.D./C.A.62. Draft Rules for Civil Aviation (document Conf.D./C.A. 53(1)). Text proposed by the Delegation of the United States of America for Article 11.
- Conf.D./C.A.63. Draft Rules for Civil Aviation (document Conf.D./C.A. 53(1)). Text proposed by the Italian Delegation for Articles 8 and 9.

[Not reproduced.]

	Page
Conf.D./C.A.64. Organisation of the Supervision of Civil Aviation in accordance with the Provisions of the Disarmament Convention. Draft Resolution submitted by the United Kingdom Delegation to the Sub-Committee set up on June 24th.	
Conf.D./C.A.65. Draft Rules for Civil Aviation (document Conf.D./C.A. 53(1)). Text proposed by the Delegation of the United States of America for Article 2.	
Conf.D./C.A.66. Draft Rules for Civil Aviation (document Conf.D./C.A. 53(1)). Text proposed by the United Kingdom Delegation for Article 6.	[Not reproduced.]
Conf.D./C.A.67. Draft Rules for Civil Aviation (document Conf.D./C.A. 53(1)). Text proposed by the Netherlands Delegation for Article 6.	
Conf.D./C.A.68. Draft Rules for Civil Aviation (document Conf.D./C.A. 53(1)). Position of the Sub-Committee's Work after the Meeting on July 13th, 1932.	
Conf.D./C.A.69. Draft Rules for Civil Aviation (document Conf.D./C.A. 53(1)). Text of Articles 6 and 8 proposed by the Bureau.	
Conf.D./C.A.70(1). Draft Rules for Civil Aviation (document Conf.D./C.A. 53(1)). Position of the Sub-Committee's Work after the Meeting on July 18th, 1932 . . . . .	313
Conf.D./C.A.71. Note by the Secretary-General of the Conference, dated May 1st, 1935, transmitting a Report entitled "The Economics of Air Transport in Europe" (document C.97.M.44.1935.VIII), submitted by M. Henri Bouché to the Sub-Committee of the Air Transport Co-operation Committee.	[Not reproduced.]

## FIRST MEETING

*Held on Saturday, February 27th, 1932, at 11.30 a.m.*

The Right Honourable A. HENDERSON in the Chair.

### 1. ELECTION OF THE PRESIDENT OF THE COMMISSION.

The CHAIRMAN drew attention to the decision taken by the General Commission on February 25th, setting up the Air Commission. He proposed that the Commission should proceed to elect its President, and one or more Vice-Presidents and Rapporteurs, in accordance with Article 5, paragraph 2, of the Rules of Procedure. Under Article 13 of the Rules, the election was to be carried out by secret ballot, unless the Commission decided otherwise.

He proposed that the Commission should elect its President and should then decide whether to elect immediately one or more Vice-Presidents and Rapporteurs.

M. DE AGÜERO Y BETHANCOURT (Cuba) proposed that the Commission should elect its President only, and should adjourn the election of the Vice-Presidents and Rapporteurs until the final list of members had been prepared.

*Agreed.*

M. DE MADARIAGA (Spain) *was elected President of the Commission by acclamation.*

## SECOND MEETING

*Held on Thursday, March 10th, 1932, at 10.30 a.m.*

President: M. DE MADARIAGA.

### 2. ELECTION OF THE VICE-PRESIDENTS AND RAPPORTEUR.

M. COSTA DU RELS (Bolivia) and Colonel MARINOFF (Bulgaria) *were appointed Vice-Presidents of the Commission.*

M. BOHEMAN (Sweden) *was appointed Rapporteur.*

### 3. EXAMINATION OF THE LIST OF QUESTIONS REFERRED BY THE GENERAL COMMISSION TO THE AIR COMMISSION (document Conf. D. 103).

The PRESIDENT drew the Commission's attention to M. Beneš' report to the General Commission on the Conference's programme of work, which contained the principles that Commission had adopted with regard to the terms of reference of the various special commissions.

An examination of the list of questions referred to the Air Commission would reveal that it included, first, the proposals contained in the draft Convention and then other proposals submitted by the delegates.

The question of military aviation was governed by the principle of the total or partial abolition of this arm. Certain delegations had proposed its total abolition, together with the internationalisation of civil aviation; others had demanded the abolition of certain categories, such as dirigibles or bombing aircraft; others again had proposed the prohibition of certain weapons. To this sphere belonged the Netherlands proposal with regard to bombardment and chemical warfare, the proposal of the United Kingdom that the question of bombardment should be examined, and the French proposal which provided for the surrender of certain types of aircraft to the League and suggested that certain other types should be placed at its disposal for the establishment of an international air force. Still other proposals contemplated only a reduction of certain categories of air arms.

The main question regarding civil aviation was whether it should be internationalised. Certain delegations had suggested supervision over civil aviation. Again, there were proposals relating to publicity regarding civil aviation, and, finally, others which contemplated the prohibition of the use of civil aircraft for military purposes.

The President thought it would be difficult to make a technical study of the abolition of military aviation and the internationalisation of civil aviation until it was known whether the Conference accepted the principles of abolition and internationalisation. Though, of course, the General Commission would have to decide questions of principle, it had authorised the Air Commission to express an opinion with regard to the abolition of military aviation. It was also competent to make a preliminary study of the internationalisation of civil aviation, before the General Commission reached any decision. He would be glad to know whether it desired to do so.

M. FISCH (Germany) pointed out that the Bureau of the Conference had decided that questions of principle should be settled by the General Commission. M. Beneš, Rapporteur of the General Commission, had, moreover, observed that any delegation was entitled to ask that a question of principle be not discussed in a commission, before the General Commission had dealt with it.

Doubtless the General Commission had referred certain questions of principle to the special commissions, but a distinction must be made between those which were political and those which were technical. It must be realised, however, that the abolition of military aviation (with or without the internationalisation of civil aviation) raises a political question of fundamental importance which it would be impossible to discuss in the special commission. Moreover, the Naval Commission, when examining the questions referred to it, had expressed a similar opinion, though in that case the point at issue was only the *limitation* of certain categories of naval armaments. *A fortiori*, the principle adopted by the Naval Commission should be applied in the present case, which concerned, not limitation, but abolition.

The abolition of military aviation and the internationalisation of civil aviation in particular involved questions of principle of a political and economic character, which the Air Commission could not discuss until the General Commission had settled them.

Most of the other technical points in the list involved questions of principle, and M. Fisch felt that the Air Commission could not examine any of them immediately, except publicity regarding civil aviation (Item 10).

It was important to get to work and to obtain results as quickly as possible, but it would be wasting time to study the substance of questions which would eventually be referred back to the Air Commission after the General Commission had considered them from a different aspect. They should therefore be adjourned until the ground was more thoroughly prepared.

M. Fisch proposed that the President of the Air Commission should request the General Commission to give priority to a study of the principles on which the Air Commission's work was based, so that the latter could begin its discussion as soon as possible.

The Marquess OF LONDONDERY (United Kingdom) said that it was important, as the President of the Conference had pointed out, that public opinion should feel convinced that the Conference was diligently fulfilling the duty entrusted to it. Nevertheless, he felt very strongly that the General Commission should fix the general principles on which the work should proceed before the various technical commissions discussed the details.

The questions included in the list had already been discussed by the Preparatory Commission in the course of the five years' work from which the draft Convention had emerged. If the Air Commission began discussing them immediately, it would probably waste time by duplicating work already done and, as the German delegate had observed, would also be duplicating the General Commission's work.

Count CARTON DE WIART (Belgium) thought the Air Commission might make a preliminary examination of the questions on the agenda, some of which were relatively new. As the President had observed, the whole problem was dependent upon whether the internationalisation of civil aviation was possible. The study of this question was still in an embryonic state, and a technical commission might usefully start clearing the ground, in order to assist the General Commission to reach a decision. During this preliminary study, the authors of these interesting proposals might be given an opportunity of furnishing their colleagues with the necessary explanations.

Besides political problems which must be dealt with by the General Commission, there were questions with a technical aspect, which were within the Commission's scope. Count Carton de Wiart thought the General Commission would be somewhat astonished if the Air Commission referred back the questions it had been asked to study. Without making any concrete proposal, he asked his colleagues to remember the impression which this might produce on public opinion.

General PICCIO (Italy) thought the Air Commission should not study technical problems involving questions of principle : the latter should be settled by the General Commission. Moreover, the work of the various commissions should be co-ordinated, and he proposed that, acting upon the Naval Commission's decisions, the Air Commission should create a sub-commission (1) to consider which technical questions did not involve questions of principle ; and (2) to co-ordinate these questions, so that they might usefully be discussed and settled by the Air Commission. It should also consider the difficulties encountered by the various Governments in interpreting the draft Convention, in order that they be not overlooked and that points on which there was complete agreement be not reopened.

M. VOUGT (Sweden) shared the Belgian delegate's apprehensions. It had been pointed out that the Preparatory Commission had examined the abolition of military aviation, but in April 1929 that Commission decided to refer its discussion to the Disarmament Conference itself.

Aviation was the most important question before the Conference, and civil aviation was at the root of the problem. M. Vougt therefore felt the information already obtained might usefully be collected for submission to the Conference, and proposed that a sub-commission be set up for this purpose.

He pointed out that the internationalisation of civil aviation was mainly a technical question. It would be very difficult for the General Commission to reach a decision unless it had an exact definition of the word " internationalisation ", which might, for instance, cover the amalgamation or supervision of aviation companies.

The Italian delegate had pointed out that the Air Commission should keep in close touch with the other Commissions, but aviation was a very special problem : the Air Commission was entitled itself to decide whether a particular problem was technical or involved a question of principle.

M. QUINTANA (Argentine) pointed out that three classes of questions had been referred to the Commission : (1) questions of principle ; (2) technical questions ; and (3) mixed questions.

He proposed that the Air Commission should follow the Naval Commission's example and ask its Bureau to separate questions of principle to be referred to the General Commission from technical questions to be studied by the Air Commission itself.

M. Quintana pointed out that world public opinion expected results from the Conference as rapidly as possible : in order to accelerate the procedure, he suggested that the Bureau, acting as a sub-commission, should undertake the work of selection.

He also thought that publicity regarding civil aviation could be discussed immediately, whatever the subsequent decision with regard to the abolition of military aviation.

M. DUMESNIL (France) said the discussion proved (1) that the Commission was unanimous that questions of principle should be referred to the General Commission ; and (2) that no time must be lost.

The French delegation had no procedure to propose, but would support any decision the Commission reached in this connection.

With regard to the abolition of military aviation, the Preparatory Commission had always thought that any limitation of military aviation must be subject to supervision over, or the internationalisation of, civil aviation. This principle was still more important when abolition was in question. The French delegation wished, therefore, to state clearly that, in its view, if the Air Commission desired to discuss the abolition of military aviation at once, it should first discuss the internationalisation of civil aviation (French proposal).

M. Dumesnil supported General Piccio's proposal. He approved the creation of a sub-commission consisting of the Bureau to extract from the agenda the purely technical questions which the Air Commission could study immediately. He hoped the General Commission would give priority to the questions of principle upon which the Air Commission's work depended.

The German delegation had proposed that Item 10 (Article 37) be studied immediately. The French delegation was not of that opinion, and thought that publicity regarding civil aviation was dependent upon the decision reached with regard to internationalisation, which must be settled before Item 10 could be studied. The only question which the Commission could discuss immediately was the measurement of the horse-power and volume of dirigibles (Item 5, Article 27).

M. DE AGÜERO Y BETHANCOURT (Cuba) supported the Italian proposal that a sub-commission should separate questions of principle, mixed questions and technical questions. He also suggested that the authors of the various proposals should assist the Bureau.

Mr. DAVIS (United States of America) wondered whether the Air Commission could not facilitate the General Commission's discussions on general principles by itself discussing in advance certain aspects of various questions. If, for example, it could reach agreement as to whether or not the internationalisation of civil aviation was practical and feasible, it would be easier for the General Commission to determine whether the proposal should be promoted or discarded.

Mr. Davis was in sympathy with the proposal that the Bureau should consider the list, but thought it should itself decide whether to ask other delegations to co-operate with it.

Colonel LANSKORONSKIS (Lithuania) thought the Air Commission could deal with technical questions, and could also give an advisory opinion on questions of principle. The abolition of military aviation had been referred to the Commission. If complete abolition were not accepted, qualitative limitation would perhaps have to be contemplated, and the Air Commission's studies would help the General Commission, which would probably ask for its opinion.

With regard to the sub-commission's proceedings, Colonel Lanskoronskis felt that the interpretation which the various States had given to the draft Convention was of historic interest only. The sub-commission should rather determine what technical questions the Air Commission might study, and then make a preliminary examination of the abolition of military aviation and the internationalisation of civil aviation.

M. FISCH (Germany) pointed out that, in addition to questions of principle, political, technical and mixed questions, there were also economic questions, most of which were closely connected with political questions. Civil aviation in particular was of importance from the economic and political points of view. If questions of principle were referred to the General Commission, therefore, it should also deal with the internationalisation of civil aviation.

M. Fisch asked the Italian delegate whether he thought the sub-commission should be authorised to make an examination of problems not involving questions of principle to prepare the way for the Air Commission, seeing that all questions of principle would be referred to the General Commission.

General PICCIO (Italy) explained that, in his view, political questions would be referred to the General Commission. Questions involving no political principles would be examined by the Air Commission, including those involving an economic principle, as the Commission was competent to pronounce upon the latter.

M. BOHEMAN (Sweden), Rapporteur, noted that the Commission was unanimously of opinion that questions of principle should be referred to the General Commission. The United States delegation, however, had pointed out that certain technical information should be placed at the disposal of the General Commission. There were several proposals relating either to the abolition of military aviation together with the internationalisation of civil aviation, and the limitation of military aviation together with the internationalisation or supervision of civil aviation.

M. Boheman thought information, particularly with regard to the internationalisation of civil aviation — which was still a fairly new question — might usefully be furnished to the General Commission.

M. QUINTANA (Argentine) urged that the sub-commission should consist of the Bureau, assisted by the authors of the various proposals.

M. VALLOTTON (Switzerland) agreed with the German delegate that the Air Commission should refrain from discussing political questions. It was important for the General Commission to settle, as soon as possible, the questions of principle on which the Air Commission's work was based.

M. Vallotton supported the Italian proposal, and suggested that the list of questions of principle should be submitted to the Air Commission and then forwarded to the General Commission, with a request that they be accorded priority. Further, he thought the sub-commission should suggest the order in which the Air Commission might discuss these questions.

He shared the Belgian delegate's anxiety, and was anxious to avoid giving the impression that the General Commission and the special commissions were referring questions backwards and forwards without settling them.

M. DUMESNIL (France) supported M. Vallotton.

The PRESIDENT reassured the Commission as to the influence of the Conference's work on public opinion. It would be judged, not upon questions of procedure, but upon the results obtained. Doubtless a superficial observer might find the preliminary work too slow, but before entering upon a discussion it was essential to decide what direction it should take.

The President pointed out that the Commission was entitled to deal not only with technical questions and questions involving an economic principle, but with questions involving a political principle. It was also entitled to refuse to exercise that right, and he personally was glad that it did not desire to enter into questions of principle.

He noted that certain delegates were anxious to make a preliminary study of the internationalisation of civil aviation in order to assist the General Commission. Two delegations were opposed to the study of political principles and one to the study of economic principles.

It would be difficult for the Bureau, even if assisted by other delegates, to select those technical questions which had no political bearing. The discussion seemed to show that only two questions came within that category.

The President understood from the statements made that the sub-commission would: (1) examine technical questions which had no political bearing, in order to prepare the way for the Commission's discussion; (2) discuss in advance certain aspects of the internationalisation of civil aviation, in order to facilitate the General Commission's work; (3) suggest the order in which the items should be discussed.

In addition, the French and German delegations proposed that the President of the Commission should ask the General Commission to discuss in advance questions of principle which affected the Air Commission's work.

General PICCIO (Italy), explaining his previous statements, said that in his view questions of principle should be referred to the General Commission, which should be asked to give them priority. The sub-commission should not study questions directly connected with principles, such as the internationalisation of civil aviation. It would discuss their technical aspect subsequently, when the principle itself had been fixed.

M. FISCH (Germany) supported the Italian proposal.

*The Commission decided to constitute a sub-commission (1) to consider whether the agenda contained any items not involving questions of principle which could be examined by the Commission; (2) to prepare these questions for discussion at a plenary meeting.*

The PRESIDENT asked whether the sub-commission should also carry out a preliminary examination of questions of principle, in order to facilitate the General Commission's work.

General PICCIO (Italy) and M. FISCH (Germany) urged that the Air Commission should not deal with questions of principle.

M. DUMESNIL (France) explained that, in the French delegation's view, if the abolition of military aviation were discussed, a decision should first be reached on the internationalisation of civil aviation.

COUNT CAETON DE WIART (Belgium) wondered whether some means should not be found to enable the Air Commission to discuss the problems entrusted to it by the General Commission. He was anxious not to limit the sub-commission's work too far.

Colonel LANSKORONSKIS (Lithuania) thought that certain questions should be studied in advance of the General Commission's decision, and proposed that the sub-commission should make a preliminary examination of the abolition of military aviation, which would enable the Air Commission to give the General Commission an advisory opinion.

M. VOUGT (Sweden) supported the Belgian delegate.

M. FISCH (Germany) pointed out that M. Beneš had said in his report to the General Commission that, if a delegate asked that a question be not discussed in a special commission, his request should be granted. Several delegations had asked that the Air Commission should not discuss questions of principle, and M. Fisch hoped this would be borne in mind.

The PRESIDENT was sure that it would be possible to reach agreement, without any formal request from the delegations.

Mr. DAVIS (United States of America) understood that the Bureau would submit its conclusions to the Commission : he saw no objection to that procedure.

With regard to the internationalisation of civil aviation and similar questions, he still felt that the Air Commission would do well to facilitate the General Commission's work by discussing their practical aspects and making recommendations.

M. VLIEGEN (Netherlands) thought that questions referred to the Air Commission could not possibly be referred back to the General Commission. The former should consider all the questions in the list, whether they involved principles or not. He asked that, if a sub-commission were appointed, the Netherlands should be represented, because the Netherlands civil aviation had developed to a considerable extent and, consequently, questions relating to the internationalisation of such aviation were of especial interest to his country.

The PRESIDENT suggested that the sub-commission should not study the substance of the questions of principle raised during the present discussion, but should take up the discussion as a whole, and report to the Air Commission.

He proposed that the Bureau should be assisted by the following countries : the Argentine, Belgium, the United Kingdom, France, Germany, Italy, Japan, the Netherlands, Union of Soviet Socialist Republics, and the United States of America.

*Agreed.*

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### THIRD MEETING

*Held on Monday, March 14th, 1932, at 11 a.m.*

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President : M. DE MADARIAGA.

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#### 4. EXAMINATION OF THE LIST OF QUESTIONS REFERRED BY THE GENERAL COMMISSION TO THE AIR COMMISSION (document Conf. D.103) : SUB-COMMISSION'S REPORT.

The PRESIDENT summed up the terms of reference of the sub-commission set up at the previous meeting. He was glad to state that the sub-commission unanimously proposed the following resolution :

" The Air Commission, having considered the question of the internationalisation of civil aviation in the course of the study of its agenda, came to the conclusion that the technical discussion of this question could not be undertaken until a decision of principle had been taken by the General Commission.

" Accordingly, it requests the General Commission to give its opinion with regard to such a measure, and should it consider this measure desirable, to instruct the Air Commission to study its possibilities and the methods of carrying it into effect."

Of the possible points for immediate consideration by the Air Commission, the sub-commission had decided that one only was suitable, that of the measurement of the horse-power and volume of dirigibles, and the standard horse-power of aeroplane engines (point 5 in the list of questions : Article 27 of the draft Convention). The sub-commission had, however, considered that, if the questions submitted to the Air Commission were to be referred back as a whole to the General Commission, it was preferable not to consider this isolated point until the General Commission had announced its decision on the broader questions of principle. He asked for the Commission's views on these points.

Colonel DE BAURAIN (Poland) supported the sub-commission's proposal. The internationalisation of civil aviation raised important problems, foremost among them the serious drawbacks which might result from an uncontrolled development of civil aviation, beneficial as this was otherwise. He was glad to note that members of the Air Commission were unanimous in the view that civil aviation must be prevented from serving military purposes.

Practical means of attaining this end should be sought without delay, and, in his view, through the internationalisation of civil aviation. In any case he hoped that the General Commission would reach an early decision in order not to delay the Air Commission's work.



Count CARTON DE WIART (Belgium) drew attention to the hesitation which the Belgian delegation had shown in the matter of referring all questions of principle back to the General Commission. His delegation was, however, willing to concede this point and to support the sub-commission's proposal, though he hoped it would not cause a delay of any length in the work of the Air Commission.

To obviate the possibility of later controversy, he would like to make it quite clear that, should the Air Commission again be asked by the General Commission to study the internationalisation of civil aviation, it would have all the powers laid down in Chapter 5 of the Rules of Procedure, especially as regarded the setting up of committees of Experts chosen from within or from outside its own ranks.

M. QUINTANA (Argentine) thought that, though there could be no question as to the Commission's powers, it was as well to state them beyond all doubt, as the Belgian delegate had done.

M. FIERLINGER (Czechoslovakia) supported the sub-commission's draft resolution, but considered, with the Belgian delegate, that the Air Commission could not refuse to discuss technical problems even where these involved political principles.

Further, the future programme of the Commission's work should be considered. Without awaiting a decision by the General Commission on the questions of principle, which might mean considerable delay, the Commission should, upon reassembly after the Easter recess, proceed to study the various questions before it, principally from the technical point of view, without, however, losing sight of their political aspects.

He added that his remarks did not mean that the Czechoslovak delegation opposed the resolution submitted; they were merely an interpretation of it.

*The draft resolution submitted by the sub-commission was adopted.*

*The Commission decided not to take up for the moment the study of the measurement of the horse-power and volume of dirigibles and the standard horse-power of aeroplane engines.*

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## FOURTH MEETING

*Held on Wednesday, March 16th, 1932, at 5.30 p.m.*

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President : M. DE MADARIAGA.

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### 5. COMMUNICATION OF THE RESOLUTION ADOPTED BY THE GENERAL COMMISSION ON THE INTERNATIONALISATION OF CIVIL AVIATION : DISCUSSION OF METHODS OF WORK.

The PRESIDENT read the following resolution, adopted by the General Commission on March 16th, and invited suggestions from the Commission as to the procedure to be followed :

" The General Commission :

" Having taken cognisance of the request submitted by the Air Commission with regard to the study of the internationalisation of civil aviation ;

" Considering that, without prejudice to the decision of principle which the General Commission will be called upon to take on the question, a previous technical study of its possibilities and the methods of carrying it into effect would be likely to facilitate greatly the said decision ;

" Considers this study desirable in connection with the decisions to be taken concerning the abolition or reduction and limitation of military aviation, and requests the Air Commission to undertake it and to submit to the General Commission any conclusion as regards details, or as regards the question as a whole, which it might think likely to assist the General Commission in forming an opinion either with regard to the internationalisation of civil aviation or with regard to any other measure calculated to prevent signatory Powers from using this aviation for military purposes.

" For the purpose of this study, the Commission may, if necessary, obtain the assistance of the competent international bodies."

Count CARTON DE WIART (Belgium) considered that the study of so new and complex a question as that of the internationalisation of civil aviation required a more comprehensive documentation than that at the Commission's disposal. He proposed that the Bureau and the Secretariat should be asked to prepare during the Easter recess an objective study

summarising the details and proposals already published ; they might base their study on the work of the Preparatory Commission and might obtain the assistance of the competent international bodies referred to by the General Commission. Such preparation would undoubtedly allow the Air Commission to proceed with the despatch expected of it.

M. VLEGEN (Netherlands) supported the Belgian delegate's proposal, but asked the Bureau to prepare a plan upon which the Commission could base its work upon reassembly in April.

Mr. WILSON (United States of America), while appreciating the suggestions made by the delegates of Belgium and the Netherlands, felt that some members of the Commission were, like him, faced with a question the possibilities of which they had not sufficient knowledge to visualise ; he suggested that they might profit by the recess to study the problems involved, but that it would be valuable if those delegates who had presented concrete proposals would submit memoranda giving their ideas as to the means of achieving internationalisation.

M. QUINTANA (Argentine) agreed with the United States delegate, particularly as his delegation knew even less of the subject than others who had spoken.

Sir Henry WHEELER (India) was not aware that any collected information was available as to the organisation of civil aviation in the different countries, stating, for instance, of what it consisted, whether ownership was public or private, whether it was Government-subsidised, what was its strength and the nature of the machines used. It would facilitate the Commission's discussion if such information were made available.

M. DUMESNIL (France) felt that the Commission might usefully profit by the Easter recess to prepare its future work. In the matter of the internationalisation or control of civil aviation, certain delegations — those of Belgium, Denmark, France, Spain, Sweden, Switzerland and the Union of Soviet Socialist Republics — had already indicated that they were, in principle at least, in favour of the study of the question.

The French delegation had submitted a proposal which, though perhaps incomplete, adequately showed the way in which the possibility of internationalisation was envisaged. He outlined the main points of the proposal (document Conf.D.56).

The French delegation was, of course, ready to go into greater detail, and he undertook to carry out this preparatory work before the Commission reassembled. He would, however, ask the other delegations who had in principle supported internationalisation and the control of civil aviation to do likewise, in order to hasten and facilitate the Air Commission's work.

The Marquess OF LONDONDERRY (United Kingdom) considered that the information regarding civil aviation which existed in quantities in all countries would not be difficult to collect. He submitted that ample material for discussion existed in the suggestions which delegates had or might put forward ; the French delegate's programme, for instance, supplied an adequate constructive basis. Given such suggestions, a plan for the Commission's work could safely be left in the hands of the President and Bureau.

M. DUMESNIL (France) pointed out that the Communications and Transit Organisation of the League had published an extremely interesting study on the economic, administrative and legal situation with regard to international air navigation (document C.339.M.139.1930.VIII).

The PRESIDENT added that a " Study concerning the Present Situation in regard to Publicity of Civil Aviation and Collection of Provisions in Force concerning the Exchange or Publication of Information relating to Civil Aviation " (document C.95.M.47.1932.VIII) had been published by the Communications and Transit Organisation. These documents should nevertheless be supplemented.

Count CARTON DE WIART (Belgium) pointed out that, though documentation on the organisation of national aviation existed in vast quantities, this was not the case where the internationalisation of civil aviation was concerned. The delegations which in principle favoured internationalisation might be asked to detail their views, or the Bureau might do so.

He was in favour of the second suggestion, since the first would involve no small delay in view of the large number of delegations who would be called upon to state their views. Information so collected might also involve unnecessary duplication.

He read the following proposal :

" The Air Commission requests its Bureau, with the assistance, if necessary, of the Secretariat and of the competent international organisations, to prepare, in order to facilitate its task, an objective study summarising the principal works or proposals on the internationalisation of civil aviation and on the possibilities and methods of carrying it into effect. "

M. FISCH (Germany) supported the Belgian delegate's proposal, but asked that the phrase " or with regard to any other measure calculated to prevent signatory Powers from using this aviation for military purposes ", extracted from the General Commission's resolution, should be added to it.

The PRESIDENT read a draft resolution covering all the proposals submitted and asked the Commission to discuss its adoption in principle ; a drafting committee would, of course, if necessary, make any textual alterations.

The draft resolution was worded as follows :

" The Air Commission requests its Bureau :

" 1. With the assistance, if necessary, of the Secretariat and of the competent international organisations, to prepare, in order to facilitate its task, an objective study summarising the principal works or proposals on the internationalisation of civil aviation and on the possibilities and methods of carrying it into effect, as well as on any other measure calculated to prevent the signatory States from utilising this aviation for military purposes.

" 2. To circulate all the concrete proposals relating to this question which the Commission recommends the delegations to send in to the Bureau as soon as possible.

" 3. To prepare a study on the organisation of the national aviations, on the basis of the information which the delegations undertake to send it.

" 4. To prepare a programme for the resumption of the Commission's work."

M. QUINTANA (Argentine) requested that delegations should be asked, under paragraph 2, to state the reasons for which they submitted their proposals.

M. DUMESNIL (France) stated that the French delegation had, in principle, no objection to the Belgian proposal, subject to drafting. He had, however, one or two reservations to make with regard to the form of Count Carton de Wiart's proposal. He fully agreed that the Bureau's work should be objective in character, in that its unique and extremely useful purpose was to prepare documentation and not to seek a solution of the problem.

It should also be expressly mentioned that the studies and proposals referred to were those emanating either from competent international organisations or from delegations, and that the numerous unofficial proposals which had already been made in other quarters were not included.

He proposed the deletion of the last few words of the Belgian proposal : ". . . and on the possibilities and methods of carrying it into effect ", since the study of this question was the business of the Commission itself and not of the Bureau. He could not agree to the addition proposed by M. Fisch, since it was not within the Bureau's powers to propose measures for preventing States from using civil aviation for military purposes.

The PRESIDENT considered that the text must be left to the Drafting Committee, and proposed that the discussion should be adjourned until this Committee could submit a final draft at a subsequent meeting.

He proposed that the Polish delegate should join the existing Drafting Committee.

*The President's proposals were adopted.*

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## FIFTH MEETING

*Held on Thursday, March 17th, 1932, at 11 a.m.*

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President : M. DE MADARIAGA.

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### 6. DISCUSSION OF METHODS OF WORK (*continuation*).

The PRESIDENT invited the Commission's views on the following draft resolution unanimously adopted by the Drafting Committee :

" The Air Commission requests its Bureau :

" 1. With the assistance, if necessary, of the Secretariat and of the competent international organisations, to prepare, in order to facilitate its task, an objective study summarising the principal works or proposals on the internationalisation of civil aviation and on the possibilities and methods of carrying it into effect, as well as on any other measure calculated to prevent the signatory States from utilising this aviation for military purposes.

" 2. To circulate all the concrete proposals relating to this question which the Commission recommends the delegations to send in to the Bureau as soon as possible.

" 3. To prepare a study on the organisation of the national aviations, on the basis of the information which the delegations undertake to send it.

" 4. To prepare a programme for the resumption of the Commission's work."

The delegations would be asked to supply the information referred to in paragraph 3 of the draft resolution on the basis of a questionnaire which the Bureau would circulate about March 21st.

*The Commission adopted the draft resolution submitted by the Drafting Committee.*

The PRESIDENT laid emphasis upon the complex nature of the work before the Bureau, which would, however, profit by the assistance of the Secretariat and the competent international authorities. Foremost among the organisations which the Bureau would consult was the Air Transport Co-operation Committee set up by the Advisory and Technical Committee for Communications and Transit.

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## SIXTH MEETING

*Held on Wednesday, April 27th, 1932, at 10 a.m.*

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President : M. DE MADARIAGA.

### 7. CONSIDERATION OF THE QUESTIONS REFERRED TO THE COMMISSION BY THE RESOLUTION OF THE GENERAL COMMISSION DATED APRIL 22nd, 1932 (document Conf.D./C.G. 28 (2)).

The PRESIDENT reminded the Committee of the definite task which it had set its Bureau in its resolution of March 17th. The results of its work, which were in the Press, had required lengthy preparation. They would be issued in the form of a report.

The present meeting was convened to give effect to the following resolution adopted by the General Commission on April 22nd, 1932 :

" In seeking to apply the principle of qualitative disarmament, as defined in the previous resolution (document Conf.D./C.G.26 (1)), the Conference is of opinion that the range of land, sea and air armaments should be examined by the competent special commissions with a view to selecting those weapons whose character is the most specifically offensive or those most efficacious against national defence or most threatening to civilians."

He stated that there was no call for decisions of principle on the question of qualitative disarmament ; the Commission had to give the General Commission a technical opinion on the three characteristics specifically mentioned in the resolution. In other words, its sole task was, in his opinion, to review the armaments within its sphere and to inform the General Commission to which armaments, and in what degree, these three characteristics applied.

There were three means of so doing. First, the Commission could review the proposals already submitted by certain delegations. Secondly, it could consider in a general and theoretical way what were the criteria for attributing any of the characteristics mentioned in the resolution to any particular air armament. Lastly, it could adopt the more empirical method of reviewing air armaments one by one, stating in each case whether or no the armament came within the categories in question.

The Commission must decide on one of these methods, unless it preferred to combine them ; or delegations were of course free to propose any other method they might choose.

General PICCIO (Italy) thought that, if the discussion was to be carried on systematically and rapidly, the best method was the first which the President had mentioned. If the Commission adopted it, the various delegations concerned would have to provide all the information necessary to enable the scope of their proposals to be exactly determined.

There was no doubt that, as regards aviation, the problem took a simple form, because all aircraft at present in service in military and civil aviation could be regarded as included in the three categories mentioned in the resolution before the Commission.

It was, in fact, for that reason that the Italian memorandum of April 3rd had proposed qualitative limitation, which automatically removed the aggressive characteristics of military aircraft and, in a more general manner, their offensive characteristics.

As regards civil aviation, the Italian delegation, taking due account of the fact that that aviation represented one of the conquests of humanity and civilisation which could not be abolished, did not wish to impede its natural development. Nevertheless, the Italian delegation fully realised that, particularly if military aviation was abolished, civil aviation could be adapted to military purposes. Accordingly, it was desired on the one hand to establish the strictest control over it, and on the other to avoid the danger of its being used for war purposes by allowing the existence of defensive aircraft so constructed that they could and would be used only for essentially defensive purposes.

In view of these considerations, it would be necessary to regard as particularly offensive means of warfare all aircraft which could cause considerable damage to the property or population or industries of a country of very small size or a country with vital centres very exposed to air attacks, and which would thus be able, if not to destroy, at all events to impair, the efficiency of the means of defence at the very moment when the country attacked was preparing them.

The Italian delegation had given concrete form to these principles by a series of rules based on the principle that the aim of limitation itself must as far as possible be to prevent all aircraft from causing damage beyond a radius of  $x$  kilometres.

In fact, the Italian proposal regarding military aviation only authorised the maintenance and construction of single-seater aircraft, with a limited radius of action, for defensive and police purposes, and their weight limit unloaded and their power would have to be so calculated as only to allow the existence of aircraft incapable of any considerable offensive action even on centres nearest to the frontiers.

In conclusion, the Italian delegation was of opinion that all dirigibles and aircraft whose weight and power were in excess of the limits laid down by the criteria that had just been set forth should be regarded as particularly aggressive weapons definitely efficacious against national defence and most threatening to civilians.

M. RACZYNSKI (Poland) agreed with the Italian delegate as to the best method of work. He added that the Air Commission's task as set by the resolution of the General Commission seemed to the Polish delegation both difficult and complicated. This was soon proved by the most summary analysis of the three criteria to which the resolution referred.

The classification of air armaments as offensive weapons required that certain conditions should be envisaged, the chief among them air supremacy, only obtainable by means of concentration of all categories of aircraft (fighter machines intended for decisive air engagements, aircraft for the destruction of the adversary's bases and material, reconnaissance machines the object of which was to discover and signal objectives).

In the struggle for air supremacy, any one of these categories of aircraft might find preference, and it was impossible to state of any type of aircraft that it was unfitted for active co-operation in an offensive action. Nor could the various categories of aircraft used in civil aviation be ignored. The important point was offensive action in general, the essential elements of this being the aggressive motives of a particular State, technical

and numerical superiority in the material available, war potential, placing highly industrialised States at a considerable advantage, and lastly a geographically advantageous situation.

A means must therefore be sought which would render offensive action impossible or at least deprive any State of the hope of resorting to it with success.

As regarded the second criterion, the report of Sub-Commission A (in its reply to question 1a: "Definition of the various factors — military, economic, geographical, etc. — upon which the power of a country in time of war depends") gave the following definition:

"War . . . aims at success by trying to secure simultaneously:

"(1) The destruction of enemy armed forces or the exhaustion of enemy effectives;

"(2) The destruction of factors which contribute to the power of the enemy, such as factories, railway stations, electric power stations, etc.;

"(3) Rapid movement, consisting in the transfer of troops by rail, motor vehicles, ships, etc., requiring the use of large quantities of coal and oil and abundant means of transport and carriage;

"(4) The interruption of enemy supplies or of the routes by which they are supplied;

"(5) The undermining of the morale of the enemy."

It could be assumed from this that the most effective means of combating national defence was, so far as aviation was concerned, aerial bombardment. Such bombardment could be carried out either by aeroplanes of a certain tonnage or by dirigibles. Here again, and in an even greater measure, civil as well as military aviation must be taken into consideration, since these in time of war together constituted the total air power of a State. Moreover, the second point provided striking proof of the superiority over its neighbours of a State whose base, thanks to its situation at some distance from the frontier, was safe from air bombardment.

A study of the third criterion adopted by the General Commission also led back to the question of air bombardment, which in time of war constituted a direct menace to the civil population, whether in the form of terrorisation by premeditated air attack on the civilians themselves or on an objective which is of a military nature but is situated in the immediate vicinity of civilian dwellings.

In conclusion, these remarks showed the great difficulty of selecting any particular categories of aircraft the abolition of which would render offensive air action impossible. The United Kingdom delegate had already drawn attention in the General Commission to the difficulties raised by the classification of weapons, and had emphasised the necessity for an adequate regulation of air bombardment by international legislation. This last was undoubtedly defective. The Hague Conferences of 1899 and 1907 had not foreseen the progress which aviation was to make, and had thus not established special legislative measures providing for the protection of civil populations against air bombardment. The defect must be remedied, but the Polish delegation could not consider this measure alone sufficient.

It was ready to take an active part in studying the question of qualitative air disarmament, but thought that no solution could be reached unless an adequate international air force were created and unless civil aviation were at the same time internationalised; moreover, it was in favour of strict general control. Lastly, he would draw special attention to the General Commission's resolution of April 19th (document Conf.D./C.G.24), which referred explicitly to Article 8 of the Covenant, and pointed out that in the discussions account must be taken of the geographical situation and special circumstances of each State.

M. BRANDENBURG (Germany) agreed with the President that the Commission could not draw up a mere classification of armaments, beginning with the most threatening and proceeding to the least threatening. The Commission must formulate concrete proposals regarding each of the three criteria in the General Commission's resolution. This task was rendered easier in view of the fact — as Sir John Simon had stated in the General Commission — that the Treaty of Versailles and the other similar treaties concluded in 1919 provide historical precedents. These treaties clearly defined the armaments the abolition of which was, by reason of their offensive character, considered an indispensable condition of disarmament. If this was the case in 1919, the Air Commission should the more readily adopt to-day the opinion of the military experts of that time. Indeed, aviation, far from decreasing in importance, had developed to an incredible extent during the past few years. Germany and certain other Powers had disarmed their military aviation by the destruction of their aircraft, thus setting an example of effective disarmament.

Bombing aircraft undoubtedly came within the three categories referred to in the General Commission's resolution. They were purely offensive, they were more effective against national defence than any other armaments and they were the greatest possible menace to the lives of civilians. The other types of military aircraft (fighters and reconnaissance machines) were also subjected in the Versailles Treaty to a measure of qualitative disarmament. This meant that the same characteristics were attributed to them as to bombers; hence they had been destroyed on the same ground. Consequently, the German delegation proposed that the Air Commission should inform the General Commission that all military aviation came under the three criteria given in its resolution.

In conclusion, the German delegation submitted the following draft resolution :

" The Air Commission,

" In accordance with the instructions received by the General Commission, has examined the air arm in the light of the following three criteria :

- " (1) What weapons are of a specifically offensive character ?
- " (2) What weapons are most efficacious against national defence ? or,
- " (3) What weapons are most threatening to civilians ?

" It considers that the whole of military aviation and in particular the launching of means of warfare of any kind from the air come within the above-mentioned three categories."

M. SATO (Japan) stated that the Japanese delegation raised no serious objection to the method which the Commission proposed to adopt, on condition that such method should not be too exclusive and that the delegations who had not yet submitted special proposals would be free later to present those they might think fit.

At the meeting of the Naval Commission held on the previous day, several delegates had expressed the opinion that the aircraft carrier was an armament of a character " most specifically offensive or most efficacious against national defence, or most threatening to civilians ". The Japanese delegation, which held this view, would make a statement to this effect at the meeting of the Naval Commission then sitting. Therefore he need only state that aircraft-carriers specifically and exclusively intended for carrying aeroplanes were not in themselves offensive weapons. If they came within the category of such weapons, it was because of the aircraft they carried on board. The same applied to warships carrying aeroplanes and fitted with a landing-on platform or deck for aeroplanes.

For these reasons the Japanese delegation proposed to bring aeroplanes carried by aircraft-carriers or by warships fitted with a landing-on platform or deck for aeroplanes under the head of the three criteria mentioned in the resolution.

In the view of M. DE BROUCKÈRE (Belgium), the discussion showed that the Commission unanimously recognised that certain categories of aircraft, being aggressive armaments, should be abolished or at least subjected to special control. On the other hand, there was no complete agreement as to which armaments should be abolished or controlled. The Belgian delegation was not prepared to express an opinion, and would not do so until the first delegate of Belgium was present.

The Commission's task was not merely to decide upon the abolition of a particular category of aircraft, or even of military aviation as a whole. It must first define what was meant by the term " military aviation ". In this connection he pointed out that of the articles of the Treaty of Versailles, one of the most open to criticism, from the technical point of view, was Article 198, which defined military aviation. Only after long-drawn-out efforts had the categories of military aircraft to be abolished by Germany been defined in the agreements of 1922 and 1926.

Did military aircraft mean machines bearing military marks or manned by uniformed members of the air force ? If military aircraft were abolished, would it not be necessary, as a precautionary measure, to prohibit the subsidising by States of companies manufacturing or owning military aeroplanes ?

In 1929 the German representative on the International Conference for Air Navigation had proposed the following definition of military aircraft :

" The following shall be deemed to be military aircraft :

- " (a) Aircraft which bear military identification marks ;

"(b) Aircraft which are armoured or protected in any way or arranged to take any kind of weapon of war, such as guns, machine guns, torpedoes, bombs or sighting or release devices for such weapons ;

"(c) Aircraft whose pilots or crew belong to an army and are detailed to fly for this purpose ;

"(d) Aircraft which form part of the military force."

Here was a composite definition which, though it had received a large measure of approval when it was drawn up, had not been retained, as the characteristics proposed by Germany had not been considered the best possible. The question had therefore been referred to the Air Navigation Commission. That was three years previously, and no definition had as yet been formulated. The Air Commission of the Conference for the Reduction and Limitation of Armaments was thus faced with a task exceedingly difficult to perform but indispensable if a conclusion were to be reached.

The Italian delegation had proposed that all aeroplanes exceeding a certain tonnage and horse-power should be deemed to be bombers. He himself acknowledged that large and powerful machines could always be used for bombing purposes. Nevertheless, the absence of military characteristics in machines of lesser tonnage and horse-power did not prove that such machines were useless for bombing purposes. Often only a few technical adjustments were required. Thus the Italian definition was lacking in precision, and the Commission must therefore study all others that were available. Perhaps it might in the end conclude that the manufacture of civil aeroplanes capable of transformation into military aircraft should be forbidden.

The PRESIDENT again drew the Commission's attention to the importance of strict adherence to the definition given in the three criteria of the General Commission's resolution. Questions such as abolition and internationalisation did not for the moment directly concern the Commission, and should only be brought up as hypotheses with a view to the adoption of a particular definition. The Commission would not be acting in all honesty of mind were it to enter into political considerations ; these were outside its competence.

M. VALLOTTON (Switzerland) agreed with the President that the technical commissions could take no decisions of principle, this being the General Commission's task, and that it should confine itself to the consideration of concrete questions within the terms of the resolution of April 22nd. In other words, they must do the work of experts, not politicians.

He agreed with the German, Italian, Japanese and Polish delegates that the first of the methods suggested by the President was the only one conducive to rapid results. Nevertheless, he agreed with M. Sato's suggestion, adding that it would be well to invite the delegations who had not yet submitted proposals to do so as quickly as possible.

As the proposal submitted by the German delegation constituted a general conclusion presupposing a preliminary study by the Committee, he hoped the German delegation would consent to the postponement of its study.

A further question requiring solution was that of gas warfare. Were the three technical commissions to study it separately? That was, in his opinion, a bad system, as the commissions might reach different conclusions and the technical assistance given to the General Commission would thus be not only vain but even harmful. He therefore proposed that the Bureau should consider the advisability of summoning a special joint commission.

The PRESIDENT, in summing up, stated that there were two proposals before the Commission: on the one hand, the German draft resolution, and, on the other, the proposal that the Commission should consider all the suggestions submitted by the various delegations on the question of offensive armaments. These proposals, some twenty in all, might be classified as follows: abolition of military aviation (Denmark, Germany, Hedjaz, Hungary, Spain, Sweden, Turkey); abolition of bombing aeroplanes (Afghanistan, Belgium, China, Italy, Portugal, Switzerland); prohibition of bombardment from the air (Austria, Haiti, the Netherlands, Switzerland); prohibition of bomb-dropping by aeroplanes (Latvia); prohibition of armaments particularly aggressive in character (Finland); prohibition of offensive armaments, notably those presenting special danger to civilians (Norway).

These proposals undeniably presented a somewhat confused whole, overlapping here and there. The Commission's first task was to classify this voluminous material and clarify it in order to reach a decision. If the German delegation would consent to the inclusion of its draft resolution among the proposals listed above, the most convenient procedure would be to appoint a small sub-committee to prepare for a plenary session of



the Commission a basis of discussion which would enable a conclusion to be reached more rapidly.

M. MASSIGLI (France) supported the idea of forming a small committee. There was, however, one omission in the President's statement which he was anxious to remedy : the list of proposals submitted by the various delegations did not include the French proposal made on February 6th, which came within the limits fixed by the General Commission. He asked for its inclusion.

The PRESIDENT replied that he would comply with the French delegation's request. He would like, however, to point out the danger of introducing into the discussions of a technical committee questions which lay within the province of the General Commission. The French proposal related to the internationalisation of certain categories of aircraft, and discussion of this did not come within the Commission's competence. In other words, it must bear in mind the criterion laid down in the French proposal but not the object of that criterion.

M. BOHEMAN (Sweden), Rapporteur, thought that, if the Commission agreed to adopt the President's suggestion, the delegations should be asked to submit to the proposed sub-committee explanations of their proposals, especially in the matter of the criterion.

M. BRANDENBURG (Germany) was prepared to accept the appointment of a sub-committee and consented to the consideration of the German proposal with the others. In view of the fact that his delegation's draft resolution went further than other proposals, it might save labour to consider it first.

The PRESIDENT pointed out that more than one delegation was in favour of total abolition.

As regarded gas warfare, though fully aware that there was ground for the Swiss delegate's remarks, he saw no difficulty in the consideration of this question by each of the three Committees in its own field. Possibly a joint commission might later be asked to unify the results, though it was to be hoped that these would agree.

There being no objection to the establishment of a sub-committee of the Air Commission for consideration of the proposal submitted, the President proposed that this committee should consist of the Bureau of the Commission and of representatives of the following countries : Argentine, Belgium, United Kingdom, France, Italy, Japan, Poland, Switzerland, United States of America, Union of Soviet Socialist Republics.

*The President's proposal was adopted.*

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## SEVENTH MEETING

*Held on Wednesday, May 18th, 1932, at 3.30 p.m.*

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President : M. DE MADARIAGA.

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### 8. CONSIDERATION OF THE QUESTIONS REFERRED TO THE COMMISSION IN THE RESOLUTION OF THE GENERAL COMMISSION DATED APRIL 22ND, 1932 (document Conf. D./C.G.28(2)) : REPORT BY THE SUB-COMMITTEE.

M. BOHEMAN (Sweden), Rapporteur, read the report adopted by the Sub-Committee (document Conf.D./C.A.14), which was as follows :

“ The Sub-Committee appointed by the Air Commission on April 27th regarded it as its principal task, taking into account the proposals submitted by the different delegations, to prepare a basis of discussion for the Plenary Commission, in order that the discussion might develop on clear and orderly lines.

" Accordingly, the Sub-Committee first asked all the delegations, through its Chairman, to hand to the Secretariat, if they so desired, a statement showing the air weapons which they wished to see embodied in the list of the armaments :

- " (a) Whose character is the most specifically offensive ;
- " (b) Being the most efficacious against national defence ;
- " (c) Being most threatening to civilians.

" The replies to this invitation appear in document Conf.D./C.A.13 of April 28th, which has been communicated to all delegations.

" Taking these replies as the basis for its deliberations, the Sub-Committee came to certain conclusions of a somewhat general nature, and also attacked certain technical problems which it regarded as particularly important if clear and definite replies were to be given to the General Commission's request.

" These conclusions were as follows :

" I. (a) All air armaments can be used to some extent for offensive purposes, without prejudice to the question of their defensive uses.

" (b) Certain civil aircraft may become an integral part of the air armaments of a country after adaptation for military purposes.

" (c) Independent of the offensive character which air armaments may derive from their use, their capacity for offensive action depends on certain of their constructional characteristics.

" (d) The capacity for offensive action of air armaments resulting from such constructional characteristics should first be considered from the point of view of the efficacy of such armaments against national defence and secondly from the point of view of the threat offered thereby to the civilian population.

#### " *Efficacy against National Defence.*

" II (a) The aircraft forming a part of the air armaments of a country that may be regarded as most efficacious against national defence are those capable of the most effective direct action by the dropping or launching of means of warfare of any kind.

" (b) The efficacy against national defence of an aircraft forming part of such armaments, and considered individually, depends upon its useful load and its capability of arriving at its objective.

" (c) The useful load of aircraft is determined by a large number of variable factors. Among these the Sub-Committee has noted, for purposes of examination, the unladen weight, the horse-power and the wing area for aeroplanes, and the volume and horse-power for dirigibles.

" Although it is difficult to arrive at formulæ, since they are subject to modification or revision in view of the continual technical progress that is being made, the Sub-Committee considers that, for purposes of comparison, the useful load of aircraft can be measured :

" *For aeroplanes* : by unladen weight, horse-power and the ratio between horse-power and wing area ;

" *For dirigibles* : by volume and horse-power.

" (d) Means of warfare of every kind to be launched from the air are efficacious against national defence in proportion to their capacity to prevent or delay the production, concentration and utilisation of means of defence.

#### " *Threat to Civil Population.*

" III (a) The aircraft forming part of the air armaments of a country which can be regarded as the most threatening to the civil population are those capable of the most effective direct action by the dropping or launching of means of warfare of any kind ; this efficacy depends primarily upon the nature of the means of warfare employed and the manner in which they are employed.

" (b) The degree of the threat to the civil population represented by an aircraft forming part of these armaments, and considered individually, is in proportion to its useful load and its capability of arriving at its objective.

" (c) For the useful load, see paragraph under II (c).

" (d) Means of warfare of all kinds which are intended to be dropped from the air may constitute a serious threat to the civil population.

"The means of warfare which are most threatening to the civil population are those which, considered individually, produce the most extended action, the greatest moral or material effect — that is to say, those which are the most capable of killing, wounding and immobilising the inhabitants of centres of civil population or of demoralising them, so far as concerns immediate consequences, and so far as concerns future consequences of impairing the vitality of human beings. Among these means the Sub-Committee specially mentions poisonous gases, bacteria and incendiary and explosive appliances.

\* \* \*

c. "The foregoing conclusions have given rise to the following comments :

"On I (a). — The Italian delegation considers that the words 'without prejudice to the question of their defensive uses' should not appear in the text, seeing that the question of the use of air armaments for defensive purposes does not enter into the terms of the General Commission's resolution.

"On I (b). — The German delegation is of opinion that the assertion contained in this paragraph does not apply to countries which have no military air force.

"The Japanese and Polish delegations consider that adaptation for military purposes is not a necessary condition for certain civil aircraft to be able to become an integral part of the air armaments of a country.

"On II. — The delegations of the United States of America, the Argentine Republic, the French Republic, and the United Kingdom think it necessary to state that, as far as they are concerned, the air armaments most efficacious against national defence may also, in certain circumstances, be the most efficacious for their own national defence.

"On II (b) and III (b). — The Japanese delegation has proposed the following addition :

"The useful load of aeroplanes carried by aircraft-carriers or by warships fitted with landing platforms (or landing decks) is to be regarded as being increased by the fact of the mobility of the ships on which they are carried."

"Without going into the merits of this proposal, the Sub-Committee was of the opinion that, as the Naval Commission had discussed the question of aircraft-carriers and the aeroplanes belonging to them at a public meeting, the plenary Air Commission ought to do the same. It considered the possibility of the appointment of a joint naval and air commission to deal with this problem as a whole.

"On II (c). — This paragraph gave rise to a long technical discussion in the Sub-Committee. A fairly marked difference of opinion arose as to what factors should be taken into account in measuring the useful load of aeroplanes.

"Certain delegations (United Kingdom, France, Japan, Poland,) thought that only unladen weight should be taken as the system for measuring useful load. They held that unladen weight by itself was sufficient to allow of a practical comparison of the useful load and had the advantage of being a factor easy to ascertain, whereas the addition of other factors less easy to measure might greatly complicate the problem and interfere with the development of technique on sound lines.

"Other delegations (Argentine, Belgium, Bulgaria, Germany, Italy, Spain, Sweden, Switzerland and the Union of Soviet Socialist Republics) thought unladen weight alone was not sufficient to lead to a reliable result, and that horse-power and the ratio between horse-power and wing area should also be brought into the calculation as factors of equal importance.

"The Sub-Committee preferred not to carry this discussion any further, as it wished, first of all, to report on the subject to the Plenary Commission, though it felt that the problem should be closely studied in order to determine, among other things, how the various factors should be calculated and the ratios between them established.

"The United States delegation, while concurring with the first paragraph of II (c), for its part preferred not to advocate the adoption of any technical formula on the question until the contemplated study had been carried out.

"On III. — In view of the existence of certain international engagements for the protection of the civil population in time of war, the Sub-Committee considered that its rôle should be limited to preparing a reply to the questions put by the General Commission from the point of view of technical possibilities only, irrespective of any legal or political standpoint.

"On III (d). — The first paragraph gave rise to a somewhat lively discussion, and was accepted only by a small majority. Certain delegations upheld the view that the very existence of means of warfare of any kind intended to be dropped or launched from the air involved a threat to the civil population.

“ On I, II, and III. The German delegation made the following general reservation :

“ ‘ The German delegation desires to point out that its proposals go further than the previous text produced by the Sub-Committee’s deliberations. The German delegation considers that, in accordance with the military clauses of the Treaty of Versailles and similar treaties, the whole of military aviation is to be regarded as having a specifically offensive character and special efficacy against national defence, and as particularly threatening to the civil population. In particular, it considers it necessary to emphasise the specifically offensive character of means of warfare of every kind intended to be dropped or launched from the air.

“ ‘ The German delegation further holds that, from the technical standpoint, the offensive character of all military aviation is particularly pronounced as against countries which have no means of anti-aircraft defence either in the air or on the ground.

“ ‘ The reason why, notwithstanding this reservation, the German delegation took part in the discussion on the Committee’s text and in its drafting is that it felt that this was the only way of furnishing the Air Commission with the basis of discussion which it had asked its Sub-Committee to provide.’

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“ During the discussions in the Sub-Committee, certain delegations advanced specific proposals for the fixing of a limit based on technical data for the aircraft to which the three criteria mentioned in the General Commission’s resolution of April 22nd apply, or for their classification by groups.

“ To facilitate such fixing or classification, the French delegation has submitted for the Sub-Committee’s consideration a questionnaire which is appended to the present report.

“ The Sub-Committee thought that this questionnaire could be discussed more advantageously in the Plenary Commission, when all the delegations are present.

#### “ ANNEX.

“ *Draft Questionnaire proposed by the French Delegation to determine the Degree of Efficacy of Air Armaments against National Defence and the Extent to which they threaten Civilians.*

“ I. (a) What are in modern air, land and naval warfare the military objectives against which air armaments can be employed (nature and distance of such objectives)?

“ (b) What are the means of warfare dropped or launched from the air of which the action on these objectives may be effective :

“ Nature of means of warfare ;

“ Minimum unit weight of projectiles ;

“ Minimum number of projectiles to be dropped or launched by one aircraft ;

“ Minimum altitude for dropping or launching?

“ (c) What are the characteristics of aircraft adapted to drop or launch these means of warfare with the efficacy determined by the reply to the previous paragraph?

“ II. (a) What are the ‘ most specifically offensive ’ aerial actions?

“ (b) What are the characteristics of aircraft capable of carrying out the actions defined in the previous paragraph?

“ III. (a) What are the means of warfare dropped or launched from the air of which the action may be particularly dangerous to civilians :

“ Nature of means of warfare ;

“ Minimum unit weight of projectiles ;

“ Minimum number of projectiles to be dropped or launched by one aircraft ;

“ Minimum altitude for dropping or launching?

“ (b) What are the characteristics of aircraft adapted to drop or launch these means of warfare with the efficacy determined by the reply to the previous paragraph?”

The PRESIDENT proposed that this report, and particularly the conclusions given in Sections I, II and III, should be adopted as the basis of discussion. The delegations were not, of course, bound by any of the views expressed in the report until the end of the Commission’s discussions thereon.

*The President’s proposal was adopted.*

M. D'AVILA LIMA (Portugal) stated that the Portuguese delegation had not replied to the questionnaire drawn up by the Sub-Committee, as it had already clearly stated its views on the various points which this raised.

Where the prohibition of chemical warfare was concerned, the Portuguese Government, like many others, was, broadly speaking, committed, in that it had signed and ratified the Protocol of 1925.

The Portuguese delegation approved the report's conclusions in principle. It also agreed with the comments made by some delegations, and in particular with those of the Argentine, French, Italian, United Kingdom and United States delegations. There was one point, however, upon which his delegation was not quite clear, perhaps because it had failed to draw the very subtle distinctions between the various aspects of the problem. The point in question was the comment on Section III of the report.

For reasons of principle, since the prohibition of chemical warfare was an actual provision of international law through the undertakings given in the 1925 Protocol, the Portuguese delegation considered that, given no differentiation, the comment in question had merely been inserted for prudence' sake.

Lastly, the Portuguese delegation was prepared to reply to the questionnaire proposed by the French delegation, which was annexed to the report.

The PRESIDENT stated that the point raised by the Portuguese delegation would come up for discussion when the Commission considered the paragraph to which it related.

#### 9. GENERAL DISCUSSION OF SECTIONS I, II AND III OF THE SUB-COMMITTEE'S REPORT AND THE GERMAN DELEGATION'S RESERVATION.

M. BRANDENBURG (Germany) felt that he must emphasise the German delegation's point of view, which he had outlined at the Air Commission's last plenary meeting. The German delegation had co-operated in the drafting of the Sub-Committee's report, as it had been anxious to help in establishing a basis of discussion for the Commission. He must, however, state at the outset that this report did not go far enough. Leaving details aside, he drew the Commission's attention to two defects therein: first, the report failed to give any definite reply to the question as to which armaments the Sub-Committee considered the most specifically offensive in character. It merely stated that for a full understanding of this question a preliminary study of the other two questions raised by the General Commission had been necessary. The Committee had then confined itself to this study but had unfortunately been able to arrive at no conclusions. Thus the report provided no definite reply to the first — the most important — of the three questions referred to it by the General Commission.

Moreover, the Sub-Committee's draft report did not take sufficient account of the position of countries possessing no means of land or air defence against aircraft. Where the offensiveness of military aviation was concerned, no one could deny that a fundamental technical difference existed between countries with anti-aircraft defence and those without. In the case of countries possessing such defences, he admitted that the different categories of air armaments — from bomber to captive balloon — possessed varying degrees of offensiveness. But countries lacking any means of defence against air attack could not equitably admit such a differentiation. For them the offensiveness of air armaments of all kinds, without differentiation, was grave indeed. Their national defence and the lives of their civilians were seriously menaced by the very existence of military aviation.

Further, the Treaty of Versailles and the other peace treaties had inaugurated total abolition of military aviation as the first step towards general disarmament. The German delegation therefore considered that this course must be boldly pursued to the end. No other course could lead to satisfactory results where disarmament was concerned, and he would therefore once again press the Air Commission to reply to the three questions raised by the General Commission with a statement that military aviation as a whole, and notably the launching of means of warfare of any kind from the air, fulfilled without any distinction the three criteria given in the General Commission's resolution.

Turning to certain passages in the report, in which it was stated that air armaments could also present defensive characteristics, he said that the possible defensive characteristics of these aggressive armaments were rather outside the scope of the Commission's work. There was no denying that even the most formidably offensive armaments could, if necessary, be used for defensive purposes. He thought, however, that, within the limits of the Commission's terms of reference, that aspect of the question was of little importance to the Commission. After all, the question before them was: If a country were inspired to commit a political act of aggression, what were the armaments best qualified to enable it to carry out its aggressive designs most effectively? Those were the armaments which

the Commission must define as specifically aggressive. The countries represented had only to put themselves in the place of countries without air defence for their delegates to agree with him that military aviation as a whole must be considered an especially threatening aggressive weapon.

The PRESIDENT thought that the German delegate's speech was to a great extent based on a misapprehension. The Sub-Committee's task had been to prepare a more or less precise basis of discussion. It had preferred not to be too precise and to leave the Commission to complete the work thus begun. The three points serving as a basis for discussion were obviously logically conceived. The first three paragraphs (a), (b) and (c) of Section I were general; the crux of the matter was given in paragraph (d). The two characteristics set out in Sections II and III followed logically, paragraphs (a), (b), (c) and (d) being so arranged as to continue the development of the same theme. The Commission must come to its decisions and reply to the General Commission on this strictly technical basis.

The points raised by the German delegation had not been forgotten in the report; under II (b) and III (b) reference was made to the useful load of an aircraft and to its capability of arriving at its objective. There was nothing to prevent the Air Commission from introducing this idea into its report to the General Commission, if it thought fit.

Finally, he feared that the German delegation's criticism went too far, this being no doubt due to its anxiety that the German view should be accepted. Speaking as a member of the Spanish delegation, he understood this anxiety only too well, since, except on one point, his delegation favoured the German theory. Nevertheless, he hoped that the German delegation would do its utmost to assist the Air Commission in drawing up a definite text which would supply the General Commission with an answer to its questions.

#### 10. CONSIDERATION OF SECTION I AS A WHOLE.

M. BRANDENBURG (Germany) drew the Commission's attention to the proposal submitted by the German delegation on April 28th, which contained a definite reply to the three questions submitted by the General Commission. The Commission's task would be simplified if it discussed this German proposal first.

The PRESIDENT considered that the German delegate's suggestion presented difficulties from the point of view of procedure. The Commission having just adopted Sections I, II and III of the Report as the basis of its discussion, thus could not now substitute for these the German proposal, even if only to reject it. Unless the Commission were willing to go back on its vote, he could not take a decision to this effect. Actually, however, he saw no difficulty in meeting the German delegation's point and at the same time following the procedure adopted, provided the delegation would consent to submit its proposal afresh in the form of an amendment to the text under discussion.

M. BRANDENBURG (Germany) agreed and asked the Committee to regard the German proposal contained in document Conf. D./C.A.13 as an amendment to Sections I, II and III. In order to make it applicable to Section I only, the proposal had been modified as follows :

" The Air Commission,

" In accordance with the instructions received by the General Commission, has examined the air arm in the light of the following three criteria :

" (1) What weapons are of a specifically offensive character?

" (2) What weapons are most efficacious against national defence? or,

" (3) What weapons are the most threatening to civilians?

" It considers that the whole of military aviation and, in particular, the launching of means of warfare of any kind from the air, is of a specifically offensive character. "

With a view to defining for the purpose in question air armament material, the German delegation, bearing in mind the arguments put forward in the course of the discussion, desires to complete the above resolution as follows :

" Military aircraft shall be understood to mean any aircraft (for example, aeroplanes, dirigibles and free or captive balloons) :

" (1) Which can be identified by identification marks as military aircraft ; or

"(2) Which possess military characteristics — viz., installations for carrying weapons of any kind, such as guns, machine guns, torpedoes or bombs, or instruments for aiming or launching such weapons; or

"(3) Which are manufactured for the armed forces of any country; or

"(4) Which are manned by a military pilot or a military crew specially employed for the purpose; or

"(5) Which form part of the equipment of any armed force or are requisitioned by such force."

The PRESIDENT submitted Section I, together with the German amendment, to the Commission for discussion.

M. DE BROUCKÈRE (Belgium) said that his delegation could not support the German amendment. Firstly, this was not an amendment in the strict sense of the word, since the German text broke entirely new ground. Secondly, he feared that it might lead the Commission, while discussing a purely technical question, to deal with certain problems quite foreign to the matter. The primary consideration he had in mind was the problem of equality of the armaments of every country. This very complex question was political in character and therefore outside the competence of the Committee, which was purely technical.

The second problem it raised — the light in which the Treaty of Versailles should be viewed — could not for the same reasons be taken as a basis of discussion.

It raised a third problem: What armaments should be prohibited? This was a difficult question, but he personally did not consider that it was one upon which the General Commission had asked the Air Commission to come to a decision. To quote the President, he considered that the Commission would be lacking in "intellectual honesty" if it did not confine itself to the single question submitted to it — namely, what weapons were specifically offensive in character? The German proposal failed to provide an adequate reply to this question; therefore the Belgian delegation, while not prejudging the problems raised by this proposal, could not support it.

Lieutenant-Colonel HERRERA (Spain) stated that his delegation, as was shown by its earlier proposals, considered essential the abolition of military aviation accompanied by the internationalisation of civil aviation.

M. DUMESNIL (France) said that the arguments given by M. de Brouckère were too conclusive to need repetition. The French delegation was in full agreement with them. He had been pleased to hear the reference to the Treaty of Versailles, though he would not discuss the question since it was purely political in character. He asked the President to refer it to the General Commission.

M. VOUGT (Sweden) pointed out that the Swedish delegation had proposed the abolition of military aviation, among other reasons because it considered that it was difficult to divide air armaments into categories, some of them permissible, others prohibited. The Sub-Committee's work, to his mind, brought out this difficulty still more clearly. It was, however, impossible to deny that aircraft, according to their construction, use, etc., varied in offensiveness and efficacy against national defence. The Swedish delegation therefore could not vote for the German amendment. He added that the very existence of military aviation might give an offensive character to a country's other armaments, though the machines of such an air force need not in themselves possess specifically offensive characteristics.

M. BRANDENBURG (Germany) could not agree with M. de Brouckère that the German proposal contained political elements. On the contrary, it was purely technical, proof of this being that it affected not the disarmed countries only but those possessing no anti-aircraft defence also. The Belgian delegate had stated that armaments were forbidden to the disarmed States, not only on account of their offensiveness but for other reasons also. In reply to this and to a question raised by the French delegation in sub-committee, he would like to ask in which article of the Versailles Treaty military aircraft was forbidden as being specifically offensive or efficacious against national defence or threatening to civilians. Certainly not in the preamble to Part V:

"In order to render possible the initiation of a general limitation of the armaments of all nations, Germany undertakes strictly to observe the military, naval and air clauses which follow."

Or in Article 198:

"The armed forces of Germany must not include any military or naval air forces."

Where the question of offensiveness was concerned, he would refer the Committee to a letter written by the Allied and Associated Powers to Germany on June 16th, 1919, a paragraph of which was worded as follows:

"The Allied and Associated Powers wish to make it clear that their requirements in regard to German armaments were not made solely with the object of rendering it impossible for Germany to resume her policy of military aggression. They are also the first steps towards that general reduction and limitation of armaments which they seek to bring about as one of the most fruitful preventives of war, and which it will be one of the first duties of the League of Nations to promote."

The Sub-Committee had already expressed the view that the three criteria in the General Commission's resolution were closely interlinked; indeed, the very fact that the General Commission had mentioned them together proved their interdependence. There was therefore no doubt that military aviation as a whole was regarded, in the Versailles Treaty, as possessing these three characteristics.

In reply to M. Dumesnil, the PRESIDENT said he would rather not take it upon himself to refer the question of the Versailles Treaty to the General Commission. He recognised that political arguments must inevitably arise in the course of the discussion, but they should be looked upon as parasites. In any case they were not of any very great intellectual value; they reminded him of the dogmatic arguments used in mediæval universities. He asked the delegations to confine themselves strictly to the technical work before them.

M. LANGOVOY (Union of Soviet Socialist Republics) considered that there was no fundamental difference between the German proposal and the formula in the Sub-Committee's report. The difference was one of terms only; the sense was the same. Hence he did not see why M. de Brouckère was so strongly opposed to the German proposal. He had made no reservation in the Sub-Committee, as the Soviet delegation considered that military aviation as a whole was dangerous. As the German proposal seemed to him the clearer of the two under discussion, he supported it.

M. FIERLINGER (Czechoslovakia) thought the Commission had discussed the question long enough to form an opinion. Its task was to decide which was the most offensive characteristic: thus it could not merely submit the German amendment as a reply to the General Commission. Moreover, the German delegation's proposal was not a solution in the sense of Article 8 of the Covenant. Lastly, it should be remembered that the German delegation had taken part in the drafting of the report and that it should not therefore go back upon what it had said.

M. SZENTKERESZTESY (Hungary) stated that in his delegation's opinion, military aviation as a whole was a most offensive weapon. This opinion was the weightier, in that it was held by the delegation of a country which, possessing no military aircraft, was not in a position to defend itself against air attack. The Hungarian delegation therefore supported the German proposal.

M. QUINTANA (Argentina) was in favour of leaving the report as it stood. He pointed out that under Section I (a), the sentence "without prejudice to the question of their defensive uses" had been inserted at his delegation's request, the Argentine being from the geographical point of view specially situated. As his country did not possess sufficient naval and land armaments for adequate defence, he must ask that this sentence be retained. The same applied to the end of II (b) and the comment on II (b). The Argentine delegation was in favour of the report as it stood and proposed that it should be submitted in this form to the General Commission.

M. RUTGERS (Netherlands) stated that the German proposal was not a reply to the General Commission's question. For instance, it referred to "launching"; launching was, however, not a weapon but an act.

Moreover, the very terms of the General Commission's resolution admitted of a reply on the lines of that given in the report. This reply could not, strictly speaking, be looked upon as a great step forward, but progress would be achieved later. In other words, the Sub-Committee's report, far from bringing the Air Commission's task to an end, merely prepared the way for further work.

M. VALLOTTON (Switzerland) saw a paradox in the statement made by the Soviet delegate. Section I of the report provided a complete programme which, starting on broad principles with (a), (b) and (c), ended, with (d), in a definite technical conclusion. The German proposal, on the other hand, was rather disquietingly simple. Thus it seemed paradoxical to state that the two proposals were identical. The general conclusion reached in the German proposal would be valueless to the General Commission, and the Air Commission, if it adopted it, would sign its own certificate of technical incapacity.



He understood the German delegation's position only too well, but since it had given such valuable co-operation in the Sub-Committee he would ask it not to press its proposal. Could it not, subject to reservations, make a declaration of which note could be taken and which the Hungarian delegation could support? He hoped that the Soviet delegation would consent to take Section I of the report as the basis for discussion, particularly as it, too, had helped to draft paragraph (c) of that section.

The PRESIDENT pointed out that the Swiss proposal was not quite regular from the point of view of form. There was no question of the acceptance of Section I by the German delegation as the basis of discussion; this had already been done. The German proposal was submitted as an amendment to Section I, and the point under discussion was Section I plus the German amendment.

Colonel LÖHR (Austria) pointed out that the effectiveness of air attack did not depend solely on the nature of the aircraft used but to a great extent upon the characteristics of the object attacked; here tactical, geographical and other elements came in, and in the reply to the General Commission's three questions due allowance should be made for these elements.

In the case of Austria, for instance, her capital, one of the richest in the world in art and monuments of every kind and with a population representing a third of the total population of the country, was twelve minutes only by aeroplane from certain foreign military airports. Austria, however, had no means of defence against air attack. Thus any aeroplane, even a slow machine not armed for air warfare, could attack Vienna unhindered and drop bombs at will. Such operations could be effected from a low altitude and with the utmost safety, the machine being certain of its immunity. Such a machine could for Austria constitute a greater menace than could a real bomber in the case of a country whose capital was favourably situated and possessed anti-aircraft defences. Thus, any classification of offensiveness and efficacy of air armaments must take into consideration the special circumstances of certain countries, especially of those without means of air defence. The Austrian delegation therefore supported the German and Hungarian view.

On behalf of the Swiss delegation, the PRESIDENT asked the German delegation if it was ready to withdraw its amendment; if not, a vote would be taken.

M. BRANDENBURG (Germany) thanked the Swiss delegate for his conciliatory suggestion, but regretted that he was not in a position to withdraw his proposal. He must ask for a vote, especially as several countries not affected by the Versailles Treaty were in favour of the abolition of military aviation. Were he to abandon his point as he had done in the Sub-Committee, with a view to providing a unanimous basis of discussion, the General Commission would have no clear idea of the fact that some at least of the members of the Air Commission considered that military aviation as a whole corresponded to the three criteria.

M. LANGE (Norway) feared that as a result of the German delegate's statement, the Commission's vote would be taken to mean that those voting against the German proposal were against the abolition of military aviation. He would like to make a very definite reservation on this point.

M. VAN DER DONCKT (Belgium) intended to vote against the German proposal, as he did not look upon all military aviation as offensive. Chaser and scouting machines, for instance, were rather defensive than offensive machines.

Colonel LANSKORONSKIS (Lithuania), speaking as the representative of a small country, supported the delegates who sought to prohibit the use of offensive weapons. From the technical point of view, however, he wondered whether the Air Commission would not be lacking in sincerity were it to adopt the German amendment. In so doing it would fail to reply to the three questions submitted by the General Commission.

Colonel MARTOLA (Finland), in explanation of his vote, stated that his delegation could not support the German proposal, not because the principle of total abolition of military aviation was unacceptable to it — provided, of course, that all countries agreed to it — but because the proposal made no mention of the part to be played by civil aviation. He preferred that the Commission should work on the lines suggested by the Sub-Committee.

M. LANGOVOY (Union of Soviet Socialist Republics) stated that he had reservations to make on Section I (b) and (c).

M. BRANDENBURG (Germany) was anxious to correct the impression that the German proposal ignored civil aviation. In the very full definition of military aviation given therein, point 5 specifically referred to machines which "form part of the equipment of any armed force or are requisitioned by such force". Thus the proposal covered the use of all civil aviation, down to the smallest sporting machine, for any military purposes whatsoever.

The PRESIDENT put the German amendment to the vote.

*The amendment was rejected by 22 votes to 7.*

*The Commission therefore decided to take as the basis of its discussion Section I as it stood.*

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## EIGHTH MEETING

*Held on Thursday, May 19th, 1932, at 3.30 p.m.*

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President : M. DE MADARIAGA afterwards M. MARINOFF

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11. CONSIDERATION OF THE QUESTIONS REFERRED TO THE COMMISSION IN THE RESOLUTION OF THE GENERAL COMMISSION DATED APRIL 22ND, 1932 (document Conf. D./C.G. 28(2)) : REPORT BY THE SUB-COMMITTEE (*continuation of the discussion*).

*Section I, Paragraph (a).*

M. BOHEMAN (Sweden), Rapporteur, read the text of Section I, paragraph (a), which was worded as follows :

" All air armaments can be used to some extent for offensive purposes, without prejudice to the question of their defensive uses. "

The following comment had been made on this paragraph :

" The Italian delegation considers that the words ' without prejudice to the question of their defensive uses ' should not appear in the text, seeing that the question of the use of air armaments for defensive purposes does not enter into the terms of the General Commission's resolution. "

M. LANGE (Norway) thought there was nothing to prevent the Commission from basing its technical work on certain general considerations — in other words, from a certain interpretation of the General Commission's resolution. The Sub-Committee's report, moreover, contained certain elements foreign to the Commission's task. The essential part of this task was the prevention of any sudden aggression; herein lay the great danger to international peace. The Commission must therefore decide which were the armaments most suitable for purposes of sudden aggression in that they created *faits accomplis* and rendered effective mediation useless. M. Fierlinger had with good reason referred at the previous meeting to Article 8 of the Covenant, in which the Members of the League recognised that, if peace were to be maintained, a reduction of national armaments was necessary. This principle was, however, subject to certain geographical conditions and to the principle of international co-operation dictated by the need for common action.

He hoped that the Commission would invariably bear this consideration in mind. It must not merely consider the offensive or defensive qualities of a weapon; it must rise above such tactical considerations. In view of this, certain passages in the report might well be modified. He would be glad if the Italian delegation would present its comment as an amendment to Section I, paragraph (a). The words " to some extent ", too, might well be omitted. Nevertheless, he recognised that the potential armament constituted by a strong civil air force must be considered.

M. BOHEMAN (Sweden), Rapporteur, in explanation of the drafting of I (a) in sub-committee, said that it was the result of a compromise. Certain delegations had been anxious to stop at the words " for offensive purposes "; others, foremost among them the Argentine, had insisted upon the addition of the last phrase, which formed the subject of the Italian reservation.

General PICCIO (Italy) explained the reasons for the reservation to I (a). He must at the same time define the Air Commission's conception of the general criteria of the degree of offensiveness attributed to the various air armaments, thus hoping to avoid any misunderstanding which might detract from the precision of the reply to the General Commission.

Without doubt, everyone agreed that not only air armaments but armaments of all kinds could, according to the use to which they were put, serve offensive as well as defensive purposes. The General Commission had, however, asked the Commission to determine which air armaments were specifically offensive. It was simply in order to make the reply answer the question that the Italian delegation considered the phrase "without prejudice to the question of their defensive uses" valueless. It was a reply to a question which had not been asked.

Turning to the definition of "offensiveness", there was, he thought, a fundamental difference between the conception of offensiveness for land and naval armaments on the one hand and for air armaments on the other. As regards land armaments, the increase in a gun's efficacy, and therefore in its offensiveness, varied, other things being equal, strictly in accordance with its calibre. For naval armaments the increased efficiency, and therefore offensiveness, of a vessel varied, other things being equal, strictly in accordance with any increase in its tonnage.

Where air armaments were concerned, however, these rules no longer applied. The machine in which Lindbergh had so easily crossed the Atlantic had an unladen weight of about 875 kilogrammes and was of 225 horse-power, while the big DO.X. machine, weighing 28 tons, was not only not thirty times more efficacious, but had given definitely inferior results, only succeeding in crossing the Atlantic by stages. As far as he remembered, the longest stage it had flown was 2,400 kilometres only. This example showed clearly that the offensiveness of aircraft did not, as in the case of land and naval armaments, depend exclusively upon size. For such reasons as these, the Italian delegation had urged the inclusion of the words "considered separately" when specifying the degree of offensiveness; it had also required mention of "capability of arriving at the objective". It must be remembered that, for constructional reasons, the load carried by a machine weighing  $x$  tons — above a certain tonnage limit — must be less than that carried by two machines of half this weight — i.e.,  $\frac{x}{2}$  tons.

The conclusion to be drawn from these constructional data was that, even given a fixed total tonnage for two air fleets, the degree of offensiveness of the fleet containing the larger number of small-tonnage machines would be greater than that of the fleet with the lesser number of more powerful machines.

Capability of arriving at the objective was a factor to be borne in mind when judging of offensiveness. This capability, however, also depended upon the most favourable tonnage unit to be used in certain conditions, and this was not necessarily the largest unit. What tonnage gave a machine in an air fleet of fixed dimensions the greatest degree of offensiveness? The answer to this question depended on several other factors, but the heaviest machine was certainly not at an advantage. He thought he was not far wrong in stating that the plane in question would be a low-tonnage machine.

M. QUINTANA (Argentine) hoped that the delegations who had helped to draft the report in the Sub-Committee would not reopen their discussions in plenary session. He had already stated his reasons for wishing that the phrase in question should be maintained, and asked the delegations which, like that of Norway, had not taken part in drawing up the report, to be content with supporting the Italian reservation.

M. LANGE (Norway) thought the Commission should know whether the text adopted in the report represented the opinion of the majority or the minority of the Air Commission. This text, though it had been called a compromise, seemed to him to have been forced through the Sub-Committee by a minority taking advantage of the right of veto. The Disarmament Conference had something to learn in the setting out of the points of view of the various delegations. The Norwegian delegation therefore asked for a vote on the question.

Group-Captain BABINGTON (United Kingdom) wanted the Commission, before voting, to be quite clear as to the point at issue. The Sub-Committee, and no doubt the Commission too, was unanimous in approving the first part of the sentence, which was a bare statement of fact.

As regards the second part, he did not think anyone had questioned the fact that, if air armaments existed at all, they could be used for offensive as well as for defensive purposes. The German delegate, for instance, had stated only the day before that even the most terrible of offensive weapons could be used for defence. Surely the members of the Commission were all agreed as to the substance of this second phrase — that air

armaments could be used for defence; if so, the only question to be put to the vote was: Should the words be included in the report? Personally, he felt that their omission might involve the Commission in difficulties later on.

Lieutenant-Colonel HERRERA (Spain) considered that the last part of I (a) did not constitute a direct reply to the question submitted by the General Commission. Accordingly the Spanish delegation, though it had helped to draft the text in the Sub-Committee, would abstain from voting.

M. BOHEMAN (Sweden), Rapporteur, stated that no vote had been taken on these words in the Sub-Committee. The Swiss delegation had proposed the text, which had been accepted almost unanimously. Even the delegations most strongly opposed to its insertion had considered that the words in no way affected the Air Commission's mandate. It would be difficult for certain delegations which had accepted the compromise to vote now on the deletion of the words.

M. DUMESNIL (France) testified that the sentence adopted by the Sub-Committee was a compromise. The Air Commission had been asked to define those air armaments which were specifically offensive — in other words, to state whether any air armaments were suitable for offence only. Following these instructions, the Sub-Committee had fulfilled its task without prejudging the defensive uses of such armaments. The reservation of the United States, Argentine, French and United Kingdom delegations given in the report was made in this sense. The original text proposed by the United Kingdom delegation read: "All aircraft can be used offensively and all likewise can be used defensively. Their offensive character depends on the use made of them." The Sub-Committee had compromised on the text before them in order to meet the wishes of certain delegations who considered that that version was not sufficiently flexible.

He would ask the Norwegian delegation not to press for a vote. If it did so, however, the Air Commission should discuss not the text as it stood, but the United Kingdom's — which was the original — proposal.

M. RUTGERS (Netherlands) would refrain from criticising the Sub-Committee's report, especially as it was not the last word upon the subject, but rather, as the President had said, a basis for discussion. It was for the Commission itself to give the final reply to the General Commission's question. He made this statement in order to explain that, though he would vote for the Norwegian proposal, this would not imply criticism of the Sub-Committee's work nor mean that he disagreed with the last part of the sentence. It would merely mean that he did not wish to give an opinion on the point.

Mr. DULLES (United States of America) thanked the Rapporteur for explaining the action taken by the Sub-Committee. On the question of principle his delegation agreed with those of the Argentine, the United Kingdom and France. No one could fail to agree with the Netherlands delegate's point regarding procedure — namely, that the Sub-Committee's work was open to discussion.

In reply to the delegates of the Netherlands and Norway, he would, however, point out that the Sub-Committee did not in each case consider the possible defensive value of each weapon. Thus, if the words "without prejudice to the question of their defensive uses" were deleted, many delegations might be forced to insert special reservations regarding the defensive aspects of weapons in later parts of the report. If retained, on the other hand, it might be easier to adopt later passages as they stood.

General PICCIO (Italy) argued that the text of I (a) could not be a compromise; had it been so, it must have been unanimous. The General Commission had not, as M. Dumesnil had said, asked the Air Commission to indicate what air armaments were "suitable for offence only". No such armaments existed. It had asked what armaments were "specifically offensive"; there was more than a shade of difference there.

Granted that paragraph I (a) was not a compromise and that an Italian reservation existed, supported by other delegations, he must ask for a vote in order that the delegations in question might take up a definite position.

M. LANGE (Norway) stated that, since the Netherlands delegate had supported him, he thought it only logical to press his point. The primary task of the Air Commission was to supply the General Commission with a basis for judgment. Hence he saw no reason for compromises. Obviously, each delegation was at complete liberty to make any

reservations or remarks it thought fit. Thus, a vote should be taken, and the various points of view expressed should be inserted in the final report. It was for the General Commission to reach a compromise in the political field, which lay outside the Air Commission's scope.

M. VOUGT (Sweden) stated that his delegation would abstain from voting.

M. LANGOVOY (Union of Soviet Socialist Republics) pointed out that it had more than once been stated that the offensive characteristics of military aviation and the danger which it presented for civilians were determined by the use to which it was put. He did not deny that the most specifically offensive qualities of military aviation and the grave danger which it presented both to national defence and to civilians could only be judged, practically speaking, when it was directed against a particular objective. The Soviet delegation strongly opposed the statement that the offensive characteristics of bombers could in any degree be minimised by a statement that these destructive elements must be used for defensive purposes only. Nobody manufactured air armaments and kept reserves of bombs and other means of destruction in order to keep them on show in depôts in time of war. The very fact that such armaments existed in peace-time constituted a danger to national defence and a menace to civilians. It was the special construction and characteristics of modern military aircraft which were of real importance as regards the purpose they served. This was the point upon which knowledge was important, and the Air Commission, when replying to the General Commission, must reply in the affirmative to each of the questions on military aviation submitted to it. This aviation was designed for attack, was used for attack, destroyed defences, demolished whole districts and constituted a menace to civilians. It was nothing short of a specifically offensive weapon.

Not only on the logical grounds referred to by the Norwegian delegate, but for these reasons also, M. Langovoy supported the Norwegian proposal, which he considered thoroughly well founded.

M. GAJARDO (Chile) stated that, as Chile was in exactly the same position as the Argentine, whose views were met by the Sub-Committee's Section I (a), his delegation would vote in favour of this text.

Colonel MARTOLA (Finland) felt that too much importance should not be attached to the discussion, which bore on a point of drafting only. The fact that aeroplanes could be used for offensive purposes could not be contested. This idea was, however, expressed in the first part of the sentence, for it was to some extent understood by the words "can be used". This should satisfy the delegations who wished to voice the idea in the report. As, moreover, the General Commission had not asked the Air Commission's opinion upon the defensive characteristics of armaments, he supported the Norwegian delegate's proposal.

The PRESIDENT agreed with the Finnish delegate that the discussion was descending to dialectics. He thought the phrase used in I (a) was quite harmless; it was almost tautologous. The words "can be" and "to some extent" constituted an adequate reservation and should satisfy those members in favour of retaining the last half of the sentence. He would point out to those anxious for its deletion that, in his view, the phrase was meaningless. The question was by no means worth the importance which had been attributed to it, and he feared that it might serve as a pretext for bringing up possibly subconscious theories which would be out of place in the Commission. He saw no objection to deleting the words to which objection had been raised. Indeed, he saw no need for reducing the various opinions expressed by the Commission to a common denominator. It would be better to state in the report that so many delegations expressed one opinion, so many another, and so on.

M. DUMESNIL (France) stated that the text as it stood satisfied the French delegation. If the statement was made without prejudice to defensive uses, why not say so? He therefore saw no objection to retaining the second part of the sentence. The President had suggested that, in order to give general satisfaction, certain delegations should make reservations. Such reservations should, however, refer to the text under discussion, and this only after the ultimate adoption of the Sub-Committee's text. In the Sub-Committee, three delegations only had opposed the text originally suggested by the British delegation. Their view had been taken into account in order to produce a less rigid text satisfactory to all. He proposed that the Commission should vote upon this text and that a paragraph regarding the reservations made by certain delegations should be added to the report.

In reply to this proposal, the PRESIDENT pointed out that it was impossible to know in advance by whom and in what sense such reservations would be made. Everything would depend upon the vote as to whether the second part of the paragraph should be retained or deleted.

M. QUINTANA (Argentine) referring to an earlier remark by the President, stated that, for reasons which he had given already, he attached great importance to the sentence in question. He supported the French delegation's view.

M. RUTGERS (Netherlands) stated that, if when the vote was taken he was in the minority, he would make no reservation.

The PRESIDENT put Section I, paragraph (a) to the vote.

The Commission adopted the Sub-Committee's text by 18 votes to 12.

(M. Marinoff (Bulgaria) took the Chair in place of M. de Madariaga.)

M. BRANDENBURG (Germany) had abstained from voting, but before the close of the discussion on paragraph I (a) desired to state that the German delegation intended to make a general reservation, covering the whole report, at the end of the discussion.

General PICCIO (Italy) stated that his delegation wished its reservation, given in the Sub-Committee's report, to be retained in the report to the General Commission.

M. LANGE (Norway) and APTÜLAHAT Bey (Turkey) stated that they endorsed the Italian reservation.

Section I, paragraph (b).

M. BOHEMAN (Sweden), Rapporteur, read the paragraph, which was worded as follows :

"Certain civil aircraft may become an integral part of the air armaments of a country after adaptation for military purposes."

The following comments had been made on this paragraph :

"The German delegation is of opinion that the assertion contained in this paragraph does not apply to countries which have no military air force.

"The Japanese and Polish delegations consider that adaptation for military purposes is not a necessary condition for certain civil aircraft to be able to become an integral part of the air armaments of a country."

The following proposal had also been made :

"The Roumanian, Czechoslovak and Yugoslav delegations,

"Considering that all civil aircraft may, like military aircraft, become an integral part of a country's air armaments, and that such civil aircraft may be used in war for military purposes — according to their horse-power and constructional characteristics — as training, liaison, reconnaissance, fighting, and more particularly bombing aircraft, even without being adapted to military purposes (as indeed occurred in the 1914-1918 war) :

"Propose the following amendment to paragraph I (b) of the conclusions of the Sub-Committee of the Air Commission :

"At the beginning of the sentence substitute the word "all" for the word "certain", and delete the words with which the paragraph concluded, "after adaptation for military purposes".

"The revised paragraph would accordingly read :

"All civil aircraft may become an integral part of the air armaments of a country."

M. BRANDENBURG (Germany) said that his statement regarding the general reservation to be made by Germany applied to paragraph I (b) also.

Lieutenant-Colonel NAOUMOVITCH (Yugoslavia) pointed out, in explanation of the amendment submitted by the Roumanian, Czechoslovak and Yugoslav delegations, that that amendment referred to the Sub-Committee's statement on civil aviation, which would, as it stood, render the task both of the Air Commission and of the Conference itself much more difficult. The purposely vague wording might mean that the whole question of civil aviation would be left aside.

The Sub-Committee's text stated that "certain" civil aircraft only might become an integral part of air armaments, but it supplied no criterion for determining those which could not do so. In the opinion of the three delegations on whose behalf he spoke, not "certain" but *all* machines could automatically become an integral part of a country's military air force or be transformed into such a force. Certainly they could not all be used for the same purposes, but equally certainly every civil machine could be employed for military purposes, the use to which it was put depending upon its horse-power and its constructional characteristics. What prevented civil aircraft from being used, without adjustment, for certain military aviation services? Upon what criterion could the statement be based that a certain civil machine could not be used as a liaison, a reconnaissance, or even a bombing plane? The Sub-Committee did not say so, but it was undoubtedly a fact that, according to their horse-power and characteristics, all civil machines, like all military aircraft, could at once be used for military purposes; this had been the case in the last war.

The Sub-Committee had made another restriction which, again, was not in accordance with actual fact — regarding the various points of contact between the two kinds of aviation. The Sub-Committee had stated that civil aircraft could become an integral part of air armaments only after adaptation for military purposes. At first sight, the statement might seem justifiable, at least for fighting and bombing planes, for where training, liaison and reconnaissance machines were concerned it was not very clear what adaptation was necessary in order to render a civil machine suitable for such military purposes. In the case of fighters and bombers, it might be objected that the machines must primarily be adapted for such service. He would willingly recognise the force of this argument if adaptation were an operation involving lengthy work and fundamental alterations. Such adaptation could, however, be carried out in an extremely short time, rendered easier in that it was only too simple to construct machines built in peace-time in such a way as to facilitate their adaptation for fighting and bombardment. It was further perfectly possible for aviators to carry portable arms and to drop bombs by hand, without necessity for any preliminary adaptation of their machines for military purposes.

In the name of the three delegations, the Yugoslav delegation therefore requested the Commission to amend the paragraph on civil aviation as suggested in its proposal.

Colonel DE BAURAIN (Poland) without enlarging on his delegation's views on civil aviation and disarmament, had one or two technical remarks to make on paragraph I (b).

All the members of the Sub-Committee had agreed that "means of warfare dropped or launched from the air" should come under the criteria specified by the General Commission, and that the possibility of transporting such means of warfare on board aircraft depended on certain technical criteria which had been specified. These criteria did not exclude civil aircraft, since any civil machine could be used for the transport of projectiles; a machine serving such a purpose merely constituted a means of transport. Thus the majority of the Commission was right in recognising that it was necessary to insert paragraph (b) in Section I.

Obviously, the main point was the use to which an object was put, not the object itself.

The Polish delegation, and some others, attached special importance to recognition of the possibility of using civil aircraft for military purposes because such means of transport enabled an enemy to fly at a moment's notice over foreign territory carrying a load of projectiles.

Though in full agreement with the substance of paragraph I (b), the Polish delegation had submitted a reservation regarding the words "after adaptation for military purposes". The reason for this was that civil aircraft could be used for transporting projectiles without special adaptation, or in any case without any adaptation of importance. The object of the reservation was to emphasise the fact that civil aircraft could at any moment be made to form part of a country's armed forces; all that was required was a decision to use them for military purposes, coupled with the requisitioning of the machines. The very fact, therefore, that such material existed could at any given moment create a disproportion between the armaments of the nations. Thus the essential factor was the requisitioning of civil machines, not their adaptation; hence, the Polish delegation proposed the deletion of the words "after adaptation for military purposes" in I (b).

M. Hotta (Japan) pointed out that the Japanese delegation had in sub-committee submitted a reservation identical with that of the Polish delegation. Adaptation for military purposes was not an essential condition when converting a civil machine into an integral part of a country's air armaments. The Japanese delegation considered that all civil aircraft could become offensive weapons, and therefore supported the amendment proposed by the Roumanian, Czechoslovak and Yugoslav delegations.

M. BRANDENBURG (Germany) was opposed to the inclusion of civil aviation as such. The question referred to the Air Commission by the General Commission covered armaments, and armaments only. A civil aeroplane was no more an armament than was a car or a merchant vessel.

The only way in which prevention of the abuse of civil aviation could be provided for was, as he had already stated, that employed by the German delegation by the use of the words "or are requisitioned by such force" in its proposal. He must therefore vote against the amendment proposed.

Mr. DULLES (United States of America), too, could not vote in favour of the amendment as submitted. Speaking from the practical point of view, civil aviation in the United States — and particularly the air mail service — had become such an integral part of the nation's life that it would no more be possible to take over all machines in time of war than to requisition all railway cars or automobiles. Further, many civil machines presented so slight a military value that they would never be worth taking over. Hence, the amendment proposed did not present a true picture.

Though he did not intend to ask for a vote upon it, he felt that agreement could no doubt be reached if the words "and under certain circumstances any civil aircraft which might be incorporated into the military forces of a State could be used to subserve military ends" were added to the Sub-Committee's text. This would meet the case both of countries which might consider it possible to take over all civil machines and of those which would never propose to do so.

M. RUTGERS (Netherlands) was not sure how the general statement given in paragraph I (b) would affect the reply to be made to the General Commission. He therefore proposed that this statement and the amendments thereto should be reserved until later.

M. DUMESNIL (France) proposed that the end of the discussion should be postponed until the next meeting, in order to enable delegations to study fully both the letter and the spirit of the three amendments submitted.

Replying to M. Rutgers, he thought the Air Commission should consider the question of civil aviation there and then, since any aeroplane could be used, in a greater or less degree, for military purposes. He would refer him to the passage on this subject given in the report of Sub-Commission A, Chapter V, paragraph 3 (document C.739.M.278.1926.IX, page 50).

Group-Captain BABINGTON (United Kingdom) pointed out that the Commission's task would be simplified if the Rapporteur would prepare a single text covering all the amendments proposed.

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## NINTH MEETING

*Held on Friday, May 20th, 1932, at 3.30 p.m.*

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President: M. DE MADARIAGA.

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12. CONSIDERATION OF THE QUESTIONS REFERRED TO THE COMMISSION IN THE RESOLUTION OF THE GENERAL COMMISSION DATED APRIL 22ND, 1932 (document Conf. D./C.G. 28(2)): REPORT BY THE SUB-COMMITTEE (continuation of the discussion).

*Section I, paragraph (b).*

M. BOHEMAN (Sweden), Rapporteur, read the following joint text drawn up by the delegations who had submitted proposals at the previous meeting and some others to replace paragraph I (b) of the report:

"Civil aircraft, to the extent that they might be incorporated into the armed forces of a State, could in varying degrees subserve military ends."

M. VALLOTTON (Switzerland) said that two questions were raised here. The first, one of substance, was whether a part or the whole of a country's civil aviation could, with or without conversion, become an integral part of its air armaments. The second was a question apart: the German delegation had asked whether, since civil aviation was not an armament, the Commission had any right to discuss it. M. Rutgers had taken this view in stating, at the previous meeting, that the General Commission had not asked this question.



In order to direct the discussion along the right lines, he would point out that at the Commission's sixth meeting the Italian delegation had brought up the question of civil aviation, and several other countries seemed to share its interpretation of the resolution of April 22nd. In the document containing the replies of April 28th (document Conf. D./C.A.13), the Spanish, French, Polish, Roumanian and Czechoslovak delegations had all voiced the same view on the question of civil aviation. The Japanese delegation, too, had taken up a similar position in supporting at the previous day's meeting the proposal submitted by the Roumanian, Czechoslovak and Yugoslav delegations. Lastly, Germany too had replied in the affirmative to this initial question. Its reply, given in the document to which he had referred, consisted of a general proposal, followed by definitions, and he would draw special attention to No. 5 of these, which referred to aircraft " which form part of the equipment of any armed force or are requisitioned by such force ". An armed force, however, only requisitioned things which did not belong to it; in the present case they would be civil machines.

The inference was that the Air Commission was competent to deal with the question of civil aviation. The problem was undoubtedly complex, but the Commission must not shirk its duty, and he therefore considered that paragraph I (b) should be discussed.

The PRESIDENT agreed with M. Vallotton, more especially as the question of civil aviation had in fact been laid before the Conference more than three months previously, since when it had been dealt with constantly. A discussion on the Commission's competence to deal with the matter must necessarily be purely theoretical, and hence of secondary importance.

M. FIERLINGER (Czechoslovakia) thanked the United States delegate for the amendment he had submitted at the previous meeting, the sense of which was almost identical with that of the proposal submitted by the Roumanian, Czechoslovak and Yugoslav delegations. His delegation would support the Rapporteur's text.

He endorsed all that the Swiss delegate had said, adding that, if the General Commission were to receive a report dealing with all the aspects of the problem, it would be regrettable if the Air Commission envisaged the problem of aviation without taking any account of civil aviation.

M. DE HEVESY (Hungary) proposed on behalf of his delegation that " armed forces " should read " air forces ".

He explained that civil aviation was of no military value except to countries possessing a military air force also. In support of this theory, he read the following paragraph from the report of Sub-Commission A (document C.739.M.278.1926.IX): " The military value of the commercial fleets of a country, as a whole, varies in proportion to its own size and the size of the naval forces of the country " (page 151, No. 5). In the same way, a country possessing no military air force could not incorporate its air force into its armed forces.

Lieutenant-Colonel NAUMOVITCH (Yugoslavia) preferred to leave the text as it stood. Civil aviation, even when backed by no military air force, could be used for military purposes in time of war. Paragraph I (b), however, dealt with war-time, not peace-time.

M. FIERLINGER (Czechoslovakia) confessed that he did not quite see the force of the Hungarian delegate's argument. He too was in favour of maintaining the text proposed by the Rapporteur.

M. BOHEMAN (Sweden), Rapporteur, also preferred to leave his text as it stood. If, by some miracle, the Conference succeeded in abolishing all military aviation, it was obvious that civil aviation would present a certain importance from the military point of view.

M. LANGOVOY (Union of Soviet Socialist Republics) had not opposed the adoption of paragraph I (b) in the Sub-Committee. The idea expressed therein was accurate, but was the paragraph in its right place? Section I dealt with offensive weapons; since civil aviation was not a weapon, paragraph (b) was out of place there. Some might hold that civil aviation was an armament, but if so why was there no mention of it in the particulars supplied by the various States to the League and given in the *Armaments Year-Book*? He would therefore abstain from voting.

M. DE HEVESY (Hungary), in reply to the Rapporteur, referred the Commission to the following extract from a declaration made in Sub-Commission A by the United States delegation, on the assessment of the military value of civil aircraft: " An attempt to convey the impression that civil aircraft may be efficiently used for military purposes conveys a false idea to the Preparatory Commission " (document C.739.M.278.1926.IX, page 155, Section C). He therefore wished his proposal to stand.

Mr. Norman DAVIS (United States of America) pointed out that the Hungarian delegate had referred to the first part only of the United States declaration made in Sub-Commission A. He had only to read the rest of the paragraph to see that it was in thorough agreement with the proposal under discussion. It went on to say: "While some civilian aircraft may be used for some military purposes, in the same way that some civilian automobiles may be used for some military purposes, the inclusion of all civil aircraft in considering the air strength of a country is untenable from the point of view of the limitation and reduction of armaments."

M. BRANDENBURG (Germany) agreed, in principle, with the Soviet delegate. He could not recognise the Commission's competence to deal with civil aviation, nor could he accept the remarks made by some speakers on the military value of civil aircraft. He supported the Hungarian proposal and also that of the Rapporteur, which he considered met the German view earlier expressed.

M. DE HEVEZY (Hungary) acknowledged that the United States delegate's remarks were not without foundation. If a State had no army, however, there was no means of incorporating motor cars into it; similarly, where no military air force existed civil aircraft could not be incorporated either. He would not press for a vote on his amendment but would like his remarks to be referred to in the report.

*The Commission adopted the Rapporteur's text for Section I, paragraph (b), the German delegation abstaining, and the Hungarian amendment to be mentioned in the Report.*

*Section I, Paragraph (c).*

M. BOHEMAN (Sweden), Rapporteur, read Section I, paragraph (c), as follows:

"Independent of the offensive character which air armaments may derive from their use, their capacity for offensive action depends on certain of their constructional characteristics."

*The Commission adopted Section I, paragraph (c), the German delegation abstaining.*

*Section I, Paragraph (d).*

M. BOHEMAN (Sweden), Rapporteur, read Section I, paragraph (d), as follows:

"The capacity for offensive action of air armaments resulting from such constructional characteristics should first be considered from the point of view of the efficacy of such armaments against national defence and, secondly, from the point of view of the threat offered thereby to the civilian population."

*The Commission adopted Section I, paragraph (d), the German delegation abstaining.*

*Section II.*

M. BOHEMAN (Sweden), Rapporteur, read Section II, as follows:

"(a) The aircraft forming a part of the air armaments of a country that may be regarded as most efficacious against national defence are those capable of the most effective direct action by the dropping or launching of means of warfare of any kind.

"(b) The efficacy against national defence of an aircraft forming part of such armaments, and considered individually, depends upon its useful load and its capability of arriving at its objective.

"(c) The useful load of aircraft is determined by a large number of variable factors. Among these the Sub-Committee has noted, for purposes of examination, the unladen weight, the horse-power and the wing area for aeroplanes, and the volume and horse-power for dirigibles.

"Although it is difficult to arrive at formulae, since they are subject to modification or revision in view of the continual technical progress that is being made, the Sub-Committee considers that, for purposes of comparison, the useful load of aircraft can be measured:

"For aeroplanes: by unladen weight, horse-power and the ratio between horse-power and wing area;

"For dirigibles: by volume and horse-power.

"(d) Means of warfare of every kind to be launched from the air are efficacious against national defence in proportion to their capacity to prevent or delay the production, concentration and utilisation of means of defence."

The Rapporteur also read the following comments on Section II :

" The delegations of the United States of America, the Argentine Republic, the French Republic, and the United Kingdom think it is necessary to state that, as far as they are concerned, the air armaments most efficacious against national defence may also, in certain circumstances, be the most efficacious for their own national defence."

The PRESIDENT pointed out that the amendment submitted two days earlier by the German delegation covered the whole of the three Sections I, II and III. He presumed that, as the Commission had rejected the amendment where Section I was concerned, this decision applied to Section II also.

M. GAJARDO (Chile) stated that his delegation endorsed the reservation made in regard to this Section.

M. DUMESNIL (France) stated that the delegations which had submitted this reservation would only be too glad if it could be included in the actual text of Section II. He hoped that the majority of the delegations would see no objection to so doing. No delegation could question the sound sense or the truth of the statement, and he therefore proposed that the Commission should vote upon the inclusion in Section II of the reservation submitted by the United States, Argentine, French, United Kingdom and Chilean delegations.

Colonel MARTUCCI (Italy) acknowledged that the statement was sound, but as the Air Commission had not been asked the question, nor called upon to give an opinion on this point, he thought it better not to include the reservation in the text.

The PRESIDENT pointed out that there were three possible solutions. The paragraph could be left in its present place, it could be incorporated in Section II, labelled as the opinion of certain stated delegations, or it could be incorporated in Section II without comment or mention of the names of the delegations supporting it.

M. LANGE (Norway) considered that the question raised by this reservation was not only superfluous but lay outside the discussion. He could not support a suggestion to include it in any form in Section II.

M. VOUGT (Sweden) said he dreaded a reopening of the previous day's discussion on Paragraph I (a). Inclusion of the reservation in question in Section II once again called in question the defensive character of armaments. The Swedish delegation would not vote for such inclusion.

M. DUMESNIL (France) considered that if the text were adopted by the Commission it would be well for the whole Commission, and not only the present signatories, to endorse it and so include in its report what was after all nothing more nor less than a fundamental truth where international security was concerned.

The PRESIDENT said that the Air Commission was at perfect liberty to insert the idea where it chose. Unless the French delegation insisted on a vote it might well be left as it stood.

M. DUMESNIL (France) saw no objection to taking a vote on the point.

M. LANGOVOY (Union of Soviet Socialist Republics) pointed out that the Commission must keep to facts. Its answer to the General Commission was not given simply to be shelved. It must reply as to which weapons were offensive, for these weapons were to be subject to special control. Obviously any offensive weapon also possessed defensive characteristics, but, if the reservation submitted by the five delegations were inserted in Section II, it would render the text of this section incompatible with the General Commission's purposes.

M. QUINTANA (Argentine) stated that his delegation supported the French proposal that the reservation should be inserted in Section II.

The PRESIDENT put to the vote the insertion in Section II of the following new paragraph :

" The air armaments most efficacious against national defence may also in certain circumstances be the most efficacious for their own national defence. "

A vote was taken by roll-call, the delegations voting as follows :

*For the inclusion of the paragraph :* Argentine, Bolivia, Brazil, United Kingdom, Canada, Chile, Czechoslovakia, France, Greece, India, Japan, Poland, Portugal, Roumania, Switzerland, United States of America, Yugoslavia.

*Against :* Austria, Belgium, Bulgaria, China, Denmark, Estonia, Finland, Germany, Hungary, Italy, Latvia, Lithuania, Mexico, Netherlands, Norway, Siam, Spain, Sweden, Turkey, Union of Soviet Socialist Republics.

*The proposal was rejected by 20 votes to 17.*

The PRESIDENT stated that the comment on Section II would figure in the report as at present situated, but as having been submitted by seventeen delegations.

M. LANGOVOY (Union of Soviet Socialist Republics) asked that the number of delegations voting for and against the previous day's proposal should also be specified in the report.

*Agreed.*

*Section II, Paragraph (a).*

M. BOHEMAN (Sweden), Rapporteur, read the text, as follows :

" The aircraft forming a part of the air armaments of a country that may be regarded as most efficacious against national defence are those capable of the most effective direct action by the dropping or launching of means of warfare of any kind. "

The Rapporteur added that the following amendment had been submitted by the Netherlands delegation :

" In II (a), instead of ' the most effective direct action ' read ' direct action ' .

" *Continue under (a) :* ' Consequently, amongst the most specifically offensive weapons must be mentioned (apart from chemical and bacteriological means of warfare with which a special committee has been appointed to deal), in the first place, bombing planes ; in the next place, aerial bombs of every kind ; and, lastly, instruments for aiming and launching such bombs. ' "

Captain GAUW (Netherlands) explained why his delegation had submitted an amendment to this paragraph. Section II dealt with the means of defining the weapons most specifically offensive against national defence. The object of the Netherlands delegation's proposal was to simplify the Air Commission's task in so doing. The proposal did not attempt to replace the existing text, but departed from it in that, before dealing with technical considerations, it expressed a definite view on the most important point : the designation of all bombing-aircraft, and all arms coming within this category, as a most offensive weapon. Hence, the Netherlands delegation proposed that not aircraft capable of the most effective direct action but *all* bombing-aircraft should be covered. Moreover, as the " most specifically offensive weapons " had not yet been formally defined, this definition — a direct reply to the very question asked by the General Commission — was given in the text proposed under (a) in the Netherlands amendment.

To state the reasons why all bombing-aircraft should come under the head of most offensive weapons seemed almost superfluous. The strategic principle that the chief elements of effective offence were surprise and the possibility of swift concentration of forces at a given spot, was only too well known. Bombing-aircraft possessed these qualities in the highest possible degree. The eminently offensive nature of such aircraft was generally recognised. In asking the Technical Commissions to indicate the most offensive weapons — namely, those to which qualitative limitation was to be applied — the General Commission certainly expected to see bombing aircraft among the first to be mentioned. Had it not before it the French delegation's proposals for qualitative limitation, suggesting — under Section I — the placing of all bombing aircraft at the disposal of the League of Nations? The reason for the proposal was that it covered the weapon in itself the most offensive and the most threatening to civilians.

The Netherlands delegation considered that a statement that all bombing-aircraft was offensive seemed quite straightforward, and presented no insurmountable difficulties for the possible application of a convention containing measures for qualitative limitation. In any case such application would be supervised by the Permanent Disarmament Commission provided for by the draft Convention. There was nothing,

moreover, to prevent the supplementing of this general statement by technical particulars dealing with the unladen weight, the horse-power and wing area of aeroplanes or with the volume and horse-power of dirigibles.

The Air Commission's reply to the General Commission would be clearer if such technical details were preceded by a general statement covering all bombing-aircraft. Technical knowledge would not be essential to an understanding of the Air Commission's views, and the General Commission would find in a reply of this kind, supplemented by technical particulars, a solid foundation upon which to base its political decisions. Such a reply would be comprehensive not only to politicians but also to the public itself, which would scarcely be satisfied with exclusively technical formulæ.

M. BOHEMAN (Sweden), Rapporteur, explained why it had not been possible for the Sub-Committee to include the ideas contained in the Netherlands amendment in the report itself. Proposals made by various delegations dealt with the abolition of bombing-aircraft. Others suggested a classification of such machines according to the use made of them. The Sub-Committee had, however, unanimously considered that a classification on this basis was impossible. The very term "bombing aircraft" was not, technically speaking, sufficiently precise. The necessary technical particulars must be sought, for the mere designation by name of a particular category of machine was meaningless.

M. FIERLINGER (Czechoslovakia) agreed with the Rapporteur. The Netherlands amendment was excellent in that its terms were less vague than the original, but he was not sure that it was possible to limit, for instance, aerial bombs. Thus his delegation could not accept the Netherlands amendment, though its sense scarcely differed from that of the report.

Captain GAUW (Netherlands), in reply to the question: "What is a bombing aircraft?" said that all States possessing military aircraft classed their air effectives in different categories: bombers, fighters, chasers and so on. The machines covered by the Netherlands amendment were military aeroplanes constructed as bombing-machines, intended for that purpose, and called "bombing aircraft". The Netherlands delegation considered that a machine of another type could not be termed a bomber simply because its pilot, seized with sudden madness while in flight, tore the compass from its socket and hurled it overboard.

Group-Captain BABINGTON (United Kingdom) pointed out to the Netherlands delegate that the Rapporteur had experienced great difficulty in arriving, in the Sub-Committee, at a satisfactory text. To his mind, the classification of the degree of offensiveness by nomenclature was quite impracticable. In the British air force, for instance, the term "bombing aircraft" did not constitute a definition; there were bombing squadrons and reconnaissance squadrons but, in many cases, both used the same machines. Indeed, as far as he knew, no military aircraft existed which was not equipped to carry bombs. As the Netherlands amendment carried the Commission into an entirely new field, he hoped that M. Gauw would not press it.

M. DUMESNIL (France) asked the Air Commission not to consider the Netherlands proposal. The French delegation had in its memorandum proposed that bombing-aircraft should be placed at the League's disposal, but this was at the head of a paragraph giving definite particulars, a glance at which would show their purport. The French, like the United Kingdom delegation, considered that all aeroplanes could be looked upon as bombers and that this technical term must be more clearly defined.

As regarded the other proposal made in the Netherlands amendment, he saw no reason for substituting the words "direct action" for "the most effective direct action". It was only necessary to refer to the beginning of the Sub-Committee's report, where it was clearly stated that the Air Commission was called upon to define "the weapons being the most efficacious against national defence". The reply was straightforward; those weapons "capable of the most effective direct action". Instruments for dropping or launching purposes were not weapons. Lastly, the French delegate supported the text given in the Sub-Committee's report.

M. QUINTANA (Argentine) was also in favour of this text.

Colonel MARTUCCI (Italy), too, agreed with the United Kingdom, French and Argentine delegations that the text should be maintained as it stood.

M. VALLOTTON (Switzerland) felt that the Netherlands text did not in substance differ to any great extent from that adopted by the Sub-Committee. Its sole advantage was that it was clearer from the point of view of the man in the street. The Air Commission, however, was not dealing with the man in the street; its task was to supply a technical basis for the General Commission's work. Perhaps the Rapporteur could meet the Netherlands delegation by indicating the general sense of its proposal in his report to the General Commission.

Captain GAUW (Netherlands), in order to simplify the Committee's task, was ready to withdraw his amendment, subject to the inclusion in the report of a note on the lines suggested by the Swiss delegate.

The Commission adopted Section II, paragraph (a), the German delegation abstaining.

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## TENTH MEETING

*Held on Monday, May 23rd, 1932, at 10.30 a.m.*

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President: M. DE MADARIAGA.

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13. CONSIDERATION OF THE QUESTIONS REFERRED TO THE COMMISSION IN THE RESOLUTION OF THE GENERAL COMMISSION DATED APRIL 22ND, 1932 (document Conf. D./C.G.28(2)): REPORT BY THE SUB-COMMITTEE (*continuation of the discussion*).

*Section II, Paragraph (b).*

M. BOHEMAN (Sweden), Rapporteur, read paragraph II (b), worded as follows:

The efficiency against national defence of an aircraft forming part of such armaments, and considered individually, depends upon its useful load and its capability of arriving at its objective."

The following comments had been made on II (b):

"The Japanese delegation has proposed the following addition to II (b) and III (b):

"The useful load of aeroplanes carried by aircraft-carriers or by warships fitted with landing-on platforms (or landing decks) is to be regarded as being increased by the fact of the mobility of the ships on which they are carried."

"Without going into the merits of this proposal, the Sub-Committee was of the opinion that, as the Naval Commission had discussed the question of aircraft-carriers and the aeroplanes belonging to them at a public meeting, the plenary Air Commission ought to do the same. It considered the possibility of the appointment of a joint naval and air commission to deal with this problem as a whole."

M. HOTTA (Japan) said that the Japanese delegation was of opinion that the mobility of the base of action of aircraft gave such craft a specifically offensive character, and certain countries were more particularly exposed to attacks from machines carried on board aircraft-carriers or warships equipped with landing-on platforms (or decks).

As the reasons which had led the Japanese delegation to view this category of weapons as offensive in character had been fully explained in its reply to the note of the President of the General Commission (document Conf. D./C.A. 13), M. Hotta would not enter into details, but would merely ask the Commission to adopt the insertion of the proposed paragraph immediately after paragraphs II (b) and III (b).

The PRESIDENT pointed out that this question had also been discussed by the Naval Commission, and the Air Commission could do no more than to state that the power of action of aircraft carried on board special ships was increased by the radius of action of these ships. A mixed body, either an *ad hoc* committee or a restricted committee composed of the Presidents and Rapporteurs of the Air and Naval Commissions, could then deal with the question. He asked the Japanese delegation if it was prepared to accept this solution.

M. HOTTA (Japan) asked that, if the question was not discussed in the Air Commission, the report that the latter submitted to the General Commission should also mention the especially offensive character of machines carried on aircraft-carriers or warships specially adapted for that purpose.

M. BOHEMAN (Sweden), Rapporteur, suggested that, in the addition proposed by the Japanese delegation, the phrase "useful load" should be changed to "radius of action". Thus modified, the Japanese proposal could be inserted in the report, and it could be added that, as the aircraft carried in this way were generally small machines, they had in themselves only a limited radius of action. The text thus modified would meet with the unanimous approval of the Air Commission; and the principal question would remain within the province of the Naval Commission, to which it essentially belonged.

M. LANGOVOY (Union of Soviet Socialist Republics) asked that the report should mention that the Soviet delegation agreed with the position taken by Japan.

Mr. DULLES (United States of America) considered that, if the Air Commission intended to vote upon the adoption of the Japanese proposal as part of Section II, the members should bear in mind the fact that the section in question dealt with aircraft in general.

A special paragraph dealing with ship-based aircraft would give an impression that the Commission considered aircraft so based more offensive than aircraft taking off from the land. This was obviously not the case, and the amendment might therefore tend to create a false impression.

From the technical point of view, too, the amendment was open to question, since the useful load of a machine taking off an aircraft-carrier was usually less than that of a machine of the same weight empty taking off the land. His delegation must therefore vote against the Japanese proposal.

M. LANGOVOY (Union of Soviet Socialist Republics) thought it would be more accurate to say that the offensive character of aeroplanes carried on aircraft-carriers was increased by the fact that they could carry a larger quantity of destructive weapons, while they needed less fuel. This question was so serious that it was the subject, not only of a reservation on the part of certain delegations, but also of an addition at the end of paragraph II (b).

M. HOTTA (Japan), replying to the statement of the United States delegate, pointed out that it was precisely because machines carried on aircraft-carriers were of a specifically offensive character that his delegation had proposed this amendment.

M. MASSIGLI (France) feared that a misunderstanding had arisen owing to the fact that the Japanese amendment had not been presented at the proper place.

Two facts were certain: firstly, the radius of action of aircraft was increased through being carried on an aircraft-carrier; secondly, the fact that the aircraft is launched from an aircraft-carrier and lands on it implied certain consequences tending to limit the useful load of the aeroplane. These two facts affected in different ways the offensive capacity of aeroplanes in general.

The Japanese amendment tended to give an offensive character to all aeroplanes carried by aircraft-carriers, without taking into account the principle laid down in paragraph II (a).

For this reason, the French delegation proposed to insert after paragraph (c) of Section I a remark which, it hoped, would meet with the Commission's unanimous approval:

"In particular, aeroplanes carried by aircraft-carriers or by warships equipped with landing-on platforms (or decks) are in a special situation from the point of view of their employ and their offensive capability."

M. HOTTA (Japan) declared that his delegation agreed to the French proposal.

Group-Captain BABINGTON (United Kingdom) thought there was a certain risk in accepting the French proposal. An amendment dealing with aircraft-carriers only embarked on an entirely new field and might involve the Committee in mention of methods of employ, starting-points and other details.

He would prefer the amendment to figure in the report as an observation, and so drafted as not to bear directly upon the question of useful load. Obviously, an aeroplane carried on a mobile aircraft-carrier had an increased radius, and the Japanese delegation's point to this effect might be met by the adoption of the following text:

"The effect of embarking aircraft in warships may — independent of the useful load of such aircraft — be equivalent to increasing their radius of action."

The advantage of this text was that it left aside the whole question of useful load.

M. HORTA (Japan) declared that he preferred the solution suggested by the French delegation.

In these circumstances, Group-Captain BABINGTON (United Kingdom) withdrew his proposal.

M. BRANDENBURG (Germany), speaking from the point of view of a country deprived of all military aircraft, could not admit any difference in degree of offensiveness between the various categories of machines. The sense of the Japanese amendment — that aeroplanes which could be transported nearer to a country became more offensive — was obviously correct; but he would point out that the geographical situation of some countries meant that enemy aeroplanes could fly over their principal centres at a few minutes' notice. He could support none of the views held in the Committee and would abstain from voting.

His delegation hoped to see the total abolition of aircraft-carriers.

M. LANGOVOY (Union of Soviet Socialist Republics) thought that the French proposal went counter to the Japanese text. If a vote were taken on the French amendment, the Soviet delegation would abstain and formulate a reservation in the sense of the Japanese proposal.

Mr. DULLES (United States of America) thought there were difficulties inherent in the French proposal. If ship-based aircraft were placed in a special category it was only logical that certain types of land aircraft, especially those with bases near frontiers, should be specifically mentioned also. He proposed that a small drafting committee should be appointed to find a satisfactory formula.

Group-Captain BABINGTON (United Kingdom) saw no objection to setting up a drafting committee, but thought that the Commission must definitely decide whether the draft submitted should apply to Section II only or to all three sections — I, II and III.

M. MASSIGLI (France) said that his delegation also agreed to the idea that a drafting committee should be set up. But, contrary to the British suggestion, he thought that, before deciding in the abstract where the adopted text should be inserted, the text itself should be drawn up.

The PRESIDENT replied that it would be for the drafting committee to indicate the place where the text should be inserted. This Committee could be composed of the delegates of Japan, the United Kingdom, France, the Union of Soviet Socialist Republics, the United States of America and Italy; it would be presided over by the Rapporteur.

*The President's proposal was adopted.*

M. DE HEVESY (Hungary) said that his delegation was anxious to help the Commission to progress in its work and would take part in the discussion, although it had been in favour of a text other than the one submitted. The delegation reserved its right to give its definite opinion at the end of the debate.

It submitted an amendment to paragraph II (b) which would be explained by the expert of the delegation.

M. SZENTKERESZTESY (Hungary) declared, on behalf of his delegation, that, in the last sentence of paragraphs II (b) and III (b), the terms "capability" and "objective" were not clear and precise enough and were liable to give rise to misunderstanding. The idea of capability was very complicated; it implied radius of action, navigation, atmospheric conditions and, in particular, superiority against anti-aircraft defence. For the sake of clearness, therefore, all these factors should be enumerated.

The word "objective" could mean either the possible consequences which the attack on the objective might have on subsequent operations, or the objective itself, or the furthest point of the aircraft's radius of action, etc. It was therefore also necessary to define the meaning to be given to this term.

It was especially in the interests of the smaller States that the Hungarian delegation considered it essential that these terms should be defined. It considered that the efficacy and threat of an aircraft depended, to a large extent, on the objective chosen — namely, whether this objective was of great importance, whether it was very vulnerable, and whether the consequences of the attack against it on subsequent operations were important. In these conditions, efficacy and threat could be of decisive value.

The Hungarian delegation agreed with the other delegations in thinking that the choice of objective was a tactical and strategical matter, and, consequently, this factor could not be introduced in the text. On the other hand, vulnerability was a purely technical idea, in direct relation to the efficacy of air weapons and the threat they involved, for the vulnerability of an objective depended on its nature, dimensions and shape; on the distance between it and the lines of flight and taking-off grounds; on the defence works intended



to protect it, etc. The study of vulnerability was therefore likely to lead the Commission to practical results.

The Hungarian delegation did not wish to examine these questions in detail, but thought it was sufficient that they had had the opportunity of drawing the Air Commission's attention to them. Consequently, the Hungarian delegation proposed the following text for paragraph II (b) :

" The efficacy against national defence of an aircraft . . . depends upon its useful load, its capability of arriving at its objective and the vulnerability of this objective. "

M. MASSIGLI (France) considered that the observations of the Hungarian delegation were both helpful and correct. Similar considerations had led the French delegation in the Sub-Committee to propose the draft questionnaire annexed to the report. If the French delegation voted in favour of the Hungarian proposal, it would do so because it was confident that, at the end of the discussion, the Commission would examine this questionnaire.

Lieutenant-Colonel HERRERA (Spain) said that paragraph II (b) stipulated that efficacy against national defence depended on the " useful load " and the " capability of arriving at the objective ". Paragraph II (c) laid down variable factors (unladen weight, horse-power and relation of horse-power to wing area) which could be used in measuring the useful load ; but it did not mention those factors which should be used in measuring the capability of arriving at the objective, nor did it mention in what way the variable factors chosen to measure the useful load should be considered. The Air Commission must fill in this gap, if it desired to give a precise reply to the General Commission.

The capability of arriving at the objective could be considered from two different points of view — radius of action and facility of flying high. The latter consideration was the most important in attacking a militarily defended point, whereas the former was of greater importance in attacking an undefended civil population.

The high flying capacity of an aircraft might be measured by the formula :

$$\frac{\sqrt{\text{Horse-power per kilogramme}}}{\sqrt{\text{horse-power per square metre}}}$$

If the useful load were measured by the unladen weight, which was supposed to be proportional to the total weight in a suitably constructed machine, the product of the two formulæ would correspond approximately to the measure of the machine's efficacy against national defence in accordance with the following formula :

$$\frac{\sqrt{\text{Horse-power}}}{\sqrt{\text{horse-power per square metre}}}$$

On the other hand, the threat to civil population could be measured simply by the unladen weight.

To check the value of these formulæ, M. Herrera had made a statistical examination of all the military machines, numbering more than 800, given in the 1931 *Taschenbuch der Luftflotten* (military part). He had discovered that, with very rare exceptions, the line of demarcation between machines which the Governments concerned called " bombers " and all other machines occurred when the answer to the formula :

$$\frac{\sqrt{\text{Horse-power}}}{\sqrt{\text{horse-power per square metre}}}$$

was 300. It was the same in measuring unladen weight. Calculations had shown that the unladen weight of so-called bombers was more than two tons and that of other machines less than this figure, thus justifying the above hypothesis.

In respect of the degree of efficacy against national defence, if the useful load and the machine's capability of arriving at its objective in flying at the necessary altitude (namely, the altitude determined by the national defence's means of defence against aircraft) were taken into account, it could be measured by the ratio :

$$\frac{\sqrt{\text{Motor horse-power}}}{\sqrt{\text{horse-power per square metre of wing area}}}$$

In the case of dirigibles, the degree of efficacy was in direct ratio to their capability.

The PRESIDENT said that the Spanish delegate's technical observations, which covered both paragraphs II (b) and II (c), would be considered in detail when the Commission came to paragraph II (c).

M. NYGREN (Sweden), referring to the Hungarian proposal, said that the Commission should not lose sight of its aim — namely, to arrive at a qualitative reduction of air armaments. If they wished to succeed, they would have, sooner or later, to agree on the

limits above which armaments would have to be submitted to special regulations. In seeking these limits, it would certainly be difficult to take into account all the possible variable factors concerning the vulnerability of the various objectives.

The Swedish delegate considered that the only starting-point to be adopted was that afforded by the characteristics of the weapons themselves, disregarding the relative importance of the opposing forces after an aggression, which was henceforward to be avoided as far as possible.

While recognising that the remarks of the Hungarian delegation were indubitably correct, M. Nygren considered it preferable to adopt the text of paragraph II (b) without the Hungarian amendment. If, however, the Commission was unanimously in favour of the Hungarian proposal, the Swedish delegation, being anxious not to impede the Commission's work, would make no difficulty.

M. RUTGERS (Netherlands) did not feel sure that, in mentioning useful load under paragraph II (b), the Commission would be remaining within the field of qualitative limitation. The useful load might be carried by a larger or smaller number of aircraft, without affecting its efficacy. It made little difference whether the projectiles were dropped from a single machine or from a number. For those reasons he thought that the question of the useful load came under the quantitative heading.

The PRESIDENT thought that the Netherlands delegate's observation was due to a misunderstanding. It was plain that the Commission was dealing with the field of qualitative limitation, and it must remain within that field. The words "considered individually" in paragraph II (b) were categorical in this respect. It was obvious that, in the case of a single aircraft, its efficacy against national defence would be increased commensurately with its useful load and its capability for attaining its objective. There was, therefore, no confusion between the qualitative aspect of the question and quantitative conceptions. Qualitative considerations applied only to a single arm, taken individually.

M. RUTGERS (Netherlands) explained that he had been under the impression that the President was supporting the Hungarian amendment. He concurred in the Swedish delegation's observations concerning that amendment. The only object of his previous remarks had been to bring out the fact that the offensive character of an air arm was to be found in its capacity for carrying a specific useful load, but he did not consider that the useful load affected the qualitative character of an arm.

Group-Captain BABINGTON (United Kingdom) had no objection, in principle, to the idea underlying the Hungarian amendment, but thought that it might lead the Commission into long and profitless debate on later paragraphs in the report. In his view, the substance of the Hungarian amendment was contained in paragraph II (b) as it stood. As the addition made so little difference, he would ask the Hungarian delegate whether he must press his point.

M. DE HEVESY (Hungary) said that the only object of the Hungarian delegation in emphasising the offensive character of an arm considered in relation to the place of arrival and not the place of departure had been to draw the Air Commission's attention to the question of vulnerability. That matter might, perhaps, arise later. The Hungarian delegation would not press its amendment and did not ask that a vote should be taken on it. It would be satisfied with a mention in the report.

The Commission adopted Section II, Paragraph (b), the Austrian, German and Netherlands delegations abstaining.

On the proposal of M. MASSIGLI (France), paragraph II (c) was postponed to a later meeting, to enable the members of the Commission to receive a complete summary of the important technical declaration made by the Spanish delegate.

Section II, Paragraph (d).

M. ROHEMAN (Sweden), Rapporteur, read paragraph II (d), as follows :

"Means of warfare of every kind to be launched from the air are efficacious against national defence in proportion to their capacity to prevent or delay the production, concentration and utilisation of means of defence."

M. RUTGERS (Netherlands) said that his delegation, being in favour of the complete prohibition of bombing from the air, could not agree to a distinction between the various means of warfare, which would not take the Commission very far. He abstained solely in the matter of bombing planes and not in that of fighting, reconnaissance planes, etc.

M. MASSIGLI (France) had not attended the Sub-Committee's meetings and had some difficulty in understanding the meaning of this paragraph. He had doubts as to the expediency of the text proposed and did not even feel sure that the General Commission or public opinion would understand it. For these reasons, he would prefer the Air Commission to go back to the following text, which had been proposed by the United States delegation to the Sub-Committee; it expressed a self-evident truth on which at least everyone could agree:

" Means of warfare launched from the air are efficacious against national defence in relation to the material effects they produce. "

*The Commission adopted this latter formula, in the amended form given below, in place of paragraph (d) of the report, the German, Austrian, Netherlands and Soviet delegations abstaining:*

" The efficacy against national defence of means of warfare launched from the air is in proportion to the material effect which they are capable of producing. "

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## ELEVENTH MEETING

*Held on Monday, May 23rd, 1932, at 4 p.m.*

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President: M. DE MADARIAGA.

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### 14. CONSIDERATION OF THE QUESTIONS REFERRED TO THE COMMISSION IN THE RESOLUTION OF THE GENERAL COMMISSION DATED APRIL 22ND, 1932 (document Conf. D./C.G. 28(2)); REPORT BY THE SUB-COMMITTEE (*continuation of discussion*).

#### *Section III, Paragraph (a).*

M. BOHEMAN (Sweden), Rapporteur, read Section III, paragraph (a), namely:

" The aircraft forming part of the air armaments of a country which can be regarded as the most threatening to the civil population are those capable of the most effective direct action by the dropping or launching of means of warfare of any kind; this efficacy depends primarily upon the nature of the means of warfare employed and the manner in which they are employed. "

The Rapporteur reminded the Commission that, during the general discussion on the three sections as a whole, the Portuguese representative had asked why the paragraph " on III " had been included in the report. The paragraph in question was the following:

" In view of the existence of certain international engagements for the protection of the civil population in time of war, the Sub-Committee considered that its rôle should be limited to preparing a reply to the questions put by the General Commission from the point of view of technical possibilities only, irrespective of any legal or political standpoint. "

The original proposal had come from the United States delegation, which had drawn the Sub-Committee's attention to the Hague Convention and other international engagements prohibiting bombing from the air, pointing out that if all States fulfilled their obligations under these engagements the danger ceased to exist.

The Sub-Committee had thought it better to consider air armaments purely from the technical point of view, but, to show that the existence of such engagements had been borne in mind, had inserted the paragraph.

Mr. DULLES (United States of America) had made the suggestion in the Sub-Committee, not because he considered that existing engagements adequately covered the point, but merely to show that they had not been overlooked.

M. D'AVILA LIMA (Portugal) was quite satisfied with the Rapporteur's explanation. His only reason for raising the point was to draw attention to existing engagements in which no distinction was made between offensive and defensive weapons.

The **PRESIDENT** considered that the report of the Committee on Chemical and Bacteriological Weapons might throw some light on this problem.

The Commission adopted Section III, paragraph (a), the German delegation abstaining.

*Section III, Paragraph (b).*

**M. BOHEMAN** (Sweden), Rapporteur, read Section III, paragraph (b), namely :

" The degree of the threat to the civil population represented by an aircraft forming part of these armaments, and considered individually, is in proportion to its useful load and its capability of arriving at its objective. "

The Commission adopted Section III, paragraph (b), the German delegation abstaining.

*Section III, Paragraph (c).*

The Commission agreed to await **M. Herrera's** memorandum before discussing this paragraph.

*Section III, Paragraph (d).*

**M. BOHEMAN** (Sweden), Rapporteur, read Section III, paragraph (d) — namely :

" Means of warfare of all kinds which are intended to be dropped from the air may constitute a serious threat to the civil population.

" The means of warfare which are most threatening to the civil population are those which, considered individually, produce the most extended action, the greatest moral or material effect — that is to say, those which are the most capable of killing, wounding and immobilising the inhabitants of centres of civil population or of demoralising them — so far as concerns immediate consequences, and so far as concerns future consequences, of impairing the vitality of human beings. Among these means the Sub-Committee specially mentions poisonous gases, bacteria and incendiary and explosive appliances. "

The following comment had been made on III (d) :

" The first paragraph gave rise to a somewhat lively discussion, and was accepted only by a small majority. Certain delegations upheld the view that the very existence of means of warfare of any kind intended to be dropped or launched from the air involved a threat to the civil population. "

**M. RUTGERS** (Netherlands) stated that the Netherlands delegation, feeling that in " means of warfare intended to be dropped from the air " lay the gravest possible menace to civilians, would prefer to strengthen the text by substituting the word " constitute " for the existing " may constitute ". He would be willing to submit a formal proposal to this effect if he found that other delegations shared his view.

**M. BOHEMAN** (Sweden), Rapporteur, said that the Sub-Committee had differed only on the first part of paragraph III (d). On the second part they had been unanimous.

This first part covered not only the dropping of bombs, but means of warfare of all kinds, thus including machine-gun bullets and other projectiles. A number of States had considered that some types of projectile did not always constitute a menace to civilians; others that no such means of warfare in themselves constituted a threat, what mattered being the objective. Some delegations had preferred " constitute ", others " may constitute ", others the deletion of the word " serious ".

Colonel **MARTUCCI** (Italy) stated that the Italian delegation would support an amendment in the sense of the Netherlands delegate's remarks. He would be glad to see the word " serious " deleted also.

**M. BRANDENBURG** (Germany) was in favour of the text giving the widest possible interpretation.

Group-Captain **BABINGTON** (United Kingdom) would be unable to support an amendment on the lines suggested by the Netherlands delegate. In explanation of the use of the word " may " he pointed out that the text before the Sub-Committee had referred to " civilian objectives ". The United Kingdom delegation was unable to recognise this term, considering that the mere existence of means of warfare did not necessarily entail a threat to civilians. The important point was the method used or even the intention behind the use of such means of warfare. It was essential to retain the word " may " in order to avoid misleading the General Commission.

M. LANGOVOY (Union of Soviet Socialist Republics) would be ready to support the amendment submitted by the Netherlands delegation. His Government considered that the very existence of air armaments constituted a menace to civil populations.

M. LANGE (Norway) agreed with M. Langovoy and asked the Netherlands delegate to submit an amendment couched in the strongest possible terms. The very fact of possessing such weapons created a temptation to use them and a consequent menace to civilians.

M. RUTGERS (Netherlands) formally proposed the deletion of the word " may ".

Replying to the United Kingdom delegate, he pointed out that the General Commission had asked which were the weapons whose *possession*, not whose *use*, constituted the greatest threat to civilians. In other Commissions the United Kingdom delegation had admitted that possession in itself constituted a menace.

One of the most threatening characteristics of bombing from the air was the impossibility of verifying its effects. Though the objective might be entirely military in character, the means of warfare dropped often affected civilians in neighbouring districts, just as mines laid at sea affected merchant as often as war ships.

M. VAN DER DONKT (Belgium) stated that the Belgian delegation had, in the Sub-Committee, had some hesitation in supporting the text as it stood. The use of the words " of all kinds " covered not only bombs but other weapons such as machine-guns, aerial torpedoes and the arrows used in the early part of the last war, and any strengthening of the text might involve the abolition of all weapons carried on board aircraft. The Belgian delegation could not support a proposal tending to do this. Chasers and reconnaissance machines must be armed, while it was obvious that a single-seater chaser or 2-seater reconnaissance plane did not constitute so grave a menace to civilians as did a bomber. The Belgian delegation would prefer the substitution for the words " of all kinds " of a list specifying the various means of warfare envisaged.

The PRESIDENT understood that the Belgian delegation would have some difficulty in voting for the Netherlands proposal. He asked M. van der Donkt if his point were not covered by the second part of paragraph (d), where the various means of warfare which he had in mind were enumerated.

M. MASSIGLI (France) thought the two parts of paragraph (d) must be considered together.

The mere existence of means of warfare certainly did not in itself constitute a menace to civilians; what was important was the intention underlying their use. Reciprocally, the existence of international undertakings did not constitute a safeguard if such engagements, prohibiting the use of certain weapons, could be ignored.

To meet the views both of the delegations anxious that the paragraph should cover all means of warfare and of those who, like the Belgian, thought that some means need not be condemned, he proposed that the second part only of paragraph (d) should stand. Its reference to " the means of warfare which are the most threatening " did not prejudge the extent to which any particular weapon was threatening.

M. VAN DER DONKT (Belgium), if the Commission preferred not to follow his suggestion for the amendment of the first part of the paragraph, would support the French proposal.

M. DE HEVESY (Hungary) thought the whole of paragraph (d) should be maintained, only the word " may " being deleted, as proposed by the Netherlands delegation. He drew the Commission's attention to the question of vulnerability, which he had already raised, and to the psychological effect of the very existence of military aircraft on countries possessing no air armaments.

The PRESIDENT put to the vote the French proposal that the first part of paragraph (d), comprising the sentence :

" Means of warfare of all kinds which are intended to be dropped from the air may constitute a serious threat to the civil population "

should be deleted.

*The Commission adopted the proposal by 18 votes to 10.*

M. LANGOVOY (Union of Soviet Socialist Republics) pointed out that as paragraph (d) was enormously weakened by the deletion of part 1 — now merely stating that some means of warfare were more threatening to civilians than were others — he must abstain from voting on the adoption of the second part of the paragraph.

Subject to some minor points of drafting raised by the United States delegation, the Commission adopted the second part of paragraph (d), the German and Soviet delegations abstaining.

## TWELFTH MEETING

*Held on Tuesday, May 24th, 1932, at 3.30 p.m.*

President : M. DE MADARIAGA.

### 15. RESIGNATION OF M. COSTA DU RELS, VICE-PRESIDENT OF THE COMMISSION : ELECTION OF NEW VICE-PRESIDENT.

The PRESIDENT read the following letter dated May 19th, 1932, which the President of the Disarmament Conference had received from M. Costa du Rels, Vice-President of the Air Commission, and had forwarded to the President of the Air Commission for communication to the members.

" Having been appointed Bolivian Envoy Extraordinary and Minister Plenipotentiary at Santiago de Chile I regret to have to submit my resignation as Vice-President of the Air-Commission of the General Disarmament Conference.

" May I ask you to convey to the Commission my thanks for the honour it did me and to say that I shall always look back with pleasure on the very cordial relations existing between my colleagues and myself throughout our work together."

The President felt sure that the Commission would unanimously wish to congratulate M. Costa du Rels on the distinction for which his Government had selected him, and while regretting his departure to thank him for his excellent services.

The Commission appointed M. VALLOTTON (Switzerland) Vice-President, in place of M. Costa du Rels.

### 16. CONSIDERATION OF THE QUESTIONS REFERRED TO THE COMMISSION BY THE RESOLUTION OF THE GENERAL COMMISSION DATED APRIL 22ND, 1932 (document Conf.D./C.G.28(2)) : REPORT BY THE SUB-COMMITTEE (continuation of the discussion).

M. BOHEMAN (Sweden), Rapporteur, read the following proposal by the Japanese delegation regarding the offensive capacity of aeroplanes carried by aircraft-carriers or warships.

" The offensive capacity of aeroplanes carried by aircraft-carriers or warships equipped with landing-on platforms (or landing decks) must be regarded as being increased by the mobility of the vessels which carry them. "

The Rapporteur explained the difficulties encountered on the previous day by the Sub-Committee set up to consider the question of aircraft carried on special vessels. As the Naval Commission had been unable to agree on a single text, the Rapporteur thought that the Air Commission would have to make a further effort to find a compromise. The Sub-Committee accordingly considered that it would be better merely to state the different opinions that had been expressed.

The report would mention the reservations made by the delegations who did not vote for the Japanese amendment if it were adopted, or against it if it were rejected, as the case might be.

M. SATO (Japan) observed that his delegation had repeatedly explained its views concerning the problem of aircraft on warships. It attached the very greatest importance to that matter. In the Sub-Committee accordingly it had moved the addition of its proposal as paragraph (c) in Sections II and III. In consequence of the proposal made by the Rapporteur to refer the matter to the plenary Commission, M. Sato had not pressed his point, as he did not wish to obstruct the Sub-Committee's work. At the meeting on the previous day the Japanese delegation had reverted to its proposal, but, thinking that there would be difficulty in obtaining unanimous acceptance by the Commission of that proposal in its original form, it had, again in a spirit of compromise, assented to the French proposal.

As, however, the Drafting Committee specially set up for that purpose had been unable to frame a unanimous text, the Japanese delegation submitted a proposal, which would form paragraph (d) in Section I immediately after paragraph (c) and before the original paragraph (d). The Japanese delegation was confident that its view was the correct one, and the reasons for which it pressed this matter had already been fully explained in its proposal of April 28th. M. Sato would not therefore go into details.

In reply to the remarks made by the delegates of the United States and the United Kingdom on the previous day, he observed that according to the United States delegate aeroplanes on warships were smaller than aeroplanes which had a land base, and they had no very great offensive capacity. M. Sato, however, would point out that among the bombing planes at present carried by aircraft-carriers there were some which were capable of carrying not only a sufficient quantity of oil and petrol to enable them to fly for many hours on end, but some 1,000 kilogrammes of bombs or torpedoes as well. Their offensive capacity was so great that they could put out of action even capital ships and inflict still more serious damage on less powerful national defences and on civilians. Furthermore, aviation was as yet by no means perfect technically, but was improving daily.

With regard to the United Kingdom delegate's remark that aircraft on warships could only increase their radius of action commensurately with the mobility of the ships carrying them, M. Sato pointed out that for the same useful load it was possible sometimes to reduce the quantity of oil and petrol and consequently the radius of action of such planes, and thereby increase the quantity of arms they carried. Here the mobility of such warships played an extremely important part, since, thanks to that mobility, these planes could easily attain their objective. The foregoing arguments made it clear that planes on warships possessed thereby not only an increased radius of action but likewise a greater offensive capacity.

M. Sato hoped that the Japanese proposal would be accepted by the Air Commission. If not, he requested the President to mention the proposal in the body of the report, as representing the minority opinion, in addition to that of the majority. In any case, the Japanese delegation desired that the Commission should vote on its proposal.

Mr. DULLES (United States of America) felt that M. Sato's proposal somewhat changed the general scheme of the report.

For one thing, the report dealt with aircraft in general; why then make a special category of aeroplanes carried on aircraft carriers?

In the second place, the proposal was not in accordance with paragraph I (c), which said that "capacity for offensive action depends on certain constructional characteristics". It was inaccurate to make special mention of the increased offensiveness of machines carried on aircraft-carriers, since such machines were *constructionally* unable to carry as large a useful load as the same machines working from a land base. Useful load too had now been adopted by the Commission as the criterion for the capacity of bombing aircraft.

If the Japanese delegation wished to raise the question of radius of action only, surely the last part of paragraph II (b) would meet their point. Even where radius of action was concerned, was it right to specify aeroplanes carried on aircraft-carriers as more offensive than aeroplanes working from a land base near a frontier?

M. SATO (Japan) admitted that he had no very expert knowledge of this subject, but regardless of the construction of planes he thought that their offensive capacity was increased by the very fact of the mobility of their base. He had previously pointed out that machines so carried, although necessarily restricted in size and weight, might nevertheless transport as much as a ton of explosives or torpedoes.

In reply to Mr. Dulles's objection that the Committee had so far been dealing only with aeroplanes in general without specification, the Japanese delegation considered that aeroplanes transported on *ad hoc* vessels were in an entirely separate category owing to the mobility of their base. It was for that reason that it considered special treatment necessary for such planes, and that was the reason for the Japanese amendment. If the only question had been that of the increased radius of action due to the mobility of the base, M. Sato could have accepted Mr. Dulles's opinion, but there was the further question of the increase of the useful load. That was the meaning of the first Japanese proposal. As the Drafting Committee had not succeeded in drawing up a single text and as the original text of the Sub-Committee's report did not completely meet its objections, the Japanese delegation was submitting a fresh amendment.

If, as had been stated, certain delegations considered the term "offensive capacity" in the Japanese amendment too categorical, M. Sato would be prepared to substitute for it "possibility of offensive action".

*The Commission adopted the Japanese amendment by 16 votes to 2.*

Mr. DULLES (United States of America) reserved the right to insert in the report a declaration on the subject of this vote and amendment.

#### *Paragraphs II (c) and III (c).*

M. BOHEMAN (Sweden), Rapporteur, read Section II, paragraph (c) — namely :

"The useful load of aircraft is determined by a large number of variable factors. Among these the Sub-Committee has noted, for purposes of examination, the unladen weight, the horse-power and the wing area for aeroplanes, and the volume and horse-power for dirigibles.

"Although it is difficult to arrive at formulæ, since they are subject to modification or revision in view of the continual technical progress that is being made, the Sub-Committee considers that, for purposes of comparison, the useful load of aircraft can be measured :

"For aeroplanes : by unladen weight, horse-power and the ratio between horse-power and wing area ;

"For dirigibles : by volume and horse-power."

And Section III, paragraph (c), — namely :

"For the useful load, see II (c)."

The following comments had been made on II (c) :

"This paragraph gave rise to a long technical discussion in the Sub-Committee. A fairly marked difference of opinion arose as to what factors should be taken into account in measuring the useful load of aeroplanes.

"Certain delegations (United Kingdom, France, Japan, Poland) thought that only unladen weight should be taken as the system for measuring useful load. They held that unladen weight by itself was sufficient to allow of a practical comparison of the useful load and had the advantage of being a factor easy to ascertain, whereas the addition of other factors less easy to measure might greatly complicate the problem and interfere with the development of technique on sound lines.

"Other delegations (Argentine, Belgium, Bulgaria, Germany, Italy, Spain, Sweden, Switzerland and Union of Soviet Socialist Republics) thought unladen weight alone was not sufficient to lead to a reliable result and that horse-power and the ratio between horse-power and wing area should also be brought into the calculation as factors of equal importance.

"The Sub-Committee preferred not to carry this discussion any further, as it wished first of all to report on the subject to the Plenary Commission, though it felt that the problem should be closely studied in order to determine, among other things, how the various factors should be calculated and the ratios between them established.

"The United States delegation, while concurring with the first paragraph of II (c), for its part preferred not to advocate the adoption of any technical formula on the question until the contemplated study had been carried out."

The following proposal in regard to these paragraphs had been submitted by the Spanish delegation :

"According to paragraph II (b), the efficacy against national defence of an aircraft depends upon its useful load and its capability of reaching its objective. In the following paragraph II (c), the variable factors determining the useful load are specified, but no mention is made of those which can be used to measure the capability of arriving at the objective. To attain the objective, it is necessary to arrive above it and at the same time to have a sufficient navigating height to escape the anti-aircraft organisation of the defence. These are two different characteristics which the aircraft has to fulfil, and the balance to be struck between them will be determined by the distance and the anti-aircraft defence organisation of the objective.

"The military objectives of national defence will, as a rule, be strongly defended and placed near the frontier or army zone. Hence the condition of having a high ceiling must take precedence over that of having a wide radius of action in aircraft which are to be effective in attacking national defence.

"On the contrary, to attack civilian populations, which as a rule are at a greater distance and less well defended than military objectives, the radius of action will be more important than the ceiling of the aircraft. The height of the ceiling of an aircraft which has been correctly designed and constructed is expressed by the following formula :

$$d = \frac{\sqrt[3]{b s P^2}}{G}$$

where  $d$  is the ratio between the density of the air at sea level and at the height of the ceiling,  $b$  the lifting capacity of the aeroplane,  $P$  its power,  $s$  the wing area and  $G$  the total weight.

"This formula, expressed in terms of the three variable factors chosen by the Sub-Committee, would become :

$$d = \frac{\sqrt[3]{b s / P}}{P/G}$$



and since, if it is assumed that the aeroplane is correctly constructed, the coefficient  $b$  will be practically constant, and the total weight  $G$  will be approximately in proportion to the unladen weight  $G_0$ , the consequence will be that the ceiling will increase in the ratio

$$\frac{P/G_0}{\sqrt[3]{P/s}}$$

“ To take into account the useful load, always assuming a correctly designed and constructed aeroplane, we may put this load as being proportional to the unladen weight; if, therefore, the above formula is multiplied by the useful load, the unladen weight  $G_0$  will disappear, and we shall simply have :

$$\frac{P}{\sqrt[3]{P/s}}$$

“ Hence the degree of efficacy of aircraft against the national defence can be measured by the ratio between the horse-power of the engine and the cube root of the horse-power per square metre of wing area.

“ This formula has been checked by means of a graph of the characteristics of the military aircraft catalogued in the *Taschenbuch der Luftflotten*, 1931, which shows that, for practically all aeroplanes described as bombers by their Governments or their constructors, this ratio is greater than 300, while for all other aeroplanes, with very rare exceptions, it is smaller than 300. It is also found that all aeroplanes described as bombers by these Governments or constructors have an unladen weight in excess of about two tons, and that all others have a weight less than two tons.

“ As a conclusion, the Spanish delegation proposes the following amendment to be added to paragraph II (c) :

“ The capacity of arriving at the objective for the same useful load carried depends upon the radius of action and the ceiling.

“ Assuming all aircraft to be correctly designed and constructed :

“ (1) The radius of action for aeroplanes is in proportion to the ratio between the unladen weight and the useful load carried, and for dirigibles to the ratio between the volume and the useful weight carried ;

“ (2) The ceiling depends for aeroplanes on the unladen weight, the horse-power and the ratio between the horse-power and the wing area, and for dirigibles on the ratio between the volume and the useful weight carried. ”

Lieutenant-Colonel HERRERA (Spain) explained the technical considerations for the amendment at the end of the Spanish proposal, the purpose of which was to complete paragraph II (c). He hoped that the text he proposed would make it possible to send the General Commission a precise reply.

He then explained the meaning of the graph annexed to the Spanish delegation's proposal (document Conf. D./C.A.20 (a) ).

Colonel DE BAURAIN (Poland) did not think it necessary to enter into any very detailed consideration of the problem and would merely refer to the statement he had made during the discussion in the Sub-Committee.

The Polish delegation held that the criterion to be established for defining the useful load of an aircraft should be the unladen weight in the case of aeroplanes and the volume in the case of dirigibles. The simpler the criterion the easier it would be to apply. Experience showed that in modern aeroplanes a certain *optimum* had been obtained for the useful load, the ratio being from 70 to 100 per cent of the unladen weight. The introduction of other criteria would probably complicate the problem and might perhaps impede the sound development of aircraft construction; it would, in any case, require *a priori* a very exact system of control. Hence, if allowance were made for this last objection, the problem of control, which was outside the questions put by the General Commission, would have to be discussed : t once.

The Spanish proposal might be regarded as a very valuable study. If the question were that of the technical criteria for the division of aircraft into categories, that proposal would only be one further reason for the adoption of the criterion of unladen weight.

The passage in the Spanish proposal containing an analysis of the capacity to attain the objective as a function of the radius of action and of the ceiling should, in Colonel Baurain's opinion, be dealt with during the discussion which would take place in the Committee of Experts in connection with the draft questionnaire proposed by the French delegation. The Polish delegation thought that the French draft should be taken as the

basis for the work of the Committee of Experts. It further considered that it would perhaps be premature to fix the precise figures at the present stage. The Spanish delegation calculated the unladen weight at two tons. These figures could be determined only at a later stage in the work of the Commission, in which questions of principle would be decided. Colonel de Baurain had in mind in particular the important questions of sanctions and internationalisation.

The PRESIDENT observed that the Commission had two tasks which were closely connected but were far from being identical. In the first place, it had to define the relations between the criteria laid down by the General Commission and the technical criteria applicable to certain machines. In the second place, it had to fix the figures by which certain criteria answering to the questions raised by the General Commission should be limited.

Owing to scientific developments, however, these figures might vary every five years, or even over a shorter period. The criteria relating to the first of the Commission's two tasks, on the contrary, must be more stable and permanent. The Commission must bear this difference in mind, particularly as Article 8 of the Covenant provided for revision at least every ten years.

Colonel MARTUCCI (Italy) said that the Italian delegation had carefully examined the Spanish proposal. It accepted the substance of the proposed amendment, subject to certain changes in the interests of clearness. Nevertheless, Colonel Martucci had several observations to make with regard to the considerations preceding the amendment.

In his view, it was not true that the military objectives of national defence were, as a rule, placed near the frontier or army zone. On the contrary, it seemed obvious to him that a great many of these objectives (magazines, aerodromes, oil and munition depots, factories, etc.) which were of particular importance to aviation must obviously be placed as far as possible from the frontier, in order that they might be free from attacks from the air. He must at the same time emphasise that civil objectives were not usually placed at a distance from the frontier; in all countries there were many important towns situated near the frontiers. This fact was of great importance to the small countries (Belgium, Switzerland, Hungary, etc.) who, moreover, would find it difficult, from the point of view of radius of action, to distinguish military from civil objectives.

In any case, it was not always true that, in attacking civil populations — even when they were at a distance from the frontier — the "radius of action" was a more important factor than the "ceiling"; for, even in the latter case, the machine must rise to a great height to avoid attack by the anti-aircraft defence and to have any chance of success in a surprise attack.

With regard to the technical conclusions of the Spanish proposal, Colonel Martucci noted with great satisfaction that "unladen weight" was not mentioned in the paragraph concerning the efficacy of aircraft. This showed quite clearly that unladen weight alone was not sufficient limitation for the Commission's purposes.

The Italian delegate further pointed out that the coefficients shown in the Spanish formula, which were considered as "constant", might actually be relatively variable in value. Nevertheless, for practical purposes, one or more average constant values could be adopted, though Colonel Martucci was convinced that it was not possible to fix these values on the basis of existing aircraft, which were very different from those which might be authorised in the future.

Indeed, the aircraft to which M. Herrera had referred in his study, had *inter alia* an unladen weight of about 2,000 kilogrammes. Obviously, that far exceeded the tonnage that could be allowed if really effective criteria for qualitative limitation were adopted.

The Italian delegate then passed to the amendment. The latter said that the capacity of arriving at the objective depended upon the radius of action and the ceiling. Colonel Martucci considered that it also depended upon other factors: speed, ease of handling, the defensive armament of the aeroplane, and so on. He understood, however, that it would be very difficult to bring in these factors, and would be better simply to retain the two factors proposed by the Spanish delegation.

Nevertheless, he proposed that, in order to avert possible criticism, the last part of the first paragraph after "depends upon" should be amended, subject to drafting, as follows: "a number of factors, among which the Commission has retained for examination the radius of action and the ceiling". He also proposed that in No. (1) the words "other conditions being equal" be added after "radius of action." It seemed obvious to him that the radius of action depended not only upon the ratio between the unladen weight and the useful load carried, but also upon other factors, such as aerodynamic adjustment, speed, special conditions of use, etc. Finally, for the reasons he had just explained, he proposed that "other conditions being equal" be added after "depends upon" in No. (2).

Colonel LÖHR (Austria) stated, on behalf of his delegation, that it was necessary to determine the capacity of aircraft to arrive at their objective. The Spanish proposal showed that, generally speaking, it was possible to fix the extent of its capacity and to

draw a fairly clear distinction between the more effective and more threatening aircraft and other machines. On the other hand, the proposal showed that in the smaller countries where there was no anti-aircraft defence it was impossible to draw such a distinction. In these circumstances, which were perhaps rare but which nevertheless existed (among other cases was that of Austria), all aircraft constituted a grave menace.

In Austria, neither the military objectives of national defence nor civilians were protected against attacks from the air; and the chief civil objective, the capital, which was extremely vulnerable, was not distant from, but on the contrary quite near, foreign military air-ports. A machine having the lowest ceiling and most restricted radius of action would be sufficient to attack Vienna.

During the discussion on the previous day, the opinion had been expressed that the effectiveness of a given aircraft was independent of the objective to be reached. This opinion no longer held good in the case of a small country without anti-aircraft defence.

Generally speaking, an aeroplane setting off to attack a land objective had to divide its useful load into four parts: one part had to be sacrificed to ensuring the radius of action on a horizontal plane, one to the ceiling, and the third to the transport of machine-guns and ammunition. Only the remaining part could be used for carrying the means of attack. In the case of an objective in Austria, the same useful load need only be divided into two. The aircraft must carry the necessary fuel for a short horizontal flight to the objective and the return journey. The rest of the useful load could be used for the means of attack. Consequently a given aeroplane operating against Austria would have much greater effectiveness, for purely technical reasons, than the same aeroplane when attacking a protected objective. Of course, this had nothing to do with the still greater effectiveness arising out of the factor of the personal security of the aggressor, who could carry out his work with impunity.

For these reasons, the Austrian delegation regretted its inability to accept the Spanish proposals, which were based on circumstances that did not exist in Austria.

M. BRANDENBURG (Germany), referring to the Spanish proposal, pointed out that it mentioned "a sufficient navigating height to escape the anti-aircraft organisation of the defence". For this to apply, national anti-aircraft defence must exist. The very pertinent remarks made by the Austrian delegate on this subject applied to Germany also. He therefore could not support the Spanish proposal, though he agreed that mathematically it was sound.

M. VOUGT (Sweden) had some difficulty in grasping the real meaning of the Spanish proposal. He had in mind in particular the second and third paragraphs, relating to the ceiling, which did not introduce a new criterion but called for a new formula on the basis of criteria already adopted in the Sub-Committee.

The Swedish delegate therefore felt that it would be better to discuss paragraph II (c) first.

M. MASSIGLI (France) said that the Air Commission's real task concerned paragraph (c). It must bear two points in mind. It must give the General Commission as exact criteria as possible and must at the same time see that these criteria were as simple as possible. The results of the enquiry would lead to political decisions to be embodied in the Convention.

The first question to consider was whether to the Sub-Committee's criteria should be added the new criterion proposed by the Spanish delegation to cover the idea of capacity to reach an objective. The reason behind the Spanish proposal was that, in attacking the national defence, the ceiling was important, just as the radius of action was important in attacking civilians.

Nevertheless, M. Massigli, like the Spanish delegate, wondered whether the ceiling did not complicate the problem. The experts were of opinion, for instance, that for night bombardments, which were possibly the most dangerous, a high ceiling was not necessary. Night bombers, in particular, however, carried a heavy load, and would be capable of the most powerful direct action. Nor was it certain that, for bombardment by day, flying at a great height was tactically the best condition for success. Unless there were any weighty technical reasons for adopting the ceiling as a criterion, the French delegate thought it would be better not to take it into account.

Turning to the technical aspect, M. Massigli pointed out that the Spanish formula for radius of action related to the transportable load, exclusive of fuel. The possible weight of fuel was the difference between the maximum load and the useful load carried. As nothing was easier, however, than to divide the possible total load between useful load and fuel, it was much simpler to determine the total maximum load. The Spanish delegation considered that this maximum load depended upon the unladen weight. The French delegation, like the Spanish delegation, therefore felt that the radius of action of aircraft depended upon the unladen weight.

As to the ceiling, the Spanish formula was scientifically sound, but its factors, apart from unladen weight, were very difficult to define and verify; the great difficulty encountered by the Committee of Experts in reaching agreement as to a formula for horse-

power would be remembered. Moreover, technical improvements came very quickly, and it was constantly becoming easier to change the horse-power through compression, supercharging, etc. The factor "horse-power" therefore introduced much greater uncertainty into the Spanish formula, as it was carried to the square of its value. In these circumstances the formula would cause serious errors in estimating the ceiling, its application could not be checked, and decisions based upon it would be unsound.

M. Massigli therefore wondered whether it was necessary to take "horse-power" into account in fixing the ceiling of the aeroplane. The technical experts pointed out that the maximum total weight of an aircraft determined the aerodynamic lifting power requisite for taking off, and that this lifting power made it possible to trace very adequately the curve of the altitudes which a machine could reach as a function of the load carried. That being so, why introduce other factors if it was proved that the ceiling of a machine was a function of its maximum total load — that was to say, as the Spanish delegation admitted, of its unladen weight?

An examination of the graph attached to the Spanish proposal had, however, reassured M. Massigli as to the general conclusions of that proposal. The graph showed that if the factor "unladen weight" or the factor "ratio of power to wing surface" were taken, the dividing-line between bombing machines and other machines coincided almost exactly. It was unquestionable that, given the same technical construction, the unladen weight determined the maximum resistance of a machine and, consequently, its maximum traction power and its maximum useful load. That was the essential result from the point of view of the carriage of bombs.

It was for that reason that, valuable though the Spanish proposal was, the French delegation considered that the new factors it introduced would only complicate the question needlessly. The Commission, having always in mind the practical object of its work, should keep to simple formulæ. Accordingly the French delegation considered that paragraph (c) of Section II and the Spanish amendment should be amalgamated and would therefore propose the following wording for this paragraph:

"The useful load of aircraft and their capability of arriving at their objective is determined by a large number of variable factors. Among these the Air Commission has noted, for purposes of examination, the unladen weight, the horse-power and the wing area for aeroplanes, and the volume and horse-power for dirigibles.

"Although it is difficult to arrive at formulæ, since they are subject to modification or revision in view of the continual technical progress that is being made, the Commission considers that, for purposes of comparison, the best means of appreciating the useful load of aircraft and their capability of arriving at their objective is to take as a standard the unladen weight in the case of aeroplanes and hydroplanes and the volume in the case of dirigibles."

Lieutenant-Colonel HERRERA (Spain) appreciated the Italian delegation's arguments but pointed out that the object of the Spanish proposal had been to solve general and not special cases. Nevertheless, it agreed to most of the suggestions proposed by the Italian delegation. Austria and Germany were in a special position, and he therefore agreed that his formula was not applicable to them. In reply to the Swedish delegation, he observed that the question of the ceiling had been introduced only in order to take into account the capacity to attain the objective. The French proposal, although it had the advantage of greater simplicity and of avoiding the difficulties raised by the measurement of horse-power, was nevertheless not so accurate. The Air Commission would have to choose between accuracy and simplicity.

Group-Captain BARRINGTON (United Kingdom) agreed with the Swedish, French and Polish delegates. A resolution in the sense of their remarks had been submitted by the British delegation, for the reasons so ably given by M. Massigli.

The proposal was as follows:

"Amend the final sentence of Section II of paragraph (c) to read as follows:

"... is being made, the Air Commission considers that, for purposes of practical comparison, the useful load of aircraft can best be measured:

"(a) For aeroplanes: by unladen weight.

"(b) For dirigibles: by volume."

Though appreciating the technical and mathematical excellence of the Spanish formula, he thought there was nothing to be gained by introducing such complex factors as, for instance, horse-power. Where would the Air Commission be if the General Commission asked how horse-power was to be assessed? The only reply it could give was that it depended on "a large number of variable factors". He hoped, therefore, that the Spanish delegate would not press his proposal; while, if M. Massigli's proposal were submitted formally, he would withdraw the British amendment.

Colonel MARTUCCI (Italy) considered that the unladen weight was one of the characteristics which must be taken into consideration in determining the useful load, but he also thought that this characteristic was not sufficient, if taken alone, even if only for simple practical comparisons.

In view of the technical progress to be anticipated, it might be said that, if the unladen weight was fixed at a given figure, it would very soon be possible, either by using ever lighter materials or by studying special construction, or, finally, by lightening engines to obtain with the same unladen weight a markedly higher useful load.

This view had been demonstrated during the air race round Italy. Within one year's interval machines had been entered which, with the same unladen weight as that of the previous year, had possessed double the horse-power and consequently improved characteristics. That had been possible because, in the technical formula employed for that race, the sole factor subject to limitation was the unladen weight. The same, therefore, would apply to military machines, if the British delegation's criterion was adopted.

The French representative, in proposing the introduction in the first paragraph of II (c) of the words "the capability of arriving at the objective" implicitly admitted that the horse-power and the wing area also had a great influence on the useful load and on the capability of arriving at the objective. For that reason, Colonel Martucci thought it was merely on account of the difficulties of measuring and verifying that the French delegation had proposed that the unladen weight alone should be considered.

As regards the difficulties of measuring the horse-power, it may be said — as, indeed, had already been observed in the Air Sub-Committee — that the same, if not greater, difficulties existed in measuring the unladen weight.

He added that a means of calculating the horse-power had already been found by the Committee of Experts appointed by the Preparatory Commission. He thought it was possible to improve the formula still further so as to enable it to meet practical requirements.

Without spending further time on the other technical considerations which had already been amply developed by various experts in the Sub-Committee, Colonel Martucci observed that, in studying the limitative criteria, it was the Air Commission's duty to make special allowance for the position of the small countries, which could be attacked more easily from the air. For this reason the Italian delegation considered that the restrictions must be severe if it was desired to prevent the great Powers, which had improved engineering methods at their disposal, from taking advantage of vague formulae to evade such restrictions and thus create a highly offensive air force.

For all these reasons the Italian delegation confirmed the view it had already expressed in the Sub-Committee, and stated that it could not accept the amendment proposed by the French delegation.

M. MASSIGLI (France), replying to the Italian delegation's objections, maintained that, in his delegation's opinion, the horse-power and wing surface could, to some extent, be calculated from the unladen weight. Mathematically, the calculation might not be quite accurate, but on the whole the result would be approximately the same. He did not deny that scientific improvements might make it possible to increase the useful load, but it was to be anticipated that improvements would also be made in engines, wing area, etc. In due course the formula would have to be revised.

M. Massigli drew special attention to the Italian delegate's last observation — his apprehension that the French formula would be prejudicial to the small Powers. In reply, he pointed out that, for the moment, the Air Commission was dealing, not with figures, but only with methods. The choice of the criteria, however, did not affect the small States: everything would depend upon the figure adopted. M. Massigli still maintained that, provided his formula were subject to periodical revision, it would offer a simple and practical solution.

The PRESIDENT, summarising the discussion, noted that the Commission had before it a French proposal based on the criterion of unladen weight, and a proposal based on three criteria: two simple criteria — unladen weight and horse-power — and the relation between one of these two factors, horse-power, and a third factor, wing surface. It remained to be seen whether the delegations in favour of these three criteria desired to combine them in one formula.

Lieutenant-colonel HERRERA (Spain) thought it would be better to take three variable factors into account. If, however, the Air Commission was of opinion that unladen weight was an adequate variable, the Spanish delegation would not have insurmountable objections.

M. VOUGT (Sweden) pointed out that his delegation was in favour of the complete abolition of military aviation, and that he rose only to express his theoretical views. He drew attention to a passage of the report referring to the delegations which felt that several criteria were required to reach accurate results. If the Commission thought several criteria were required, it should act upon the Sub-Committee's report — that was to say, each

of the criteria should be fixed. It should not be possible to increase one proportionately to another. Obviously, this condition did not apply to the relation between horse-power and wing surface.

Mr. DULLES (United States of America) was prepared to support the French proposal subject to one slight amendment — the deletion of the words " and their capacity to attain their objective " in the two places in which they occurred. The phrase had originally been inserted upon the suggestion of the American delegation, made to meet a point raised by the Argentine and the United States delegations, their purpose being to take account of geographical elements.

Capacity of arriving at the objective was not susceptible of a narrow technical definition, and he would prefer one broader than that given in the French proposal.

M. MANNIGLI (France) asked whether the intention of the delegations which were in favour of having three criteria was that an aeroplane should answer to one criterion or to all three in order to come within the restrictions.

M. BOHEMAN (Sweden), Rapporteur, replied that he had been under the impression in the Sub-Committee that the delegations in favour of three criteria were of opinion that any aeroplane not covered by one of these criteria thereby came within a special category.

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### THIRTEENTH MEETING

*Held on Wednesday, May 25th, 1932, at 10.30 a.m.*

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President : M. VALLOTTON.

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17. CONSIDERATION OF THE QUESTIONS REFERRED TO THE COMMISSION BY THE RESOLUTION OF THE GENERAL COMMISSION, DATED APRIL 22ND, 1932 (document Conf. D./C.G.28(2)): REPORT BY THE SUB-COMMITTEE (*continuation of the discussion*).

*Section II, paragraph (c) (First sentence : " The useful load of aircraft is determined by a large number of variable factors " ).*

The PRESIDENT pointed out that consideration of paragraph (c) involved the discussion of the question of the criteria to be applied, together with that on the Spanish proposal, if maintained.

The Commission should discuss the paragraph sentence by sentence. It had before it two texts for the first sentence—the original text drafted by the Sub-Committee, on the one hand, and, on the other, the French proposal, already submitted, and an Italian proposal which coincided in this sentence. The Italian proposal was as follows :

" The useful load of aircraft and their capacity of arriving at their objective depend on a great number of variable factors, among which the Commission examined the unladen weight, the horse-power and the wing area in the case of aeroplanes, and the volume and horse-power in the case of dirigibles.

" Although it is difficult to lay down formulæ which, in view of the constant progress of technique, are subject to modification or revision, the Air Commission considers that, for purposes of practical comparison, the best means of estimating the useful load of aircraft and their capacity for arriving at their objective is to take as criteria :

" *For aeroplanes* : The unladen weight, the horse-power and the ratio between the horse-power and the wing area.

" *For dirigibles* : The volume and the horse-power. "

Lieutenant-Colonel HERRERA (Spain) accepted the Italian text, the substance of which was identical with that of the proposal he had already submitted.

Lieutenant-Colonel PLASS (Czechoslovakia) pointed out that unladen weight and useful load had up to then not been clearly defined, the only attempt to do so being by the Italian delegation in the replies to the President's note (document Conf.D./C.A.13). He considered definitions essential.

M. DULLES (United States of America) was in favour of deleting the words " and their capability of arriving at their objective " from the French proposal. As he had already stated, this conception was not susceptible of a narrow technical definition, dependent as it was on geographical and other considerations. He therefore preferred the Sub-Committee's text.

Captain GREGORES (Argentine) agreed with Mr. Dulles.

*The Commission adopted by sixteen votes the text given in the French and Italian proposals.*

*Section II, paragraph (c) (Second sentence : " Among these, the Sub-Committee has noted, for purposes of examination, the unladen weight, the horse-power and the wing area for aeroplanes, and the volume and horse-power for dirigibles ").*

The PRESIDENT pointed out that here the French text and the Sub-Committee's text coincided. A decision must be taken between their wording and that given in the Italian proposal.

M. MASSIGLI (France) emphasised the necessity for definitions. He asked the Commission to consider the following definition of unladen weight :

" The unladen weight of an aircraft is the weight of the machine in full working order, but without fuel, water, military equipment and crew.

" Thus the unladen weight of an aircraft comprises the sum of the following weights only :

" The air frame properly so called (wing-frame, fuselage or body, under-carriage or floats) ;

" The engine or engines empty, with all accessories necessary to their immediate working and their control ;

" The tanks, empty, with their discharge or drainage appliances ;

" The instruments for control in flight, excluding all wireless or direction-finding apparatus ;

" The electrical installation of the navigating lights ;

" The permanent seating accommodation. "

The Commission must have definitions before it and must know what it was discussing, before it could accept even the principle underlying this second sentence.

The PRESIDENT disagreed. The need for a definition of wing area, for instance, would arise only if three criteria were adopted.

M. DE BROUCKÈRE (Belgium) agreed with the President that it was idle to define terms which might not be retained. Definitions should be postponed until later, especially as the Commission knew enough of its subject to take broad decisions of principle without them.

The French suggestion would, he feared, tend to involve the Commission in an ever-increasing number of academic and abstract discussions on definitions.

To turn back to the French proposal, at first sight it seemed good, but he would point out that it was upon the figure retained for the first criterion — unladen weight — that the need for a second criterion would depend. The only satisfactory method of work was first to agree upon the figure for unladen weight.

*The Commission adopted the second sentence of paragraph (c).*

*Section II, paragraph (c) (Third sentence : " Although it is difficult to arrive at formulae, since they are subject to modification or revision in view of the continual technical progress that is being made, the Sub-Committee considers that, for purposes of comparison, the useful load of aircraft can be measured ").*

M. MASSIGLI (France) assumed that the Committee would agree to the addition in the text of the French proposal of the word " practical ", so that the phrase should read " for purposes of practical comparison " — as had already been agreed for the Sub-Committee's text. Since certain delegations had difficulty in accepting the phrase " and their capability of arriving at their objective ", he proposed that these words should be deleted, the sentence to read : " ...the Commission considers that for purposes of practical comparison it would be necessary to take as a standard the unladen weight, etc. "

Colonel DE BAURAIN (Poland) preferred the text of the French proposal, as his delegation disliked the use of the words " can be measured " in the Sub-Committee's text. A satisfactory international standard of horse-power measurement had never yet been achieved ; the use of the expression was therefore premature.

Colonel MARTUCCI (Italy) supported the text as amended by the French delegate.

Mr. DULLES (United States of America) was also in a position to support the French text, in view of the changes made by M. Massigli.

Group-Captain BABINGTON (United Kingdom) suggested that no vote should be taken until agreement had been reached upon the text of the whole paragraph.

M. DE BROUCKÈRE (Belgium) thought that, as the French and Italian proposals coincided here, there was nothing to prevent a vote on the part of the sentence under discussion. Delegations could accept or reject it regardless of whether they were in favour of one criterion or three.

*The Commission unanimously adopted the French proposal.*

*Section II, paragraph (c) (Last sentence : " For aeroplanes : By unladen weight, horse-power and the ratio between horse-power and wing area ; for dirigibles : By volume and horse-power ").*

The PRESIDENT stated that there were two proposals regarding criteria before the Commission. The first, submitted by France, was that there should be one criterion only, a view supported by the United Kingdom proposal ; the second, the Italian proposal that there should be three criteria.

Colonel MARTUCCI (Italy) desired to add a few words to the statement he had made on the previous day. Though there were difficulties in measuring horse-power, there were also difficulties in measuring unladen weight.

Experts were very well aware of the difficulties encountered by inspecting commissions between builders and representatives of State technical services whenever the unladen weight of a new aeroplane ordered by the State itself had to be verified, even though the order contract clearly defined the term " unladen weight ".

Too much notice should not be taken of the difficulties of determining the three characteristics, because in no case — even if only one of the factors under discussion were chosen — could the difficulties themselves be eliminated.

The aim must be to possess data enabling the construction of aeroplanes forbidden in the future to be prohibited.

The Italian delegation considered that it would be harder to evade the Disarmament Conference's decision if three limitative criteria were adopted instead of only one. These three criteria would be, as it were, three lines of trenches, which would be more difficult to take than one.

M. DE BROUCKÈRE (Belgium) stated that the Commission was obviously agreed that unladen weight, at any rate, must serve as a criterion. Was it possible to differentiate between offensive and other aircraft with one criterion only ? It had been agreed that bombing capacity was the criterion for offensiveness ; could a line be drawn at a weight above which all machines were suitable for bombing ? Thanks to the Spanish proposal and the graph attached to it, the Commission could judge of this. The graph showed that the largest military machine used for purposes other than bombing weighed about 6,000 kg., and that the smallest bombing machine weighed between 1,800 and 1,900 kg. Smaller aeroplanes could, of course, be used for bombing, but these figures would serve the purposes of his argument.

Suppose that unladen weight were the sole criterion and that the limit above which all machines were bombers were fixed at the higher of the weights he had mentioned, the result would be valueless, as countless smaller machines would be capable of bombing ; if, on the other hand, the limit were fixed at the lower, quantities of machines not intended for bombing purposes would be included. There were two ways out of this dilemma. The limit could be fixed at or near the higher figure and a few criteria could be added to meet the Commission's object. The result of this would, however, be very disappointing, as only a negligible percentage of military aeroplanes, but, on the other hand, a large percentage of civil aircraft, would come into the category of bombers. Such a decision would look rather foolish.

A much better solution was to fix the limit at the lower figure, adding auxiliary criteria which would serve to exempt machines unsuitable for bombing purposes, and therefore not offensive. If this second course were adopted, there was obviously less objection to a single criterion. Hence, his view on the number of criteria to be applied depended entirely on the figure chosen ; if low enough, a single criterion would suffice.



M. MASSIGLI (France) pointed out that at the previous meeting he had asked the delegations advocating the use of three criteria whether an aircraft would have to be prohibited simply because it came under one of these criteria, and had received an affirmative reply. He now understood from M. de Brouckère, however, that, in the Belgian delegation's view, an aircraft would not fall within the scope of the proposed prohibitions unless it corresponded to all three criteria at once, and that was exactly the contrary.

M. DE BROUCKÈRE (Belgium) intervened to state that this depended upon the limit fixed.

M. MASSIGLI (France) stated that, though not competent to go into technical details, he knew the difficulties of fixing a single limit as suggested by M. de Brouckère. The French delegation has recognised the complexity of the problem and had obviated it in its proposal that, between two limits to be fixed, the whole range of aircraft fulfilling certain conditions as regards power should be subject to an international lien.

M. DE BROUCKÈRE (Belgium) pointed out in reply that he had said there were two methods open to adoption. If the first — the fixing of a high limit — were chosen, aeroplanes fulfilling any one of the three criteria should be condemned. If, as he would prefer, the limit were low, a machine might be required to fulfil all three. As he had already stated, given a low enough limit, he could support a proposal advocating one criterion only.

The French delegate had argued that the problem of fixing the limit was solved by the French proposal already submitted to the Conference. The Commission must, however, confine itself to answering the General Commission's question as to which were the most offensive weapons. Internationalisation and the problems devolving therefrom should be discussed later.

Mr. RIDDELL (Canada) thought the application of horse-power an impracticable criterion. As he had pointed out in the Preparatory Commission, limitation in terms of horse-power was neither simple nor definite nor effective. Recent tests made at the Rolls-Royce works had proved that under different altitude and fuel conditions the same engine might give horse-power varying from 480 to 840.

Colonel MARTUCCI (Italy), replying to M. de Brouckère's point that, if a low enough unladen weight-limit were fixed, only one criterion was necessary, pointed out that, were this the case, limitation could never be effective. His point was proved by the following figures :

A machine of :

Unladen weight . . . . .	650 kg.
Horse-power . . . . .	200
Ratio between horse-power and wing area . . . . .	16
Coefficient of security . . . . .	10

could, at an altitude of 5,000 metres, carry a useful load of 300 kg.

Even in that case, the guarantee would be inadequate if neither horse-power nor horse-power-wing area ratio were taken into account. If the aeroplanes proposed by the Italian delegation to the Sub-Committee were taken as constituting the lower limit, it would have an unladen weight of 650 kg., a horse-power of 200 and a horse-power-wing area ratio of 16. If again, 10 kg. were taken as the figure for the coefficient of safety, the aeroplane could carry at a height of 5,000 metres a useful load of 300 kg.; this would be necessary and adequate to do chaser or reconnaissance work.

If there were substituted for the 200 horse-power engine a 300 horse-power engine having the same unladen weight (and that seemed quite possible in view of technical progress), the horse-power-wing area ratio being left unchanged, the useful load at the same height of 5,000 metres would become 750 kg. and the coefficient of security with full load would be reduced to 6, which, for a bombing aeroplane would be sufficient.

Thus an aeroplane which, according to definition, was incapable of use for such a purpose might have a very effective offensive power if so converted. It was these reasons that led the Italian delegation to press its view.

Group-Captain BABINGTON (United Kingdom), without questioning Colonel Martucci's technical accuracy, pointed out that a motor giving 300 horse-power undeniably burned more fuel in one hour than the same motor giving 200 horse-power only. Thus, the second machine quoted by Colonel Martucci must carry more fuel.

Any figures were misleading unless an extensive technical examination was carried out, and there was a danger that the Commission would be led astray if ill-defined factors

and insufficiently accurate examples were used. The United Kingdom delegation held that no satisfactory result could be achieved if complicated technicalities were introduced and that there was nothing to be gained by going beyond the single criterion of unladen weight.

Colonel MARTUCCI (Italy) acknowledged that more fuel was necessary, but pointed out that the gain in useful load was out of all proportion to the increase in the weight of fuel.

M. VOUGT (Sweden) said that in the Sub-Committee his delegation had advocated three criteria. He appreciated M. de Brouckère's point, however, and, if the Commission's object could be achieved with one criterion only, he would be prepared to vote in favour of it. A definite figure must, however, first be fixed.

M. MAMMIOLI (France) asked for the appointment of a sub-committee of technical experts, as the technical details under discussion were so complex.

M. DE BROUCKÈRE (Belgium) asked if the Commission could not record its unanimous acceptance of the view that unladen weight must be one criterion.

This done, unladen weight must be defined, and the two draft definitions already submitted might be discussed. Upon the basis of these the figure which he sought could, he hoped, be established. He had an open mind as to whether this could best be done in plenary session or in sub-committee.

M. BRANDENBURG (Germany) opposed the setting up of a technical sub-committee. The discussions which had taken place in the last had proved how difficult it was to reach agreement on intricate technicalities, and, even if the sub-committee were unanimous, he was afraid that the plenary Commission would continue to discuss the point.

Public opinion was looking askance at the time the Commission was spending over discussion, and the creation of a sub-committee would only serve to delay them further.

The PRESIDENT, speaking personally, and without committing the Bureau, agreed that the plenary Commission must make an effort to reach the necessary decisions itself and with the greatest possible despatch. He regretted the absence of some of the experts by whose advice the last sub-committee had profited, among them General Croco and M. Cicaud. The creation of a sub-committee should be avoided unless a complete deadlock were reached.

Colonel MARTUCCI (Italy) could not agree with the Belgian delegate. It was idle to fix unladen weight unless the criteria of horse-power and the ratio between horse-power and wing area were also adopted.

Group-Captain BABINGTON (United Kingdom), notwithstanding the Italian delegate's arguments, agreed with M. de Brouckère's suggestion that the Commission could adopt unladen weight as an essential criterion. This step could be taken without prejudice to the views which any delegation might subsequently advance.

M. LANGOVOY (Union of Soviet Socialist Republics) endorsed the German delegate's remarks; he also agreed with the Italian delegate's reply to M. de Brouckère. If definite figures were required, it might help the Commission to know that the Soviet delegation considered that machines exceeding 600 kg. unladen weight, 200 horse-power, a ratio of less than 8 between horse-power and wing area should be considered offensive, efficacious against national defence and threatening to civilians.

M. FIERLINGER (Czechoslovakia) felt that the Commission should try to avoid intricate technicalities. Possibly a small technical committee or the Bureau could prepare a list of any necessary technical interpretations.

It would be interesting to see how the three criteria suggested applied to the machines shown in the Spanish graph — for instance, to a 6-ton scouting machine on the one hand and a 3-ton bomber on the other. Perhaps a sub-committee might draw up a table of particulars of the different types of machines. He felt that a few concrete illustrations might help the Commission.

The PRESIDENT proposed the following draft resolution:

"The Commission considers that unladen weight should be retained as a criterion for measuring the useful load of aeroplanes without prejudice to the question of the addition of other criteria.

"It requests a sub-committee to provide it with a precise definition of unladen weight."

Mr. DULLES (United States of America) drew the Commission's attention to the statement by the United States delegation in the Sub-Committee's report that it preferred not to advocate the adoption of any technical formula for the definition of useful load until the highly specialised study necessary for its ascertainment had been carried out. It was in the interests of all countries that the final formula should be as precise as possible, while remaining reasonably easy to apply without detriment to technical progress.

As he understood the French proposal, it had adopted the single criterion as being the simplest and best for practical comparison for the General Commission's purposes. It was not designed to prejudice any subsequent attempt to arrive at a more precise technical formula, should the General Commission require it and should any agreement among engineers upon a formula be achieved. The United States delegation therefore supported the French proposal.

M. VLIEGEN (Netherlands) thought the Commission was in a position to vote upon the French proposal, since a decision as to whether one criterion or three were desirable was not affected by the question of definitions.

Colonel MOUCHARD (France) stated that, while not abandoning its proposal, his delegation considered that the provisional resolution submitted by the President was calculated to facilitate the Commission's work. He would therefore support it.

Colonel MARTUCCI (Italy) disagreed. A vote should first be taken on the French or Italian amendment as to whether one criterion or three should be applied.

Captain GREGORES (Argentine) stated that his delegation saw no difficulty in supporting the President's proposals, subject to its general reservation given in the report regarding the whole of Section II.

*The Commission adopted the President's proposal, four delegations voting against it.*

Colonel MARTUCCI (Italy) stated that he had voted against the President's proposal and would prefer not to sit on the sub-committee. It was only at the earnest request of the President that he agreed to take part in the sub-committee's work.

M. BRANDENBURG (Germany) and M. LANGOVOY (Union of Soviet Socialist Republics) stated that their respective delegations preferred not to sit on the Sub-Committee.

*The Commission elected to the Sub-Committee the delegations of the Argentine, Belgium, United Kingdom, France, Italy, Japan, Poland, Spain, United States of America, and also the Bureau.*

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## FOURTEENTH MEETING

*Held on Thursday, May 26th, 1932, at 10.30 a.m.*

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President : M. VALLOTTON.

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18. CONSIDERATION OF THE QUESTIONS REFERRED TO THE COMMISSION BY THE RESOLUTION OF THE GENERAL COMMISSION DATED APRIL 22ND, 1932 (document Conf. D./C.G.28(2)) : REPORT BY THE SUB-COMMITTEE (continuation of the discussion).

*Definition of Unladen Weight proposed by the Sub-Committee.*

The following text of the definition proposed by the Sub-Committee was read :

“ The unladen weight of an aeroplane is the weight of the aeroplane complete with all the elements necessary for flying but without crew, fuel, oil, cooling liquids, or military equipment.

" The unladen weight of an aeroplane comprises exclusively the weights of the following parts :

" Complete aeroplane without engine (wings, moveable or fixed, without safety slots, fuselage or hull, undercarriage or floats) ;

" Power plant or plants complete ; empty motor or motors,<sup>1</sup> propeller or propellers, with all the necessary accessories<sup>2</sup> required for their immediate operation and control ;

" Empty tanks, with release or drainage appliances (if any), but excluding supplementary tanks.

" Permanent fixtures required for mounting instruments and equipment of all kinds.

*The Commission adopted the Sub-Committee's draft definition.*

#### *Question of Criteria.*

M. SATO (Japan) was in favour of adopting a single criterion — namely, unladen weight. In view of the rapid development of the technique of aviation, he thought it better to avoid the complications that would ensue if other criteria were adopted.

M. VOUGT (Sweden) said that his delegation maintained its opinion that all military aviation should be abolished, combined with the internationalisation or strict control of civil aviation. Nevertheless, the Swedish delegation had repeatedly contended both in the Sub-Committee and in the plenary Commission that, in replying to the precise questions asked by the General Commission, it was not only possible, but also necessary, to draw a dividing-line between military aviation which was most specifically offensive, most efficacious against national defence and most threatening to civilians, and military aviation which corresponded to these criteria in a smaller degree. The Swedish delegation considered that such a line might very easily be drawn between aeroplanes actually in service in the various countries, together with those which were specifically designed to be used as bombers, and all other aeroplanes. If certain types of aeroplanes designated reconnaissance machines and certain others came in the same category as bombers, this classification would none the less be justified, since these machines could easily be used as bombers.

From an empirical study of the types of aeroplanes in actual service in the various countries, the Swedish delegation had arrived at certain conclusions (which were also confirmed by the Spanish delegation's analysis), and it had embodied these in the following proposal :

" Aeroplanes which have the most specifically offensive character, which are most efficacious against national defence, which are most threatening to civilians, are those which :

" (a) If the Commission decides to accept the three criteria — exceed one or more of the following limits :

" An unladen weight in excess of 1,800 kg. (seaplanes 2,200 kg.) ;

" A horse-power in excess of 600 with a ratio of horse-power to wing area of less than 10 h.p. per square metre ; or,

" (b) If the Commission decides to take only the unladen weight as a criterion — those which have an unladen weight in excess of 1,600 kg. (seaplanes 2,000 kg.)."

The Swedish delegation was naturally prepared to accept any suggestions as to the criterion of unladen weight prompted by technical considerations.

In submitting these figures in the form of a definite proposal, the Swedish delegation had attempted to furnish a precise reply to the question raised by the Belgian delegate at the previous meeting.

Group-Captain BABINGTON (United Kingdom) considered that, since the Swedish proposal contained an alternative, the Commission could not examine it before agreeing on the number of criteria to be adopted.

<sup>1</sup> The empty motor comprises the motor proper with all the accessories necessary for its immediate operation which form an integral part of it, that is to say : Carburettor, with controls, feed pipes, ignition and connections, cooling liquid and oil pumps with piping on the motor, charging or supercharging gear forming part of the motor, various attachments for revolution counters and auxiliaries forming part of the motor, reduction gear and propeller hub.

<sup>2</sup> Principal accessories to power plant :

" (a) Motor controls complete ;

" (b) Fixed self-starters and accessories ; starting magneto, claws and handles, and tanks ;

" (c) Fuel supply system ; pumps not forming part of the motor, piping accessories, intermediate tanks, and various indicators ;

" (d) Lubrication system : pipes not forming part of the motor, radiators, shutters and controls ;

" (e) Cooling system : piping not forming part of the motor, radiators, shutters and controls, ventilators and ventilator shutters in the case of air-cooled motors, and their controls ;

" (f) Transmissions of the propellers ;

" (g) Accessories : various instruments, revolution counters, and fixed extinguishers."

The PRESIDENT proposed that the discussion should be limited to the problem of the single criterion, with the figures proposed by the Swedish delegation. The question of the three criteria would be reserved.

M. DE BROUCKÈRE (Belgium) said that, before voting on the question whether one or more criteria should be adopted, the Belgian delegation wished to know what figure would be adopted in either case for the unladen weight. Perhaps those delegations in favour of adopting a single criterion could furnish a convincing figure, and, in that case, the Belgian delegation would possibly not press for an examination of the three criteria. It was especially important not to discuss the question in the abstract if it was desired to come to definite conclusions. It was for the experts to say if aeroplanes of less than 1,600 kilogrammes were not offensive in character and if they became offensive above that figure.

M. MASSIGLI (France) was afraid that the Commission found itself in a somewhat curious position. After four weeks of abstract and theoretical discussions, it was asked to reply in a few hours to the only precise question that had been put to it. In the present state of its work, such a reply was impossible. If the Commission merely decided on a figure based on an impartial examination of existing types of aircraft or on less altruistic considerations, it would be performing a fortuitous kind of work, and many delegations would find it impossible to give a reasoned opinion, especially since a large number of those which had not attended the Sub-Committee were imperfectly acquainted with the Sub-Committee's work, and the Sub-Committee's report to the Commission contained no trace of the thorough technical discussions which had gone to its drawing up.

The General Commission had asked the Air Commission three questions: Which aeroplanes were most offensive in character, which were most dangerous for national defence, and which were most threatening for civilians? Other Commissions had attempted to reply to these three questions without deciding *a priori* that a single reply would cover the three cases. M. Massigli wondered if, after having complicated the problem, the Commission was not now simplifying it unduly. He found proof of this in the Swedish proposal, the figure in which 1,800 kilogrammes differed considerably from the conclusions of the analysis made by the Spanish delegation, as shown in the graph supplied by that delegation.

The French delegation had foreseen the present situation; it agreed that the General Commission must be answered with figures, but these figures should be based, not only on theoretical, but still more on practical considerations.

Had it been demonstrated *a priori* that the most efficacious aircraft against national defence were at the same time the most threatening to civilians? M. Massigli thought that, at the present moment, the Commission did not know at all; and that was the reason why the French delegation had submitted a questionnaire with a view to affording a tangible method of approaching the problem. He hoped that, using this questionnaire as a basis, the Commission would consider whether the same reply should be given to the three questions raised by the General Commission. In any case, the reply would have to contain figures.

The PRESIDENT said that that was his opinion also.

Lieutenant-Colonel HERRERA (Spain) said that his delegation accepted all the terms of the Swedish proposal, but would like to make the following remarks: first, the Spanish delegation considered that the figures proposed by the Swedish delegation served only to draw a line separating almost the whole of military aeroplanes known as bombers from those which, while not being bombers, might, nevertheless, be regarded as corresponding to the criterion of machines which were the most specifically offensive, the most efficacious against national defence and the most threatening for civilians. The Spanish delegation entered a reservation concerning the extent to which military aviation should be abolished.

Secondly, the Spanish delegation considered that there should be a criterion of relative offensiveness, which might guide the General Commission in fixing the limit beyond which the construction and use of certain military machines should be forbidden, in case the General Commission desired not to confine itself to aircraft which were the most offensive in character. Since the Swedish proposal did not cover such a case, the Spanish delegation proposed the adoption of the criterion of the ratio between the power expressed as horse-power and the cube root of the horse-power per square metre for efficacy against national defence, and the criterion of unladen weight for the threat to the civilian population.

Finally, the Spanish delegation thought that autogyros should be regarded as aeroplanes with a wing area equal to one-fifth of the circle covered by the propellers.

M. DE BROUCKÈRE (Belgium) said he hoped M. Massigli's explanation would help to reconcile the various views. Like the French delegation, he considered that the Commission should decide on certain figures.

The Air Commission could not expect to settle forthwith a problem which the general staffs of all countries had as yet failed to solve. It was therefore simpler to say that bombing was undoubtedly one of the most aggressive acts of aircraft. That was the very solution adopted by the General Staffs, and the Commission should consider it adequate. Moreover, it was the solution which the Spanish delegation had had in mind in drawing up

its table. It now remained to draw a line on the Spanish graph. The Commission, however, would never succeed in drawing an absolute distinction. It must be content to draw a line such that most of the machines on one side of it would be bombing machines and the others not.

One important reservation should be made, however. The aeroplanes described by General Staffs as bombing aeroplanes would certainly be used for that purpose. The converse was less certain, and placed the Commission in a dilemma. Were not the aeroplanes on the other side of the line capable of being used as bombers?

M. de Brouckère proposed that the Commission should begin by settling the first problem — that of bombing aeroplanes properly so called — and should study the Spanish table from that point of view. It should then deal with the second problem, which was the more difficult, and, even if it did not solve that problem, it would be able to go to the General Commission with the certainty that it had supplied useful information from which the Commission could draw the necessary military and political consequences.

The PRESIDENT noted that the Belgian, Spanish, French, Italian, Swedish and Swiss delegations and the Bureau were of opinion that figures should be submitted to the General Commission. If there was no opposition, he would consider this agreed.

Colonel MARTUCCI (Italy) said that the figures supplied by his delegation would hold good only if three criteria were adopted. If one criterion were set up, the Italian figure for unladen weight would no longer be correct, as the Italian delegation could not accept one criterion only.

M. QUINTANA (Argentino) said that, in view of the special situation of his country, as explained in the Sub-Committee's report, his delegation would refrain from indicating figures.

Group-Captain BARINGTON (United Kingdom) did not think the time had come to discuss figures. Immediately to adopt a line of demarcation would be groping in the dark. Before selecting the figures, the method must be fixed. Certain delegations were in favour of simplicity, others of technical perfection. However that might be, to adopt figures at this stage, far from simplifying the Commission's work, would only complicate it. The United Kingdom delegation, while of opinion that unladen weight should be adopted as a criterion, thought that the criteria to be selected should first be discussed.

Colonel MARTUCCI (Italy) pointed out that the point here was not "technical perfection", as the United Kingdom delegate had suggested, but security. States must be prevented from constructing aeroplanes which were prohibited, and for that purpose three criteria would be more difficult to contravene than one.

M. FIERLINGER (Czechoslovakia) recommended the adoption of one criterion only — unladen weight. From the latter it was possible to determine indirectly the efficacy of a machine, and it would serve as a basis for the Commission's calculations. The fixing of a figure would certainly lead to very great difficulty, and only an approximate line of demarcation could be drawn. Even the limit of 2,000 kilogrammes indicated in the Spanish delegation's graph would raise serious difficulties in connection with civil aviation. M. Fierlinger therefore suggested that a special technical sub-committee should be set up to complete the data given in the table. The table thus completed could be attached to the report to the General Commission, which would have to take the final decision, even if, as was probable, the table did not contain final figures.

M. DE BROUCKÈRE (Belgium) noted that the United Kingdom delegate, who on the previous day had been in favour of one criterion only, now proposed to raise the whole problem of method again. From this, the Belgian delegate concluded that the adoption of one criterion did not present such obvious advantages; he would therefore vote in favour of three criteria, which, in his opinion, was a better system.

Colonel TOMBERG (Estonia) pointed out that a similar discussion had taken place some time previously in the Land Commission, which had decided that, for artillery, one criterion — calibre — was sufficient. He felt that the Air Commission should act in the same way. The Estonian delegation, considering that the difference between the figure for unladen weight in the Swedish proposal according to whether it was taken as one of three criteria (1,800 kilogrammes) or as the only criterion (1,600 kilogrammes) was not more than 200 kilogrammes, was in favour of adopting one criterion only, as a simple and rapid solution of the problem.

Mr. DULLES (United States of America), supporting M. Massigli's first statement, considered that, though figures should be supplied to the General Commission, the time had not come to fix them. If the Commission was of this opinion, he was prepared to examine the French delegation's draft questionnaire or the Czechoslovak delegate's suggestion.

To prevent delay, the Commission could immediately prepare a first report to the General Commission, stating that it had not completed its examination of the French delegation's questionnaire and of the various technical proposals, which would subsequently be dealt with in a second report.

The PRESIDENT said that he would take a vote on the question of principle, the question of figures being reserved.

M. VOUGT (Sweden) observed that the Swedish delegation had proposed figures, not in order that the Air Commission might take a decision upon them, but as a basis for discussion. The situation would not be any clearer if a vote were taken. In any case, his delegation would vote in favour of three criteria.

M. MASSIGLI (France) gave an example, showing the disadvantages of adopting three criteria. There was a machine, the "Albert 120", the characteristics of which were as follows: unladen weight, 255 kilogrammes; horse-power, 40; relation of horse-power to wing area, 4. According to the Swedish figures, and if the above-mentioned three criteria were taken equally into account, this private aeroplane would fall into the category of particularly offensive machines. But its total load (the pilot, his equipment and a load of 30 kilogrammes) would be only 130 kilogrammes.

M. VOUGT (Sweden) admitted that such results might be obtained in certain cases. He felt, however, that the relation between horse-power and wing area was not an indispensable criterion, but only supplementary.

M. MASSIGLI (France) pointed out that the Swedish delegation's statement was of great importance, as it changed the factors of the problem. In the Sub-Committee's report, in the comments on II (c), would be found a passage in which it was stated that certain delegations — among them that of Sweden — "thought unladen weight alone was not sufficient to lead to a reliable result, and that horse-power and the ratio between horse-power and wing area should also be brought into the calculation as factors of equal importance".

M. Massigli drew special attention to the words "of equal importance", and noted that the Swedish delegation had just stated that the relation between horse-power and wing area was a secondary criterion. He concluded from this that the question had not yet been cleared up.

The PRESIDENT, in reply, said that, since the document containing the passage criticised had been issued, the Commission's discussions had cleared up certain points.

He asked the Commission to decide in favour of adopting either one criterion (French proposal) or three criteria (Sub-Committee's proposal).

Colonel MARTUCCI (Italy) asked for the vote to be taken by roll-call.

The result of the vote, which was taken by roll-call, was as follows:

*For the Sub-Committee's proposal:* Argentine, Austria, Belgium, Bolivia, Brazil, Bulgaria, China, Denmark, Finland, Germany, Greece, Hungary, Italy, Mexico, Spain, Sweden, Switzerland, Turkey, Union of Soviet Socialist Republics.

*For the French amendment:* Australia, Canada, Czechoslovakia, Estonia, France, India, Japan, Latvia, Lithuania, Netherlands, Poland, Portugal, Roumania, Siam, Union of South Africa, United Kingdom, United States of America, Yugoslavia.

*Abstained:* Norway, Persia.

*The Commission adopted the Sub-Committee's text by nineteen votes to eighteen, with two abstentions.*

#### 19. STATEMENT BY THE PRESIDENT AS TO THE ACTION TAKEN ON THE AIR COMMISSION'S DECISION WITH REGARD TO AEROPLANES CARRIED ON AIRCRAFT-CARRIERS.

The PRESIDENT reminded the Commission that, on May 21st, it had adopted the Japanese proposal on this question. He pointed out that, in this resolution, the Air Commission had desired, before co-ordinating its work with the Naval Commission, to express a purely technical opinion, in order to facilitate the work. The Air Commission had felt that co-ordination would be easier if the Naval and Air Commissions prepared their technical arguments in advance and then co-ordinated the results, with a view to establishing, if possible, a single text.

It was clear, therefore, that the Air Commission's text was technical, that its opinion be co-ordinated with that of the Naval Commission, and, further, that the final decision on the whole matter must rest with the General Commission. There were, therefore, three phases of this question. The Air Commission had dealt only with the first, and had informed the Naval Commission of its opinion in a letter, dated May 25th.

M. SATO (Japan) was not altogether clear as to the meaning of this communication. If it was intended that the problem of aircraft-carriers should be raised again in the Air Commission, the Japanese delegation, whose proposal had been regularly adopted by a show of hands, formally protested, and made every reservation.

The PRESIDENT replied that the Japanese delegation could be quite satisfied on this matter. The Air Commission's decision still held good. He was simply pointing out that the Sub-Committee of the Air Commission had envisaged an occasion for dealing with this question in a Mixed Naval and Air Committee. The Air Commission had not thought it necessary to convoke a Mixed Committee and had adopted a proposal submitted by the Japanese delegation which was of a purely technical nature. The work of co-ordination which still remained to be done was reserved, and obviously the Air Commission's decision was not affected.

It would be sufficient if the delegations took note of the text of the communication which would be brought to their notice, and if they made in due course such observations on it as they might desire.

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## FIFTEENTH MEETING

*Held on Thursday, May 26th, 1932, at 3.30 p.m.*

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President : M. VALLOTTON.

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20. CONSIDERATION OF THE QUESTIONS REFERRED TO THE COMMISSION BY THE RESOLUTION OF THE GENERAL COMMISSION DATED APRIL 22ND, 1932 (document Conf. D./O.G. 28(2)) : REPORT BY THE SUB-COMMITTEE (*continuation of the discussion*).

The PRESIDENT stated that the three remaining points requiring consideration were :

- (1) The definition of horse-power and wing area ;
- (2) The figures to be inserted in the final report ;
- (3) The draft questionnaire submitted by the French delegation, included as an annex to the Sub-Committee's report.

M. VAN DER DONCKT (Belgium) thought the time had come to fill in the figures left blank in the Belgian proposal already before the Commission — namely :

" The most offensive aircraft are :

" (1) Aircraft capable of carrying, up to A kms., B kg. of bombs.

" The following should be regarded as coming under this category :

" Aircraft of which the unladen weight exceeds C kg., the power exceeds D h.p., and the ratio between horse-power and wing area is less than X.

" (2) . . . . . "

The Belgian delegation considered that aircraft of unladen weight exceeding 1,500 kg., of horse-power exceeding 550, and of ratio between horse-power and wing area less than 10 should be regarded as offensive aircraft in this category. His delegation reserved the right to propose other restrictions later. He would like to say that the Belgian delegation was prepared to consider any effort towards compromise with the object of obtaining as large a consensus of opinion as possible in regard to any given point.

Group-Captain BABINGTON (United Kingdom), referring to the very narrow majority by which the Commission had accepted the three-criteria standard, asked if the Commission was to consider each of these three criteria to be of equal importance. The United Kingdom delegation could not accept that view, and the Commission should be clear on the point before filling in any figures.

M. SATO (Japan) thought it impossible to fix figures without taking into consideration geographical and other circumstances. In the case of island States, for instance, even the heaviest tonnage machine could not have an offensive capacity. Some such States put maritime defence before all else. In view of this, it was rash from the technical point of view, and even unfair, to draw a single line dividing aeroplanes into two categories. The conditions he had mentioned should be studied before fixing any figures.



M. MASSIGLI (France) pointed out that, supposing the three-criteria standard were applied, the figures given by the Belgian delegation, which differed slightly from those given by Sweden at the previous meeting of the Commission, would lead to rather surprising results. He had referred before to a private machine which would come under the category of offensive aircraft, and his experts had now supplied him with a draft list of 18 other types of private or instructional machines which, according to the Belgian figures, must be placed in this category.

Unladen weight had been defined; it was essential that horse-power and wing area, which figured in the other two criteria, should be defined likewise. He presumed that the Belgian figures given were based on a definite conception of the figures to be considered for the weight of bombs carried and the number of kilometres flown.

The Spanish proposal gave definite figures — a machine capable of flying 300 kilometres carrying 1,000 kilogrammes of bombs. Every delegation must similarly have concrete cases in mind. A difficulty arose in that offensiveness varied, not only in accordance with the categories of aircraft, but with the use to which they were put. For instance, day bombers, though useless against fortified lines, were exceedingly useful against troops in the open and therefore were of great defensive value.

He submitted that the figures so far given were based on vague premises. He could not therefore go into such figures without further consideration of the facts and unless the other two definitions had been laid down.

Colonel DE BAURAIN (Poland) pointed out that the Commission had begun by designating bombers as the only offensive machines. The introduction of three criteria, however, now created a difficulty here. One of these criteria was horse-power, a primary factor of speed; this meant that chasers, if fast enough to be of any use, would come under the category of most offensive aircraft; if built so as to remain outside the category, they would be so slow as to be incapable of overtaking even an average commercial machine. This the Polish delegation could not agree to.

Section II (b) referred to useful load. This had been defined by the Sub-Committee, but a figure must be inserted before the Commission could proceed.

He pointed out the advisability of going into facts and discussing the French questionnaire.

The PRESIDENT agreed with M. Massigli that horse-power and wing area must be defined before any figures were fixed.

As far as the former was concerned, he drew the Commission's attention to the report submitted by the Committee of Experts to fix rules for the adoption of a standard horse-power measurement for aeroplane and dirigible engines in pursuance of the Council resolution of January 24th, 1931. The eminent experts who had signed this report (document C.259.M.115.1931.VIII) had reached a unanimous conclusion as to the best means of measurement.

Lieutenant-Colonel HERRERA (Spain) asked the Commission to accept the conclusion adopted in this report, especially in view of the fact that the committee, of which he had been a member, had been unanimous in considering the formula adopted to be the best possible.

For the definition of wing area, the Commission could adopt a very simple text, for instance:

“The area is that of the lifting areas contained in the wing unit, wing flaps included, in its maximum extension”;

or, if it preferred, a more technical though possibly less clear formula:

“The wing area is the geometrical area of the projection of each lifting area contained in the wing unit, wing flaps included, on the plane of their greatest extension.”

The Spanish delegation might seem inconsistent in its views, in that it had at the previous meeting agreed with the Swedish figures, but now supported the Belgian proposal. This was merely because it was anxious to achieve unanimity upon the lowest figures possible.

M. LANGOVOY (Union of Soviet Socialist Republics) felt that the definition of horse-power and wing area — a comparatively simple matter — should be left till later; the more complex problem of agreement upon the figures should first be discussed. He was opposed to the French view that a study of the questions relating to military aviation and its action would help the Committee to reach agreement. The delegations held fixed ideas, and the Commission must confine itself to deciding upon the greatest measure of agreement possible, and, for the rest, to stating where and to what extent the delegations differed.

Every delegation must, as the next step, supply the figures required, explaining their motives for each figure given. A general exchange of views bringing these to light was the quickest and best way of enabling the Rapporteur to supply the General Commission with a useful report.

The PRESIDENT stated that the Bureau preferred the procedure proposed by the French delegation. Horse-power and wing area would therefore first be defined, the French questionnaire being postponed until later.

M. VOUGT (Sweden) thought that even the eighteen delegations who had voted against the three criteria would be willing to supply a figure for unladen weight. This would be helpful, and, he hoped, not contrary to the procedure just ruled by the President.

#### *Definition of Horse-power.*

The PRESIDENT proposed the insertion in the report, in a note similar to that containing the definition of unladen weight, of the following :

"As regards horse-power, the Air Commission would refer to the report of the Committee of Experts to fix Rules for the Adoption of a Standard Horse-power Measurement for Aeroplanes and Dirigible Engines issued by the Organisation for Communications and Transit on April 24th, 1931 (document C.259.M.115.1931.VIII)."

Any delegations opposed to reference to this report could, of course, insert a note to this effect.

Group-Captain BARINGTON (United Kingdom) thought it needless to mention this report. In spite of its technical perfection, the experts' formula, when applied in practice, did not work out well. The same engine in two different aircraft gave, upon application of the formula, two different horse-powers; in other cases, its application became for technical reasons impossible.

It was inadvisable to reopen the discussion on horse-power, and this for reasons only too evident from the document containing the proposals made by the members of the Experts Committee in the course of discussion (document C.260.M.116.1931.VIII). The first expert had stated that "nothing worse could be adopted than the dynamometer test as a rating", putting in a category together "rating by the total weight of the power unit and rating by the volume swept as being less bad than the others". The next expert had thought the adoption of "volume swept" not advisable, the next had advocated basing the formula on "cubic displacement", the next on "the weight of the dry motor", another proposed limiting the military strength of an air force by limiting the "total carrying surface of aeroplanes", and not the horse-power at all. The same expert, in the last paragraph of the document, supported the finally selected formula "in spite of its drawbacks".

Here was proof that there was nothing to be gained by seeking a definition which had hitherto defied the greatest world experts. Long technical discussions must clearly be fruitless, and, if the Commission continued to insist that horse-power must be regarded as a criterion of the same importance as unladen weight, it must try to establish some relation between the various criteria so unfortunately adopted.

The PRESIDENT felt that the members of the Commission were all agreed that it would be inadvisable to open a long discussion on horse-power. To meet the point raised by the United Kingdom delegate, he suggested that the note should read as follows :

"The Commission realises the great difficulty of drawing up a formula for fixing the horse-power of aeroplanes and dirigible engines. The Commission would merely recall the report submitted by the Committee of Experts, the conclusions of which are not, however, acceptable to certain delegations."

The names of such delegations could of course be given.

Mr. DULLES (United States of America), while certain that the eighteen delegations which had voted against three criteria did not wish to prevent other delegations from endeavouring to find a satisfactory formula for horse-power, hesitated to accept the proposed reference to the experts' report. He drew attention to the following paragraph in this unanimous report :

"The Committee unanimously expresses the opinion that, in view of the effect on the development of models of engine which might be exercised by the adoption

of any particular formula for determination of power, it would have been preferable to verify the accuracy of each of the formulae 'UP', 'U' and 'P', by experimental measurement on a large number of different engines fitted on their different aeroplanes, and that its decision should only have been taken in the light of the experiments above mentioned."

The report went on to state that time for the necessary verifications had not been available.

The technical services of the United States army and navy and the staffs of the two largest American aeroplane manufacturers had, however, spent about three months studying this formula in order to determine whether or not it could be accepted for use in comparing the horse-power of aircraft engines. They had endeavoured to apply the formula to every known engine on which they possessed data. These staffs came to the unanimous conclusion that the formula was entirely unsuitable for the purpose. The United States delegation could not, therefore, accept it.

As far as he knew, the formula in question had been drawn up for use in connection with Article 25 of the draft Convention. This article referred to the total horse-power of a country's air fleet, and the formula in question had not been intended to apply to an individual engine, but to the sum of the engines of any given State.

Colonel DE BAURAIN (Poland) pointed out that efforts made in commercial aviation circles over the past twelve years to find a satisfactory formula had met with no success. Judged by the experts' formula, the same machine showed a horse-power varying from 540 to 900, and a ratio between horse-power and wing area, assuming the latter to be 30 square metres, varying from 17 to 30.

He would point out that some countries concentrated on developing their military aviation for purely defensive purposes. The formula which the Commission was proposing to accept meant that such countries would one day find their aircraft condemned as specifically offensive. False conceptions must be avoided, and he had grave doubts as to the advisability of employing the formula in question.

Group-Captain BABINGTON (United Kingdom) acknowledged that reference to the experts' proposal was obviously a way out of the dilemma, but pointed out that it was tantamount to informing the General Commission that, having selected horse-power as a criterion, the Commission could supply a definition for it. This it could not do. He was therefore unable to agree to a simple reference to that admirable but unsatisfactory formula.

M. QUINTANA (Argentine) agreed with the United Kingdom and United States delegates; his delegation had voted for three criteria but could not agree to a mere reference to the experts' formula.

M. VAN DER DONCKT (Belgium) stated that the Belgian military aviation authorities, after checking the formula on all engines of which it had data, had found that it enabled a satisfactorily approximate estimate to be obtained. Only in the case of rotary engines did it fail to apply; but, as such engines never attained 550 h.p., his delegation considered the formula adequate to serve the purpose.

M. BRANDENBURG (Germany) agreed with the President's second proposal. He asked the Commission to avoid the setting up of a sub-committee, with its consequent delays.

Group-Captain BABINGTON (United Kingdom), in reply to the President's statement that a mere reference to a document was non-committal, maintained that a reference to the experts' report would be misleading. If essential, he would prefer a frank statement that:

"The Commission realises the impossibility of satisfactorily defining horse-power, but can only refer . . ."

M. MASSIGLI (France) pointed out that the Governments had never expressed their views on the experts' report; the Commission was therefore entitled and, indeed, in duty bound to take up the question.

The French Government considered that the compromise formula proposed by the experts, for lack of a better one, was adequate for estimating the aggregate horse-power of a country's air armaments. The inevitable lack of precision in the results which it yielded was, however, unsatisfactory when applied to the horse-power of individual engines. Since two of the criteria adopted depended on the standard of horse-power measurement, he thought the use of the experts' formula might lead to errors which it would be well to avoid.

Lieutenant-Colonel HERRERA (Spain) pressed for the adoption of the experts' report. The formula had been verified in committee with a long list of engines, many of them

American motors, particulars of which were supplied by Mr. Ide, and had given satisfactory results in almost all cases. No formula was necessarily exact, since horse-power varied from 0 to the maximum and since there were several other aspects of engine power — the economic aspect, judged by the petrol consumption per horse-power unit; the normal aspect, judged by the revolutions; and others dependent on considerations of braking, etc. No single figure accurately covering all these could possibly be given. The ratio between useful load and unladen weight varied in just the same way between 0 and the maximum, the useful load sometimes amounting to as much as twice the unladen weight. In spite of these variations, the Commission had achieved agreement upon a definition of unladen weight. A formula of average accuracy could therefore be adopted and would, he thought, if given as a criterion beside that of unladen weight, add to the value of any convention prohibiting certain types of aircraft.

M. BOHEMAN (Sweden), Rapporteur, pointing out that the Commission's object was to supply the General Commission with a basis upon which a convention could ultimately be drawn up, emphasised the necessity for seeking general agreement on essential points. He suggested that it would perhaps be well to give the Commission a little time for reflection on the matter of this definition.

M. VLIAGEN (Netherlands) said that the Commission had adopted horse-power as one criterion; this being so, it could not reasonably report that it was impossible to define it. Perhaps the nineteen delegations voting for the three criteria would have held a different view had they known how difficult it was to reach a definition. In view of this difficulty, they might now wish to go back upon their vote.

Colonel MARTUCCI (Italy) stated that, in his opinion, the experts' formula could not be regarded as perfect; it had been studied with a view to attaining total quantitative limitation of horse-power and not a qualitative limitation of the power per machine. It would be quite possible to find a formula applicable to qualitative limitation which, even though not quite perfect, would still constitute an average value adequate to establish a criterion of limitation which it would be very difficult to evade. No formula could ever be perfect; but a formula, however imperfect, would always enable a regime to be established which would be preferable to a regime of full liberty.

If the delegations were given time to reflect, the experts would certainly find a satisfactory formula, as they had already done in regard to the definition of unladen weight.

The PRESIDENT proposed that the Commission should accept the Rapporteur's suggestion and suspend the discussion on horse-power.

Group-Captain BABINGTON (United Kingdom) pointed out that the Spanish delegate had rightly stated that the horse-power of an engine varied. He had, however, gone on to say that useful load varied in its relation to unladen weight, implying that the two variations were comparable. But, whereas in the case of horse-power there was no means of judging what the maximum might be, in that of useful load, for which unladen weight was a criterion, there was no such difficulty, there being no question as to the unladen weight of any given machine.

*The Commission agreed to postpone the discussion of horse-power.*

#### *Definition of Wing Area.*

The PRESIDENT drew the Commission's attention to the definitions of wing area supplied by Lieutenant-Colonel Herrera—namely:

"(1) The wing area is that of the lifting areas contained in the wing unit, wing flaps included, in its maximum extension;

"(2) The wing area is the geometrical area of the projection of each lifting area contained in the wing unit, wing flaps included, on the plane of their greatest extension."

Lieutenant-Colonel HERRERA (Spain) said that the definitions given were only two of the very many possible versions. The introduction of the term "wing unit" was the only point which might be questioned, but, as this term had been used in the definition of unladen weight, he presumed that there was no objection to it.

*The Commission adjourned the discussion on this definition.*

*Annex to the Sub-Committee's Report: Draft Questionnaire proposed by the French Delegation to determine the Degree of Efficacy of Air Armaments against National Defence and the Extent to which they threaten Civilians.*

The text of this questionnaire was read, as follows :

" I. (a) What are, in modern air, land and naval warfare, the military objectives against which air armaments can be employed (nature and distance of such objectives)?"

" (b) What are the means of warfare dropped or launched from the air whose action on these objectives may be effective :

Nature of means of warfare ;  
Minimum unit weight of projectiles ;  
Minimum number of projectiles to be dropped or launched by one aircraft ;  
Minimum altitude for dropping or launching ?

" (c) What are the characteristics of aircraft adapted to drop or launch these means of warfare with the efficiency determined by the reply to the previous paragraph ?

" II. (a) What are the ' most specifically offensive ' aerial actions ?

" (b) What are the characteristics of aircraft capable of carrying out the actions defined in the previous paragraph ?

" III. (a) What are the means of warfare dropped or launched from the air whose action may be particularly dangerous to civilians :

Nature and means of warfare ;  
Minimum unit weight of projectiles ;  
Minimum number of projectiles to be dropped or launched by one aircraft ;  
Minimum altitude for dropping or launching ?

" (b) What are the characteristics of aircraft adapted to drop or launch these means of warfare with the efficiency determined by the reply to the previous paragraph ?"

Colonel MARTUCCI (Italy) observed that it was not possible to discuss the French questionnaire immediately. The questionnaire raised very important questions and the delegations must be given time to carry out the necessary studies. In his opinion, the Commission must first decide whether the questionnaire itself should be examined or not.

M. MASSIGLI (France) said that the Italian delegate was right in thinking that the questionnaire was intended to establish the figures on an empirical basis. If the Commission had placed before it definite facts regarding the effects of aircraft on national defence, and the aircraft most likely to produce such effects, it should be in a position to deduce which types of machines should be subject to special restriction. This procedure had been successfully followed in the Land Commission.

M. VAN DER DONCKT (Belgium) said that his country had not carried out sufficient experiments to be in a position to reply to the French questionnaire. He would, of course, be only too glad to supply any information available.

The figures which he had given at the beginning of the meeting were based on the three criteria, one of which was unladen weight. Useful load could be approximately gauged as being about six tenths — the figure was elastic — of the unladen weight. He considered that the figures were based on data adequate to judge whether an aircraft was or was not offensive. The useful load of a military aircraft comprised fuel as well as bombs ; but, as special conditions, such as the nearness of an air base to its objective, were of importance to the Belgian delegation, the question of the distribution of useful load was of less importance to it, as in the circumstances most of the useful load could be used for carrying bombs.

M. MASSIGLI (France) pointed out to the Belgian delegate that the questionnaire was not intended to give rise to a scientific study of the question of air bombardment ; but, if the various countries possessing military aircraft could give their views as to the uses for which such aircraft were intended, the Commission's work might be facilitated.

Group-Captain BABINGTON (United Kingdom) agreed that the questionnaire should be studied, but thought that the Commission's task would be easier if the French delegation would prepare a set of replies as a basis for discussion.

M. BRANDENBURG (Germany) agreed that the questionnaire was interesting, but felt that the Commission had not time to discuss it. The Red Cross Committee of Experts on chemical and air warfare, at its meeting held in December 1931, stated, in the section of its report dealing with the protection afforded to civil populations by convention, that the establishment of a list of military objectives had, in the opinion of most delegations, presented insurmountable difficulties. Thus, the French questionnaire was likely to lead to prolonged discussion, and he would ask the Committee not to enter into questions likely to retard its work.

M. SATO (Japan) said that his delegation was ready to co-operate in considering the French questionnaire, though to what extent he could not say. He hoped that the three articles of the questionnaire did not exhaust the subject; the Japanese delegation might later wish to raise other points.

M. LANGOVOY (Union of Soviet Socialist Republics), while recognising the merits of the questionnaire from the technical point of view, did not think it would enable the Commission's difficulties to be solved. A study of the Land Commission's report on artillery, moreover, would show that the method had been far from achieving unanimity.

M. MANNIOLI (France) was not so optimistic as to think that his questionnaire provided the magic formula necessary to enable a figure to be unanimously accepted. He felt, however, that a discussion of it would help to collect into two or three groups the opinions held in the Commission, and that in itself would mean much.

In reply to M. Sato, he stated the three articles of the questionnaire did not exhaust the subject. The French delegation could give its reply at once if the other delegations were ready to do the same.

Mr. DULLES (United States of America) said that the American delegation was prepared to reply to this very useful questionnaire, but thought the Commission should not accept the principle that it could not produce its report until the delegations sent in their replies. Those in a position to give figures should give them forthwith, and the General Commission should be informed that the French questionnaire was under review, and that further figures would be given, when the Commission reported upon it, by the delegations prepared to supply them.

M. VOUGT (Sweden) agreed that a discussion of the French proposal might help to enable figures to be reached, although the questions were too vague to produce very useful replies. He agreed with M. Brandenburg that the creation of a sub-committee should be avoided if possible.

The PRESIDENT observed that some points in the French questionnaire were connected with the questions submitted by the General Commission to the Air Commission; others, however, were not. Obviously, a discussion upon it would tend to prolong the Commission's work, and he suggested that the best procedure was to ask the French delegation to substitute for the questionnaire a draft resolution expressing that delegation's ideas, with a view to the preparation of the Air Commission's report. The necessity for a fresh sub-committee would thereby be avoided.

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## SIXTEENTH MEETING

*Held on Friday, May 27th, 1932, at 3.30 p.m.*

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President: M. VALLOTTON.

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21. CONSIDERATION OF THE QUESTIONS REFERRED TO THE COMMISSION BY THE RESOLUTION OF THE GENERAL COMMISSION DATED APRIL 22ND, 1932 (document Conf. D./C.G.28(2)): REPORT BY THE SUB-COMMITTEE (*continuation of the discussion*).

M. BOHEMAN (Sweden), Rapporteur, had at the previous meeting pointed out that the vote on the question of criteria had placed the Commission in a rather difficult position. The reports upon which the technical commissions were engaged were intended to supply the General Commission with a basis for its ultimate decision on the possibility and advisability of applying the principle of qualitative disarmament in the form of the prohibition of certain armaments or their internationalisation or the application of some form of control. Obviously, if the principle of qualitative disarmament were to be embodied in a convention

to be drawn up, signed and ratified by the various States, unanimity must be reached once the Conference had carried out these various stages. Thus, even if profound differences of opinion were expressed in any technical commission upon some purely technical — though none the less interesting — subject, too great an importance should not be attached to the fact that only a small majority supported any particular view. The important point was whether among the members of that small majority were Powers which could be termed great air Powers, and whether an even larger number of such Powers were not to be found among the minority. Since these States had not been afforded any opportunity of reaching agreement on the question at issue, it seemed to him that the problem whether one or three criteria should be finally adopted should be the subject of negotiation between the Powers. It could be discussed either during or at the same time as the General Commission's meetings; this must be done before that Commission could reach a satisfactory solution. The only course open to the Air Commission was to state as clearly and fully as possible the various opinions which had been expressed. He believed that it would be possible to draw up a report giving the General Commission all essentials regarding the various technical opinions expressed.

Subject, of course, to drafting, it could be stated that the Commission had unanimously considered that unladen weight should be adopted as a criterion — giving the technical definition unanimously adopted at the previous day's meeting. The report would go on to say that a large number of delegations, whose names could be given if desired, had felt that two other criteria should be added — horse-power and the ratio between horse-power and wing area. The report would then briefly state the reasons given by the delegations in question for this view. It would go on to the definition of horse-power and wing area upon which the delegations advocating these two criteria might agree; or it might simply state that these definitions demanded extensive technical study, requiring a certain time and not yet carried out.

It would then state that another large group of countries, also mentioned by name if desired, considered that, for purposes of practical comparison, the criterion of unladen weight was alone suitable. In explanation of this, it would emphasize that such States considered that the addition of two other criteria would greatly complicate the problem and that it was not in their view possible to achieve a satisfactory definition of horse-power, or possibly even of wing area.

A report drawn up in this way would supply the General Commission with a faithful rendering of the Commission's discussions on this point. This method would also enable it to shorten its discussions. Nothing could be gained by prolonging them, since it was impossible to reach not only a unanimous agreement, but even an agreement supported by the majority of the great air Powers.

The question of criteria settled, there remained that of figures. Complete frankness was necessary here. The situation would be perfectly clear if the Commission made the following statement to the General Commission: that certain States — namely, Italy, the Union of Soviet Socialist Republics, Belgium and Sweden — had supplied figures. Spain had stated that it was ready to accept the figures proposed by the Swedish or Belgian delegations. The Argentine delegate had stated that his country was not in a position to give an opinion as to the figures. From the various declarations made by other delegations, it would be possible to deduce that other Powers, among them certain great air Powers, were not, for just and perfectly comprehensible reasons, in a position to give figures or to come to any decision on this point in the Air Commission, wishing to reserve their decision until the General Commission reopened the discussion of the question.

Thus, even if the Air Commission undertook the study proposed by the French delegation, it could not adopt any figures which would serve to give the General Commission a clear idea of the position of Powers whose views on the subject were of particular importance.

Given this rather special situation, would not the best solution be to communicate to the General Commission the rather general statements adopted by the Air Commission, together with the general or particular reservations regarding them, adding that certain delegations, whom he hoped would be as numerous as possible, had there and then been willing to give figures, which would be shown in the report as representing their particular views, their reasons for these figures being added if required? If the delegations concerned so wished, the reasons for which they had not considered it advisable to supply figures during the Commission's discussion could also be given.

As Rapporteur, he could not express any opinion upon the value of the study proposed by the French delegation in its draft questionnaire. He would merely emphasise the fact that this study would not lead the Commission to supply figures giving any clear indication as to the position of the great air Powers. If, in view of other considerations for the Conference's future work, the Commission thought it useful to undertake the proposed study, he would ask the delegates to adopt a procedure requiring the shortest time possible.

Colonel MARTUCCI (Italy) reserved the right to lay before the Commission concrete proposals on the definitions of horse-power and wing area if the discussion of those subjects were resumed.

M. DE BROUCKÈRE (Belgium) said that it was only with the greatest regret that he could abandon all hope of achieving unanimity; rather than admit such a defeat in the report to the General Commission, he would make one last effort at reconciliation.

The Belgian delegation, anxious not to shirk its responsibilities, had submitted a proposal which supplied the figures left blank in a previous proposal submitted in the same terms.

The end of the Commission's long discussion found his delegation in precisely the same position as at the beginning; but, as it had been careful to point out, the Belgian delegation was prepared to consider any efforts towards compromise with the object of obtaining as large a consensus of opinion as possible in regard to any given point.

His delegation had, from the outset, been prepared to enter into any reasonable negotiations; he felt bound to own, however, that no new elements had come to light during the Commission's long discussions. This was not a criticism; but, despite the efforts of certain delegations, it seemed to him that, by a strange fatality, the nearer the Commission seemed to its goal, the further this goal receded.

He was not so optimistic as to think that the solution he proposed would meet the views of all the delegations. He merely asked that it should be regarded as a starting-point by those who were willing to make a further effort. In so doing, the Commission must bear in mind the question asked by the General Commission when Sir John Simon's resolution was unanimously adopted by the Powers attending the Conference: What were the most offensive weapons? This question was so straightforward as to admit of no misinterpretation; the Air Commission must decide which air armaments were indispensable for offensive attack by an aggressor. On one point agreement had, he hoped, already been reached. The most offensive aircraft were those most suitable for bombing purposes. There was no question as to this; bombing interfered with mobilisation operations, spread panic among civilians, demoralised troops and so on. Thus the question before the Commission was how to distinguish such machines from other aircraft.

This brought them to the question of criteria. Certain delegations of the great Powers had proposed unladen weight as an adequate criterion. He had earlier asked them to prove that in fact it was adequate. The graph supplied by the Spanish delegation showed that staff experts considered that all bombing machines exceeded 1,800 kilogrammes in unladen weight. Could this figure be taken as a limit? It would mean retaining no coefficient of security; the Belgian delegation had, however, considered it indispensable to provide a margin of 300 kilogrammes. It therefore proposed a 1,500 kilogrammes limit, since experiments had proved that this figure was in most cases an adequate one for all categories other than bombers.

But could the Belgian delegation affirm that all machines weighing 1,500 kilogrammes or over were bombers? Weight gave at least an indication of a machine's maximum capability. But, again, military aeroplanes were constructed for various ends, the construction being modified to suit that chosen. Would not a weight limit thus affect certain chaser or reconnaissance machines, indispensable for national defence? Pending proof to the contrary, his delegation was convinced that it was possible to construct the machines required for national defence within the 1,500 kilogrammes figure. Obviously, it might be argued that this regulation, suitable for Belgium, might be less so for other countries whose situation demanded heavier machines. The figures supplied by the Belgian delegation were not intended to be final; it would have no serious objection to increasing the figure by 100 kilogrammes or so. If, on the contrary, any heavy increase in unladen weight were proposed, he would have to insist on the adoption of other criteria enabling a distinction to be drawn between machines having an unladen weight above 1,500 kilogrammes, which would not all be bombing machines.

The Belgian delegation, anxious not to re-embark upon the work already carried out in the previous year by a special Committee at the express request of the League Council, thought it idle to define horse-power. It had therefore adopted the definition drawn up by certain of the leading world experts on this question. Some delegations had objected to this criterion as being of no great practical value. A criterion must above all be precise. That adopted by the special Committee was undeniably precise. In reply to the delegates



who had stated that the results yielded by the experts' formula did not correspond to the figures supplied in constructors' catalogues, he would point out that the experiments carried out on this subject in his own country and in the United States were conclusive.

The idea of horse-power, by whatever method it were determined, was vague, since it depended on a large number of factors; but the important point was to know whether there was a constant ratio between average horse-power and the maximum capabilities of a machine. Experts affirmed that such a ratio existed.

Wing area had been proposed as a criterion; but it had been argued that it was impossible to define it. The Spanish delegation had supplied two definitions. He was ready to accept either. It might be argued that, though wing area could be measured exactly, the efficiency of the surface varied. He admitted this, but did not think it affected the Belgian delegation's reasoning. The maximum capabilities of a machine must be borne in mind here, the maximum wing area. The technical difficulties were obviously serious, even considerable; but they must be surmounted, because it was unsatisfactory to depend upon a single criterion.

Another objection raised was that there was a risk of hindering the development of engine construction. But, in point of fact, the horse-power of engines was subject to very precise formulæ of measurement, laid down in the regulations for constructing racing models.

The formulæ proposed by the Swedish, Italian and Soviet delegations differed from the Belgian formula. Nevertheless, he did not despair of reaching a single solution. These formulæ worked out as two parallel lines. The General Commission might, for instance, be informed that all machines shown on the right of the first line should be considered as particularly offensive, and that no machines shown on the left of the second line were offensive, and that the Air Commission could offer no opinion on the machines appearing between the two lines. Regarding these, the General Commission must take a political decision.

Two methods of procedure had recently been proposed. The United States delegate had suggested that the Air Commission should inform the General Commission of the first results of its work, reserving the question of figures until later. M. de Brouckère did not agree; the whole substance of the report could be summed up in the following simple sentence: "The stronger the aircraft, the more dangerous."

The French delegation had proposed a questionnaire, consideration of which would require some time. If certain delegations asked for time to study it and reply to it, he would accept this course, though resignedly; but he was afraid the Commission would be returning to work which had been undertaken more than once during past years.

The Disarmament Conference, the crown of all this preparatory labour, was still in session. It was to be hoped that these interminable studies were at an end. The Air Commission must not float eternally in the intermediate zone between the upper air of politics — outside its sphere — and the terra firma of technique. The last opportunity for taking a decision lay before them. He implored the delegates present not to let it pass.

The PRESIDENT thanked the Belgian delegate for his courageous and very timely words.

Colonel MARTUCCI (Italy) stated that his delegation was in full agreement with M. de Brouckère's conclusions. The Italian delegation had presented a concrete proposal containing figures. It now confirmed these figures, but was ready to discuss any figures proposed by other delegations.

M. GORGÉ (Switzerland) said that his delegation supported the formula and figures given in the Belgian proposal. The Swiss delegation was ready to examine any other formula submitted, irrespective of whether it was based on one criterion or several.

M. LANGE (Norway) again emphasised an aspect of the question which in his opinion was of primary importance. The Disarmament Conference must work to remove the grave danger to international peace constituted by the possession by certain States of armaments enabling them to bring about *faits accomplis*, in face of which machinery for pacific settlement would be powerless.

Subject to this reservation, the Norwegian delegation was ready to fall in with the general point of view underlying the Belgian and Swedish proposals. It was not at present prepared to discuss figures, pending its Government's instructions in this matter. Nevertheless, it could state forthwith that it would vote in favour of any effective proposal for limitation likely to do away with aircraft which could be used for bombing purposes.

M. PEDROSO (Spain) stated that, though it had supplied figures, the Spanish delegation did not demand their adoption, being ready to support either the Belgian proposal, the Swedish proposal, or a combination of the two. The essential point was to attain the aim of the Conference.

M. MASSIOLI (France) reminded the Commission that the French delegation had declared in favour of supplying figures to the General Commission. The General Commission would not be in a position to reach final conclusions unless it had before it a report based on figures. The French delegation had not yet proposed figures, because it considered that, if figures were to be discussed, certain facts should be available for the Commission. The Sub-Committee had referred the questionnaire to the plenary Commission, which, not having studied it, remained faced with vague questions and a still vaguer draft reply. The object of the General Commission's question was not to find out simply which aeroplanes were offensive, but which were the *most* offensive. Every delegate must be aware that there existed a zone, very difficult to define, within which lay machines suitable for offensive purposes, but which could also be used for defensive ends. The French delegation considered that, in the various armies with an air arm, general regulations existed for the use of such aircraft. There could be no question as to the purpose for which a particular machine was used; in a given category of aircraft one machine must be suitable for one duty, another for another. The French delegation thought that, by a comparison of the rules in force, the Commission might obtain valuable information as to the more or less offensive character of the various types of machine. It had thought the problem easy to solve; it thought so still, granted that they kept to facts and practice. The delegations had had time to think over the problem. A rapid exchange of views might take place; in any event, it would not be without value, for, even if a common solution were not adopted, the work would at least give a concrete idea of the reasons immediately underlying the figures submitted by the different delegations. He had always been averse to stating a figure without giving the reasons for it and without stating what it represented. The French delegation felt that, far from complicating the work, a consideration of the problem from this standpoint would help to shape the solution which the General Commission would have to consider.

M. VLEGEM (Netherlands) had already had occasion to say that he considered that the criterion of unladen weight alone sufficed. He feared that the discussion of other criteria would mean considerable waste of time. His delegation, in a reservation already before the Commission, had designated, as coming under the three heads given in the General Commission's resolution, all bombing aircraft and all aerial bombs. If, contrary to what was hoped, the use of aerial bombs as arms remained available for all countries, the Netherlands delegation considered, as did opinion generally, that all types of military aeroplanes other than bombers properly so called could be adapted for bombing purposes. Of such aircraft, it considered as coming within the three categories envisaged by the General Commission in its resolution those of which the unladen weight exceeded 1,500 kilogrammes (1,800 kilogrammes for seaplanes), and, if the other criteria were ultimately applied, aeroplanes the characteristics of which were expressed in figures exceeding those corresponding to the aforementioned aeroplanes designated by their unladen weight. The Netherlands delegation had not itself proposed figures, but, as an advocate of prohibiting all aerial bombardment, was ready to vote with the majority, even were this to mean an even lower level.

As regards the French questionnaire, he fully supported the opinion expressed on the previous day by the Swedish delegate, his view being in no way affected by the explanations just given by the French delegate. The Netherlands delegation agreed with the Belgian delegation's figures because it considered that these figures enabled a dividing-line to be drawn between "most offensive machines" and others; in other words, it provided an answer to what the General Commission had asked.

M. BRANDENBURG (Germany) observed that the German delegation had already proposed to the Air Commission that the General Commission should be informed that military aviation as a whole was offensive. Faithful to this view, it could not express any opinion upon the question of a dividing-line. For a disarmed country unprovided with defences, even the aeroplanes ranged by M. de Brouckère and some other speakers among purely defensive armaments had nevertheless an offensive character and constituted a menace both to civilians and to national defence.

Group-Captain BARINGTON (United Kingdom) was not sure upon what basis numerical data were to be supplied to the General Commission. The French draft questionnaire was, in point of fact, intended to solve that problem, but certain delegations had stated that they were not in a position to reply to the questionnaire. Here, then, was a fundamental difficulty. The Commission must solve this question if it were to give an accurate reply to the General Commission.

The Rapporteur had referred to the work of the Naval and Land Commissions; neither of these had, however, attempted to reply to the General Commission with a unanimous report. The Air Commission had made every effort to do so; his delegation had done everything possible to this end. So lately as on the previous day, there had been some hope of achieving unanimity, but the Commission remained divided on the question of criteria and of the aggressive capacity of aircraft. The United Kingdom delegate was

in favour of the adoption of a single criterion, that of unladen weight, as being the only one capable of definition and the only one considered essential by all delegations. It would be a waste of time to attempt to agree upon the recommendation to the General Commission of other criteria which it would not be possible to apply and which only complicated the Conference's task. Thus he could not unreservedly approve the Rapporteur's conclusions; the Air Commission should, in his opinion, submit a text for paragraph II (c), on which unanimity had been reached as far as possible, proposing unladen weight as the criterion for aeroplanes and volume as that for dirigibles. The report could go on to explain the differences of opinion expressed on the question of the adoption of a single criterion or of three.

M. BOHEMAN (Sweden), Rapporteur, in reply to the United Kingdom delegate, pointed out that he had proposed to explain the position to the General Commission by setting out side by side in the report the two trends of opinion expressed on the subject of criteria. He still thought this the only possible solution, unless the discussion on figures afforded unanimous results, as seemed exceedingly unlikely. If a report on the lines proposed by the United Kingdom delegate were submitted to the General Commission, the delegations averse to the adoption of a single criterion would not be satisfied. If, on the other hand, the Rapporteur's method — the only impartial one — were adopted, the Commission would supply the General Commission with all the elements necessary for a solution of the question of criteria.

The PRESIDENT stated that seven States had supplied figures: Italy, Belgium, Spain, Switzerland, Sweden, Norway and the Netherlands. The French delegation had admitted the necessity for them. He asked the other delegations prepared to supply figures to communicate them to the Secretariat as soon as possible.

He felt some misgiving as regards the French questionnaire. Though some points in it were more or less connected with the questions asked by the General Commission, the majority of the problems which it raised would probably delay the Air Commission's work at a moment when the Naval and Land Commissions had practically completed their respective tasks. Possibly, the French delegation would be ready to withdraw the questionnaire, substituting for it a concrete proposal.

M. MASSIGLI (France) confessed that he did not understand the object of the President's suggestion. If the French delegation were to substitute a proposal for its questionnaire, this proposal must contain the statements which, in the delegation's view, answered the questions asked. Such statements would provide material for a discussion under the same conditions as the questionnaire; in other words, the discussion would be long or short according to the good will brought to bear upon it. He was sorry he could not agree that such a discussion would be valueless, for, if the General Commission were faced with figures unaccompanied by any explanatory statements, its difficulties would be even greater. The French delegation would therefore not withdraw its questionnaire, still hoping that the other delegations would be good enough to reply to it. In any case, as soon as his delegation felt that the time had come to supply figures it would do so, and would accompany them with concrete explanations.

The PRESIDENT asked whether the Commission was prepared, in principle, to accept the questionnaire proposed by the French delegation.

Group-Captain BABINGTON (United Kingdom) thought that the Commission's recent discussions were the best possible proof of the necessity of replying to the questionnaire. The French delegation was wise in refusing to withdraw it, and he considered that the question of retaining or withdrawing it did not even arise.

M. VOUGT (Sweden) was doubtful as to the value of the questionnaire, but hesitated to vote against it when its authors were so strongly in favour of retaining it. He proposed that the discussion should be adjourned until the following meeting, in order to enable delegations to consult their experts.

M. SATO (Japan) stated that his delegation was in full agreement with the French delegation. Without close examination, it was exceedingly difficult to accept more or less arbitrary figures when no explanation was given of the reasons for which such figures were proposed. If the Commission decided to vote on the subject, the Japanese delegation would vote in favour of consideration of the questionnaire.

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## SEVENTEENTH MEETING

*Held on Tuesday, May 31st, 1932, at 10.30 a.m.*

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President : M. VALLOTTON.

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22. **CONSIDERATION OF THE QUESTIONS REFERRED TO THE COMMISSION BY THE RESOLUTION OF THE GENERAL COMMISSION DATED APRIL 22ND, 1932 (document Conf. D./C.G.28(2)) : REPORT BY THE SUB-COMMITTEE (continuation of the discussion).**

Mr. DULLES (United States of America) stated that in the matter of figures, which M. de Brouckère's statement had brought up, the question was : Should or should not the report contain a definite statement in figures of the limits, in terms of one or more of the criteria suggested, above which aircraft should be considered as falling under the three heads mentioned by the General Commission ?

The report, as it at present stood, concluded that the offensive character of aircraft (by which he understood efficacy against national defence and threat to the civilian population) was a function of its useful load and its ability to reach an objective. The position would be the same if an attempt were made to define the defensive characteristics of aircraft.

The element of size was emphasised throughout, the report, in effect, stating that a plane which could effectively carry and drop on an objective a given load of bombs was more offensive than a plane which could carry one-half this load to the same objective. It also recognised that almost all military planes — or even civil planes if adapted to military uses — could, with varying degrees of effectiveness, be employed for the dropping of bombs. Undoubtedly, the Commission would also agree that two planes, each capable of dropping 500 kilogrammes of bombs, were together more offensive than one plane capable of dropping 1,000 kilogrammes.

Hence, the mere fixing of a size-limit which would exclude the use of bombers of the size generally constructed would not be a great step forward, unless combined with a limitation by numbers. Such a step might merely do away with the heavy bombers of to-day to open the way to the lighter bombers of to-morrow in ever-increasing numbers. Until the Commission knew whether there was to be quantitative limitation of aircraft, and until it had some idea of the general principles to be applied to the limitation of land and sea weapons, it was working in the dark in trying to fix a limit for the size of machines.

To turn to the drawing of a dividing-line, above which all aeroplanes were " most specifically offensive ", the task was not so easy. Geographical conditions must be borne in mind ; in the United States, for instance, the largest military planes were designed for the transport of personnel and supplies and were not equipped for bombing, and it was unlikely that they would ever be used for that purpose. Further, where great distances were involved, size alone was not necessarily evidence of offensive character. It was for this reason that his delegation had advocated the insertion in the report, as one of the criteria, of the ability of aircraft to reach a given objective.

To state the matter plainly, the problem presented itself in a different light if viewed from the European angle, where short distances separated the great centres of civilian population, than if viewed from the American angle, where one of the primary considerations in the development of aviation was the great distances separating the vital points where elements of defence might be required. His delegation fully appreciated the European viewpoint, and was confident that the United States would be able to co-operate in working towards a settlement which would help to give relief from the potential menace to civilians presented by aerial bombing. Its reluctance to suggest definite figures should not be interpreted as evidence that his country took either a detached or a non-co-operative position in the matter. It was merely due to its belief that the problem did not admit of an arbitrary mathematical solution along the lines proposed.

His delegation therefore favoured the submitting to the General Commission, as soon as possible, of a report including the figures of those delegations which had submitted them, together with the considerations of any others desiring to express their views on the subject of the dividing-line envisaged.

His delegation would also suggest the addition to the report of a final paragraph running somewhat as follows :

" The Air Commission recommends that, in view of its unanimous findings as to the grave threat to civilians from aerial bombardment, the General Commission should

consider what effective action could be taken, as a part of any comprehensive scheme for disarmament, to do away with this threat, whether through the control of bombing from the air, the restriction on the number and size of aircraft available for aerial bombardment, or through other measures affecting aviation."

M. SIMONSEN (Denmark) thought that the difficulty of answering the question asked in the General Commission's resolution arose from the fact that aircraft could in general be used for both peaceful and warlike purposes.

The Commission's examination of the technical points at issue had clearly proved that it was not, in practice, possible to provide a form of limitation precluding the use of military aircraft for bombing, but allowing such craft to be used for other purposes. The only method of separating aircraft possessing the qualities referred to by the General Commission from other aircraft was to endeavour to draw a dividing-line through the categories of military aircraft, above which bombers preponderated and below which they were in the minority. Such a distinction was likely to be ineffective, however, in the case of small countries, and the Danish delegation therefore considered, as it had already stated, that military aviation as a whole was, by its very nature, specifically offensive and especially dangerous to civilians. The retention of any military aircraft whatsoever made it possible to give training in its use for military purposes.

Holding that military aircraft should be totally abolished, the Danish delegation would suggest that the Air Commission should simply report to the General Commission on the technical criteria governing a distinction between different kinds of aircraft.

Since the proposal for the drawing of a dividing-line had, however, received considerable support, he would like to say that limitation should be provided for by means of figures relating to unladen weight, horse-power and so on, so that an air bombardment with the machines allowed should in practice be precluded. Public opinion demanded a solution along these lines, and, if the Commission did not propose one, it would give just grounds for the mistrust of technical commissions which had been expressed. In order to attain the object in view, the limit must be fixed at a low level and the criterion must give an adequate guarantee. The Danish delegation had adopted the three-criteria proposal, but subsequent discussion gave grounds for consideration as to whether one criterion — unladen weight — might not be so advantageous as to be preferable.

The Danish delegation felt that the figures proposed by the majority of delegations were too high. For a reduction of any importance, the lowest of the levels hitherto proposed must be envisaged. Should the Commission decide that a figure was to be fixed in the report, the Danish delegation would discuss the figure on the basis of the opinion he had just expressed.

The PRESIDENT said that, with reference to the French questionnaire, the Bureau was fully alive to the considerations which prompted the delegations opposed to its discussion (in that it would cause delay) and those in favour of its examination (in that it was impossible to establish figures without detailed consideration of the technical problems which it raised). Since no chance of completing the work before the Commission should be let slip, and as several delegations, among them those of the United Kingdom and Japan, were in favour of studying the document, the Bureau had felt that it would be discourteous and inadvisable to leave it on one side. It therefore submitted the following proposal:

" That the Commission should :

" I. Forthwith invite the Rapporteur to submit a draft general report on the work of the Air Commission up to date, this report to be discussed at a subsequent meeting ;

" II. (a) Retain for consideration the French draft questionnaire and resolution ;

" (b) Constitute a sub-committee for the examination of these documents, to submit a special report on the subject as soon as possible ;

" (c) Co-ordinate this general report and special report, should the latter be ready in time ; if not, submit the general report, reserving the right to supplement it subsequently by a special report on the French draft questionnaire and resolution."

M. MASSIGLI (France) said that his delegation pressed for the study of its — he thought — very moderate questionnaire, because it felt that concrete figures must be put on paper in order that the General Commission might have before it certain technical data as to the way in which each country used its air arm. This being a much newer element than either land or sea forces, there was in many quarters some uncertainty as to its uses and capabilities.

Anxious to facilitate the Commission's work to the greatest possible extent, the French delegation had prepared a draft reply to its own questionnaire. This it would propose to submit to the suggested sub-committee, for study together with the questionnaire.

If the sub-committee's discussion were so prolonged that its report could not be included in the first report to the General Commission, the French delegation reserved the right to insert in that report a declaration with regard to its particular views.

M. LANGOVOY (Union of Soviet Socialist Republics) said that, in helping to draw up the Sub-Committee's report, upon which the Commission's discussions were based, he had realised that it was far from perfect, but that he had hoped for its improvement in plenary session. Unfortunately, this had not come about. The varying points of view of the different delegations were masked by vague statements, while in some cases votes taken in the Commission had merely served to weaken the Sub-Committee's original. He had specially in mind the vote which had brought about the deletion of the first part of paragraph III (d) from the original text; further, the defensive aspect of weapons had been brought in to such an extent that the value of many of the decisions regarding offensive weapons was entirely negatived. All that the report now stated was: "The larger the machine, the more threatening", — a conclusion which would justify the General Commission in stating that the Air Commission had achieved nothing whatsoever.

The Commission had before it various general declarations from which it must draw a conclusion. If this conclusion were to provide an adequate basis for the General Commission's work, it must contain figures. It was obviously unlikely that a single figure could be achieved. Nevertheless, concrete proposals should be the Commission's object, and, if the majority of the delegations present supplied figures, the General Commission would have something to go upon.

His delegation had originally proposed that all military aviation should be regarded as coming under the three heads of the General Commission's resolution. It had subsequently proposed figures — a limit of 600 kilogrammes unladen weight, 200 horse-power, and a ratio of horse-power to wing area of 8; this was fully compatible with the original proposal, since all existing military aircraft were larger than this.

It had been argued that certain delegations were in favour of the total abolition of military aircraft because of certain clauses in the Treaties of Peace. Obviously, this did not apply to his country. The Soviet view was based upon its observations of what was being done to-day in the field of military aviation; a few examples would show this.

At the beginning of the last war, the combatant States had among them possessed 700 military machines. At the end of the war this number had risen to 10,000—proof in itself that aircraft operating beyond the frontiers and at vital points behind the lines were one of the most effective means of offence. Further proof of this were the immense air forces massed by the attacking side during the great offensives and counter-offensives of 1918. It was to be assumed that, upon demobilisation, this figure — 10,000 machines — had decreased. Nevertheless, the world air force at the present time again numbered 10,000 military aircraft, with an aggregate horse-power of 5,000,000. Added to this, developments since the war had increased the offensiveness of military machines. Of these 10,000 machines, 2,000 were capable of carrying 2,000 kilogrammes of bombs each. From these figures could be deduced the fact that the machines existing in the world to-day could, in about thirty flights, drop as many bombs as had been dropped during the whole of the last war.

Technical progress had also increased the radius of action of machines, for light scouting planes, for instance, from 150 to 400 kilometres, while heavy machines could now operate some 500 or 600 kilometres from their base. Useful load had increased proportionately, bombers being able to carry up to a four-ton load and even chasers some 500 or 600 kilogrammes. These figures proved that any part of any country in Western Europe was open to attack, and, in the case of small countries, by machines of all categories. Here was an added reason for advocating the abolition of all military machines.

A study of the development of projectiles only served to confirm the Soviet delegation in its view. A 50-kilogramme bomb was equal in effect to a shell from a 200-millimetre calibre gun, and could do immense damage to national defence or to civilians, while various kinds of incendiary and chemical bombs and of large bombs, weighing as much as 2,000 kilogrammes, had been invented during and since the war to increase the offensiveness of the air arm.

He would draw special attention to the chemical aspect of aerial warfare. The Commission had not sufficiently considered this, perhaps because a special Committee had been formed to deal with it, but he would point out that machines other than bombers could be particularly effective in this form of attack.

Obviously, machines carrying the heaviest load were the most dangerous, but the facts which he had quoted should serve to prove that the view that all aircraft came under the three heads of the General Commission's resolution was well founded.

To turn to the French questionnaire, the Bureau's resolution for the formation of a sub-committee virtually accepted the original French proposal, which he had opposed at a previous meeting. He could not admit this, and asked that the maintenance or rejection of the questionnaire should be put to the vote.

M. BRANDENBURG (Germany) had been particularly interested to hear Mr. Dulles raise the point — with which he agreed — that two machines carrying 500 kilogrammes of bombs each were more offensive than one machine carrying 1,000 kilogrammes. This refuted the argument more than once raised that the biggest machines were the most offensive.

He was also in full agreement with the Soviet delegate that it was inadvisable to appoint a Sub-Committee to study the French questionnaire. He had already drawn attention to the insurmountable difficulties experienced by the experts at a recent Red Cross Conference at which the questionnaire's first point only had been discussed.

Germany, deprived as she had been of military aviation for the past fourteen years, could not reply to the questionnaire without setting her experts to carry out long and difficult technical studies, involving immense delay. If the questionnaire were to be answered, it was of vital importance to his delegation whether it was to form part of the report or to be considered separately.

M. QUINTANA (Argentine) agreed with the United States delegate that the present state of the Commission's work did not permit the establishment of figures. He was in entire agreement with Mr. Dulles's point regarding geographical conditions and considerations of the distance to be flown.

He would here refer to a question asked by the Polish delegate at a recent meeting of the Naval Commission, with reference to aeroplanes carried on aircraft-carriers: Was an air weapon equally offensive in Europe and outside it? Had a bomber an equal degree of offensiveness against, for instance, Australia and Belgium?

The question of defence must not be left on one side, since countries which did not enjoy the security provided by a large army obviously required aeroplanes for strictly defensive purposes.

He was in favour of the French proposal and would support the resolution submitted by the Bureau. His delegation was prepared to co-operate in drawing up international rules for the protection of civilians against bombardment from the air.

General PICCIO (Italy) said that the object of the French delegation's draft questionnaire was to determine the degree of efficacy of the various types of aircraft against national defence and the degree of menace which each represented for civilians. Even if the Air Commission could agree on these points, it would be difficult to settle the technical characteristics of the air armaments with which the Commission was concerned. It would nevertheless be possible to consider the question of a dividing-line between the least offensive weapons and those which were the most specifically offensive.

The Italian delegation believed that the only way in which a satisfactory reply could be given to the General Commission's question was to fix this dividing-line. It had accordingly very carefully considered the French delegation's questionnaire. It had come to the conclusion that the method suggested, besides being long and laborious, was not likely to assist in the practical establishment of the criteria of offensiveness with which the Air Commission was concerned.

From an examination of the points in the questionnaire, it was at once plain that they would lead to replies which it would be difficult to express in figures. How, for instance, would it be possible to define what, in modern warfare in the air, on land or on sea, would be the military objectives against which air armaments would be capable of being employed? Aviation developed so rapidly and its military possibilities were so varied and extensive that it could be affirmed without fear of error that everything in the air, on the land or on the seas might be an objective for the air force. The importance of any objective would, of course, depend on the circumstances, on the course of events, on industrial capacity, etc.; in brief, on all the factors which might assist more or less directly in the efficient conduct of military operations.

It would be even more difficult to reply to the question: What means of warfare dropped from the air were likely to have the most effective action on military objectives? Since everything depended on the relative importance of the objective and not on the absolute value of the means of warfare employed, it was not improbable that, in certain circumstances, a single projectile of a minimum unit weight might cause more damage than could be caused in other circumstances by projectiles with a higher unit weight. An incendiary bomb, for example, weighing a few kilogrammes, dropped on a military hangar could destroy an entire squadron. The same bomb dropped on a munition depot or a powder magazine might cause their destruction, and even have the most appalling consequences; whereas a dozen bombs weighing a thousand kilogrammes each dropped on a defensive system or on troops in fighting formation might have a merely trifling effect as regards its immediate value.

Take next the other point — namely, what were the most specifically offensive acts? Here, too, it would be found that definition was impossible.

Would it not, perhaps, be possible to speed up the replies to be given if the delegations, taking as basis the questions defined in the questionnaire, furnished the figures, explained in the Commission the criteria which had guided them in arriving at those figures, and so replied indirectly to the questionnaire?

The Italian delegation had desired to draw the Air Commission's attention to the very great difficulties involved in a study of the French questionnaire. It was prepared to co-operate with the majority of the Commission, provided the decision was one which would conduce to the practical achievement of the task entrusted to it.

The delegation would, however, vote against the adoption of the French questionnaire.

M. MANNIGLI (France) thought it was not difficult to refute any of the three arguments raised against the proposal to discuss the French questionnaire. To the first — that it would delay the Commission unnecessarily — he would reply that the Bureau's proposal precluded delay. To the second — that it was useless because all air weapons were offensive — he would reply that, in his opinion, a full answer to the French questionnaire would be the best possible proof in support of this view. A detailed reply must be more convincing than the unqualified statement so far submitted by the delegations taking that view. To the third — General Piccio's contention that it would merely serve to complicate the reply to the General Commission — he would reply that the technical particulars it would provide would be an invaluable basis for any subsequent political decisions.

M. BRANDENBURG (Germany) asked whether the sub-committee was intended to carry out an independent study of the French questionnaire or a study definitely connected with the Commission's report. If its findings were to form part and parcel of the report, this could not possibly be ready before the meeting of the General Commission if held on the date suggested.

M. DE BROUCKÈRE (Belgium) had hoped that the Commission would accept the Bureau's proposal unanimously. It seemed as if some malignant fate had determined that the acceptance of any proposal by one group of delegations must automatically bring about its opposition by another.

His delegation would vote in favour of the Bureau's proposal, as this would enable the Commission to report many cases to the General Commission. If the Commission had agreed in time upon all the points before it, the report could be final. If not, it would be incomplete; but a report on the French questionnaire could stand over and be inserted in a later report should the General Commission judge the first of sufficient value to ask for a second.

Though some delegations had argued that the French questionnaire was useless, none had, to his knowledge, proved that it was bad. He would therefore appeal to the Commission's courtesy and goodwill for a unanimous vote in its favour.

*The Commission unanimously adopted paragraph I of the Bureau's resolution.*

M. ROHEMAN (Sweden), Rapporteur, warned the Commission that it could not expect a complete report in response to the resolution just adopted. The ending must be left open, to be completed when the sub-committee had finished its work. If its report were ready in time it could be included in the general report. If not, the latter must close with any indications which the stage of the work then reached might permit, together with any statements submitted by particular delegations.

Group-Captain BABINGTON (United Kingdom) stated that his delegation supported the second part of the Bureau's proposal. It further considered that, if figures were to be supplied to the General Commission, an examination of the French questionnaire was indispensable.

M. VLIJGEN (Netherlands) said that he had at a previous meeting been opposed to the consideration of the French questionnaire. He had now changed his view, for two reasons. First, because the Bureau's resolution provided for the drawing up of a report, whether the study of the questionnaire were completed or no. Secondly, because he had earlier understood that the French delegation was not prepared to submit a draft reply. Now that it had done so, the questionnaire was no longer of the same importance, as the discussion in sub-committee was bound to bear mainly on the reply. He would therefore vote for the adoption of the second paragraph of the Bureau's resolution.



M. BRANDENBURG (Germany) associated himself with certain of the Netherlands delegate's remarks.

He had understood from the Rapporteur's statement that the results of the study of the French questionnaire would form an integral part of the report to the General Commission. This he could not admit, in view of the delays involved. He was, however, in no way opposed to discussion of the questionnaire independently.

*The Commission adopted paragraph II of the Bureau's proposal by twenty-five votes to three.*

*The Commission elected the following delegations to serve on the Sub-Committee: Argentine, Belgium, United Kingdom, Czechoslovakia, France, Germany, Hungary, Italy, Japan, Poland, Spain and the United States of America, and also the Bureau.*

M. LANGOVOY (Union of Soviet Socialist Republics) stated that, though nominated, he preferred not to serve on the Committee. He reserved the right to support the Sub-Committee's decisions, if in agreement with the views of his delegation.

General PICCIO (Italy) understood that the purpose of the Sub-Committee's work was to facilitate the drawing of the dividing-line between offensive and other aircraft. He asked if the Sub-Committee were at liberty to discuss the proposals of other delegations made to this end.

The PRESIDENT replied that that was for the Sub-Committee to decide.

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## EIGHTEENTH MEETING

*Held on Friday, June 3rd, 1932, at 10.30 a.m.*

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President: M. DE MADARIAGA.

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23. CONSIDERATION OF THE QUESTIONS REFERRED TO THE COMMISSION BY THE RESOLUTION OF THE GENERAL COMMISSION DATED APRIL 22ND, 1932 (document Conf. D./C.G.28(2)); DRAFT REPORT TO THE GENERAL COMMISSION (document Conf. D./C.A.29).

M. BOHEMAN (Sweden), Rapporteur, described the main lines of the draft report, which was in two parts: the first part consisted of a progress report, and the second was provisional and would be modified as the work of the Sub-Committee responsible for examining the French proposal progressed.

*The draft report was read, discussed and provisionally adopted page by page with various amendments.*

*In the course of the discussion:*

M. BRANDENBURG (Germany) said that his delegation had no objection to the form or content of the report. He had already pointed out during earlier discussions that his delegation could not accept the conclusions reached at the beginning of the report as regards the offensive character of air armaments, their efficacy against national defence, and the threat they constitute to civilians. He reserved the right to insert in the report a statement giving the German delegation's views.

The PRESIDENT pointed out that the report proceeded to refer to the German view.

M. BOHEMAN (Sweden), Rapporteur, stated that the Bulgarian and Hungarian delegations were anxious to make a general reservation in the same sense as that already made by the German delegation. He would ask them to come to an agreement with the German delegation upon a common text.

M. LANGE (Norway) proposed the inclusion of the following declaration among the comments of the delegations after the paragraph beginning "In connection with the conclusion marked I (a), the Italian delegation . . ."; it dealt with a matter which his delegation considered fundamentally important if a useful basis for the General Commission's discussions were to be supplied:

"The Norwegian delegation, which voted for the Italian proposal, considers that, working on the same lines and in order to submit a useful reply to the first question

asked by the General Commission, the Air Commission should have in mind the hypothesis of a surprise attack, in time of peace, by a State intending thereby to create a new situation before there should be any possibility either for the League of Nations, or for States not party to this dispute, to take preventive and conciliatory action with a view to preventing a war.

"Only with this interpretation of the question asked by the General Commission can the armaments which are 'the most specifically offensive in character' be defined."

He added that similar considerations had been inserted in the Naval Commission's report and would, he believed, be included in that of the Land Commission.

General PICCIO (Italy), Lieutenant-Colonel HERRERA (Spain), M. SIMONSEN (Denmark), M. CONTOUMAS (Greece) and M. VAN DER DONCKT (Belgium) supported this declaration on behalf of their delegations.

M. MANIOLI (France), while understanding the reasons for the text, observed that it raised a rather important point and affected the actual interpretation of the Commission's terms of reference. Either it must be a fundamental question, affecting their decisions which must as such be discussed, or else merely an important statement made by several delegations, in which case it was out of place in this part of the report and should figure among the reservations. In any case, it must be drafted in such a way as to conform more closely to the Covenant. Before issuing the text as the duly considered opinion of the Air Commission, some time should be devoted to its discussion.

M. LANGE (Norway) would be glad of the French delegation's assistance in improving the drafting of the proposal. He would make a reservation in respect of M. Massigli's interpretation, as it was not completely in harmony with the idea which the Norwegian delegation had intended to convey.

M. VALLOTTON (Switzerland) thanked the Norwegian delegation for drawing attention to this question and supported its proposal.

A distinction must be drawn between the words "offensive" and "aggressive", which were too often confused. In his view, "offensive" meant attacking or being used for attack; "aggressive", used for sudden, surprise and unprovoked attack. He recalled Raapall's definition: "Defence is a duty, aggression an act of madness".

Captain GREGORES (Argentine) said that his delegation had no objection to accepting the Norwegian proposal. Nevertheless, he would propose the addition of the words "without prejudice to the question of their defensive uses", which had been accepted by the Norwegian delegation in the Naval Commission's report.

Mr. DULLES (United States of America) said that his delegation was in full sympathy with the Norwegian proposal.

The PRESIDENT proposed that a drafting committee should be set up to amend the text submitted by the Norwegian delegation in the sense of the above remarks.

M. MASSIGLI (France) and Group-Captain BABINGTON (United Kingdom) accepted this proposal, reserving the right, if necessary, to make a declaration on the point.

*The Drafting Committee was composed as follows:* The Vice-President, the Rapporteur, the United Kingdom, Norwegian, French, Soviet, Italian, Argentine and United States delegates.

M. LANGVOY (Union of Soviet Socialist Republics) pointed out that the Soviet delegation, as well as the Italian, Norwegian and Turkish delegations, had made a reservation in regard to the maintenance of the words "without prejudice to the question of their defensive uses" in conclusion I (a). He added that, for reasons of principle, it was difficult for him wholeheartedly to support the Norwegian declaration.

He proposed the insertion of the following text in the comments of the delegations, two paragraphs after the paragraph beginning, "In connection with the conclusion numbered I (a) . . .":

"Quite apart from the fact that aircraft have been constructed specially for military purposes or converted later for the same purposes, the Soviet delegation holds that all military aviation has a specifically offensive character.

"The Soviet delegation considers that civil aviation cannot be regarded as an arm and therefore sees no need to mention it in the report."

General FERRAZ (Portugal) said that his delegation associated itself with the United States delegation's statement regarding point 1(d), and therefore asked that the introductory sentence to the statement should be altered to read: "The United States and Portuguese delegations made the following declaration".

Mr. DULLES (United States of America) asked that in the second paragraph of this declaration it should be quite specific that ship-based aircraft or aircraft taking off from bases close to land frontiers were regarded individually.

Group-Captain BABINGTON (United Kingdom) stated that his delegation shared the views expressed in this declaration.

M. BRANDENBURG (Germany) concurred in the principle underlying the Soviet delegation's reservation. The idea contained in that reservation was, moreover, already embodied in the general reservation which the German delegation proposed to insert in the report.

*The Commission decided to reserve the text of the Norwegian delegation.*

Mr. SHEDDEN (Australia) asked for mention to be made of Australia in the list of countries whose delegations voted for the inclusion of the special statement regarding the defensive value of air armaments regarded as the most effective against national defence. Owing to Australia's geographical situation, and in view of the radius of action of aircraft, that country's air armaments did not offer a menace to anyone, and the Australian Government therefore placed great importance on this defensive aspect.

The Australian Government would recall that the aim of the General Commission's resolution was to increase the power of the defence, and that there were some States which were in a special position to employ aircraft for defensive purposes without their being considered an aggressive threat to other States.

Colonel RIAZI (Persia) asked that Persia should be added to the list of countries whose delegations considered the statement to which Mr. Shedden had just referred to be unnecessary.

Mr. CAMP (South Africa) made, on behalf of South Africa, the same request as the Australian delegation.

M. BOHEMAN (Sweden), Rapporteur, pointed out, in order to remove any ambiguity, that the Commission had agreed that unladen weight in the case of aeroplanes and volume in that of dirigibles were essential criteria and must be adopted.

*The Commission decided, at the request of M. MASSIOLI (France) and Group-Captain BABINGTON (United Kingdom), to draft as follows the end of the paragraph regarding the opinion of the eighteen delegations on the use of unladen weight alone as a criterion for purposes of practical comparison:*

*"They held that the addition of the two other criteria for aeroplanes would considerably complicate the question, owing to the facility with which wing area and, more particularly, horse-power could be modified. They added that they thought it impossible to define satisfactorily or to verify in practice the value of horse-power and of wing area. They likewise considered that the adoption of these two criteria might hinder sound technical development."*

M. GAJARDO (Chile) said that his delegation should be added to the list of delegations which took the opposite view.

General PICCIO (Italy) proposed that the following statement should be added to the paragraph regarding the opinion of the delegations opposed to the use of unladen weight as the sole criterion:

*"The above-mentioned delegations dissent from the view taken by the eighteen other delegations. They hold that horse-power or wing area, which are regarded by them as highly necessary for calculating the useful load and capacity to attain the objective, can be calculated, like unladen weight, sufficiently closely to be utilisable conjointly with unladen weight."*

As unladen weight itself could not be calculated with absolute accuracy, the Italian delegation urged that the three criteria must be taken into account in determining useful load and capacity to reach the objective.

The PRESIDENT pointed out that the three criteria could not be dealt with identically in the Report, since one of them — viz., unladen weight — had been adopted unanimously by the Commission, whereas the other two had been upheld by only twenty delegations, and therefore could not claim the same priority. He consequently proposed that the Commission should leave the Rapporteur and the Italian delegate to settle the final form of this amendment in such a way that the Italian amendment should balance the French amendment.

## NINETEENTH MEETING

*Held on Saturday, June 4th, 1932, at 10.30 a.m.*

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President : M. DE MADARIAGA.

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24. CONSIDERATION OF THE QUESTIONS REFERRED TO THE COMMISSION BY THE RESOLUTION OF THE GENERAL COMMISSION DATED APRIL 22ND, 1932 (document Conf. D./C.G.28 (2)): DRAFT REPORT TO THE GENERAL COMMISSION (document Conf. D./C.A.29) (continuation of the discussion).

M. BOHEMAN (Sweden), Rapporteur, said that the paragraphs dealing with the definitions of horse-power and wing area had been inserted merely as a basis for discussion. The following alternative definitions had just been submitted by the Italian delegation, and the names of any delegations preferring these could be inserted in the report.

*" Horse-Power.*

" The power index of an engine given by the experts' formula in document C.259. M.115 might be adopted as a first approximate criterion for qualitative disarmament purposes.

" This formula is  $W_1 = \sqrt{K.U.P_1}$

" The Italian delegation considers, however, that it would be desirable to improve the method by adopting for the constant K different values according to the basic types of engines and to take into account in measuring the weight the material used in the fixed parts.

" It therefore proposes the constants  $K_1$  and  $K_2$  for liquid-cooled engines with and without reduction gear respectively;  $K_3$  and  $K_4$  for air-cooled engines with and without reduction gear respectively;  $K_5$  and  $K_6$  for Diesel engines, liquid- and air-cooled respectively.

" For surcharged engines, these values will have to be multiplied by a coefficient depending on the surcharging system and the degree of compression produced by the surcharger.

" *Notes.* — (1) Liquid-cooled engines are distinguished from air-cooled engines because, in measuring the weight, due allowance cannot be made for the radiators.

" (2) The values  $K_1$ ,  $K_2$ ,  $K_3$ , etc., and the surcharging coefficient cannot be fixed until the maximum value of the horse-power has been determined, and in fixing these values technical and statistical considerations will be taken as bases.

" It is also desirable to establish the equivalence between aluminium alloys and magnesium alloys used in the fixed parts (about 1.4), in order that a change from one of these materials to the other may not unfairly affect the measurement of the horse-power.

" (3) The Diesel engine will no longer be handicapped if it is considered separately.

*" Wing Area.*

" (1) The supporting surface of a wing mounted on an aeroplane is the normal projection of its perimeter on a plane passing through the chord traversing the span centrally and perpendicular to the longitudinal plane of symmetry of the aeroplane.

" (2) The wing area of an aeroplane is the sum of the supporting surfaces in its cellule.

" *Notes.* — I. The surface of the ailerons in the rest position is included in the wing area.

" II. In the case of wings having a safety beak, the projection of the wing itself must be taken with the safety beak in the rest position.

" III. In the total, the surfaces must be calculated in excess per square metre. Wings which are partly or wholly cut away to allow for the fuselage or nacelles, etc., are regarded as continuous.

" IV. In the case of a wing with a variable area, the area must be calculated at its maximum extension.

" V. Horizontal tail units and any other supporting surfaces included in the glider are excluded provided that their total surface, calculated in the same way as that of the wings, does not exceed  $x$  per cent of the wing area of the cellule.

" VI. The wing profile chord mentioned in the definition is that established by the C.I.N.A. at its sixth meeting (March 1924) and communicated to the Council of the League of Nations."

General PICCIO (Italy) pointed out that the formula submitted by his delegation for horse-power was practically the same as that given in the experts' report, except that this last provided one coefficient only for all types of motor, whereas the Italian definition gave three different coefficients suitable for application to different types. The definition for wing area was, in substance, the same as that proposed by Colonel Herrera, but was more precise.

M. MASSIGLI (France) asked that the report should state that the delegations in favour of one criterion only were in no way bound by any definitions adopted by those favouring three criteria. Even were the General Commission to adopt the three-criteria standard, such delegations would thus retain complete liberty of action.

The PRESIDENT agreed that this should be done. He suggested that, as the two definitions under discussion concerned only the delegations desiring three criteria, those delegations should meet unofficially to agree upon a single formula.

M. BOHEMAN (Sweden), Rapporteur, said that the Italian delegation had, at the previous meeting, asked for the amendment of the paragraph stating the opinion of the nineteen delegations opposed to the adoption of a single criterion. In conjunction with the Italian delegate, he had drafted as follows the paragraph (three paragraphs later) referring to the same delegations :

" The delegations in question added that they considered that both the horse-power and the wing area could be computed with sufficient accuracy (though less accurately than the unladen weight) to enable them to be effectively used in the comparative measurement of the useful load of aircraft and of their capability of arriving at their objective, and that three criteria, however imperfect, would be more reliable than a single criterion."

Captain GREGORES (Argentine) proposed the postponement of the adoption of this paragraph until the next meeting, in order to enable the delegations to consider it. His delegation had originally voted for three criteria, but might reconsider its opinion in view of the difficulty of arriving at agreement upon a standard horse-power measurement.

*Agreed.*

M. MASSIGLI (France) pointed out that the partisans of the three-criteria standard had never given a final reply as to whether, in their view, all three criteria were of equal value or not. As the Minutes showed, this question had been brought up more than once, but had always been left in suspense. Some reference should be made to it in the report, as it was essential that the General Commission should have a clear picture of the trend of the Commission's discussions, particularly on points upon which there was no unanimity.

The PRESIDENT stated that the Rapporteur would note this point.

*By 18 votes to 10 the Commission confirmed the wording it had previously adopted for conclusions II (c) and III (c) of its draft report, the words " and their capability of arriving at their objective " being retained. The decision was supported by Mr. DULLES (United States of America), M. CONTOMAS (Greece) and Captain GREGORES (Argentine), and was opposed by General PICCIO (Italy).*

*Declaration by the Delegations of Belgium, Mexico, Netherlands, Spain and Sweden regarding Numerical Criteria to determine what Aeroplanes come under the Three Categories indicated by the General Commission.*

M. VAN DER DONCKT (Belgium) submitted the following declaration :

" The delegations of Belgium, Mexico, the Netherlands, Spain and Sweden,

" Having examined a large number of aeroplanes at present in use in various countries with a view to finding numerical criteria to determine what aeroplanes come under the three categories indicated by the General Commission — namely, the most specifically offensive, the most efficacious against national defence, the most threatening to civilians — have come to the following conclusions :

" 1. There is a limit, based on technical data, above which almost all aeroplanes possess the three characteristics mentioned above ;

" 2. There is a limit below which no aeroplane can be deemed to possess these three characteristics ;

" 3. For aeroplanes the characteristics of which lie between the two limits, it is impossible to lay down a simple rule enabling those possessing the three above-mentioned characteristics to be distinguished with certainty.

" The limit under (1) might be fixed at an unladen weight of 1,500-1,600 kilogrammes (with the addition of 300-400 kilogrammes for seaplanes).

" The limit under (2) might be fixed, in general, at an unladen weight of 600 kilogrammes, a horse-power of 200 and a wing area of 25 square metres, on the understanding that any aeroplane exceeding any one of these three limits would come under category (3) above."

M. VALLOTTON (Switzerland) stated that the Swiss delegation supported the Belgian proposal. The geographical position and the size of Switzerland rendered it especially vulnerable to air attack, as were all small countries ; in its case, terms such as " the theatre of operations " or " rear " were purely relative. The same applied to the term " air front ", Switzerland's area being so small that it was a simple matter to flank its so-called air front and attack the very heart of the territory.

From the point of view of defence, too, Switzerland might be faced with war on several fronts at once. Thus all the advantages would invariably be with her attacker, who could concentrate considerable forces at any time and place desired, thus assured not only of numerical superiority but of the undeniable advantages of surprise ; whereas the Swiss defence forces must necessarily be spread throughout the country in order to protect vital centres.

Another point : in the case of small States like Switzerland, most military objectives could easily be confused with civilian objectives ; arsenals, barracks, depots and so on were necessarily situated in towns or their suburbs. How could a foreign bomber distinguish them from civilian buildings ? Though these might be kept apart in large territories, it was impossible to do so in a small country like Switzerland.

The danger resulting from the proximity of such objectives was increased by the inevitable inaccuracy of bomb-dropping from the air, a fact which had been emphasised, and rightly, in the revised draft of the French resolution presented to the Sub-Committee. An illustration of this point was provided by the Geneva barracks. Surrounded as they were by civilian dwellings, what pilot could be certain that his bomb would fall on the military and not on the civilian objective ?

The French document pointed out that attacks on the civil population were contrary to international undertakings, but all States had not signed these undertakings ; moreover, persons fully qualified to do so had assured him that certain military instructions expressly laid down that terror could be spread among civil populations by means of air bombardment. This, called the " strategy of terrorisation ", was nothing short of pure barbarism.

The Swiss experts were studying the Belgian figures, but he could, he thought, confirm M. Gorgé's earlier statements, and say that his delegation supported the figures given in the Belgian proposal. Its only hesitation was on the score of that given under (1) (1,500 to 1,600 kilogrammes) which it felt should, in the interests of small countries, be lowered to 1,200 kilogrammes, especially in view of the fact that unladen weight alone was limited, horse-power remaining unrestricted. Given a machine of 1,500 kilogrammes unladen weight but with a 500 horse-power engine, it was possible to construct an aeroplane coming under the three heads of the General Commission's resolution. Anxious to obtain agreement here, his delegation would submit its final decision later.

Two points had arisen from the Commission's long discussions ; possibly they might be pointed out to the General Commission in the general report or in the resolution proposed by the French delegation. Whatever the differences of technical opinion expressed, some of them, based on reasons which, though comprehensible, were possibly not always scientific, it could be stated that all delegations, and all the experts, were agreed that the most dangerous aeroplanes were bombing aircraft. The technical definition of such aircraft, as distinct from reconnaissance and other machines, had raised enormous difficulties, comprehensible to experts but ill understood by the man in the street.

His second point, upon which he thought the Commission would also agree, was, therefore : any measures covering bombing aircraft only must be inadequate, ineffectual and illusory. On the other hand, the total abolition of bombing and the abolition of chemical and bacteriological warfare, supplemented by measures taken against bombing aircraft, would mean the achievement of their double object. It would, first, place obstacles in the way of acts of aggression likely to lead to war and, more important still, it would protect the women, old persons and children who might be the innocent victims of dastardly bombing.

M. VOUGT (Sweden) stated that any part played by his delegation in attempting to provide as precise a technical reply as possible to the questions submitted by the General Commission did not prejudice its views as to the total abolition of military aviation accompanied by the internationalisation or strict control of civil aviation.

Colonel SERRANO (Bolivia) agreed with the Swiss delegate so far as the position of small countries was concerned, but would make a reservation regarding the figures submitted in the Belgian proposal, this because Bolivia was affected not only by geographical conditions, but by its altitude. All the most populated parts of the country were situated at over 12,000 feet, and any figures fixed should take into account the fact that, in some countries, aircraft must take off from such altitudes.

M. FISCH (Germany) was glad to see the disadvantageous position of small countries brought to light, and was also in a position to support the Swiss delegate. Germany was in rather the same position as Switzerland. Present technical conditions meant that all parts of the country were exposed to air attack at the shortest notice and that its 65 million inhabitants constantly lived under the nightmare of such an attack. The position was particularly disquieting in view of the complete lack of any means of aircraft or anti-aircraft defence.

For the reasons already given, he could not agree with the figures submitted in the Belgian proposal, but would point out that the arguments raised in its support by the Swiss delegate were, in fact, one of the reasons why Germany regarded all military aviation as corresponding to the three criteria of the General Commission.

M. LANGOVOY (Union of Soviet Socialist Republics), though he could not accept the figures in the Belgian proposal, thought that the very fact that the declaration contained these concrete data constituted an immense advance on previous proposals. His delegation considered that the limit fixed for (2) in the Belgian proposal was still too high. It would allow a machine to carry out a flight of over 100 kilometres, meaning that it could operate some 50 or 60 kilometres inside enemy territory. It could also carry over 50 kilogrammes of bombs or other means of warfare. The fact that such means covered chemical and incendiary bombs was an added argument in support of the Soviet view that the Belgian figures were unacceptable.

M. SZENTKERESZTESY (Hungary), while supporting the statements made by the Swiss delegate, pointed out that his delegation could not endorse the Belgian proposal, since, apart from the question of the vulnerability of small nations, it ignored the relative strength of air forces — an important point for his country. Hungary, deprived of all air armaments and particularly open to air attack, felt that all military aviation should be abolished.

General FERRAZ (Portugal) and Colonel MARTOLA (Finland) endorsed the Swiss delegate's statement and supported the Belgian proposal.

*The Commission unanimously agreed to insert the text under discussion as a declaration ex parte.*

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## TWENTIETH MEETING

*Held on Tuesday, June 7th, 1932, at 10.30 a.m.*

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President : M. VALLOTTON.

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25. CONSIDERATION OF THE QUESTIONS REFERRED TO THE COMMISSION BY THE RESOLUTION OF THE GENERAL COMMISSION DATED APRIL 22ND, 1932 (document Conf. D./C.G.28(2)) : REPORT OF THE SUB-COMMITTEE ON THE DRAFT RESOLUTION SUBMITTED BY THE FRENCH DELEGATION (document Conf. D./C.A.30).

M. BOHEMAN (Sweden), Rapporteur, set forth the main outlines of the text. He pointed out that the reservations given in the annex could be divided into three groups. The first, comprising the German reservation, represented the view of the countries without air armaments or aerial defence ; the second included the Italian reservation, and presented the view that the text had the effect of enabling countries to retain heavy aircraft ; the third comprised the reservations of countries which disputed various figures.

General Piccio (Italy) observed that the Sub-Committee had specified that its replies constituted, not a proposal as to the figures which the Commission should submit to the General Commission or an attempt to discuss these, but a collection of technical data. Nevertheless, he could not help wondering whether these technical particulars would really supply the Air Commission with useful information and guide it in its work.

The report stated that the useful load of the heaviest aircraft existing at the present time was about 27,000 kilogrammes for civil aircraft, and 15,000 for military aircraft. This was true of the "Do X" and the "Caproni", but these were two trial machines, and, if the tonnage corresponding to the useful load of 27,000 and 15,000 kilogrammes respectively represented the approximate limit of present machines, these figures might well be doubled in the near future.

What the report did not say, however, was that these useful loads of 27,000 and 15,000 kilogrammes, corresponding to total weights of 50,000 and 30,000 kilogrammes, were those of aircraft not in service with mobilisable units of existing military air forces, whereas information as to the tonnage of machines actually in service in such units for the accomplishment of the work envisaged in the report would undoubtedly have been more useful.

The report added that aircraft needed for communications with and between overseas territories by Powers possessing colonies in different parts of the world should have a radius of action of at least 2,000 kilometres, and a crew of not less than five, which amounted to stating that a machine of unladen weight of from 5 to 6 tons and of about 2,000 horse-power would be necessary.

The report stated that, for scouting operations, the minimum radius of action should be 1,200 kilometres over land and 2,500 kilometres over sea, which amounted to the adoption of an unladen weight of between 4,000 and 7,000 kilogrammes and of about 1,500 horse-power, whereas the military machines actually used for such work were of unladen weight of from 1,500 to 2,000 kilogrammes only.

It was also stated that bombs of from 100 to 500 kilogrammes were indispensable for the destruction of munition depots. The regulations actually in force, however, stated that, unless the depot contained only heavy artillery projectiles with particularly resistant cases, a bomb of under 50 kilogrammes was adequate and effective.

It also stated that, to be capable of producing serious results against fortifications, aeroplanes must carry a useful load of from 5,000 to 6,000 kilogrammes, and, to produce appreciable results against obstacles placed in the way of invading troops, a useful load of from 3,000 to 5,000 kilogrammes. He thought he was right in saying that aircraft of this size were not at present in service in any of the mobilisable units of existing military air forces.

Surely the Commission must realise, as did his delegation — which for the above reasons had taken no part in the discussion or drafting of the report — that these exaggerated figures were not calculated to enlighten the General Commission, but that, on the contrary, they would confuse it and give it a false idea of the tonnage of machines in service in existing military air forces.

The sole conclusion to be drawn from these figures was that existing aircraft were inadequate to carry out the duties expected of them. Thus, these figures could but mislead the Air Commission, and the General Commission too, as to the tonnage limit to be fixed if the Disarmament Conference were to reduce to a minimum the consequences of air raids against towns, industries and civil populations, and if it really intended to accomplish the task which humanity expected of it.

He would therefore submit the following reservation :

" The Italian delegation took no part in the discussion and drafting of the report in reply to the questionnaire.

" It considers that the statements and figures given in this report do not correspond to the present situation of mobilisable military aviation and that, by leading the General Commission astray, they render more difficult the decisions which it will be called upon to take."

M. VLIEGEN (Netherlands) considered that the examination of the French delegation's questionnaire in the Sub-Committee had afforded precisely the results which he had expected when he had expressed doubts as to the value of discussing it.

The document before the Commission could be regarded as a scientific course in military aviation. It gave particulars as to the conditions to be fulfilled by an aircraft to be suitable for bombing air and naval bases, to take action against lines of communication, magazines and munition factories, permanent fortifications and vital centres, and in battle. It thus arrived at figures such as those given in the document, which dealt with aircraft capable of carrying a useful load of from 3,000 to 6,500 kilogrammes and with a radius of action of from 1,200 to 2,500 kilometres. The report, however, reached no conclusions.

What conclusion could the Commission draw from this document? Were the armaments in question to be maintained? Was it to prohibit machines which did not yet exist? It must be remembered that the Air Commission was called upon to reply to precise questions asked by the General Commission. Had it any right to act as if it ignored the reasons for which these questions were asked?



The General Commission would be required to submit certain proposals to the Disarmament Conference, such as the prohibition of most specifically offensive weapons; but it had not asked the technical commissions to inform it which weapons were exclusively offensive.

It was common knowledge that any offensive weapon could be used for defensive ends. Again, it was impossible to say in advance who was the aggressor and who the defender. The pretext for almost every act of aggression in history was that the country concerned had been, or was just about to be, attacked. A nation invariably used the argument that it was being attacked in order to incite its people to war. It was thus obviously essential that, if a stop were to be put to aggression, if it were to be rendered difficult and dangerous, that means of defence should also be weakened. A means must be found whereby the opportunities for aggression would be reduced, and, in the case of qualitative disarmament, such means must be sought in the prohibition of those weapons likely to give the aggressor — who must always be reckoned as being better prepared than the defender — the greatest advantages.

As regards aviation, there was no denying that an aggressor could acquire such advantages through possessing machines of wider radius of action and larger useful load. On the other hand, the defender with machines of equal capacity would always have a certain advantage over the aggressor, as he could remain nearer his bases.

The Netherlands delegation was in favour of the prohibition of aerial bombardment, if only because the small countries would always be the most exposed to it. In countries like Holland, Belgium, Switzerland, Portugal or Denmark, heavy enemy aircraft could, flying over their territory, cause terrible destruction in the space of a few hours. The prohibition of bombing was the only effective means of combating this danger, for, even with aircraft of small useful load and restricted radius of action, the countries in question were exceedingly exposed if attacked by machines in any number. As the Swiss delegate had said at the previous meeting, an end must be made of the bombing aeroplane, which constituted a menace to civilisation.

Why had the great Powers come to Geneva if they were not prepared to proceed along these lines? They had nothing to lose if the proposed prohibition became the subject of a universal convention. On the contrary, they had everything to gain in the matter of finance, security, and — last, but not least — from the moral and humanitarian point of view. They should not attempt the impossible, and for that reason the Netherlands delegation associated itself with the declaration introduced by the Belgian delegation.

He regretted that the Soviet delegate had not acceded to this declaration, because machines with the characteristics indicated in the declaration might, if they carried projectiles charged with chemical, bacteriological or incendiary material, nevertheless do terrible destruction. He recognised the force of this argument, but hoped that the Conference would unanimously prohibit such means of warfare and thought that the report of the Committee examining this question was the most positive of all those till then drafted.

It was to be hoped that the General Commission would determine the relation between air armaments and chemical and bacteriological means of warfare. The dividing-line advocated in the declaration made by the small States would then acquire far greater significance than had been attributed to it by the Soviet delegate.

To return to the Sub-Committee's report in reply to the French questionnaire, his delegation did not question the accuracy of the figures given therein; but, if conclusions were to be drawn from it, the Netherlands delegation would merely recall that the Conference had been summoned, not for the maintenance, but for the reduction of armaments. The delegations might be certain that air armaments, presenting as they did such terrible dangers, were foremost among those which inspired the desire of the peoples of the world for disarmament. For these reasons the Netherlands delegation considered that the figures contained in the Belgian declaration, to which it had given its support, were maximum figures, and it hoped that, since the Air Commission did not seem to be in a position to submit definite proposals, the General Commission would support this view.

M. LANGVOY (Union of Soviet Socialist Republics) stated that his delegation could accept neither the theoretical and technical considerations nor the figures given in the Sub-Committee's report. He endorsed the Italian delegation's declaration on this subject and asked for a vote to be taken on the insertion of the Sub-Committee's report in the Air Commission's report to the General Commission.

In reply to the Netherlands delegate, he was well aware of the existence of the Protocol signed at Geneva in 1925 on chemical warfare. On the other hand, he had, however, just learnt from the Press that the Swiss Government intended to purchase large quantities of gas masks and other means of protection. Here was sound proof that the danger of chemical warfare was not eliminated. Low-tonnage machines should, therefore, come within the three categories referred to by the General Commission, as they were capable of carrying means of chemical warfare and incendiary bombs.

M. FISCH (Germany) said that his delegation had more than once explained the position of Germany and the other disarmed countries. The Commission must therefore realise the reasons for which the German delegation had never taken any part in votes.

As regarded the Sub-Committee's report, he was in full agreement with the Italian delegation. It was impossible to solve problems of such importance in so short a time.

The Commission's brief discussions could only supply the General Commission with the flimsiest basis for discussion. The German delegation, therefore, maintained the reservations already submitted, and could not vote for the insertion of the Sub-Committee's report in the general report.

M. GORGÉ (Switzerland) stated that his delegation was in full sympathy with the spirit of the Belgian declaration. In the matter of the limit mentioned therein, the Swiss delegation would have preferred a lower figure — for instance, 1,200 kilogrammes. This point — extremely important for Switzerland — might be indicated in a footnote to the Belgian declaration.

M. MASSIGLI (France) regretted that General Piccio, who had been present at the Sub-Committee's meetings, had not submitted technical observations, and had reserved any remarks likely to throw suspicion on the technical value of the document in question until the plenary meeting of the Commission.

As regards the part played by aircraft against fortifications, he feared that General Piccio had not read the whole of the relevant passage in the report. He would ask him to refer to it. The Italian delegation had criticised the insertion of a figure indicating the large tonnage of existing machines, arguing that the machines in question were as yet merely being tested. Actually, these figures were of great interest, being indicative of the present tendencies of aviation, and at all events proved that, where air forces comprised such machines, they were considered more suitable for certain purposes than the existing machines. The report further indicated that, for certain purposes, a crew of five was the maximum. It did not say that five men were in every case necessary. Lastly, the question of what conditions were most favourable to the blowing up of munition depots was a matter for technicians.

The Netherlands delegate had said that it was impossible to know in advance who was the aggressor. He noted this statement, indicative of a particular state of mind, which threw singular light on certain discussions. He was fully aware that this state of mind was indeed disquieting as far as the future work of the Conference was concerned.

In conclusion, he would like to make it clear that the figures contained in the Sub-Committee's report were purely indicative. Perhaps it would be better to say this at the beginning of the report. In the actual text, the note on this point only appeared at the beginning of Chapter III.

Similarly, the French delegation thought it would be well to state that certain of the technical indications given in the report in no way bound certain delegations as to the figures which they were prepared to accept.

Mr. DULLES (United States of America) said that his delegation was in favour of inserting the Sub-Committee's report in the Commission's report. It was a good thing to supply the General Commission with concrete data. He was sure that a few moments' conversation would suffice to convince General Piccio that the figures given in the Sub-Committee's document could be justified and explained. The word "justified" did not necessarily mean that the delegations which favoured the Sub-Committee's report demanded the maintenance of the machines referred to in the report. They merely stated that such machines existed. Those who had criticised the report had quoted only the highest figures, ignoring many details of equal importance, such as the following paragraphs: II, 2, third paragraph; III, B, third paragraph; IV, first paragraph. The report must be considered as a whole; as such it would be most useful to the General Commission.

General Piccio (Italy), in reply to M. Massigli, pointed out that, in view of the gulf which separated the French from the Italian point of view, he had considered agreement impossible. For this reason he had refrained from speaking in the Sub-Committee, merely stating his position in plenary session.

As regarded the action of aircraft against permanent fortifications, there seemed to be a contradiction between the first and the following paragraphs of III A. Moreover, as regarded crews, it was stated that certain aircraft must be capable of carrying a crew of at least five persons.

He would emphasise once again that none of the mobilisable units in any existing air arm possessed the machines referred to in the report.

M. LANGOVOY (Union of Soviet Socialist Republics), in reply to certain delegations, stated that he had from the first questioned the adoption of the Sub-Committee's report. If upon a vote the Commission were to decide that this document should not be inserted in its report to the General Commission, it would nevertheless figure therein as the expression of the opinion of certain delegations. If adopted, it would represent the opinion of the Commission as a whole.

Colonel DE BAURAIN (Poland) pointed out that his delegation had from the outset held that the limitation of bombing aircraft must, provided it were effective, be in the interests of all nations. Poland neither constructed nor purchased military aircraft of tonnage higher than that which the majority of delegations had indicated as the limit for specifically offensive aircraft.

He would point out that the designation of all military aviation as an offensive weapon, for the purpose of providing an ultimate guarantee against bombing aircraft, lost much of its value if the dangers which the civil aviation of certain countries might present to other countries were borne in mind.

Lastly, he drew attention to the fact that the problem of protecting civilians against aerial bombardment had been dealt with by a special committee composed of eminent jurists, which formulated important opinions to which reference had been made during the discussion. It would thus be astonishing if the technical experts of whom the Commission was composed were incapable of reaching definite and conclusive results through their examination of the problem, to which the Sub-Committee's work made a first and important contribution. He would therefore propose that the Sub-Committee's report be included in the Air Commission's report, the various delegations submitting any observations they might think fit.

M. VLIEGEN (Netherlands) considered that the Sub-Committee's report — purely documentary, since it contained neither conclusions nor proposals — should be included as it stood in the Air Commission's report to the General Commission; otherwise, the latter would have a very incomplete idea of the work done by the Air Commission.

Group-Captain BABINGTON (United Kingdom) felt that, if the report to the General Commission was to contain figures, it was indispensable that such figures should be borne out by a technical study. His delegation would therefore vote for the insertion of the Sub-Committee's report in the Commission's report.

M. MASSIGLI (France) desired that the discussion should end and a vote be taken.

*A vote was taken by roll-call on the proposal to insert the Sub-Committee's report in the Commission's report. The result of the vote was as follows:*

*For:* United States of America, Argentine, Australia, Belgium, Brazil, United Kingdom, Czechoslovakia, Estonia, Finland, France, India, Japan, Latvia, Netherlands, Norway, Poland, Portugal, Roumania, Siam, South Africa, Spain, Sweden, Yugoslavia.

*Against:* Afghanistan, Austria, Bolivia, Bulgaria, China, Germany, Hungary, Italy, Mexico, Turkey, Union of Soviet Socialist Republics.

*Abstained:* Denmark, Greece, Persia, Switzerland.

*The Commission decided, by 23 votes to 11, four delegations abstaining, to insert the report.*

M. LANGE (Norway) stated that his delegation, though it had voted for inserting the report, had very definite reservations to make on the figures contained therein, and the conclusions which might be drawn from these during the General Commission's discussions.

M. LANGOVOY (Union of Soviet Socialist Republics) stated that he would take no part in the detailed consideration of the report, but would make a general declaration at the end of the discussion.

Colonel RIAZI (Persia) had abstained from voting, but asked that the following declaration might appear in the Minutes:

"Since the Persian delegation has, since the outset of the Commission's work, made it clear that it is in favour of the abolition of military aviation provided civil aviation be regulated by international statute, it is impossible for it to express an opinion on the aggressive character of military aviation alone, since the General Commission has as yet taken no decision regarding civil aviation. For this reason, the Persian delegation has always abstained from voting."

M. SCHMIDT (Estonia) stated that his delegation had voted for the inclusion of the report in order that the General Commission might gain a more precise idea of the Air Commission's work. This vote did not, however, mean that it approved the figures given in the report, and the Estonian delegation reserved the right to express its views on this point before the General Commission. It approved the suggestion made by the French delegation — that the idea contained in the footnote at the beginning of III should appear at the head of the report.

M. FISCH (Germany) repeated that his delegation could not accept the Sub-Committee's report.

The PRESIDENT invited the Commission to begin the detailed consideration of the Sub-Committee's report on the Draft Resolution submitted by the French delegation.

General PICCO (Italy) stated that he would not take part in the detailed discussion of the report, as his point of view was very different from that set forth in the report.

He confirmed the reservation at the close of the statement which he had made at the beginning of the meeting and which was supplemented by the Italian reply in document Conf. D./C.A.13.

M. CONTOUMAS (Greece) thought there was a discrepancy between the first paragraph of the Sub-Committee's report and paragraph I (c) of the Commission's draft report to the General Commission. It was the doubt he felt in regard to these two paragraphs which had caused him to abstain from voting.

The PRESIDENT replied that the Rapporteur would note the point.

M. MASSIGLI (France), in pursuance of his previous suggestion, proposed the amendment of the third paragraph to read as follows :

" The Air Commission accordingly submits the following considerations and conclusions, which seem to it to meet the intentions of the General Commission. It would, however, emphasize that the figures given in the present document are purely illustrative and not final, and in no way bind the delegations in the matter of any proposals for qualitative limitation which they may submit elsewhere. "

M. SATO (Japan) pointed out that the footnote to the title of III had been placed there with good reason, since all the figures given in that chapter were merely illustrative. If the contents of this note were given at the head of the report, it would cover certain figures — for instance, those in Chapter II, which were statements of fact to which the text proposed by M. Massigli would not apply. The drafting of this paragraph should therefore be slightly amended.

M. MASSIGLI (France) pointed out that the second paragraph of Chapter I, did not accurately express the idea intended. He proposed the following wording :

" In particular, the effects of using air armaments cannot be the same in countries with a small area which have their vulnerable points near the frontier or which, having only land frontiers, are not separated from other countries by a wide expanse of water. "

*Adopted.*

*The footnote to the heading of III was deleted.*

*The Commission adopted the Sub-Committee's report as a whole, with the above-mentioned amendments and with various drafting amendments.*

M. MASSIGLI (France) read the following declaration :

" The French delegation considers that the statements of fact contained in the second part of the Commission's report show how impossible it is, from the technical point of view, to draw a clear dividing-line between defensive aircraft and those more specifically offensive in character. Even if it is possible to fix a limit above which aircraft cannot be considered purely defensive, there is, on the other hand, a whole zone covering both specifically offensive machines, threatening to the civil population, and machines indispensable for national defence.

" The French delegation would state that these were the considerations which led it to submit its proposals of February 5th last, and to fix, for the capacity of aircraft, two series of limits which it has reserved the right to define later : the first, the higher, above which no machine may be retained in a national air force ; the second, the lower, below which the use of military aircraft shall be subject only to those restrictions arising out of the quantitative limitation provided for in the convention to be drawn up, and as already laid down in the Preparatory Commission's draft.

" All the aircraft included between these two limits, whether their predominant character be offensive or defensive, may only be retained by national air forces, subject to a preliminary undertaking to place such machines at the disposal of the League of Nations in the event of the application of Article 16 of the Covenant. "

M. LANGVOY (Union of Soviet Socialist Republics) stated that, since the moment had come to draw conclusions from the Air Commission's work carried out in response to the three questions asked by the General Commission, the Soviet delegation desired to make the following declaration :

" 1. The Air Commission has not found it possible to recognise the soundness of the statements of certain delegations — among them the Soviet — that all military aviation comes under the head of the General Commission's questionnaire. Nevertheless, the Air Commission has not indicated the limits above which military aeroplanes acquire the properties which bring them into the category of armaments envisaged in the General Commission's questionnaire.

" 2. The drafting of certain articles, as well as certain statements in the report, which, moreover, exactly correspond to the declarations made by the different delegations, show that the majority of the Commission considers that air armaments are only offensive and threatening to national defence and the civil population when used for purposes of aggression or attack on specified localities. The Soviet delegation is firmly opposed to this point of view, considering that it is the technical characteristics of aircraft which determine the offensive properties of military aviation, and that the very existence of military aircraft, as well as of aerial bombs and other means of warfare intended to be dropped or launched from the air, are a danger to national defence and constitute a threat to the civil population.

" 3. For the above reasons, the Soviet delegation is unable to support the view that the offensive character of military aviation can only be determined after a review of the possibilities of its employment for defensive purposes. The Soviet delegation feels that it is the Air Commission's duty to determine the aggressive characteristics of air armaments and not to defend such armaments by mere reference to the various possibilities of their defensive uses.

" 4. The references to be found in the report as to the necessity for taking into account the geographical situation and special circumstances of each country, as well as atmospheric conditions and other factors, seem to the Soviet delegation to be an attempt to divert the questions asked by the General Commission into a discussion very far removed from the concrete task assigned to the Air Commission.

" 5. Without raising any objection to the point of view of the majority of the Commission that aeroplanes become more aggressive and dangerous to national defence and the civil population with any increase in their useful load (provided they be considered singly), the Soviet delegation, basing its view on a technical study of the properties of military aircraft, once more declares that all military aircraft clearly come within the three categories referred to by the General Commission. The Soviet delegation is thus the less able to support the view that only large bombing aircraft should be considered offensive, even if the figures contained in the report are only given for purposes of indication. It feels that such a classification is far removed from reality, and can but prejudice qualitative disarmament.

" In view of the foregoing, the Soviet delegation desires to state that the Air Commission, in confining itself to general statements, has failed to reply to the three questions asked by the General Commission. The Soviet delegation is therefore obliged to continue, in the General Commission, to defend its view as expressed in the present declaration as well as in earlier discussions."

## 26. DRAFT REPORT TO THE GENERAL COMMISSION (document Conf.D./C.A.29) (continuation).

M. BOHEMAN (Sweden), Rapporteur, recalled that the Italian delegation had proposed at the previous meeting a definition for horse-power and wing area.

In consequence, and in view of the few observations on the subject which he had received from the other delegations, he submitted the following text to be inserted in the report in place of the two paragraphs following the statement of the opinion of the nineteen delegations on unladen weight :

" As regards the definitions of horse-power and wing area, the Commission's discussions have shown that sufficient light has not yet been thrown on the technical aspect of these questions to enable a number of the delegations in favour of the three criteria to express an opinion on the definitions to be established for the two criteria mentioned above.

" As regards horse-power, certain of those delegations referred to the conclusions of the report of the Committee of Experts to fix rules for the adoption of a standard horse-power measurement for aeroplanes and dirigible engines (document C.259. M.115.1931), while the Italian delegation submitted a slightly different definition, which is annexed (Annex II) to the present report.

" As regards wing area, proposed definitions have been furnished by the Spanish and Italian delegations and figure as Annexes III and IV to the present report."

*Adopted.*

The following text proposed by the Rapporteur for the paragraph previously reserved relating to the statement of the nineteen delegations on unladen weight was adopted :

" The delegations in question added that they considered that both the horse-power and the wing area could be computed with sufficient accuracy (though less accurately than the unladen weight) to enable them to be effectively used in the comparative measurement of the useful load of aircraft and that three criteria, however imperfect, would be more reliable than a single criterion."

## TWENTY-FIRST MEETING

*Held on Wednesday, June 8th, 1932, at 4 p.m.*

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President: M. VALLOTTON.

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27. CONSIDERATION OF THE QUESTIONS REFERRED TO THE COMMISSION BY THE RESOLUTION OF THE GENERAL COMMISSION DATED APRIL 22ND, 1932 (document Conf. D./C.G.28 (2)): ADOPTION AT SECOND READING OF THE REPORT TO THE GENERAL COMMISSION (document Conf. D.123 [C.A.34(1)]).

The Commission proceeded to adopt at second reading its report to the General Commission.

In the course of the discussion:

Mr. DULLES (United States of America) stated that, while recognising that bombs of small dimensions could contain millions of microbes, he still thought that gas or bacteria projectiles could not be highly efficient in small quantities. He would not press his view, however, if the Commission thought otherwise, as the point was not of sufficient importance to call for a reservation.

On the proposal of M. CONTOUMAS (Greece), and to avoid confusion, the word "characteristics" was substituted for "criteria" in every reference to the General Commission's resolution of April 22nd.

With reference to the question of the relative value of the three criteria, he asked that the report should make it clear that the Commission had taken no decision as to the relative value of the three criteria.

M. BOHEMAN (Sweden), Rapporteur, explained that the intention had been to take into account the observation of the French delegation that the delegations in favour of three criteria were not agreed as to whether or no these should be regarded as of equal value.

M. MASSIGLI (France) proposed that a fresh paragraph should be added to the report explaining that the question of the relative value of the criteria could not be settled.

M. LANSKORONSKIS (Lithuania) had been absent when the vote was taken on the inclusion in the Commission's report of the Sub-Committee's report on the draft resolution submitted by the French delegation, but asked that his delegation might be recorded among those voting against.

M. LANGOVOY (Union of Soviet Socialist Republics) pointed out that at the beginning of Part IV due account should be taken of the point of view of the delegations which, like his own, considered that all aircraft could carry out bombardment and therefore came under the three heads of the General Commission's resolution.

Captain GREGORES (Argentine) reminded the Commission of his delegation's reservation that all such machines were necessary for purposes of national defence.

*The report was adopted at final reading, with the changes indicated and subject to drafting amendments.*

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## TWENTY-SECOND MEETING

*Held on Tuesday, June 14th, 1932, at 10.30 a.m.*

President: M. DE MADARIAGA.

### 28. TECHNICAL STUDY OF THE INTERNATIONALISATION OF CIVIL AVIATION.

The PRESIDENT, after recalling the discussion which had already taken place on this question,<sup>1</sup> reviewed briefly the documentation which had been distributed on the basis of the resolution adopted by the Air Commission on March 17th, 1932.<sup>2</sup> He then explained the lines along which he thought the discussion should be conducted.

He had, in his capacity of delegate of Spain, prepared the following draft basis of discussion:

" 1. The internationalisation of civil aviation — whatever its intrinsic advantages — is not entitled to figure in the programme of a Disarmament Conference save in so far as civil aviation is or may become a factor which must be taken into account either under the head of armaments or under that of security.

" 2. Under the head of armaments, civil aviation presents a certain importance as a subsidiary or auxiliary element for countries possessing military aviation, and as the only element capable of being used for military purposes for those which do not possess any military aviation.

" The Commission might endeavour to assess the value of these elements.

" 3. Under the head of security, civil aviation is virtually of no importance as long as military aviation exists in its present form. The position would be quite different if military aviation:

" (a) Should disappear entirely;

" (b) Should be strictly limited, more particularly by the abolition of aircraft above certain limits.

" The Commission might endeavour to assess the importance of civil aviation as an element threatening to security in these two hypotheses.

" 4. This study would probably tend to prove that the very existence of highly developed civil aviation constitutes an obstacle which would be sufficient to render impossible the abolition of military aviation or even that of machines above a certain limit, which abolition, in the opinion of certain delegations, is indispensable for the maintenance of peace.

" 5. In the hypothesis of such abolition being indispensable, it is necessary to consider the measures to be taken in regard to civil aviation, not only from the strictly technical standpoint of the advantages of an international organisation of aviation — which are considerable in themselves but lie outside the scope of the present subject — but also from the standpoint of international security.

" The Commission must then study a general groundwork for the internationalisation of civil aviation which, while safeguarding the intrinsic interests of civil aviation, would eliminate the obstacle which the existence of civil aviation not organised on international lines constitutes as regards disarmament.

" The Spanish delegation reserves the right, if necessary, to submit concrete proposals in the matter."

All delegations would, he hoped, agree with him as to the purport of paragraph 1. The only reason for which the Disarmament Conference should deal with the internationalisation of civil aviation was that this could play an important part, either directly or indirectly, in the matter of armaments or security. Indeed, this conception underlay the resolution adopted by the General Commission on March 16th, 1932.<sup>3</sup>

The affirmation in paragraph 2 was hard to gainsay. The importance of civil aviation could vary from nil to infinity, and the Air Commission might with advantage consider the various factors mentioned in this paragraph.

The third paragraph required closer attention, since it brought in a psychological factor. The object of the Disarmament Conference must rather be to maintain peace than to seek to prevent war. For this purpose, the psychological condition of the nations must be noted, and it would be well to consider the importance of civil aviation from the point of view of its menace to security, supposing military aviation were totally abolished or strictly limited.

<sup>1</sup> See Minutes of the second to fifth meetings of the Air Commission.

<sup>2</sup> See Minutes of the fifth meeting.

<sup>3</sup> See Minutes of the seventh meeting of the General Commission.

Civil aircraft were at present so inferior in numbers to military aircraft that it could scarcely be stated that, at the present time, they constituted an element of insecurity. If, however, the Disarmament Conference succeeded in preparing the way for total or even partial abolition of the most dangerous military aircraft, the existence of a strong civil aviation might automatically constitute such a psychological obstacle to the security of nations that, in the last resort, it would be impossible for the Conference to decide upon the abolition or limitation of military aviation. Internationalisation of civil aviation would be the sole solution of this serious problem.

As regards the fourth paragraph, technicians could not deny that the destructive powers of present-day military aviation, especially when exercised over crowded urban districts, was infinitely greater than the defensive possibilities of such districts. In the absence of very strict measures against civil aviation, it was impossible totally to abolish military aviation.

Lastly, as regarded paragraph 5, it was only necessary to refer to document Conf. D./C.A.9, prepared by M. de Brouckère.<sup>1</sup> From the purely technical point of view, organisation on international lines was essential. Civil aviation, already in itself virtually international, should become so legally. The Commission must study the means of internationalising civil aviation with a view to security as much as to disarmament.

If the Air Commission were prepared to adopt as a basis for discussion the ideas set out in the document which he, as delegate of Spain, had just submitted, the Spanish delegation would submit a second memorandum defining the general principles of internationalisation. Only then could the Air Commission lay before the General Commission a definite scheme which would enable the Conference to make an appreciable advance in the direction of abolishing military aviation.

*The discussion was adjourned until the next meeting.*

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## TWENTY-THIRD MEETING

*Held on Wednesday, June 15th, 1932, at 10.30 a.m.*

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President: M. DE MADARIAGA.

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### 20. TECHNICAL STUDY OF THE INTERNATIONALISATION OF CIVIL AVIATION (*continuation*).

The PRESIDENT, in accordance with his proposal made at the close of the previous meeting, submitted, in his capacity of delegate of Spain, the following memorandum embodying the general principles proposed with a view to permitting the total or partial abolition of military aviation:

#### " I. — *Intrinsic Interests of Aviation.*

" 1. The development of aviation is still at an experimental stage necessitating the financial support of Governments, which it receives at present chiefly for military reasons (orders placed with works, subsidies to air lines, etc.). It will be necessary to provide for financial support equal to the sum of the present national subsidies — apart from the question of the saving that might result from the international organisation of such subsidies — in order not to hamper the development of civil aviation in the future.

" 2. This first principle having been admitted, the international organisation of aviation cannot but have a beneficial effect on its development. The co-ordination of national efforts would make it possible gradually to eliminate the financial and technical obstacles which at present stand in the way of such development. In particular, co-operation in regard to researches would make it possible to achieve results rapidly with a minimum of expenditure.

" 3. A detailed study of the distribution of the financial efforts required and a technical study of the lines to be established — on which such distribution depends — must be left to a later stage. In all probability, the international financial organisation would be on the model of the Universal Postal Union. Nothing need be settled yet as regards the organ or organs of management (international aviation directorate, company or companies constituted on a "régie" system, etc.).

#### " II. — *Interests of Peace.*

" 1. The principle of intervention by an international institution (referred to hereinafter by the initials I.I.A.) at every stage of aviation activity must be applied as generally and as comprehensively as possible.

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<sup>1</sup> " Objective Study on the Internationalisation of Civil Aviation and on any Other Measures calculated to prevent the Signatory States from utilising Civil Aviation for Military Purposes."



" 2. Material.

" (a) Nationality :

" All air material without exception shall become international and shall bear the mark I.I.A. Aircraft shall have a port of register but no nationality. Aircraft shall be allocated to the various ports of register by the I.I.A.

" (b) Construction :

" Schemes and estimates for construction shall be approved by the I.I.A. The quantities and types of machines shall also be decided by the I.I.A. Factories for construction shall be placed under the control of the I.I.A. The repair of machines shall be under the control of the I.I.A.

" (c) Movements and statistics :

" The services of the I.I.A. shall keep up to date the statistics of the movements of aircraft all over the world, so that they may know at any moment the situation with regard to machines in use or on the ground.

" 3. Personnel.

" (a) Duties of aviation personnel :

" Pilots, observers, navigators, navigating mechanics and wireless operators (*i.e.*, the navigating personnel) shall be regarded strictly as international personnel. They shall take the oath before the international authorities, undertaking in particular never to use their machines for military purposes, save in the cases specifically laid down by the League of Nations.

" They shall be explicitly exempted from all military obligations, even in time of war, by the States of which they may be nationals.

" (b) The military training of navigating aviation personnel shall be prohibited. Aviation schools shall be placed under the control of the I.I.A.

" (c) The navigating personnel and the personnel of aerodromes shall be so distributed by the I.I.A. that not more than one-quarter of such personnel shall at any moment or in any country be of the nationality of the country in question.

" (d) The services of the I.I.A. shall keep up to date the statistics of the movements of the navigating personnel all over the world, so that they may know at any moment the situation with regard to the said personnel."

The Commission was, of course, free to discuss the question in any way it thought fit, but he would suggest that delegations which had submitted definite schemes should explain the reasons underlying their proposals.

M. VOUGT (Sweden) ventured to recall the following memorandum submitted earlier in the discussion on this question :

" In conformity with the speech made to the Conference by its first delegate, the Swedish delegation, in its memorandum of February 19th, summarised as follows its proposals relating to air forces :

" "Total prohibition of military aviation, and manufacture, preparation and training in connection therewith ;

" "Internationalisation or strict international control of civil aviation."

" On March 17th, the Air Commission recommended the delegations to transmit to the Bureau of the Commission concrete proposals and explanatory statements relating to the internationalisation of civil aviation and any other measure calculated to prevent the signatory States from utilising this aviation for military purposes. In accordance with this resolution, the Swedish delegation ventures to submit to the Commission the following suggestions which might be taken into consideration in the course of its work :

" The essential problem appears to be that of subjecting aviation to effective control without at the same time hampering the free evolution of air transport towards its economic ends. The global limitation of civil and military aviation has already been discussed by the Committee of Experts on Civil Aviation of Sub-Commission B, which unanimously agreed that global limitation ' could not be effectively applied . . . without hampering the development of civil aviation and therefore without involving undesirable economic consequences '. Such a method would merely bind national aviation more closely to the State, whereas civil aviation by its very nature tends to assume more and more international forms.

" What is required is to find a method of controlling civil aviation by a study of its characteristic tendencies. Military aviation has hitherto developed purely on national lines, whereas civil aviation is more and more assuming international forms. It is this consideration which more than anything else has given rise to the idea of the ' internationalisation ' of civil aviation.

" The Committee of Experts of Sub-Commission B emphasised the desirability of establishing a line of demarcation between civil and military aviation ; ' in this way ' , they said , ' civil machines will become capable of a maximum economic return and will become less and less useful for military purposes , and the activities of civil aviation can be developed in full freedom without being subordinated in any way to the military requirements of the different countries ' . The work of the Organisation for Communications and Transit has clearly demonstrated that it is by tightening the bonds between the aviation of the different countries that air transport may be given a new impetus . The work accomplished with a view to the creation of a postal service system is of particular interest in this connection .

" The internationalisation of civil aviation might involve either the amalgamation of undertakings for commercial aviation or the establishment of a closer collaboration between such undertakings , which would still retain a certain economic independence . But no internationalisation of civil aviation , whether radical or the reverse , could give a complete guarantee against the seizure and utilisation by a national Government of aircraft in its territory at any moment when it intended to break its contractual obligations in regard to the organisation of peace . Internationalisation could thus only form the basis of a control designed to prevent the signatory States from utilising civil aviation for military purposes . Such a control should , it would seem , give the international authority to be set up by the Disarmament Convention the means of discovering , as soon as possible , all systematic or other efforts to transform civil aeroplanes into military aeroplanes .

" Naturally such control , if it is to give all possible security , should be of the strictest nature . Possibly , indeed , to conceive of a control of this kind may be going too far , in the view of certain States which were opposed during the preparatory work to measures of strict supervision . The point at issue here , however , is the control of civil activity , not of military institutions for which very strict supervision might involve a risk of the discovery of legitimate military secrets . Nevertheless , it seems desirable to make this control as flexible as possible by carrying it out in such a way as to be exercised , not so much over the Governments of the various States , as within an international organisation for civil aviation to which the national commercial air services would be affiliated .

" The following measures might be considered to constitute the minimum of internationalisation capable of promoting effective control :

" In the convention to be concluded by the Governments with a view to preventing the use of civil aviation for military purposes , provision would be made for the creation of an international organisation to which the air-transport undertakings of all States would be affiliated . This affiliation of undertakings would be a condition required by the Governments before granting concessions or subsidies . By means of this international organisation , and subject to the controlling authority to be set up by the Disarmament Convention , as methodical and permanent a supervision of civil aviation as possible would be exercised . It would notify the above-mentioned authority in the event of the discovery of a breach of State obligations in regard to civil aviation .

" The national undertakings would entrust to this international organisation the administration of the airports and ground organisation of the whole system of civil aviation . This organisation would have to arrange for an interchange of employees of different nationalities , particularly between the more important airports .

" The supervision of aircraft and of their utilisation would also be exercised by the pilots and other navigating staff , who would , for purposes of supervision , be placed entirely under the authority of the said international organisation . This organisation would arrange , wherever possible , for an inter-State exchange of pilots and other employees , including the clerical staff . The pilots would thus be distributed over the whole system in such a way as to place supervision at all times in the hands of an international organisation . Possibly an international status might be established for the professional corps of pilots .

" The costs of carrying out this system would be met by contributions from the contracting States . These contributions might be fixed at a certain percentage of the grants which the States allow each year to aviation undertakings or , where no such grants are made , they might be calculated according to a scale to be drawn up for the purpose .

" Obviously , control of the kind contemplated above would become more and more practicable as civil aviation , obeying the law of its being , assumes more and more international forms .

" Further , the proposed international organisation , when it has come into being , would certainly — apart from its supervisory functions — demonstrate its usefulness by promoting the rationalisation of the international air-transport service , which , generally speaking , does not at present appear to be organised so as to provide maximum efficiency either from the economic standpoint or in regard to transport facilities ."

He added that the Swedish proposal was mainly designed to facilitate the discussion of the problem raised by the General Commission.

What did internationalisation mean? The Commission was faced with the difficulty that no branch of human activity was quite comparable to civil aviation, for which there was no precedent.

Means must therefore be sought by which civil aviation could be so regulated as to prevent its use for military purposes. He was aware that the radical measures necessary for the control which it was desired to establish might raise objections. Obviously, however, such control was essential, for the goodwill of the nations was not enough. Their reciprocal fear and suspicion led to the massing of armaments, and there was no denying that one of the main causes of this fear was the menace of air armaments to civil populations.

Hence the idea of internationalisation. The best method of organising this internationalisation was a question to be discussed. One means suggested was the French proposal for a fusion of already existing organisations. The Swedish delegation was not yet in a position to form a definite opinion on that point. Even if it were possible to realise in such a radical way the idea of internationalisation, the creation of an international right of ownership in respect of commercial aviation did not provide the necessary guarantee against the confiscation and utilisation by a Government of the aeroplanes on its territory, at the moment when it intended to break its contractual obligations. It seemed necessary, therefore, to consider in detail the question of control, and it was in connection with this matter that the Swedish delegation had desired to raise, in particular, the question of the rôle played by living material — that was to say, personnel — which was much greater than that of inanimate material. The Swedish delegation had noted with great satisfaction the predominant place given by the Spanish delegation in its second memorandum also to the control exercised by the pilots and staff in civil aviation, and he drew attention also to the fact that Lord Cecil had just expressed in a Geneva newspaper his acceptance of the idea to create an international organisation with pilots enjoying an international status.

The Swedish delegation was only anxious to interest those engaged in aviation in the cause of peace and, to this end, was fully prepared to join in the discussion of the problem, from the standpoint either of total or partial abolition of military aviation.

M. FIERLINGER (Czechoslovakia) pointed out that the three proposals — those submitted by the Swedish, French<sup>1</sup> and Spanish delegations — before the Commission, all of them dealing with the main aspects of the problem, had several salient points in common. He was not for the moment prepared to cast his vote in favour of any one of them; all three seemed to him equally valuable.

Undoubtedly, all the delegations present realised the interdependence of military and civil aviation. Even some of those who were not as yet in favour of control of the latter had acknowledged that civil aircraft requisitioned by military forces must be controlled. The two problems of restricting military and civil aviation should, however, be treated separately, since the limitation of one should not affect that of the other. The internationalisation of civil aviation should be studied, and even achieved, before any final decision was taken as to the qualitative and quantitative limitation to be applied to military aviation, and the Commission could be sure that any steps which it took towards such internationalisation would inevitably have repercussions on the limitation to be applied to the military air forces of the world.

The Commission must in principle aim at creating an international organisation with a common policy, as regards civil aviation for all countries, though, in view of the very different interests in the different continents, it might be better to provide a separate organisation for each.

How would such an organisation function? He agreed with the statement in paragraph 3 of the Spanish memorandum to the effect that the financial and economic aspects of the question, although of cardinal importance, should be dealt with last. Various combinations were possible: a cartel, a pool, or the amalgamation of the various national companies into one great union. In any case, the first question to be discussed was that of material. How was civil aircraft to be registered? What categories of aircraft would be covered by the international regulations envisaged? How would the manufacture of material be supervised? On the important question of personnel, how would international certificates for pilots and administrative officers be issued?

M. Fierlinger considered that amalgamation must, to be satisfactory, involve the internationalisation of capital. This would mean an extensive study of the policy of the various Governments and the fixing of rules for the allocation of subsidies.

All these salient points were touched upon in the three proposals before the Commission, which should, he thought, form the subject of a general discussion before any attempt was made to co-ordinate them to form a basis for subsequent studies.

<sup>1</sup> See document Conf. D.99, page 23.

**Sir Thomas WILFORD** (New Zealand) thought that, from the European point of view, the internationalisation of civil aviation might or might not be workable, but that, from the world point of view, it was ridiculous. He had waited since February in the hopes of voting for abolition in some form, and hoped that he would not have to wait much longer.

**M. BRANDENBURG** (Germany) deplored the uncertainty of the Commission's position, due to the fact that it did not know what action the Disarmament Conference would take concerning military aviation.

The accomplishment of the Commission's task would be easier if it were certain that the Disarmament Conference would abolish all military aviation and bombing from the air in general. It would then be comparatively easy to remove all possibility of civil aviation being used for military purposes. Germany was, as the Commission knew, in favour of this solution and had submitted proposals to this effect.

The question became more complex when all discussion thereof must be based on several different hypotheses regarding the degree and methods of disarmament. The approbation of economic circles could scarcely be expected were the Commission to decide to hamper the liberty and possibilities of development of a young branch of the transport industry without succeeding, in exchange, in ridding the world of the nightmare of military aviation. It was still more important to bear this in mind in that the nations, as yet abounding in military air squadrons, had ample possibilities for preventing entirely the use of a country's civil aviation for military purposes.

He would draw the Commission's attention to the measures taken by the Conference of Ambassadors in 1926 with a view to preventing the use of German civil aviation for military ends. These measures had rendered such use of civil aviation impossible and had entirely limited it to its civil and peaceful functions. The measures in question were :

- (1) The prohibition of all aircraft, armoured, armed, protected or equipped for military use ;
- (2) The keeping of registration lists to be placed at the disposal of the League of Nations and recording all air material and all pilots, including those with licences covering the flying of small sporting machines only ;
- (3) The publication of all information given in these lists ;
- (4) The prohibition of all public subsidies to sporting aviation, whether granted by the Reich, the States or the communes ;
- (5) The prohibition of pilotless aeroplanes ;
- (6) Limitation of the participation in a private capacity of members of the Reichswehr and Navy in sporting aviation to a very small number of persons — thirty-six at the maximum — and only at their own expense ;
- (7) The laying down of restrictions regarding air traffic and the construction of airports in the neutralised zone ;
- (8) The prohibition of the maintenance of police aircraft.

If such provisions were generally adopted, the restriction of air traffic in neutral zones could quite easily be entirely abandoned, and if, over and above this, bombing from the air were prohibited, everything humanly possible would have been done to render civil aviation harmless, whatever the Conference's decision on the subject of military aircraft. He therefore proposed that the Commission should first discuss this system, as being easy to adapt to any subsequent decisions of the General Commission.

By this means tangible results would be obtained more rapidly than by a discussion of the internationalisation of civil aviation based on the hypothesis of the total abolition of military aviation ; this method would be more profitable even than the discussion of a world trust with sovereign rights, the working of which would fundamentally affect the principle of international law under which each State had sovereign rights over the air above its own territory.

During the development of a means of transport which was still young, the free interplay of forces, free competition and the individualistic spirit of the pioneer were indispensable. The discussions by the Committee of Experts of the Organisation for Communications and Transit, reproduced in document Conf. D./C.A.15, brought out the tremendous obstacles with which the Commission would be faced were it to envisage the organisation of such a world trust.

Thus the Commission would be wiser for the moment to abandon proposals for internationalisation, and to confine itself to a study of the measures likely to render civil aviation harmless — measures already practised in a certain number of countries.

The PRESIDENT pointed out that, so far as the effect of civil aviation on security was concerned, the Swedish and Czechoslovak delegates' observations were in harmony with paragraph 3 of the first Spanish memorandum submitted at the last meeting. The German delegation, on the contrary, held a directly opposite view. Some agreement on this point must, if possible, be reached, or, failing this, the Commission must at least express its view on the importance of civil aviation from the point of view of security: (1) in the case of countries deprived of military aviation, and (2) in that of countries possessing military air forces. It must go on to decide on its importance: (a) should military aviation disappear entirely, (b) should it merely be limited or (c) should the *status quo* be maintained.

The German delegate had argued that all difficulties could be overcome if the proposals made by the Conference of Ambassadors in 1926 were accepted. Some delegations would, he knew, not be prepared to do this, and a study of the technical aspects of the question would prove that M. Brandenburg's theory was not tenable.

He suggested that an ordered discussion could best be achieved by the adoption of a definite programme of work, carried out, perhaps, on the basis of the first Spanish memorandum, the various paragraphs of which covered all the proposals submitted.

M. LANGOVOY (Union of Soviet Socialist Republics) felt that civil aviation, capable of transformation into military aviation, the abolition of which was advocated by his delegation, was obviously worth consideration.

He agreed with the German delegate that the regulations laid down by the Conference of Ambassadors in 1926, which were substantially the same as the proposals submitted by the Soviet delegation, would provide adequate safeguards.

The Soviet delegation considered that it was above all essential to prevent any possibility of transforming civil into military aircraft. It considered this more important than internationalisation, for, though not actively opposed to such a measure, it considered its organisation rather outside the Commission's sphere.

He disagreed with M. Fierlinger's view that the question of civil aviation should be studied prior to that of the abolition of military aviation.

Sir Thomas WILFORD (New Zealand) asked to hear the arguments submitted by those delegations who considered internationalisation practicable.

M. MOUCHARD (France) would not go into the arguments in support of his delegation's proposal, since these were fully set out in the memorandum submitted on April 14th, 1932 (document Conf. D.115), and in subsequent documents. He pointed out that his delegation did not envisage the internationalisation of civil aviation as a whole, but only of air transport as opposed to private aircraft. In this connection, a few definitions might be useful.

As regarded the point raised by M. Fierlinger and M. Langovoy, who disagreed on the question whether civil aviation should be discussed before or after military aviation, this matter was not for the Commission to decide, since the General Commission's resolution required it to undertake a study in connection with future decisions "to be taken concerning the abolition or reduction and limitation of military aviation."

Turning to the question of the programme of work, he would point out that the Bureau, which had already given effect to the first three paragraphs of the resolution adopted by the Air Commission at its fifth meeting, had yet to deal with the fourth. In the matter of the programme itself, the French delegation accepted the first memorandum, submitted by the Spanish delegation as a basis for discussion.

M. FIERLINGER (Czechoslovakia) thought that M. Langovoy had misunderstood his views on the interdependence of civil and military aviation. These, though closely connected, should be dealt with separately; in order to make his meaning clearer, M. Fierlinger recalled an earlier mention by the French delegation of two limits, the first covering a qualitative limitation of military aviation independent of any decision regarding civil aviation, the second, a lower limit conditioned by any decision that might be reached in that respect.

Colonel RIAZI (Persia) pointed out that the Air Commission had almost unanimously recognised that military aviation, while valuable for purposes of defence, constituted a formidable aggressive weapon. The technicians had also recognised that certain civil aircraft could be transformed into bombers at very short notice. If the study of the internationalisation of civil aviation could have followed as the conclusion of the abolition of military aviation, many delegations would undoubtedly have voted in favour of some restriction of civil air navigation. If it had been decided to abolish military aviation, his delegation would advocate such internationalisation; since, however, the former question had been adjourned, it was more difficult to take a decision on the second.

His delegation considered that, if the Conference were to confine itself to quantitative and qualitative limitation of military aviation only, it could logically content itself with a mere study of the means of subjecting civil aviation to close supervision in order to prevent its use for military ends.

The PRESIDENT felt that M. Mouchard was right in thinking that the terms of the General Commission's resolution gave priority to discussion of the internationalisation of civil aviation.

With reference to the interdependence of the two problems of the abolition of military aviation and the internationalisation of civil aviation, he would point out that the very fact that some delegations considered that the former could not be settled before the latter, while others were of the contrary opinion, proved that there was only one problem, and that aviation must be regarded as a single unit, suitable either for civil or for military purposes. He asked the Commission to avoid dogmatic discussions on priority and to aim at presenting constructive arguments.

Would the Commission accept the first Spanish proposal as a basis of discussion, or would it prefer some other draft ?

*The Commission unanimously adopted the first Spanish proposal as its basis of discussion.*

M. BRANDENBURG (Germany) pointed out that the Commission's terms of reference, laid down in the General Commission's resolution, empowered it to discuss not only internationalisation but "any other measure calculated to prevent signatory Powers from using this aviation for military purposes". He would therefore submit, as a formal proposal, the suggestions he had made earlier in the meeting.

#### 30. APPOINTMENT OF A RAPPORTEUR DURING THE ABSENCE OF M. BOHEMAN.

On the proposal of the PRESIDENT, *the Commission approved the appointment of M. LANGE (Norway) as Rapporteur during the absence of M. Boheman.*

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## TWENTY-FOURTH MEETING

*Held on Friday, June 17th, 1932, at 10.30 a.m.*

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President : M. DE MADARIAGA.

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#### 31. TECHNICAL STUDY ON THE INTERNATIONALISATION OF CIVIL AVIATION (*continuation*): EXAMINATION OF THE BASIS OF DISCUSSION SUBMITTED BY THE SPANISH DELEGATION.<sup>1</sup>

M. D'AVILA LIMA (Portugal) said that his delegation always favoured, in principle, any concrete and progressive plan to achieve world peace. Though there had been no question, in the early stages of the Conference, of more than a reduction or limitation of armaments, certain prohibitive and absolute solutions had been suggested — among them, for instance, the French, Swedish and Spanish proposals, together with the document (Conf. D./C.A.9) drawn up by M. de Brouckère. The Portuguese delegation, in its turn, had some observations to make.

Obviously, radical changes must be made in the legal sphere. He would point out that Grotius' conclusions on the *mare liberum* were not yet valid where the air was concerned ; in other words, it could be stated with truth that the international regulation of the upper air took the form of the *aer clausus*. The laws at present in force were drawn up on this basis. For instance, the International Commission for Air Navigation, to which some thirty countries belonged, had recently approved the dictum that air space belonged exclusively to the countries above whose territory it was situated. The Ibero-American Convention on Air Navigation, which originated under Spanish auspices, had given a like decision. The Portuguese delegate realised that the decisions of these organisations were not the last word on the subject and that an endeavour could be made to draw up fresh regulations. He would be willing to do this provided that extreme solutions were not envisaged. It must be remembered that the Commission was concerned with the problem from the point of view of peace, and only incidentally with its commercial aspects.

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<sup>1</sup> See Minutes of the twenty-second meeting.

The Portuguese delegation thought that the solution proposed in paragraphs 1 and 2 of the Spanish document seemed, at first sight, fairly rational. The later paragraphs, especially that dealing with the intrinsic interests of civil aviation, presented more delicate problems. His delegation considered that, in the technical study on the internationalisation of civil aviation submitted by the Spanish delegation, the idea of an organisation similar to that of the Universal Postal Union was too modest. On the other hand, the programme for the proposed new international air organisation seemed too ambitious.

Lastly, Portugal, whose geographical situation and the extent of whose colonial possessions placed her in a special position, could give a thoroughly impartial opinion on the matter. Thanks to the distribution and extent of these possessions, she could offer a valuable contribution, in the form of air bases, for the purposes of international co-operation on an equitable basis, to which she was ready to contribute in the interests of the whole world. The Portuguese delegation reserved the right to offer further observations later, should it think fit.

M. DE BROUCKÈRE (Belgium) had only one word to say on the first part of paragraph 2 of the Spanish proposal. In approving its terms, the Commission would merely reiterate an old truth in new words. He would prefer, in the final draft, to give even stronger expression to the considerable importance which civil aviation undoubtedly possessed from the military point of view.

As regards the second part of the paragraph, he was afraid that, if the Commission adopted a procedure to which it had more than once resorted, it would merely become involved in a long preliminary study and, after interminable discussions, would only reach vague conclusions as to the exact degree of danger which civil aviation might present from the military point of view. This was not, he thought, the method envisaged by the Spanish delegation. He considered that the Commission need only prove that the danger presented by civil aviation from the military point of view was both serious and certain; an interpretation of that danger in figures was perhaps less important. The danger was inherent in the very nature of things, for it was difficult to conceive of civil aircraft which could not, sometimes with slight modifications only, be used for military purposes; it was, above all, due to the systematic fashion in which countries constantly contrived to construct civil aircraft efficacious for war purposes.

Civil aviation had developed under the aegis of war. Before 1914, it was almost unknown, and its sudden and formidable development after 1918 was due to the experience of the war years and especially to the determined desire of all States to develop it. This desire took the form of subsidies to the original war aircraft workshops, suddenly deprived of their clientèle. It was possible that the States which acted thus generously were not always prompted by entirely disinterested motives, and that the military advantages presented by this development of civil aviation might not have been entirely absent from their minds.

An examination of the financial and technical organisation and the legal status of civil aviation served to show that it was entirely dominated by national military interests. The international status of civil aviation was based on certain conventions, the earliest and most important being that signed at Paris on October 13th, 1919, a few months after the conclusion of the Versailles Treaty, and drafted by the Aeronautical Commission of the Peace Conference. Thus the Convention was drawn up under the influence of war in a Commission which was still entirely dominated by war ideas. In these circumstances, was it surprising that, breaking roughly with an established legal tradition, national preoccupations should carry the day, to the detriment of the international point of view?

Civil aviation had begun to develop after the war, but long before the war jurists had turned their minds to its regulation by law. Many conferences had been held to deal with the question, and two opposing schools of thought had arisen. The first, prompted apparently both by the jurists' studies and by pure common sense, viewed air space as international, the theory being that a new law, overruling all national law, should operate in this sphere.

The second school of thought had gained ground as the menace of war approached. The air space above each country became, for some, the property of that country; for others, a sphere over which the country had sovereign rights. Some were anxious to give aeroplanes a nationality, like ships; others wished to abolish or at least reduce to the barest possible minimum the new international law regulating aviation. A comparison of the draft Convention drawn up at Paris in 1910 and the Convention of October 13th, 1919, would show to what extent the war had hindered the development of the first thesis and favoured the realisation of the second. Possibly it was this circumstance which had given rise to the clear and undoubted danger of the use of civil aviation in time of war.

The Paris Convention of 1919, and those which followed it, admitted the principle of the sovereignty of the State, that of the nationality of the aeroplane and that of the reduction to a minimum of international regulation.

In theory, the principle of sovereignty had to some extent been waived. The principle of "innocent passage" had been admitted for foreign aircraft. Authorisation for this was, however, only granted in exceptional cases and was subject to so many restrictions that this right of flight above the territory of another country was purely nominal — the right for a tourist aeroplane occasionally to cross a territory on condition that it did not fly over particular zones and conformed to certain restrictions.

These facts proved to what extent the danger of the use of civil aviation for war purposes had been enhanced.

As regards the question of nationality, an aeroplane was not comparable to a motor-car but to a ship, and, in order to render it difficult to acquire nationality, far more formalities were required than in the case of ships. The regulations still in force in the majority of countries, and an as yet unrevised article of the 1919 Convention, demanded that an aeroplane should, before it could acquire nationality, belong entirely to persons of the same nationality; if it belonged to a company, two-thirds of the directors must possess the same nationality as the aircraft. This provision, introduced into the Paris Convention from military motives, had since then met with considerable opposition. There had been a desire to mitigate it, and when all the ratifications to the amendment actually proposed had been received it would be modified in the sense of the Pan-American Convention, which stated that "the registration of aircraft shall be carried out in conformity with the special laws and provisions of each contracting State".

This would mean, however, that the various national legislations, with their conflicting provisions, would regulate the laws applying to aircraft. An aeroplane which, in the great majority of cases, crossed several territories in a single flight would find itself subject to various forms of sovereign rule, and could only cross the various territories if all the countries had authorised it to do so. At present, a machine whose very flight constituted an international action, and for which international regulation was indispensable, found itself hampered by the existing legal situation.

Various associations had made successive efforts to remedy this admittedly impossible situation. Their multiplicity proved the futility — at any rate partial — of the efforts made by each of these societies. There was an element in the regulations governing aviation which checked the tendency of such societies towards increased internationalisation, limiting their activity and preventing them from obtaining the results desired.

For instance, the International Commission for Air Navigation, which should have the right to draw up international regulations for aviation, had merely the right to select the call signs and the marks to be placed on aircraft, to regulate the issue of certificates of airworthiness, to decide on the standard log-book to be carried, to regulate lights and signals, to fix regulations for air traffic, and to indicate the minimum conditions required for obtaining pilots and navigators' certificates and licences. It could produce international maps, fix aerial ground marks and, lastly, centralise and distribute meteorological information. Everything which was likely to guarantee peace, to prevent the abuse of civil aviation or the easy or voluntary construction of civil aircraft with military characteristics and the training of military aviators under pretext of developing civil aviation — all of which might contribute to rendering civil aviation a really peaceful organisation — was omitted from international legislation, a circumstance which singularly enhanced the danger with which the Air Commission was called upon to contend.

Thus, civil aviation had, both technically and commercially, developed along military lines. Though it might depend upon commercial receipts — considerable in the case of certain lines — it depended in the main for its development upon subsidies. This practice had resulted in the formation of a clientele consisting of the organs granting the subsidies — namely, the Governments — who considered that, in exchange for their money, they should be in a position to derive all possible military profit from civil aviation.

In many countries the subsidies were granted on condition that aeroplanes had certain military characteristics and that the civil aviation personnel undertook certain military duties. The Commission which had met at Brussels during the preparatory work for the present Conference had asked, as long ago as 1927, that such practices should be abolished in order to lessen the danger of the use of civil aviation for war purposes.

Were civil aviation purely commercial and nothing more, things would be different. It required safe, convenient and economical working machines. This meant that the lighting equipment, upon which aeroplanes were more and more dependent and which they could no longer do without, must be developed and rendered uniform. Military aircraft, on the other hand, in order to advance into the enemy country, must have its own methods of flight and be independent of the lighting equipment. In view of the considerable number of practically useless lines created and the clearly inadequate development of lighting equipment, it was impossible not to feel that the fact that this lighting equipment was useless from the military point of view — in spite of its value for civil purposes — had brought about the present situation.

The same preoccupations governed the organisation of the lines. These lines, international in their very essence, since they crossed the territories of several countries, were, almost without exception, operated by national companies. Their aeroplanes flew over national territory in virtue of sovereign rights and could not fly over neighbouring territory without obtaining concessions in exchange for other concessions, in accordance with the terms of a complicated network of agreements subject to all sorts of conditions. Almost all these conventions betrayed purely military preoccupations; flight was authorised but on conditions permitting the creation of interlinked systems between militarily allied nations,



commercial interests taking second place. This must continue until this host of agreements was replaced by certain common regulations bringing about close co-operation between the national companies acting as if they were the various branches of a single organisation — in other words, until the establishment of great international companies.

Remedies had been sought ; by means of pools the receipts from the passenger and goods traffic had been paid into a common fund, but until subsidies, too, were pooled this remedy would be inadequate. Further co-operation must be achieved by pooling, not only the quite inadequate receipts from passenger and goods traffic, but also the sole important contributions — those received from the States.

Mention was often made of the marvellous development of civil aviation. True, the number of lines was increasing ; but had the real value of civil aviation, notably in a restricted area like that of Europe, increased to the same extent ? Was it certain that the methods adopted had provided a practical means of communication ? Were there many business men who travelled by air to gain time ? No, because night flying was not practised, and because, except for great distances, the railway was the more rapid means of transport. If civil aviation were to be really serviceable, the lines must be operated throughout the year and by night as well as by day. An effort must be made to provide a few well-equipped lines rather than the multitude of lines and the surplus aircraft at present existing. The use of aviation for commercial and postal services must be developed by means of night flying, by improvements in the lighting equipment, and by the creation of the necessary connections to admit of rapid transport.

A precise and detailed Swedish scheme proved that, thanks to the judicious organisation of the air-mail service, a letter posted in the evening could be received by the first delivery on the following morning in any large town in Western Europe. The service would practically pay its way and the subsidies could, from the first year on, be considerably reduced. All that was required was co-operation. The experiment had not been made because the companies could only obtain subsidies on condition that they preserved their national character, and because subsidies were subject to considerations of war needs.

It was legitimate to conclude that civil aviation presented to-day a great danger and also that — though this was perhaps outside the field covered by paragraph 2 under discussion — it would not be difficult to remove this danger were internationalisation to be attempted once more in the legal, technical and commercial field.

The Air Transport Co-operation Committee, of which he had been the Chairman, had recently dealt with the question. A large number of the delegates had, from the purely commercial and civil point of view, agreed that it was urgently necessary to attempt internationalisation. A certain number of the delegates of important countries had, on the other hand, refused to consider any steps in this direction.

The arguments used by the latter had failed to convince M. de Brouckère. Obviously, there were certain drawbacks in internationalisation. Certain commercial interests would not be furthered, nor would certain military interests predominant at the present time. The international firm of Mercury, Mars and Co. was a powerful establishment against which it was difficult to compete. Over and above this, there was the fear of novelty.

M. de Brouckère understood that certain delegates had declared in the Air Commission that they did not wish the question of civil aviation to be even studied. This attitude had convinced him ; a case must be very strong before a Commission could refuse to examine it, and before it applied to it the old and hackneyed formula only too often applied to new truths : " The question does not arise ". His reply was : " When the interests of peace are at stake, the question does arise, and must stand ".

M. VLIËGEN (Netherlands) agreed with the opinion expressed by the Soviet delegate, at the previous meeting, as to the sense of the question asked in paragraph 2 of the Spanish proposal. It was quite possible to take a decision in the matter of military aviation without being influenced by the question of civil aviation. The Air Commission's discussion had proved this. What was impossible, so to speak, was the contrary. The attitude of certain delegations, which seemed in no hurry to submit precise suggestions regarding the reduction of air armaments, was such as to hamper very considerably the present discussions.

The Netherlands, with a relatively developed civil aviation, would find it very difficult to make a move towards rendering the various civil aviations interdependent without proof that this would be valuable ; his delegation, though ready to make all concessions, must be certain that any sacrifices made would really and effectively serve the cause of disarmament.

The prohibition of air bombardment was the keystone of air disarmament. If air bombardment were not abolished, it was useless to sacrifice the independence of civil aviation. If it were true that, given the abolition of military aviation, civil aviation might acquire a disquieting value from the military point of view, it was, on the other hand, certain that, by comparison and above all in opposition to military aviation, the fighting value of civil aviation fell to practically nil. Consequently, if the prohibition of bombing aircraft at least were achieved, the Netherlands delegation was ready to adopt any measures

likely to prevent civil aviation from replacing these "*avions maudits*". It was even ready to accept internationalisation, organised in such a way as not to hamper the technical and commercial development of civil aviation.

Nevertheless, he felt certain that, in the matter of security, the same results could be attained by another means. The Netherlands delegation would willingly take part in the examination of any new suggestion, but would for the moment merely draw attention to Article 28 of the draft Convention.

If, on the other hand, military aviation were maintained, the abolition of the nationality of civil aviation, as conceived in the French and Spanish proposals, could only result in an increase of military influence over aviation in general; this was not the object of the Disarmament Conference.

To conclude, he would ask the Powers possessing air forces if their feeling of security was, in present conditions, such that they desired no change. He did not believe that this was the case, and hoped that they would co-operate to bring about effective disarmament.

M. BRANDENBURG (Germany) thought that, if the Commission intended to establish the basis of an international trust for civil aviation affecting the most elementary principles of international law, it would be well to act with all due caution. The possible military value of civil aviation must be discussed with an open mind, and a clear distinction must be drawn between the countries already possessing military aviation and militarily trained crews, and those which had none. The German delegation had drawn up a questionnaire for this purpose (document Conf. D./C.A.38) concerning paragraph 2 of the draft basis of discussion submitted by the Spanish delegation. He would ask the Commission to take due note of this document, the terms of which were as follows :

" The Air Commission is requested, before pursuing its study of the above-mentioned basis of discussion, to elucidate the following questions relating to the military value of civil aircraft.

" I.

" 1. What civil aircraft possess any military value from the offensive point of view :

" (a) When a country possesses a military air force and crews trained in military aviation ;

" (b) When a country has no military air force or crews with military training ?

" 2. What are the limits of capacity of these aircraft according to the criteria laid down in the report submitted by the Air Commission to the General Commission (document Conf. D.123 of June 8th, 1932) ?

" II.

" 1. What civil aircraft possess any military value for national defence :

" (a) When a country possesses a military air force and crews trained in military aviation ;

" (b) When a country has no military air force or crews with military training ?

" 2. What are the limits of capacity of these aircraft according to the criteria laid down in the report submitted by the Air Commission to the General Commission (document Conf. D.123 of June 8th, 1932) ?

" III.

" 1. What civil aircraft possess any value as auxiliary military instruments :

" (a) When a country possesses a military air force and crews trained in military aviation ;

" (b) When a country has no military air force or crews with military training ?

" 2. What are the limits of capacity of these aircraft according to the criteria laid down in the report submitted by the Air Commission to the General Commission (document Conf. D.123 of June 8th, 1932) ?

" IV.

" What is the value of civil aircraft used for military purposes against specifically military aircraft :

" (a) When manned by a crew trained for the military purposes for which the civil aircraft is employed on military lines ;

" (b) When manned by a crew which has no training in military aviation ?

“ V. ”

“ What is the military value of the navigating personnel of civil aviation (commercial air pilots, touring air pilots, observers or navigators, wireless telegraphists and air mechanics) :

“ (a) When trained in a military air force ;

“ (b) When not trained in a military air force, but possessing a general military training ;

“ (c) When without any military training ? ”

Group-Captain BABINGTON (United Kingdom) pointed out that, though one of the objects of internationalisation was to free civil aviation from existing restrictions, its essential end was to demilitarise such aviation. There was a certain contradiction and fresh element of complication here, as the elimination of one group of restrictions would merely give birth to another. In order to avoid this difficulty, the Commission should not lose sight of the military aspect of the question, with which it was alone concerned. The United Kingdom delegation, although it had not submitted any proposal regarding the internationalisation of civil aviation, was none the less ready to take part in the discussion of the problem and to make practical suggestions thereon.

The various documents before the Commission proved that internationalisation was a most complex question with multiple ramifications. The majority of these proposals were, however, general in character and no precise or complete scheme had up to the present been submitted. It would hardly be possible for the delegations to give an opinion on such a complex question as that of the internationalisation of civil aviation without some knowledge of the exact significance of the term. The United Kingdom delegation further felt that it was profitless to continue the general discussion without receiving fuller details.

Certain proposals had already received almost unanimous approval. This constituted the first step in the direction of internationalisation. The provisions of Article 28 of the draft Convention must, however, be borne in mind.

An immense number of points remained to be settled before the general idea of internationalisation could be discussed with any profit. The United Kingdom delegation therefore suggested that the Commission should begin by reaching some agreement on the detailed aspects of the problem in order that, fortified with a knowledge of these, it might later undertake a general study.

The PRESIDENT replied that it was to his mind an advantage for the Commission to consider, in the first place, the general aspect of the problem. A concrete scheme of internationalisation could not as yet be envisaged, as the Commission was discussing a question which was still problematical—namely, to what extent civil aviation was subsidiary to the State's armaments and an element of insecurity. When the Commission had formed an idea on this point, it could estimate whether internationalisation was likely to remedy the evils and what type of internationalisation would be best fitted to do so. If the General Commission adopted the Air Commission's suggestion, then only would the latter Commission be able to submit a more precise scheme. It would be unwise at the present stage to undertake a concrete study ; the general outlines of the question must first be considered.

M. DE JOUVENEL (France) approved the method suggested by the President. The Commission must avoid losing its way in a mass of detail. Further, it could not ignore the important preliminary work carried out under the auspices of the League.

The French delegation accepted the view expressed by the Netherlands delegate that the internationalisation of civil aviation must be a condition of disarmament. The question should be considered from this point of view and not from that of the technical and commercial improvement of civil aviation, which, in spite of its undoubted interest, was not within the competence of the Air Commission.

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## TWENTY-FIFTH MEETING

*Held on Wednesday, June 22nd, 1932, at 10.30 a.m.*

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President : M. DE MADARIAGA.

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32. TECHNICAL STUDY ON THE INTERNATIONALISATION OF CIVIL AVIATION (*continuation*):  
EXAMINATION OF THE BASIS OF DISCUSSION SUBMITTED BY THE SPANISH DELEGATION  
(*continuation*).

Mr. RIDDELL (Canada) pointed out that the proposals before the Commission, although not very clear, seemed to imply two distinct undertakings: the first, the organisation of civil aviation under one great official international enterprise in time of peace; the second, the placing of the resources, in men and material, of this organisation at the disposal of the League of Nations in case of war.

The first undertaking would be much more far-reaching than anything that had yet been achieved in the field of transportation. No such monopoly had, at least in modern times, even been contemplated, much less attained. The magnitude of the undertaking and the multitude of interests involved, as well as the great variety of needs which civil aviation was serving in various parts of the world made it evident that the first proposal was a very bold and ambitious one — much more so, at any rate, than that set out in paragraph 4 of Article 28 of the draft Convention.

Mr. Riddell pointed out that great enterprises in commercial or industrial organisation had usually been built up gradually, slowly extending their activities from country to country and continent to continent. In the present case, however, a study of the various proposals would serve to show that, though other continents were mentioned, the whole plan had been conceived to meet a European political situation and to handle various European air-transport problems. In a continent such as Europe, with highly organised road and rail communications, civil aviation had an economic future only in long-distance high-speed transportation, which of necessity involved flights over two or more countries in the majority of organised air routes. If wasteful competition were to be avoided, the possibility of instituting some form of international co-operation or amalgamation of organisations, as contemplated in paragraph 4 of Article 28, might be carefully considered.

Nevertheless, if it were desired to apply such proposals to continents such as North America, they lost whatever virtue they might possess. Civil air activities in Canada, for instance, were almost entirely national, intimately connected with the settlement and development of a new country of great extent; they included such matters as crop dusting, protection of forests, survey by aerial photography, freight transportation in default of rail, road or water transport, police work and national air-mail routes. International transport was of very secondary importance, there being only four international air connections at present in operation.

To turn to the second part of the proposals before the Commission, the Canadian delegation considered that the placing at the disposal of the League in times of emergency of personnel and equipment controlled by an official international air enterprise would constitute the setting up of a super-State. The Disarmament Conference was not convened to achieve this end, but the Canadian delegation felt that the Commission would be working towards it were it to approve the principles involved in the proposals for the internationalisation of civil aviation.

Lastly, as regarded security — the only reason for discussing civil aviation at a Disarmament Conference — the Canadian delegation was not convinced that internationalisation would provide much greater security than that furnished by the draft Convention as it stood. An agreement between the contracting parties not to requisition in their territories civil aviation material belonging to the proposed "International Air Transport Union" would not seem to offer much greater guarantees than a simple agreement not to use national civil aviation material for war purposes.

M. DE JOUVENEL (France) said that the natural respect of a newcomer for the competence of the members of the Air Commission tempted M. Laurent-Eynac and himself to continue merely to listen, as they had done at the previous meeting, and to vote in support of M. de Brouckère's view and the Spanish delegation's proposals.

Nevertheless, the technical objections raised by the United Kingdom delegate, together with the multiplicity of preliminary questions submitted by the German delegation, the problem so frankly expressed by the Netherlands delegate and the Portuguese delegate's speech led the French delegation to consider that all were fundamentally concerned with one and the same problem, to which a clear reply must be given without delay. This problem might be expressed somewhat as follows: Was the internationalisation of civil

aviation really indispensable for the reduction of military armaments and to what extent was it involved by such reduction ? Such was the very precise question to which a reply was, he felt, essential.

His delegation was not surprised that, at the outset, some doubts should be felt on this score. The Canadian delegate had depicted a situation which could readily be understood. He had expressed the question with frankness and sincerity : undoubtedly, part of the world could quite reasonably ignore the problem now before the Commission. Conditions in the two Americas differed from those in Europe ; they were not condemned to the over-armament which was Europe's inheritance from centuries of war. There were not in America, as in Europe, nations living cheek by jowl, forced, to a certain extent, to mistrust one another or at least to take precautions against one another. Thus the American countries need only consider this problem in the measure — happily a large one — in which they were concerned with the reduction of armaments in Europe and the well-being of the old world.

M. de Jouvenel understood very well the doubts which were felt as to the necessity of such internationalisation. The idea was rather new in Europe itself. The French, who had taken the initiative in the matter, had met with opposition in their own country. Propaganda carried out over four years by ex-service men, workers' syndicates and university students, grouped in the *Comité d'action pour la Société des Nations*, had been necessary in order to convert first the parties of the left, then the others, to this idea. He had always been impressed by the fact that each time the origin and future of this scheme had been explained audiences had been converted to it. He hoped that this would be the case to-day, if the delegations would allow him briefly to review the road followed by those who were in favour of the idea of the internationalisation of civil aviation, at least so far as transport was concerned.

One fact was striking, namely, that, of recent years, the race for armaments had been resumed with overwhelming intensity. And for which armaments ? Not for naval armaments in Europe, since the Washington Convention had greatly reduced the size of the big warships in the European fleets. Not for land armaments, since certain nations, among them France, had much reduced the period of military service. The real burden which was unceasingly swelling the various national budgets was the race for air armaments. This was natural, being the price paid for technical progress.

The Commission would perhaps remember the small aeroplanes of 1913, of tonnage from 600 to 800 kilogrammes. Such machines then cost from about 100,000 to 150,000 French francs at the present rate. Nowadays, 4-ton machines were an everyday affair. The French budget figures showed that the cost of such aeroplanes was something over 1,800,000 francs — from twelve to fifteen times more than in 1913, which explained why the small air budgets of those days had increased tenfold. Nor were matters at a standstill. Certain countries already had 15-ton machines, either in service or on order, and, if he had calculated rightly, such aeroplanes should cost 10 million French francs. Thus, the ratio of the cost of the 1913 aeroplane to that of the 15-ton machine was that of 1 to 100. Further, a 27-ton aeroplane had flown the European sky ; it had been spoken of as a monster, but every custom began by being considered monstrous, and became current nevertheless. Obviously, when one great country possessed an aeroplane of this type, other Powers would wish to follow suit. What would this involve ? A race in armaments budgets which could but lead the States to ruin, and the French delegation considered that if the Conference did not reduce air armaments, and put an end to this race, it would have failed to fulfil its object and have avoided the real question at issue.

The budgetary aspect was not the only important one ; even general ruin was the least of the catastrophes threatening the States. These huge machines, with their high tonnage, their transport capacity and radius of action, were not intended to fly along the fighting-line, but to cross beyond it. Their very power to a certain extent condemned them to fly not over armies but over civil populations ; their field of action was the open township and the capital.

The delegations of all countries had agreed that chemical, bacteriological and incendiary warfare must be abolished. That being so, the means for carrying out such warfare must also be abolished, for it was open to question whether the Conference, by merely issuing prohibitive regulations, would have done anything really concrete. It must not be forgotten that most countries had been represented at The Hague. Nevertheless, certain events had taken place in the world since then. Could any nation, could any individual forget what had happened, during the world war, to the papers signed at The Hague ?

The Conference must look to the future, and military chiefs must not be left in control of arms which might tempt them to successes to-morrow far surpassing those of yesterday. When these military chiefs assumed the responsibility for the fate of the nations, was the Conference sure, were it to give them on the one hand, a list of prohibitions, and on the other the armaments enabling them to throw over every such regulation, that they

would choose the former ? They could not do so ; in all honesty, they would have the right not to do so, to say that had there been a real desire at Geneva to prohibit chemical, bacteriological, incendiary and air warfare, air bombardment and the massacre of civil populations, the instruments thereof would have been abolished in fact and not only on paper.

For this reason M. de Jouvenel considered it essential that air bombardment, other than of actual battlefields, air bases and long-distance gun emplacements, which were adjuncts of the battlefield, should be abolished. For this purpose, a maximum tonnage for military aircraft must be fixed ; this the Conference could and should do.

Was it possible, however, to limit the tonnage of civil aircraft ? Was it possible to say that science must come to a stop, that there should be no further progress in human relations ? This was impossible, and led to the inevitable conclusion that all that could be abolished must be abolished, while all that could not be abolished must be internationalised.

It was clear that civil aircraft — he would not repeat all that M. de Brouckère had so ably said, nor dwell upon the unanimous conclusions of the special commissions — by the very fact that their tonnage was perpetually on the increase, were destined to be used as bombing aircraft in time of war. If they were not internationalised, the nations lacking heavy transport machines or great air industries — above all, the small nations — would be at the mercy of those possessing a large force of transport aircraft and a large industrial equipment.

A point arose in this connection with which he would deal very frankly, in order to dispel a suspicion which the Conference seemed to harbour. Each time the German delegation rose to speak, someone said : " This is against France ". Each time the French delegation spoke, someone said : " Against Germany ". This must be brought to an end; otherwise an atmosphere precluding all reconciliation would be created. Only that morning he had, to his regret, read the summary of an article appearing in a newspaper of a friendly country — Brazil — and in a paper which should be particularly well informed, voicing the suspicion that France was seeking superiority over all other nations. Had the figures not been taken into consideration ? He would appeal to the experts on the Commission ; the figures for civil aviation in France and Germany were the same, each country possessing about 1,100 civil aircraft. As far as he knew, the subsidies granted by the French State to civil aviation at present exceeded the sum of those granted by the Reich, the States and the towns in Germany to civil aviation.

Supposing — he was ignorant of the actual facts — that industry in Germany was at present superior to that in France. French subsidies were, on the other hand, greater than those granted in Germany. Such superiority, however, was very short-lived, and no one could tell whether to-morrow the situation would not change ; during the war it had done so constantly. What was certain was that the effectives of the two countries were the same — that the French subsidy was greater, that France had a chance to progress, that the country was obviously not out to seek superiority, but rather to renounce it. The other civil aviations of Europe were all smaller in numbers ; the subsidies they were granted were also lower than those granted by the two countries he had mentioned, with the possible exception of Russia, regarding which no precise information was available, as she did not willingly share her secrets with other countries. The French Government would joyfully renounce this superiority, for it was essential to do so if the armaments of Europe were to be reduced.

He hoped that he had succeeded in giving a clear sketch of the lines along which the French view had developed. He thought that opinions must harmonise at this point, for the reasoning followed was only logical.

In these conditions it should not be difficult for the delegations to come to an agreement. The main problem was the following : if the States wished — as was undoubtedly the case — to reduce their air armaments, the tonnage of military aircraft must be limited ; if they wished to limit the tonnage of military aircraft they must, since it was not possible to do likewise with civil aircraft, internationalise at least civil air transport. Consequently, to refuse to internationalise civil aviation in this form would make it impossible to reduce air armaments and to limit to a maximum the tonnage of military aeroplanes.

In order to make the matter quite clear, and to set out the problem before the Commission in a form which would leave no room for doubt, the French delegation submitted the following proposals (document Conf. D./C.A.40), in the hope that the Air Commission would adopt them and forward them to the General Commission :

" 1. Absolute prohibition of aerial chemical, bacteriological and incendiary warfare.

" 2. Prohibition of aerial bombardment apart from the field of battle or air bases and long-range artillery emplacements.

" 3. Fixing of a maximum tonnage per unit (*unladen weight*) for military aeroplanes. Limitation in the number of military aeroplanes in excess of this tonnage which are essential for strictly defensive purposes and placing of these machines at the disposal of the League of Nations.

- “ 4. Continental internationalisation of commercial transport aviation.
- “ 5. Fixing on a similar basis of maximum tonnage per unit for non-internationalised civil aeroplanes.
- “ 6. Corresponding measures concerning the trade in and private manufacture of arms.”

These proposals followed one another in logical sequence, and the French delegation was convinced that, if the Disarmament Conference were to adopt them, it would have stopped the race for armaments, it would have assured and guaranteed the safety of nations, and, whatever the results of the rest of its work, it would have created a red-letter day and rendered a service to mankind.

The Marquess OF LONDONDERRY (United Kingdom) thanked M. de Jouvenel for his speech and congratulated him on the valuable contribution to the Commission's work in the form of a concrete proposal and for laying down lines along which the Commission could proceed with its task, whether in plenary committee or in sub-committee.

The original proposals made by the French delegation for the internationalisation of civil aviation in connection with the reduction or abolition of military aviation had been so far-reaching that the United Kingdom delegation had been unable to accept them. They had, however, been modified in the second proposal of April 14th (document Conf. D./115.), and the third version just submitted was undoubtedly worthy of every consideration. The United Kingdom delegation would give the proposals its closest attention and would, after the requisite study, submit its opinions regarding them. More than that he could not for the moment say.

To turn to the argument raised by Mr. Riddell, the problem of the internationalisation of civil aviation was, on the contrary, one which touched all parts of the world and upon which it was the right and duty of the Commission to express a very definite opinion; aviation was developing so rapidly that the day of close interconnection between all countries throughout the world was not far distant.

M. de Jouvenel had referred to the race for armaments, calling to mind bitter recollections of the catastrophe of 1914, a repetition of which everyone was determined to avoid. It could not, however, be justly stated that such a race was in progress to-day. M. de Jouvenel had, in particular, stated that expenditure on air armaments was of special importance. Here Lord Londonderry could not agree. The air budgets of some nations — certainly that of the United Kingdom — were less at the present time than they had been for some years past. Nothing would give his delegation greater pleasure than to see the reduction of air armaments, and he was gratified to feel that this sentiment was uppermost in the minds of all the members of the Commission.

He fully agreed with M. de Jouvenel's argument that the establishment of international rules for the protection of civil populations was essential in order to put an end to the increasing menace presented by air armaments. On the other hand, however, aviation must be developed in the interests of the whole of mankind. Any rules formulated must therefore be so drafted as to protect civilians against air attack but at the same time to avoid hampering the development of science.

He agreed that it was important to limit and restrict the size of the machines which could carry devastation into civilian areas, and he was sure that a satisfactory figure could be achieved. At the same time, he felt that there was no need to restrict the size or development of the machines, which meant so much to civilian transport.

It was often argued that international rules counted for very little; history provided some flagrant instances of their violation. To his mind, however, such rules would be of the greatest value in the post-war world provided that the closest possible attention were devoted to the way in which they were drawn up. He was confident that it was not beyond the Conference's capacity to come to some agreement on a scheme by which weapons hampering the progress of civilisation would be removed, greater understanding created between the nations, and security and confidence — so essential to prosperity — promoted throughout the world.

The PRESIDENT pointed out that, of the six items in the proposal submitted by M. de Jouvenel, the first three were outside their Commission's terms of reference as laid down in the General Commission's resolution. His points 4, 5 and 6, however, came within the Commission's competence and could be discussed under the head of paragraphs 4 and 5 of the adopted basis of discussion.<sup>1</sup>

The reference to the first three points submitted by M. de Jouvenel was, however, justifiable in that military and civil aviation could not be considered apart, and, in view of this, reference might be made to them in any report on civil aviation submitted to the General Commission. Suggestions for controlling civil aviation must obviously be based on various hypotheses as to the action to be taken in regard to military aviation, and M. de Jouvenel's first three points might well form the basis of one or more such hypotheses.

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<sup>1</sup> See Minutes of the twenty-second meeting.

Although the United Kingdom delegate had not actually said so, he had implied that proposals for internationalisation were contrary to the intrinsic interests of the development of civil flying. This was not necessarily the case, and the danger could easily be avoided if the regulations to be adopted were carefully drafted.

He would point out that the international regulations fell into two categories, the first covering peace, the second war-time. In the case of war the ordinary rules of war would of course prevail, and it was therefore useless — as had been proved by bitter experience — to envisage any new regulations incompatible with those.

Mr. DULLES (United States of America) said that the points raised by Mr. Riddell, with whose conclusions he concurred, very largely covered his delegation's point of view.

M. de Jouvenel had recognised the regional character of the question of the internationalisation of civil aviation, stating that in some parts of the world — he had specified North America — it would not necessarily apply.

He had said, too, that all States had a vital and direct interest in the progress of disarmament. This was only too true, and, if the Commission's discussions should prove that a scheme for internationalising civil aviation were practicable and valuable as promoting disarmament in Europe, the United States Government would give it its sympathetic consideration in an endeavour to find for its own civil aviation, within constitutional limits, a method of control to prevent its use for direct military purposes.

To turn to the question of subsidies, the technical study submitted by the Spanish delegation<sup>1</sup> stated that "the development of aviation is still at an experimental stage, necessitating the financial support of Governments which it receives at present chiefly for military reasons". In his speech delivered at the last meeting, M. de Brouckère had indicated that he held similar views. The United States delegation was anxious to make it clear that no such subsidies were paid by its Government, though the assistance given by means of mail contracts and organised airways was sometimes referred to as an indirect subsidy. He drew the Commission's attention to the statement to this effect given on page 10 of the "Collection of Replies to the Questionnaires concerning the Organisation of National Civilian Forces" (document Conf. D.C.A.8). It was noteworthy that the direct and indirect aid given by the United States Government to its railway and motor transport traffic in the early stages of their development far exceeded any assistance now given to civil aviation.

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## TWENTY-SIXTH MEETING

*Held on Friday, June 24th, 1932, at 10.30 a.m.*

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President : M. DE MADARIAGA

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### 33. TECHNICAL STUDY ON THE INTERNATIONALISATION OF CIVIL AVIATION (*continuation*) : EXAMINATION OF THE BASIS OF DISCUSSION SUBMITTED BY THE SPANISH DELEGATION (*continuation*).

M. BRANDENBURG (Germany) said that the French delegate's remarks made at the previous meeting covered important points which, following on the preparatory work carried out by the Technical Commissions, were actually before the General Commission.

He would refrain from dealing with the question of chemical and bacteriological warfare, which was not so closely connected with military aviation as with the weapons which the other Commissions were studying. He must, however, protest against the arguments raised by M. de Jouvenel, when he said that to refuse to internationalise civil aviation in the form proposed would be to render disarmament in the field of military aviation impossible. This was going too far. There was obviously no objection to the carrying out by the Air Commission of the task assigned to it by the General Commission and to its discussing, conditionally, all the possible means likely, in the case of the abolition or limitation of military aviation, to prevent the reappearance, in the form of converted civil aircraft, of the armaments which had been abolished or limited.

The German delegation was fully prepared to take part in such work, but considered that the internationalisation of civil aviation was rendered the less desirable in that the

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<sup>1</sup> See Minutes of the twenty-third meeting.



proposals submitted to the Commission up to the present showed a marked tendency effectively to militarise civil aircraft, envisaging their use, if required, to combat war by warlike means. Such a step would divert civil aircraft from their commercial task and encourage the development of aircraft only half suited to their true use. Such a method would result not in the demilitarisation but the militarisation of civil aviation.

To avoid this danger, the German delegation had proposed the general acceptance of the provisions which the Conference of Ambassadors in 1926 applied to civil aviation in Germany. In this connection, M. Brandenburg referred to his declaration of June 15th,<sup>1</sup> and asked the French delegate if he thought it possible that the disarmed countries, whose civil aviation was still, under the Treaty of Versailles, subject to many severe restrictions, would be ready to accept fresh restriction of their civil activity without the certainty that decisive measures would in fact be taken in the field of military disarmament — the Conference's proper sphere.

So far as he knew, there had been no question of subordinating the problems of naval disarmament to that of the internationalisation of commercial navigation, still less of taking such measures, for example in connection with railways or motor transport. He had himself submitted proposals intended to deprive civil aviation of all threatening characteristics, but he would not go so far as to suggest that those who opposed these proposals — which were nevertheless those adopted by the experts at the Conference of Ambassadors — would be responsible for wrecking all prospect of disarming military aviation.

He was equally opposed to another idea to which expression had frequently been given of late. Under the pretext that certain non-European nations were against the internationalisation or international control of civil aviation, it had been stated that the scheme should be confined to Europe. If the Air Commission considered that civil aircraft should, in certain conditions, be considered as weapons, to subject these weapons to control in Europe only was impossible. Moreover, it would be difficult to know which countries were exclusively European States. The fact that the intervention of non-European war material had been a decisive factor in the last war could not be questioned. There could therefore be no question of limiting to Europe only the control of the most rapid and mobile of arms. Internationalisation, if brought into force, must cover the whole world, for one civil aviation subjected to political handicapping could not effectively compete against another which had full liberty to develop.

Germany would not oppose any reasonable control of civil aviation, provided that definite progress was made in the matter of military disarmament. Unfortunately, no appreciable results had so far been achieved in this field. A concrete proposal had been submitted by President Hoover and warmly supported by Italy, but could the same be said of M. de Jouvenel's proposal regarding bombing aircraft? His scheme mentioned the prohibition of air bombardment, but subject to the following restriction: "apart from the field of battle or air bases and long-range artillery emplacements". Thus, not only bombers, but bombs too, would continue to exist, and a future war could only lead to what M. de Jouvenel had so strikingly described when he had pointed out that abolition on paper was not enough, and that, if chemical, bacteriological, incendiary and air warfare and the bombing and massacre of civil populations were to be prohibited effectively, the instruments thereof must be abolished.

M. Brandenburg was less convinced that the measures advocated by the French delegation constituted a concrete means of disarmament in that Germany, disarmed, had developed her civil air bases to meet the needs of civil aviation, and that these bases and airports were situated in the most populous regions and in the immediate neighbourhood of large towns. Such, for instance, was the case with the Tempelhof Aerodrome, at Berlin itself.

Certain delegations considered that only large aircraft constituted a menace. If that were so, the States would undoubtedly have economised on costly special bombing aircraft, confining construction to large civil aircraft only — an economic reserve of powerful offensive weapons. Militarists had not, however, done so, knowing full well that the larger the machine the less the total fighting material carried; two low-tonnage machines could carry a heavier useful load than a single machine of the combined tonnage of the two. Further, it was well known that the risk diminished with every subdivision into smaller units, while the manœuvring capacity, the ease of handling in flight and the value from the military point of view in general increased correspondingly. He would here refer to the technical explanations furnished time and again by the various delegations during the Air Commission's study of qualitative disarmament.

To conclude, he would request the Commission to take into consideration other measures than internationalisation, this being, in his opinion, an ineffective and, indeed, a dangerous course to pursue. He would once again draw the attention of the delegations to the provisions applied by the Conference of Ambassadors to Germany and to the dangers

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<sup>1</sup> See Minutes of the twenty-third meeting.

to which attention had been drawn by the United Kingdom delegate at the previous meeting: the Commission must avoid taking decisions likely to hamper the technical development of a means of world traffic which tended more than any other to contribute to closer relations between the nations.

M. FIERLINGER (Czechoslovakia) was glad that the German delegate was not opposed to the idea of an international control of civil aviation. Moreover, there was no question, at the moment, of accepting a binding formula in advance. The Commission had merely to discuss and define certain ideas which would lead to a solution, failing which its work must necessarily be vague and fruitless.

It had already been admitted that civil aviation could, in certain circumstances, become a dangerous weapon. The limit to be fixed for the abolition of military aviation depended to a large extent upon the degree of control exercised over civil aviation. The Air Commission should avoid going back over accepted ground and should concentrate upon seeking a practical solution along empirical lines. It must consider the international status of pilots and personnel, their war and peace time duties, the control and just apportioning of material which was compatible with good technical and commercial administration. Results in this field would depend, in a large measure, upon the goodwill of the States. The task involved was not to create a rigid world system, but to give more definite shape to already existing germs of international organisation. The idea of a world system could not be considered until the earlier stages had been completed.

President Hoover's message contained no proposals in this respect, but he supposed that the President of the United States of America had not wished to prejudge European interests. The hesitation shown by certain delegations might tend to increase the doubts of those who considered civil aviation a potential weapon. If these fears were to be dispelled, civil aviation must not be allowed to develop along military lines. The only possible method was to envisage a system of internationalisation taking full account of commercial, economic and technical needs.

As regards the question of method, the preparation, in sub-committee, of a synoptic table of all the questions raised by the various schemes submitted would not be without value. In any case, the problems of internationalisation and control should take precedence over all others; no other question could be profitably considered until they were settled.

M. HERRERA (Spain) submitted, on behalf of the Spanish delegation, the following draft reply (document Conf. D./C.A.39) to paragraphs 2 and 3 of its basis of discussion:<sup>1</sup>

"Admitting the possibility of a classification of civil aircraft,<sup>2</sup> one finds the following: aircraft for purposes of transport, posts, forestry and photography, to which should be added school and sports machines.

"Between these various categories of civil aircraft, no such precise differences exist as are found between the different classes of military machines. At the same time, whatever their use, civil aircraft require certain general constructional features which render the machines more or less satisfactory for the various purposes of military aviation.

"Aircraft designed for purposes of transport are constructed specially with a view to lifting a big useful load, and their most likely military use would be bombing and the transport of troops and warlike material. Postal aircraft, which are required to have a wide radius of action and a high rate of speed, could be most satisfactorily employed, from a military standpoint, for purposes of liaison. Aircraft constructed for forestry supervision and photography possess characteristics similar to those of scouting planes, while school machines can be used both for civil and military instruction. Sports machines are not, generally speaking, of use for military purposes.

"It is clear, then, that aircraft employed in the various civil aviation services can, by a relatively simple adaptation, be utilised in the principal military aviation services, except for chasing and fighting in the air, which demand quite special characteristics (ceiling, climbing speed, horizontal speed, capacity for easy handling in acrobatic flying and at the same time carrying a big useful load) which aircraft built for civil purposes do not possess.

"These two military activities — chasing and fighting in the air — are, however, at the same time the most essentially defensive, whereas those for which civil aircraft are most adaptable (bombing, transport, scouting or liaison) have, or may have, an offensive character or constitute an auxiliary element in offensive action. It may be affirmed, then, that the military use of civil aviation material is more efficacious for offensive than for defensive purposes in the air.

<sup>1</sup> See Minutes of the twenty-second meeting.

<sup>2</sup> That of the "Taschenbuch der Luftflotten, Abteilung Handel und Verkehr".

“ On the basis of these general considerations, the value of civil aviation material in relation to its utilisation as an air armament may be defined as follows :

“ (a) Such material may increase the offensive power of military aviation for countries possessing the latter, but cannot appreciably increase its defensive capacity ;

“ (b) For countries who do not possess any military aviation, the utilisation of civil aviation material may supply the elements of an air arm peculiarly adapted to offensive action.

“ As regards security, the effects of civil aviation material would appear to be as follows :

“ (a) Should military aviation be abolished entirely, the civil aviation material of countries in which the latter is most highly developed, especially as regards transport aviation, would constitute a menace to the security of the neighbouring countries, since no country would possess material for aerial defence.

“ (b) Should military aviation be abolished above certain limits, civil material might take the place of the military aircraft prohibited, and thus constitute a menace to the security of other countries whose defensive military aviation, for chasing or fighting purposes, was not sufficiently developed.

M. Herrera explained that the most important act arising out of this document was that practically all civil aviation material could be utilised for purely offensive military purposes. This conclusion was easy to understand ; defensive military machines (chasers, etc.) must necessarily possess characteristics which were both difficult and costly to achieve. No civil aircraft possessed such characteristics.

The Spanish draft reply dealt with material only, whereas the German proposal (document Conf.D./C.A.38<sup>1</sup>) covered personnel also. What was true of material was equally true of personnel, while civil air crews could easily, and without much training, be used for offensive purposes, defensive aircraft, on the other hand, required a highly specialised personnel, trained to execute often stunt manœuvres and able to use machine-guns.

The Spanish draft reply should therefore be amended, and from the paragraph beginning “ On the basis of these general considerations ” to every mention of civil aviation material should be added mention of “ civil aviation personnel ”.

M. LAURENT-EYNAC (France) pointed out that the French proposal (document Conf. D./C.A.40<sup>2</sup>) was intended to supply the Disarmament Conference with a means of abolishing chemical, bacteriological and incendiary air warfare, not only by mere prohibition, but by the abolition of the means of carrying out such warfare. The aeroplane was one of the most dangerous and most-to-be-feared means of waging this form of war. The French proposals submitted at the last meeting were in full harmony with President Hoover's proposal, which advocated the abolition of bombing aircraft and bombing from the air. Such a measure must, in Europe, inevitably lead to the internationalisation of civil aviation. Here, subject to this reservation, the French delegation supported the United States proposal. Since the German delegate admitted that this proposal constituted a concrete scheme for disarmament, he must also admit its logical and inevitable consequence — internationalisation.

Apparently the German delegate feared, in the first place, that the internationalisation of civil aviation would lead to a harmful limitation of its commercial development and, in the second place, to under-estimating the military capacity of large commercial aircraft.

M. Laurent-Eynac did not think that the internationalisation of civil aviation was likely to hamper its development ; on the contrary, civil aviation should, by its very nature, be international and internationally administered. If it continued to be administered along national, and sometimes even nationalised, lines, there was a risk that, while budgets would be uselessly increased, civil aviation would not develop to the full. On the other hand, the pooling not only of the meteorological and ground organisation, but also of State subsidies, would bring about a reduction in the expenditure of each country. Moreover, mail and freight transport and business in general, with more effective means at their disposal, would develop the more in that air mail would be internationalised at the same time. No further proof therefore was necessary. Internationalisation would lead, not to the restriction of aviation, but to its natural and inevitable development. Further, it offered the advantage of a guarantee to those who feared the militarisation of civil aviation. If each State continued to develop its own civil aviation, the latter

<sup>1</sup> See Minutes of the twenty-fourth meeting.

<sup>2</sup> See Minutes of the twenty-fifth meeting.

might be subject to certain military influences. Such was in fact already the case. Certain large commercial machines had carried out demonstration flights across the world which had not been entirely civil in character. The control of all participating States would on the other hand, eliminate all military considerations. Lastly, the internationalisation of civil aviation would permit an effective control of the manufacture of aircraft, of the technical possibilities of each country, in other words, of what was called "air potential". M. Brandenburg had stated that he was, in principle, in favour of such control, and M. Laurent-Eynac did not despair of being able to develop this idea, in sub-committee, into its extreme form — internationalisation.

Turning to the second point — the danger constituted by civil aviation in air warfare — he maintained that, if the Disarmament Conference agreed to prohibit chemical, bacteriological and incendiary warfare, it should also agree to prohibit the most dangerous means thereof, namely, heavy-tonnage machines. President Hoover had stated that attacking forces must be reduced, which involved the reduction, amongst others, of aircraft of long-flying radius, the most dangerous of all. In order to achieve this, such aircraft must, if possible, be abolished in the military, and internationalised in the civil, sphere.

As regards the bombing possibilities of small machines mentioned by the German delegate, M. Laurent-Eynac would refer to the trenchant reply made by the Spanish delegate: such machines could not be considered as means of attack. As M. Herrera had emphasised, civil personnel was, thanks to its training on great international airways, suitable for long-distance offensive expeditions. Small machines did not, on the contrary, lend themselves to bombing operations. Immense numbers of such machines were necessary in order to carry out bombing operations. M. Laurent-Eynac was doubtful of their value, and they could not in any case inspire the panic which could be created by heavy bombing aircraft.

To sum up, the French delegation wished at all costs to render air warfare impossible. In order to do this, it was necessary to go to the furthest extreme; by dealing first with prohibition and its logical consequence — the internationalisation of civil aviation — the Conference would have done useful work. Such internationalisation was not Utopia, and, if the Commission did not recommend the principle to the General Commission, it would have only accomplished half its task. The prohibition of air bombardment and the internationalisation of civil aviation were two measures indispensable to the maintenance of peace.

M. SZENTKERESZTESY (Hungary), in reply to the second part of paragraph 2 of the Spanish delegation's draft basis of discussion, submitted, on behalf of his delegation, a proposal regarding the military value of civil aviation as a whole. This proposal was based on a study of the possible relationship between the aviation of two States. The following cases might arise:

*First case:* Both States possess a civil and a military air force. Here, the civil aviation is undoubtedly of value to the military air force, the value increasing with every increase in the size of the civil air fleet. It would be even more considerable if one of the two States possessed no civil air fleet.

*Second case:* Both States possess a civil air force only. Here, both the civil air forces might be of military value, the degree thereof depending upon the respective strength of the two forces.

*Third case:* One of the two States only possesses a military air force, while both possess a civil air fleet. Here, it is incontestable that the aircraft constructed for purely civil ends is less suitable for armament, either for defensive or offensive purposes, than the military machines, which may be considered not simply as armed aircraft but as genuine air weapons.

Obviously, therefore, the offensive characteristics, the efficacy and the menace of civil aviation were less than those of military aviation. Whereas a State possessing both a military and a civil air fleet could unite these to form a single unit, a State possessing a civil air fleet only, supposing it were to risk its use in war, would enter the struggle armed with a very poor means of warfare.

Given that one of these States undertook an offensive, it would inevitably encounter defensive action on the part of its adversary, and possibly a counter-offensive. The State possessing no military aviation could neither force the defence of the other nor defend its own forces if attacked, since civil aeroplanes, being both inadequately armed and unsuitable for combined action in close formation, would be easily exposed to defeat.

On the other hand, a force composed of military and civil aviation combined could not only easily repel an offensive action carried out by civil aviation alone, but could also assume the offensive itself and carry out any task assigned to it without fear of a check, as the adversary would possess no means of defence or counter-offensive.

This proved that civil aviation, backed by military aviation, might act at any time and at any place, whereas civil aviation acting alone could only be used for action at night. As, however, night flying presented greater difficulties than that by day, the efficacy of civil aviation would thus be considerably reduced. Further, night flying required staff and machines with special training and characteristics as yet rarely to be found in civil aviation. Lastly, the fire of defensive guns and machine-guns or an attack by chasers specially adapted to night flying would render the task of such civil aircraft exceedingly difficult, if not ineffective.

Civil and military air fleets combined could, on the other hand, strike a particularly effective blow at civil aviation by attacking its apparatus and bases. Meeting with no resistance, they could continue these attacks uninterrupted by night or day, and could thus be sure of ruling the air, whereas civil aircraft alone would soon be rendered completely powerless.

These facts led the Hungarian delegation to the following conclusions: A State possessing both military and civil aviation could launch an offensive, with the greatest chance of success, against a State possessing a civil air fleet only. Inversely, a State which, possessing a civil air fleet only, launched a similar attack against a State provided with a military air fleet must expect certain annihilation.

Since commercial fleets were in a position similar to that of civil aviation as a whole, it would be easy to adapt to the latter the following text from the report of Sub-Commission A (page 151, paragraph 5):

“The military value of the commercial fleets of a country, as a whole, varies in proportion to its own size and the size of the naval forces of a country.”

If this were done, a text acceptable to all present might be achieved. The Hungarian delegation therefore proposed the following:

“The military value of civil aviation, as a whole, depends upon its importance and the importance of military aviation in the same country.”

M. VLIENEN (Netherlands) once more drew attention to his delegation's point of view. It advocated the prohibition of all aerial bombardment and, consequently, not only the abolition of bombers but the adoption of the measures necessary to prevent the use of civil aviation to supplement bombing aircraft. To this end, the Netherlands delegation was prepared, if necessary, to support the idea of the internationalisation of civil aviation, provided that this would not hamper its technical and commercial development.

The most recent French proposals on this matter had been a disappointment to his delegation. There was no question therein of the prohibition pure and simple of air bombardment, this being proposed only “apart from the field of battle or air bases and long-range artillery emplacements”. This amounted to saying that bombing aircraft were to be maintained. He hoped that the French delegation would amend its text so as to eliminate all exceptions. M. Laurent-Eynac had talked of prohibiting air warfare, but M. Vliengen was forced to note that such was not the sense of the French proposal.

The Netherlands point of view was supported by President Hoover's proposal, which stated:

“*Air Forces.* — All bombing planes to be abolished. This will do away with the military possession of types of planes capable of attacks upon civil populations and should be coupled with the total prohibition of all bombardment from the air.”

M. Vliengen considered that if the French delegation were prepared to delete under paragraph 2 of its proposal the phrase following the words “Prohibition of aerial bombardment”, and if the Conference were, as a result, to prohibit all aerial bombardment absolutely, it would have taken a great step forward.

M. BRANDENBURG (Germany) warmly supported the proposal made by the Netherlands delegate and suggested that the Air Commission should discuss the question of the absolute prohibition of aerial bombardment.

The PRESIDENT regretted that he could not accede to this request. The German delegation could only submit such a proposal to the General Commission. Speaking in his capacity of Spanish delegate, he could assure it that were it to do so it would have his support. Were the General Commission to adopt this proposal, it would be submitted in due course to the Air Commission, which could not until then embark upon a subject outside its terms of reference.

M. VOUGT (Sweden) pointed out that the terms of reference given by the General Commission to the Air Commission covered the *technical* study of the internationalisation or strict control of civil aviation. The Air Commission could not therefore deal with the political aspect of the question. He endorsed the suggestion that a sub-committee should be appointed to undertake this study.

M. BRANDENBURG (Germany) stated that he viewed the question differently. Under the terms of the General Commission's resolution, the Air Commission was requested to consider not only the question of the internationalisation or control of civil aviation but "any other measure calculated to prevent signatory Powers from using this aviation for military purposes". This resolution, he thought, empowered the Air Commission to recommend the General Commission to discuss the most effective means of achieving the end in view, in particular, the most general point at issue — the dropping of bombs from the air. Nevertheless, the German delegation would not press the matter, and would not object to the appointment of a sub-committee.

The PRESIDENT recognised that the text of the resolution justified the German delegate in his opinion. Nevertheless, M. Brandenburg's proposal exceeded the Commission's terms of reference to such an extent that he would prefer to refer it to the General Commission. Moreover, the question of interpretation no longer arose, since the German delegate had accepted the suggestion to appoint a sub-committee.

M. SIMONSEN (Denmark) stated that his delegation shared the view that the internationalisation, or at least the strict supervision, of civil aviation was indispensable if measures for the abolition of aerial bombardment were to be effective.

Nevertheless, it agreed with the Swedish delegation that it would be useful to take steps which would throw light upon practical possibilities of realising the internationalisation or control of civil aviation. He therefore drew attention to the Danish memorandum of April 13th (document Conf.D.112) which proposed :

"That a small technical commission be appointed to examine, in conjunction with the Commission for Air Navigation placed under the authority of the League of Nations, with the International Air Navigation placed under the authority of the League of Nations, with the International Air Traffic Association, consisting of national associations grouped together for commercial purposes, and with the International League of Aviators, the possibility of internationalising civil aviation or of instituting strict international supervision over it, with the object of preventing its employment for military purposes."

He proposed that the Air Commission should consider whether it would not be well to appoint a sub-committee for this purpose.

M. DE JOUVENEL (France) stated that his delegation supported the proposals for the appointment of a technical sub-committee. It hoped that the discussions therein would dispel many misunderstandings as regards interpretation and would reconcile the various views held.

#### 34. APPOINTMENT OF A SUB-COMMITTEE AND PUBLICITY OF ITS MEETINGS.

The PRESIDENT stated that the basis of the sub-committee's work would be the basis of discussion proposed by the Spanish delegation (document Conf.D./C.A.36), within the framework of which it would supply formulæ which it might be possible to draw up in the light of the proposals already submitted by the different delegations and any others received later. This sub-committee would submit a final draft of the plenary Commission. He suggested that it should consist of the Bureau and the delegates of the following countries: Argentine, Belgium, United Kingdom, France, Germany, Hungary, Italy, Japan, Netherlands, Poland, Sweden, the United States of America, and the Union of Soviet Socialist Republics.

*The President's proposal was adopted.*

*At the request of various delegations, the Commission decided that the sub-committee's meetings would be held in public.*

ANNEXES.

DOCUMENTS OF THE AIR COMMISSION.

Conf. D./C.A.1(2).

Geneva, May 23rd, 1932.

REVISED LIST OF MEMBERS OF THE AIR COMMISSION  
(February 27th — June 24th, 1932).

*President* : M. DE MADARIAGA (Spain).  
*Vice-Presidents* : M. COSTA DU RELS (Bolivia), succeeded from May 24th, 1932,  
by M. VALLOTTON (Switzerland).  
Colonel MARINOFF (Bulgaria).  
*Rapporteur* : M. BOHEMAN (Sweden), succeeded from June 15th, 1932, by  
M. LANGE (Norway).

Country	Members	Substitutes
<i>Afghanistan</i> :	Lieut.-General Mohamed OMAR Khan.	M. A. HUSEIN AZIZ Khan. Captain Mohamed ALI Khan. YUHUF Khan.
<i>Union of South Africa</i> :	Major F. F. PIENAAR. Major-General A. J. BRINK.	Mr. H. CAMP.
<i>Albania</i> :		
<i>United States of America</i> :	The Hon. Norman DAVIS. The Hon. Hugh WILSON.	Mr. A. W. DULLEN.
<i>Argentine Republic</i> :	Dr. Carlos QUINTANA.	Captain José GREGORIS. Lieut.-Colonel Pedro L. ZANNI.
<i>Australia</i> :	Mr. J. G. LATHAM. Sir Granville DE LAUNE RYRIE.	Mr. F. G. SHEDDEN.
<i>Austria</i> :	Colonel LÖHR.	
<i>Belgium</i> :	Count CARTON DE WIAET.	General GILLIEAUX. M. DE BROUCKÈRE. M. VAN DER DONCKT.
<i>Bolivia</i> :	M. A. COSTA DU RELS.	M. A. OSTRIA-GUTIERREZ. Colonel SERRANO.
<i>Brazil</i> :	Captain Altahyr E. ROZSANYI.	
<i>United Kingdom of Great Britain and Northern Ireland</i> :	The Marquess of LONDONDERRY.	Group-Captain J. T. BABINGTON.
<i>Bulgaria</i> :	Colonel MARINOFF.	
<i>Canada</i> :	Dr. W. A. RIDDELL.	Lieut.-Colonel H. D. G. CREBAR.
<i>Chile</i> :	M. VALDÉS-MENDEVILLE.	M. GAJARDO.

Country	Members	Substitutes
<i>China :</i>	General MOO SONG WHANG.	Major-General S. K. YAO. Dr. HSIA CHING LIN.
<i>Colombia :</i>	M. A. J. RESTREPO.	
<i>Costa Rica :</i>	M. V. FIGUEREDO-LORA.	
<i>Cuba :</i>	M. A. DE AGÜERO Y BETHANCOURT.	Captain E. A. PRIETO. M. C. DE ARMENTEROS.
<i>Czechoslovakia :</i>	M. FIERLINGER. Lieut.-Colonel J. PLASS.	M. F. RUZEK.
<i>Denmark :</i>	M. J. SIMONSEN. M. I. A. HANSEN. M. PÜRSCHEL. M. STENSALLE.	Vice-Admiral H. W. WENCK. Vice-Admiral H. RECHNITZER Colonel J. D. DE STEMANN. Captain A. C. C. SORENSEN.
<i>Egypt :</i>		
<i>Estonia :</i>	M. A. SCHMIDT. Colonel R. TOMBERG.	M. J. KÓDAR.
<i>Ethiopia :</i>	Comte LAGARDE, duc d'ENTOTTO.	
<i>Finland :</i>	Colonel MARTOLA.	Lieut.-Colonel V. REKOLA. M. P. HJELT.
<i>France :</i>	M. PAINLEVÉ. M. PIETRI. M. DUMESNIL. M. CAQUOT. M. DE JOUVENEL.	M. LAURENT-EYNAC. M. R. MASSIGLI. M. MOYSSET. M. AUBERT. Colonel MOUCHARD.
<i>Germany :</i>	M. Ernst BRANDENBURG.	M. FISCH. Major REINECKE.
<i>Greece :</i>	General Mazarakis AINIAN.	Major J. DIMAKIS. M. A. CONTOUMAS.
<i>Guatemala :</i>		
<i>Haiti :</i>		
<i>Honduras :</i>		
<i>Hungary :</i>	Count A. APPONYI. M. P. DE HEVESY. Colonel Henri SZENTKERESZTESSY.	Colonel G. DE SIEGLER. Major SILLAY.
<i>India :</i>	Sir Henry WHEELER.	The Rt. Hon. Sir Samuel HOARE. H.H. the AGA Khan. Colonel D. B. ROSS. Major-General J. E. S. BRIND.
<i>Irish Free State :</i>	Mr. J. J. HEARNE.	Mr. S. LESTER.
<i>Italy :</i>	M. BALBO.	General PICCIO. M. DE MARINIS. General Arturo CROCCO. Colonel MARTUCCI.
<i>Japan :</i>	M. N. SATO. General I. MATSUI. Admiral O. NOGAI.	M. H. HOTTA. General Y. TATEKAWA. Admiral W. KOMAKI.
<i>Latvia :</i>	General A. KALEYS.	M. FELDMANS.
<i>Liberia :</i>	Dr. A. SOTTILE.	



Country	Members	Substitutes
<i>Lithuania :</i>	Colonel LANSKORONSKIS.	
<i>Luxemburg :</i>		
<i>Mexico :</i>	Major MERCADO.	Colonel Othon LÉON.
<i>Netherlands :</i>	M. W. H. VliegEN. M. V. H. RUTGERS. Captain J. A. GAUW.	M. V. E. WILMAR. M. E. Th. VEER.
<i>New Zealand :</i>	Sir Thomas M. WILFORD.	Mr. C. KNOWLES.
<i>Norway :</i>	Dr. C. LANGE.	M. E. COLBAN. M. IRGENS. Captain OTTO. Major STEFFENS.
<i>Panama :</i>	M. Narciso GARAY.	
<i>Persia :</i>	M. SÉPAHBODI. Colonel A. RIAZI. Captain S. CHEYBANI. Captain HEDAYAT.	
<i>Peru :</i>		
<i>Poland :</i>	General BURHAEDT-BUKACKI.	M. E. RACZYNSKI. Colonel DE BAURAIN. Expert : Major KWIECINSKI.
<i>Portugal :</i>	General Ivens FERBAZ. Rear Admiral J. DE SOUZA E FARO.	Dr. J. Lobo D'AVILA LIMA.
<i>Roumania :</i>	M. Constantin ANTONIADE.	General Th. DUMITRESCO. M. V. V. PELLA. Colonel STOICESCO.
<i>Sa'udi Arabia :</i>	Sheikh Hafiz WAHBA.	M. E. DUNNAC.
<i>Siam :</i>	Prince PRIDI.	Phya RAJAWANGMAN.
<i>Spain :</i>	M. S. DE MADARIAGA. M. Leopoldo PALACIOS.	M. PEDROMO. M. LÓPEZ OLIVÁN. Lieut.-Colonel Emilio HERRERA.
<i>Sweden :</i>	M. E. C. BOHEMAN.	M. VOUGT. M. O. NYGREN. M. STENBECH.
<i>Switzerland :</i>	M. H. VALLOTTON.	M. H. HÄBERLIN. M. C. GORGÉ.
<i>Turkey :</i>	Necmeddin SADIK Bey.	APTÜLAHAT Bey. Expert : Colonel NURI Bey.
<i>Union of Soviet Socialist Republics :</i>	M. LANGOVOY.	M. Boris STEIN.
<i>Uruguay :</i>	Doctor P. LUISI.	M. COSIO.
<i>Venezuela :</i>	M. L. F. CALVANI.	
<i>Yugoslavia :</i>	M. C. FOTITCH. General JIVKOVITCH.	Adviser : Lieut.-Colonel B. NAOUMOVITCH.

Geneva, May 20th, 1932.

**COLLECTION OF REPLIES TO THE QUESTIONNAIRES  
CONCERNING THE ORGANISATION OF NATIONAL CIVIL AVIATIONS.**

(Document Conf.D./C.A.6 — March 18th, 1932)

(Document Conf.D./C.A.7 — March 22nd, 1932).

**INDEX**

Preliminary Note . . . . .	Page 123
----------------------------	-------------

**FIRST PART**

Questionnaire (document Conf.D./C.A.6) . . . . .	122
--	-----

**Replies of Delegations to the Questionnaire Document Conf.D./C.A.6 :**

	Page		Page
Union of South Africa Delegation . . . . .	123	Indian Delegation . . . . .	163
Australian Delegation . . . . .	129	Italian Delegation . . . . .	166
Austrian Delegation . . . . .	131	Japanese Delegation . . . . .	169
Belgian Delegation . . . . .	137	Netherlands Delegation . . . . .	170
Brazilian Delegation . . . . .	137	Norwegian Delegation . . . . .	170
United Kingdom Delegation . . . . .	143	Polish Delegation . . . . .	173
Bulgarian Delegation . . . . .	145	Portuguese Delegation . . . . .	181
Canadian Delegation . . . . .	146	Roumanian Delegation . . . . .	182
Chinese Delegation . . . . .	148	Siamese Delegation . . . . .	186
Czechoslovak Delegation . . . . .	191	Spanish Delegation . . . . .	150
Danish Delegation . . . . .	149	Swedish Delegation . . . . .	187
Estonian Delegation . . . . .	151	Swiss Delegation . . . . .	189
Finnish Delegation . . . . .	152	Union of Soviet Socialist Republics Delegation . . . . .	192
French Delegation . . . . .	153	United States of America Delegation . . . . .	125
German Delegation . . . . .	124	Venezuelan Delegation . . . . .	194
Greek Delegation . . . . .	161	Yugoslav Delegation . . . . .	196
Hungarian Delegation . . . . .	162		

**SECOND PART**

Questionnaire (document Conf.D./C.A.7) . . . . .	197
--	-----

**Replies to the Questionnaire Document Conf.D./C.A.7 :**

	Page		Page
Union of South Africa Delegation . . . . .	198	Hungarian Delegation . . . . .	213
Argentine Republic . . . . .	199	India . . . . .	214
Australian Delegation . . . . .	202	Japanese Delegation . . . . .	215
Austrian Delegation . . . . .	203	Latvia . . . . .	216
Belgium . . . . .	204	Mexico . . . . .	217
United Kingdom Delegation . . . . .	287	Netherlands Delegation . . . . .	219
Bulgarian Delegation . . . . .	208	Norway . . . . .	219
Canadian Delegation . . . . .	209	Siamese Delegation . . . . .	222
Czechoslovak Delegation . . . . .	226	Spanish Delegation . . . . .	211
Danish Delegation . . . . .	210	Swedish Delegation . . . . .	223
Estonian Delegation . . . . .	212	Swiss Delegation . . . . .	224
German Delegation . . . . .	199	United States of America . . . . .	199
Greek Delegation . . . . .	213	Yugoslav Delegation . . . . .	228

PRELIMINARY NOTE.

At its fifth meeting on March 17th, 1932, the Air Commission adopted a resolution requesting the Bureau :

" (1) With the assistance, if necessary, of the Secretariat, and of the competent International Organisations, to prepare, in order to facilitate its task, an objective documentary study summarising the principal works of these International Organisations, and the official proposals of the delegations on the internationalisation of civil aviation, and also the proposals of delegations with regard to any other measure calculated to prevent the signatory States from using this aviation for military purposes ;

" (2) To circulate all the concrete proposals relating to the question, together with statements of the reasons for them, which the Commission recommends the delegations to send in to the Bureau as soon as possible ;

" (3) To prepare a study on the organisation of the national civil aviations on the basis of the information which the Bureau trusts the delegations will supply to it ;

" (4) To prepare a programme for the resumption of the Commission's work."

As regards Point 3 of this resolution, the Bureau requested the delegations to be good enough to send it before April 4th, 1932, the information requested in the following questionnaires (documents Conf.D./C.A.6 and Conf.D./C.A.7) :

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FIRST PART

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A. QUESTIONNAIRE (DOCUMENT CONF.D./C.A.6).

1. The authorities under which civil aviation is placed. A brief account of the organisation of the said authorities. Supervision exercised over civil aviation.
2. State what undertakings operate the national air lines or any part of those air lines. Give brief particulars of their organisation and of the characteristics of the lines operated.
3. Undertakings operating air lines outside the national territory. Give brief particulars of their organisation (stating whether these lines are operated by a single undertaking or by a pool) and of the characteristics of the lines operated.
4. Organisations and private persons practising flying as a sport or for touring purposes.
5. Are such undertakings, organisations or private persons in receipt of a Government subsidy? If so, what is the system on which such subsidies are granted?
6. Organisation of the wireless service.
7. Organisation of the meteorological services.
8. Statistical particulars :
  - (a) Length of the air lines (in kilometres) ;
  - (a1) Length of air lines equipped for night flying ;
  - (b) Number of air ports ;
  - (b1) Number of air ports equipped for night flying ;
  - (c) Number of kilometres flown in 1931 ;
  - (d) Number of passengers carried (regular services) in 1931 ;
  - (e) Mail and packages carried (in kilogrammes) in 1931.

B. REPLIES TO QUESTIONNAIRE (DOCUMENT CONF.D./C.A.6).

Union of South Africa Delegation.

Geneva, March 22nd, 1932.

1. Civil Aviation in the Union of South Africa is placed under the control of the Ministerial Department of Defence.

The department is in charge of the Minister of Defence and there is a separate subdivision, under the control of the Director of Air Services, which deals with matters relating to Civil Aviation and the administration of the South Africa Aviation Act.

2. There are two companies running air lines in South Africa, one from Cape Town to Port Elizabeth, East London, Durban and Cape Town to Johannesburg, and the other from the mandated territory of South West Africa to Kimberley.

The companies carry air mails, and are paid subsidies by the Union Government to the extent of £8,000 and £7,000, respectively.

3. Imperial Airways Limited, with headquarters in London, have organised a London to Cape Air-Mail Service. The company is being paid a subsidy of £400,000 over a period of 5 years, £80,000 per annum. The company is understood to be a private organisation.

4. There are five recognised civil air clubs organised within the Union.

5. The organisations under (4) are not in receipt of any subsidy.

6. The wireless service is controlled by the Minister of Posts and Telegraphs.

7. The meteorological department is a separate organisation but renders considerable assistance to the Defence Department in determining wind velocities and aerial conditions generally.

8. Length of air lines in kilometres :

Cape Town, Port Elizabeth, East London and Durban . . . . .	1,600
Cape Town to Johannesburg . . . . .	1,200
South West Africa to Kimberley . . . . .	1,440
That portion of the London to Cape Air-Mail Service flying over Union territory . . . . .	2,080
Length of air line equipped for night flying . . . . .	Nil
Number of air ports (Cape Town and Germiston) . . . . .	2
Number of air ports equipped for night flying . . . . .	Nil
Number of kilometres flown . . . . .	No statistics
Number of passengers carried . . . . .	No statistics
Mails and packages carried . . . . .	Statistics not available

**German Delegation.**

Berlin, April 6th, 1932.

1. The Reich Ministry of Transport at Berlin (Aviation Department); regulation, supervision and development of aviation.

2. (a) Deutsche Luft-Hansa A. G. at Berlin.  
 (b) Deutsch-Russische Luftverkehrs G.m.b.H., Berlin.  
 (c) Deutsche Verkehrsflug A. G., Nuremberg-Fürth.

All three companies operate regular air lines carrying passengers, mail and goods, the companies mentioned under (a) and (b) both within the country and abroad, and the company mentioned under (c) only within the country.

3. Air lines entirely outside the national territory are not operated by German companies. When German lines cross the frontiers of the Reich, they are usually operated jointly with foreign companies, except in the case of the German-Russian line (see 2 (b) above). A list of the operating (pooling) agreements concluded by the Deutsche Lufthansa with foreign countries is attached in the Annex.

4. Numerous associations belonging to the Deutsche Luftfahrtverband at Berlin engage in flying for sport, including the Aero Club of Germany and the Sturmvogel, a workers' air association at Berlin.

5. The undertakings mentioned under 2 (a)-(c) receive support from the Reich or the States; subsidies to the organisations mentioned under 4 for development purposes are forbidden under No. IV of the Paris Air Agreements of May 22nd, 1926. The air transport lines are subsidised on the basis of the number of kilometres flown, according to a definite schedule, the rate depending on the type of aeroplane employed.

6 and 7. The air wireless and meteorological services are carried on by the Central Air Security Office of the Ministry of Transport of the Reich.

8. (a) 30,000 kilometres (including lines outside national territory); the total is subject to the seasonal changes in air traffic.  
 (a1) 1,600 kilometres equipped for night flying (within the national territory).  
 (b) 94 first and second class airports;  
 (b1) 15 airports are equipped for night flying;  
 (c) Number of kilometres flown: 10,400,000 (in 1931);  
 (d) Number of passengers carried: 99,000 (in 1931);  
 (e) 2,600,000 kilogrammes (in 1931).

The figures given for (c)-(e) are approximate calculations based on the particulars so far available, the official statistics not yet having been completed.

**Annex.**

**LIST OF JOINT (POOLING) AGREEMENTS.**

German company	Foreign company	Route
D. L. H.	Farman	Berlin-Cologne-Paris.
D. L. H.	Farman	Berlin-Saarbruck-Paris.
D. L. H.	Swissair	Zurich-Munich-Salzburg-Vienna (with Oelag).
D. L. H.	Swissair	Geneva-Berne-Zurich-Stuttgart-Halle/Berlin.
D. L. H.	Swissair	Geneva-Berne-Zurich-Munich-Salzburg-Vienna.
D. L. H.	Swissair	Geneva-Basle-Mannheim-Frankfort-Cologne-Essen/ Amsterdam.
D. L. H.	Swissair	Basle-Zurich-Munich-Vienna.
D. L. H.	S. A. M.	(Bln.) Munich-Venice-Rome.
D. L. H.	A. B. A.	Malmö-Copenhagen-Lübeck.
D. L. H.	Det Danske Luft-	Hamburg;
	fartselskab Farman	Malmö-Copenhagen-Hamburg;
D. L. H.	K. L. M.	509, 511;
D. L. H.	Sabena	517.
D. L. H.	D. D. L.	Berlin-Stettin-Copenhagen.
D. L. H.	Cechoslov	Berlin-Dresden-Prague-Vienna (with Oelag).
D. L. H.	Cechoslov	Marienbad-Karlsbad-Chemnitz-Halle L.
D. L. H.	Oelag	Berlin-Dresden-Prague-Vienna-Budapest (not operated at present).
D. L. H.	A. L. J.	Berlin-Munich-Milan.
D. L. H.	J. A. L.	Cologne-London.

*Note.* — In addition to the Annex mentioned in No. 3, a copy of *Nachrichten für Luftfahrer*, Nos. 1-2, 1932, is attached to the reply, giving a general account of the position of German aviation at the end of 1931.

United States of America Delegation.

Geneva, March 28th, 1932.

1. With respect to civil aviation in the United States, it is necessary to distinguish between the control of technical aeronautical features and the control of police, commercial and economic features. The direction of technical aeronautical matters relating to national aircraft engaged in air commerce between the United States and foreign territory, and between two or more of the individual States, is under the civil authority of the Federal Government, while technical direction of these features for air commerce wholly within one State is under the civil authority of that State. On the other hand, every civil aviation enterprise is organised or incorporated under the commercial laws of some one of the States, and police regulatory powers are exercised separately by each of the several States in which the enterprise conducts its business.

The organisation under the Federal Government concerned with civil flying in the United States is in the Department of Commerce, except that the Department of Agriculture operates the meteorological service. The Department of Commerce has a special Aeronautics Branch under an Assistant Secretary of Commerce for Aeronautics, this branch being further subdivided among the Director of Air Regulations, the Chief Engineer of the Airways Division, and the Director of Aeronautic Development.

The *Director of Air Regulations* is responsible for the examination and licensing of pilots, mechanics and aircraft; the examination and approval of aircraft and engines applying for approved type certificates as to airworthiness; the examination and approval of flying schools; the inspection of aircraft for licensing; the determination of causes of civil aircraft accidents; the enforcement of the Air Commerce Act, the Air Commerce Regulations and the Air Traffic Rules; and the assessment of penalties thereunder; the issuance of certificates of airworthiness for export to aircraft to be exported to foreign countries having reciprocal agreements with the United States; the transfer of title to aircraft assigned Department of Commerce markings; and the examination and inspection of scheduled air passenger transport routes in interstate commerce making application for a certificate of authority to operate such service.

The *Airways Division* operates under the rules, laws and regulations applicable to the lighthouse establishment, and, so far as practicable, through the regular district organisations of the Lighthouse Service. The Airways Division is organised into four units — survey, construction, weather and communications, and radio.

The *Survey Section* determines airway routings, selects sites for beacons and intermediate landing-fields, and concludes all negotiations for licensing these sites and for conditioning the fields for use by aircraft.

The *Construction Section* arranges for the purchase and shipment of all lighting equipment for intermediate fields and supervises its erection and installation under contract or by Airways Division field forces.

The *Weather and Communications Section* selects, establishes and supervises the operations of airways weather reporting stations and airways communication stations.

The *Radio Section* designs, procures and supervises the erection and installation of radio equipment for communications stations and radio beacons.

Maintenance of the intermediate landing-fields and beacon lights is accomplished by the district organisations of the Lighthouse Bureau, to which have been added the necessary special personnel.

The *Aeronautic Development Service* embraces all activities of the Aeronautics Branch in connection with assisting communities in the selection and development of airports; the rating of airports; the promotion and correlation of aeronautic research; the publication and dissemination of aeronautic information; the publication of air navigation maps and airway bulletins; and the general promotion work of the Department looking towards the development of Civil Aeronautics. The Aeronautic Development Service is divided into an Aeronautic Information Division; an Aeronautics Research Division; an Airport Section; an Airways Mapping Section; and special research committees.

The Federal Government extends its technical direction only to public aircraft and private aircraft engaged in general business activities, and exercises no other regulatory powers whatever, either of an ordinary police nature or of the financial organisation or

detailed operation of the enterprise. The technical supervision by the Federal Government for aircraft engaged in interstate or foreign commerce covers the following fields :

1. The grant of registration to individual national aircraft not registered under the laws of a foreign country.
2. The rating of aircraft as to airworthiness.
3. The periodic examination and rating of airmen operating aircraft in interstate or foreign commerce.
4. The examination and rating of air navigation facilities, including airports, available for the use of aircraft engaged in interstate or foreign commerce, and the examination and rating of flying-schools, instructors, and equipment if request is made by the owner.
5. The establishment of air traffic rules generally applicable throughout the United States.
6. The establishment of air space reservations for Federal governmental purposes.
7. The designation and establishment of civil airways, including air navigation facilities (except airports) such as special maps, beacons, weather services, intermediate and emergency fields, etc.
8. Specific regulations governing the use of governmental airports and repair facilities by private persons.
9. Regulations of the navigation and commercial activities of foreign aircraft flying over United States territory.
10. The establishment of ports of entry and regulations as to the entry and clearance of aircraft, and immigration, Customs and public health inspections at such ports.
11. The publication of information bulletins concerning aeronautical information, treaties and laws.
12. The application of penalties for the infraction of Federal aeronautical laws.

The individual States provide for similar technical regulation for aircraft engaged solely in intra-state flying (except as regards general air traffic rules), as well as general police regulation. Different States have their supervisory bodies organised in different ways, there being no universal standard pattern.

2. The air lines in the United States are operated by 32 different companies. These companies are all privately owned commercial concerns organised to manage and operate the air lines owned by them.

There are 111 domestic routes in the United States, covering 49,000 kilometres. Of this number, 66 carry mail, 94 carry passengers and 63 express. The length of these routes, the character of the service furnished, the schedules of traffic, and the present operators of the 111 domestic routes are furnished in *Air Commerce Bulletin*, No. 13, dated January 2nd, 1932, pages 330 and 331.

3. The air lines of the United States extending outside the national territory are operated by 7 different companies. These companies are all privately owned commercial concerns organised to manage and operate the air lines owned by them.

There are 17 foreign routes, covering 32,100 kilometres. Of this number, 15 carry mail, 11 carry passengers, and 7 express. The length of these routes, the character of the service furnished, the schedules of traffic, and the present operators of the 17 foreign routes are furnished in *Air Commerce Bulletin*, No. 13, dated January 2nd, 1932, page 332.

4. The answer to this question may best be given by analysing the distribution by purpose of the civil aeroplanes in the United States. Lighter-than-air aviation is of small importance, since there are no more than four or five privately owned dirigibles in the country.

There was a total of 10,673 civil aeroplanes in the United States on January 1st, 1932. Of these, 7,547 were licensed by the Federal Government and can be classified. Of the

remainder, it is estimated that not more than 1,500 are fit for use ; most of these are small and are used in schools, or for purely local taxi service, or are in the hands of private owners who employ them for sport or pleasure. It is impossible to give an accurate estimate either of the distribution of the unlicensed aeroplanes or the total amount of flying done by all civil aircraft. The information in the following tables must therefore be considered in the light of this unknown feature, and final conclusions accepted with due caution.

TABLE I. — DISTRIBUTION BY PURPOSE OF LICENSED CIVIL AEROPLANES.

Purpose	Number
In hands of aeroplane manufacturers . . . . .	489
Air transport companies . . . . .	561
Government owned civil aeroplanes . . . . .	69
Non-aeronautical companies. . . . .	211
Dealers, distributors, and flying services . . . . .	1,755
Schools . . . . .	107 <sup>1</sup>
Flying clubs . . . . .	175 <sup>1</sup>
Individual owners . . . . .	3,038
Unclassified . . . . .	242
Total . . . . .	<u>7,547</u>

TABLE II. — ESTIMATED PERCENTAGE OF PRIVATE FLYING TIME BY PURPOSE.

Purpose	Percentage
Pleasure . . . . .	26.8
Instruction . . . . .	25.6
Business . . . . .	13.0
Sight-seeing . . . . .	11.7
Experimental . . . . .	9.5
Cross-country . . . . .	6.7
Miscellaneous . . . . .	6.8

Note. — This is an estimate of flying other than on regular air lines, and is based on reports from a selected group of 500 aeroplanes.

TABLE III. — CLASSIFICATION OF LICENSED AEROPLANES BY TYPE AND CAPACITY.

Type	Capacity	Number
<i>Landplanes :</i>		
Open-cockpit . . . . .	1, 2 and 3 place	4,676
Open-cockpit . . . . .	4 place and up	71
Closed-cabin . . . . .	1, 2, 3 and 4 place	1,390
Closed-cabin . . . . .	5 place and up	885
<i>Amphibians and Seaplanes :</i>		
Open-cockpit . . . . .	1, 2 and 3 place	29
Open-cockpit . . . . .	4 place and up	26
Closed-cabin . . . . .	1, 2 and 3 place	12
Closed-cabin . . . . .	4 place and up	103
<i>Unclassified (includes 41 autogiros)</i> . . . . .		<u>113</u>
Total . . . . .		7,305

On January 1st, 1932, there were in the United States 17,701 persons having active civil pilot's licenses under the Federal Government. Of this total number, 9,226 persons hold private licenses only — *i.e.*, they are not permitted to engage in any flying for commercial purposes.

5. Subsidies or loans are not granted by the United States Government to any privately owned aeronautical undertaking or organisation. The only assistance of an

<sup>1</sup> These figures are obviously low, and are doubtless considerably increased by unlicensed aeroplanes.



economic nature given is that comprised within the system of technical aids such as air navigation facilities and engineering and trade information published by various governmental bureaux, and in the form of contracts for the carriage of mail by air.

At present, the total payments to contractors for carrying air mail exceed the special receipts, but the gap between these two figures is decreasing year by year, and profits now accrue to the Government for many of the shorter hauls. Air mail contracts are also granted to transport lines engaged in foreign as well as domestic air commerce.

Payment for the carriage of domestic air mail is computed after consideration of the following variables :

- (a) Weight of mail carried ;
- (b) Space occupied by the mail ;
- (c) Distance mail is carried.

To the base rate computed from these variables, percentage bonuses are added for

- (1) Night flying ;
- (2) Difficult terrain ;
- (3) Fog conditions ;
- (4) Radio equipment in the aeroplane ;
- (5) Passenger capacity of aeroplane ;
- (6) Multimotor aeroplanes.

It may be pointed out that there is no minimum payment system, although the base rate per pound for light loads is greater than that for heavy loads.

No connection exists between the control of civil aviation exercised by the Government and its military aviation. The technical aid and air mail contracts are awarded solely for the execution of commercial purposes. The incorporation in civil aeroplanes of features valuable from a military standpoint, the establishment of airways with military strategic usefulness or the employ of military airmen or engineers by commercial firms are not only not encouraged but are not even enquired into. It is the definite policy of the United States Government to maintain this separation, and it therefore gives assistance only to encourage and improve safe and rapid transportation.

So far as is known, the only economic aid given regularly by State and municipal governments is of a technical nature, such as the establishment of municipal airports and landing-fields. Community gifts of land or money to aeronautical companies are made to some extent, as is often done with other transportation enterprises. The amount of State and municipal aid is not known, nor can it be easily ascertained, since it varies greatly from year to year, is entirely under the control of local authorities, and no agency exists for the collection of information of this character.

6. The Radio Section of the Aeronautics Branch of the Department of Commerce designs, procures and supervises the erection and installation of radio equipment for communications stations and for the radio beacons.

The Weather and Communications Section of the Aeronautics Branch of the Department of Commerce selects, establishes, and supervises the operations of airways weather reporting stations and airways communications stations. On July 1st, 1931, there were in operation 53 Department of Commerce radio broadcast stations established for the broadcast of weather information. They are used also to report departures, arrivals, passengers, cargo, meteorological data and for general communication between aeroplanes and the ground where commercial radio systems do not exist.

In addition to these Government-owned radio facilities, many of the large transport companies have established their own radio stations, and employ them for communicating to stations on their routes, as well as for furnishing weather conditions and instructions to their aeroplanes while in flight.

On July 1st, 1931, there were 55 radio range beacons of the aural type placed at strategic positions along the main airways to aid pilots in maintaining their course, especially during bad weather.

7. The Meteorological Service for the Airways of the United States is operated by the Weather Bureau of the Department of Agriculture in co-operation with the Weather and Communications Section of the Aeronautics Branch of the Department of Commerce.

On July 1st, 1931, there were in operation 53 completely equipped upper-air meteorological stations, most of them located at important airports. These offices furnish

weather reports at frequent intervals, day and night, to four principal collecting centres. Supplementing this information are reports received from about 200 additional regular weather bureau stations and reports made by several hundred "airways-keepers" of the Department of Commerce, who care for their fields and handle messages coming in over the 9,500 miles of the automatic teletype system connecting the principal fields and Weather Bureau offices.

Based on these reports, the Weather Bureau makes forecast of flying conditions which are available to fliers at all of the principal airports. All airways stations transmit to their respective collecting stations, as well as to all nearby stations, information regarding local storms, fogs, and weather changes as they occur.

Weather reports are broadcast by Government radio stations several times a day, and are also transmitted by automatic teletype or ordinary telegraph to stations along the airways.

- 8. (a) Length of the air lines (in kilometres) : 81,100.
- (a1) Length of air lines equipped for night flying : 30,000 kilometres approximately.
- (b) Number of airports : 2,113 (March 1st, 1932).
- (b1) Number of airports equipped for night flying : 727 as on March 1st, 1932.
- (c) Number of kilometres flown (in 1931) : 77,000,000 by the regularly established transport companies.
- (d) Number of passengers carried (regular services) in 1931 : 469,081 on regular domestic services; 52,364 on the foreign routes operated by United States companies. Total 522,345.
- (e) Mail and packages carried (in kilogrammes) in 1931 :

Mail . . . . .	4,135,000 (domestic service)	
Express . . . . .	} 1,220,000.	
Freight . . . . .		

**Australian Delegation.**

April 4th, 1932.

1. At a Conference of the Commonwealth Federal Ministers and State Premiers in May 1920, an agreement was reached whereby the Commonwealth Government was to introduce a Bill for the control of aerial navigation in Australia.

In December 1920, the Commonwealth Parliament passed the Air Navigation Act, the object of which was (a) to carry out the provisions of the Convention on Air Navigation signed in Paris on October 13th, 1919; (b) to apply the principles of the Convention, not only to international flying, but to internal flying in Australia and generally to legislate by regulation on the subject matter.

Regulations were drawn up under this Act to provide *inter alia* for the registration and periodical inspection of aircraft, licensing of aerodromes, examining and licensing of personnel engaged in flying and in upkeep of machines, prohibition of trick flying, rules of the air, etc.

The date of commencement of the Act was fixed by Proclamation as March 28th, 1921, and regulations issued came into force on that date.

The Controller of Civil Aviation was appointed in December 1920 to administer the Act and regulations.

*Organisation.* — The Minister for Defence, who is a member of the Cabinet, is virtually the head of the Civil Aviation Department and responsible for Government policy and legislation in connection therewith.

Control is exercised through the Controller of Civil Aviation, who has direct access to the Minister for Defence.

The Controller of Civil Aviation is responsible for the administration of civil aviation in the Commonwealth.

The Civil Controller's staff consists of (1) Deputy-Controller of Civil Aviation, (2) Director of Flying Operations, (3) Director of Aerodromes and Ground Organisation and (4) an inspection Department responsible for air worthiness and technical details.

2. National air lines in the Commonwealth are divided under two headings, subsidised and unsubsidised.

*Subsidised Services.* — The following are the subsidised services now being maintained under contract with the Civil Aviation Department; the frequency of the services being weekly in each case :

Contractor	Route	Distance (miles)
West Australian Airways, Ltd. . . . .	Perth - Derby	1,467
West Australian Airways, Ltd. . . . .	Derby - Wyndham	600
West Australian Airways, Ltd. . . . .	Perth - Adelaide	1,450
Queensland and Northern Territories Aerial Services, Ltd. . . . .	Brisbane - Camooweal - Cloncurry - Normanton	1,484
Queensland and Northern Territories Aerial Services, Ltd. . . . .	Camooweal - Daly Waters	475
Total air line distances of subsidised services . . . . .		<u>5,476</u>

*Unsubsidised Services (operating under Postal Department contracts):*

Australian National Airways, Ltd. . . . .	Brisbane - Sydney	500
Australian National Airways, Ltd. . . . .	Sydney - Melbourne	475
Australian National Airways, Ltd. . . . .	Melbourne - Launceston (via Bass Straits)	265
Queensland Air Navigation Co. . . . .	Brisbane - Townsville	736

(It should be noted that the above-mentioned services are temporarily suspended under financial stringency.)

*Other Unsubsidised Services (passengers and goods only):*

Aircrafts Propriety, Ltd. . . . .	Brisbane - Toowoomba	75
New England Airways, Ltd. . . . .	Brisbane - Lismore	98
Burnett Air Navigation Co., Ltd. . . . .	Murgon - Kingaroy - Manago - Brisbane	118
Aerial Services, Ltd. . . . .	Rockhampton - Clermont	270

The above-mentioned organisations operate on a commercial basis and are responsible for the purchase and maintenance of their own aircraft, engines, etc. The machines operated by the various companies are of the light single-engined commercial type with the exception of West Australian Airways, Ltd., Australian National Airways, Ltd., who operate twin- and triple-engined aircraft of a bigger class.

3. The Commonwealth of Australia have no air lines operating outside the national territory.

4. The following organisations exist for practising flying as a sport and for touring purposes:

- (a) The Aero Club of New South Wales ;  
The Aero Club of Queensland ;  
The Aero Club of Victoria ;  
The Aero Club of South Australia ;  
The Aero Club of Western Australia ;  
The Aero Club of Tasmania ;  
The Central Queensland Aero Club ;  
The Bendigo Aero Club, Bendigo, Victoria ;  
Pratts Pty., Ltd., Geelong, Victoria.
- (b) The de Haviland Pty., Ltd., Sydney, N.S.W. ;  
Adastra Airways, Ltd., Sydney, N.S.W. ;  
Australian National Airways, Ltd., Sydney, N.S.W. ;  
Air Taxis, Ltd., Wagga, N.S.W. ;  
Wings, Ltd., Perth, W. Australia ;  
Subiaco Flying Club, Subiaco, W. Australia ;  
Baker Flying School, Perth, W. Australia ;  
Queensland Air Navigation Co., Ltd., Brisbane, Queensland ;  
C.C. Matheson Flying School, Brisbane, Queensland ;  
The Larkin Aircraft Supply Co., Ltd., Melbourne, Victoria.

5. The clubs and flying training schools mentioned under 4 (a) are organised by and are under the supervision of the Department of Civil Aviation, and receive assistance from this Department in the form of aircraft on loan and/or cash bonuses in respect of pilots qualifying through such clubs or training schools.

The flying training schools under 4 (b) are purely commercial enterprises which receive no Government assistance in any form.

6. There is no special organised wireless service in respect of civil aircraft operating in the Commonwealth.

7. A meteorological officer functions in each capital city of the Commonwealth, and the following are issued daily from the Central Meteorological Bureau :

- (1) Weather charts ;
- (2) Rainfall maps ;
- (3) Bulletins showing pressure, temperature, wind, rain, cloud extent and weather.

Weather forecasts can be obtained from this source on application at any time, and forecasts are transmitted by the Bureau to various points by wireless, telegraph, and telephone.

8. (a)	Length of air lines in kilometres . . . . .	12,000
(a1)	Length of air lines equipped for night flying . . . . .	Nil
(b)	Number of airports . . . . .	9
(b1)	Number of airports equipped for night flying . . . . .	Nil
(c)	Number of kilometres flown in 1931 :	
	Subsidised routes . . . . .	800,325
	Unsubsidised routes . . . . .	1,173,910
(d)	Number of passengers :	
	Subsidised routes . . . . .	7,427
	Unsubsidised routes . . . . .	0,798
(e)	Mails and packages carried in kilogrammes :	
	Mails :	
	Subsidised routes . . . . .	12,300
	Unsubsidised routes . . . . .	8,158
	Packages :	
	Subsidised routes . . . . .	201,025
	Unsubsidised routes . . . . .	12,554

**Austrian Delegation.**

April 17th, 1932.

1. In Austria, the Air Office ("Luftamt") of the Federal Ministry of Commerce and Communications at Vienna, as the air authority, is responsible for dealing with all questions connected with the Government's powers and functions in regard to aviation. This Office therefore also exercises official control over civil aviation and is responsible, not only for the administration of the three public air-ports at Vienna, Graz and Klagenfurt, but for the wireless, meteorological and other services connected with the safety of air traffic in Austria.

2 and 3. The "Oesterreichische Luftverkehrs Aktiengesellschaft", known by abbreviation as the "Oelag", with headquarters at Vienna, is the only Austrian air navigation undertaking with a regular service.

The "Oelag", to which the Austrian Government pays subsidies calculated on the basis of the kilometres travelled, had in its service, in 1931, 9 aeroplanes (of which 6 were Junkers machines type F-13, 2 Junkers machines type G-24 and 1 Junkers machine type G-31) and an air staff of 20 (including 11 pilots, 5 wireless operators and 4 mechanics); it flew on 18 air lines (counting from one air-port to another)—*viz.*, Vienna-Berlin, Vienna-Prague, Prague-Dresden, Dresden-Berlin, Vienna-Budapest, Vienna-Graz, Graz-Zagreb, Zagreb-Belgrade, Graz-Klagenfurt, Klagenfurt-Venice, Vienna-Venice, Salzburg-Klagenfurt, Vienna-Salzburg, Salzburg-Innsbruck, Innsbruck-Munich, Innsbruck-Bolzano, Bolzano-Trent, Trent-Milan (see map A, page 133).

The "Oelag" operated three of these lines independently — *viz.*, those of Vienna-Salzburg, Salzburg-Innsbruck and Salzburg-Klagenfurt — and the other lines jointly with other air navigation undertakings.

The "Oelag" has concluded pooling agreements with :

The limited liability company "Deutsche Luft-Hansa A.G." for the lines Vienna-Berlin and Vienna-Budapest and also with the "Magyar Légiforgalmi R.T." as regards the last line ;

The "Društvo za Vazdusni Zaoobračaj A.D." for the lines Vienna-Graz, Graz-Zagreb and Zagreb-Belgrade ;

The "Transadriatica Società Anonima Italiana di Navigazione Aerea" for the lines Vienna-Graz, Graz-Klagenfurt, Klagenfurt-Venice and Vienna-Venice ;

The "Deutsche Luft-Hansa A.G." and the "Československá Letecká Společnost" for the lines Vienna-Prague, Prague-Dresden and Dresden-Berlin ; and

The "Deutsche Luft-Hansa A.G." and the "Società Avio Linee Italiane", for the lines Innsbruck-Munich, Innsbruck-Bolzano, Bolzano-Trent and Trent-Milan.

The "Oelag", which is a member of the I.A.T.A., has taken charge in the Austrian air-ports of the commercial and technical operating services of the five foreign undertakings mentioned above and of the last three of the four following air navigation companies also operating a regular service in Austria — viz., Cigna, Swissair, Magyar Légiforgalmi Részvénytársaság and Polski Linje Lotnicze Lot; in return, the similar services required by the "Oelag" in foreign air-ports are performed by the respective national air navigation undertakings.

4. Flying for sport, including gliding (*Segelflug*):

Two flying schools possessing 13 machines, 2 associations possessing 4 machines, and about a dozen associations possessing a certain number of gliders.

Flying for touring purposes:

Five undertakings possessing 7 machines and 21 private owners possessing 1 machine each.

5. No subsidies have been paid out of public funds.

6. The wireless service in connection with air navigation is placed in Austria under the administration and direction of the Air Office of the Federal Ministry of Commerce and Communications and is provided by the three wireless stations at Vienna, Innsbruck and Klagenfurt, by the two auxiliary wireless stations at Graz and Salzburg and by three direction-finding stations (at Vienna, Graz and Klagenfurt) possessing six long-wave transmitting posts and five short-wave transmitting posts. (For the local distribution of the said stations and their radio-technical installations, see map B, page 134.)

These stations are operated in conformity with the "Regulations of the International Wireless Service for Aviation".

7. In Austria, the meteorological service is also placed under the administration and direction of the Air Office of the Federal Ministry of Commerce and Communications and is carried on by the three observatories at Vienna, Innsbruck and Klagenfurt under the direction of professional meteorologists, and by other auxiliary meteorological stations at Graz and Salzburg. These stations are operated in accordance with the "Regulations for the International Meteorological Service for Aviation" and the Austrian executive provisions.

For the system of meteorological observation stations, see map C, page 135, and Annex C 1, below.

The bulletins of the Austrian Meteorological Service are issued during the hours of air service by the Vienna wireless station (wave-length 1,260) at H+05 and H+35 and by the Klagenfurt wireless station at H+25 and H+55.

8. (a) "Oelag" system, 3,916 kilometres.

(a 1) In Austria, there are no air lines equipped for night flying.

(b) In Austria, there are 6 public air-ports and 4 private air-ports, including 3 for hydro-aeroplanes (for their geographical situation, see map B, page 134).

(b 1) Only the Vienna air-port is equipped for night flying. Owing to the importance of this air-port (in 1931, 14,272 passengers and 663,690 kilogrammes of packages were carried in the regular service), it is equipped with the most recent lighting appliances.

(c) Number of kilometres flown in 1931 by the "Oelag": 618,024.

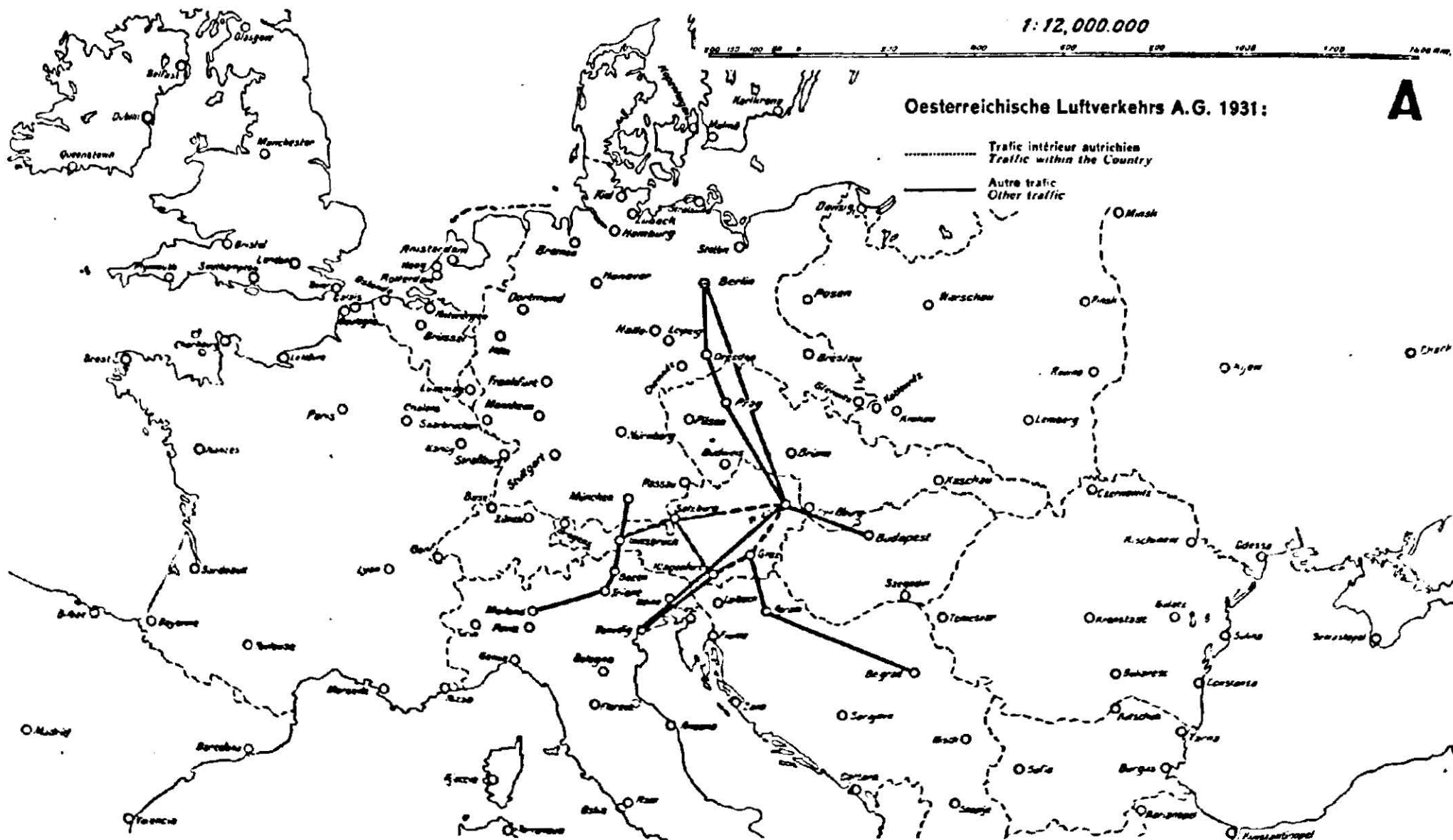
(d) Passengers carried in 1931 by the regular service of the "Oelag": 8,799.

(e) Mail and packages carried in 1931 by the regular service of the "Oelag": 228,048 kilogrammes.

Annex C 1.

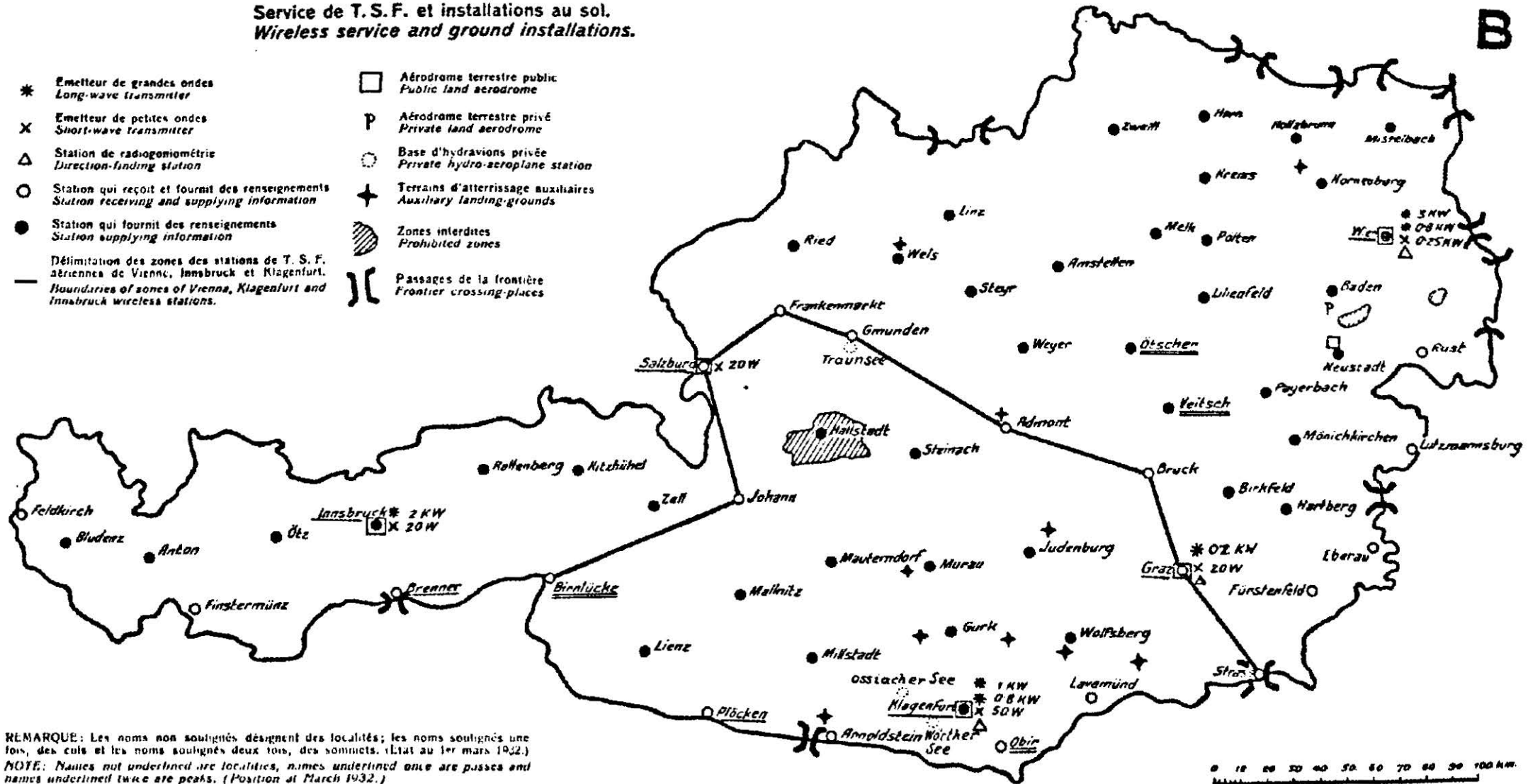
LIST OF IDENTIFICATION NUMBERS OF THE AIR METEOROLOGICAL OBSERVATION STATIONS IN AUSTRIA, AS AT OCTOBER 16TH, 1931.

Identification No.	Name of observation station	Longitude East of Greenwich	Latitude	Altitude above sea-level (metres)
801				
802	Schöckel, Stubenberghaus (W) (2)	15° 28'	47° 12'	1,416
803	Sonnblick, Observatory (K) (2)	12° 58'	47° 34'	3,105
804	Villacher Alpe, Ludwig Walterhaus (K) (2)	13° 40'	46° 36'	2,166
805	Hochobir, Observatory (K) (2)	14° 29'	46° 30'	2,142
806	St. Paul im Lavanttal (K) (2)	14° 52'	46° 42'	400
807	Strass bei Spielfeld (K) (2)	15° 38'	46° 44'	255
808	Judenburg (K) (2)	14° 40'	47° 10'	734



**Service de T. S. F. et installations au sol.**  
**Wireless service and ground installations.**

- |  |  |
|--|--|
| * Émetteur de grandes ondes<br>Long-wave transmitter   | □ Aérodrôme terrestre public<br>Public land aerodrome              |
| X Émetteur de petites ondes<br>Short-wave transmitter  | P Aérodrôme terrestre privé<br>Private land aerodrome              |
| △ Station de radiogoniométrie<br>Direction-finding station   | ○ Base d'hydravions privée<br>Private hydro-aeroplane station      |
| ○ Station qui reçoit et fournit des renseignements<br>Station receiving and supplying information  | + Terrains d'atterrissage auxiliaires<br>Auxiliary landing-grounds |
| ● Station qui fournit des renseignements<br>Station supplying information  | ▨ Zones interdites<br>Prohibited zones                             |
| — Délimitation des zones des stations de T. S. F.<br>aériennes de Vienne, Innsbruck et Klagenfurt.<br>Boundaries of zones of Vienna, Innsbruck and<br>Innsbruck wireless stations. | Passages de la frontière<br>Frontier crossing-places               |



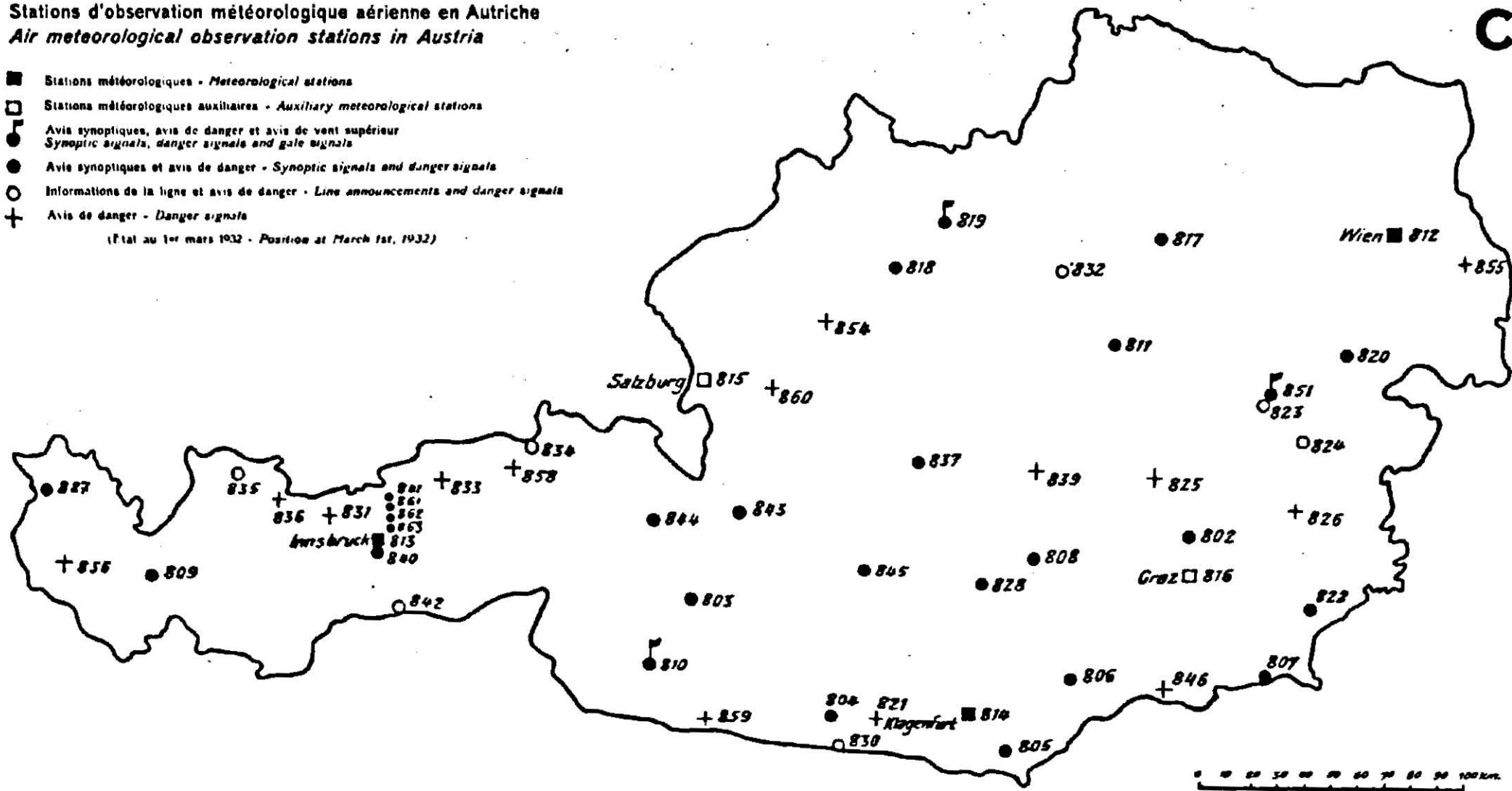
REMARQUE: Les noms non soulignés désignent des localités; les noms soulignés une fois, des cols et les noms soulignés deux fois, des sommets. (État au 1er mars 1932.)  
 NOTE: Names not underlined are localities, names underlined once are passes and names underlined twice are peaks. (Position at March 1932.)

0 10 20 30 40 50 60 70 80 90 100 km.

**Stations d'observation météorologique aérienne en Autriche**  
**Air meteorological observation stations in Austria**

- Stations météorologiques - *Meteorological stations*
- Stations météorologiques auxiliaires - *Auxiliary meteorological stations*
- Avis synoptiques, avis de danger et avis de vent supérieur  
*Synoptic signals, danger signals and gale signals*
- Avis synoptiques et avis de danger - *Synoptic signals and danger signals*
- Informations de la ligne et avis de danger - *Line announcements and danger signals*
- + Avis de danger - *Danger signals*

(État au 1<sup>er</sup> mars 1932 - *Position at March 1st, 1932*)





Identification No.	Name of observation station	Longitude East of Greenwich	Latitude	Altitude above sea-level (metres)
809	St. Anton am Arlberg (I) (2)	10° 16'	47° 08'	1,287
810	Lienz in Osttirol (K) (1)	12° 46'	46° 50'	673
811	Lunz (W) (2)	15° 02'	47° 52'	600
812	Vienna meteorological station, aerodrome	16° 31'	48° 13'	156
813	Innsbruck meteorological station, aerodrome	11° 25'	47° 17'	573
814	Klagenfurt meteorological station, aerodrome	14° 20'	46° 39'	449
815	Auxiliary meteorological station, Salzburg, aerodrome (W)	13° 00'	47° 48'	434
816	Auxiliary meteorological station, Graz, aerodrome (W)	15° 27'	46° 59'	334
817	Melk, Stift, (W) (2)	15° 20'	48° 13'	228
818	Wels (W) (2)	14° 02'	48° 09'	317
819	Linz (W) (1)	14° 19'	48° 17'	257
820	Wiener Neustadt (W) (2)	16° 15'	47° 49'	268
821	Villach (K) (4)	13° 51'	46° 37'	501
822	Gleichenberg (W) (2)	15° 55'	46° 53'	317
823	Semmering, Pass. (W) (3)	15° 50'	47° 38'	985
824	Mönichkirchen (W) (3)	16° 02'	47° 31'	980
825	Bruck (W) (4)	15° 16'	47° 25'	487
826	Hartberg (W) (4)	15° 58'	47° 17'	360
827	Feldkirch (I) (2)	9° 36'	47° 14'	459
828	Neumarkt in Steiermark (K) (2)	14° 26'	47° 04'	830
829				
830	Arnoldstein (K) (3)	13° 43'	46° 33'	579
831	Seefeld (I) (4)	11° 11'	47° 20'	1,180
832	Amstetten (W) (3)	14° 52'	48° 07'	275
833	Maurach im Achental (I) (4)	11° 45'	47° 25'	955
834	Kufstein (I) (3)	12° 10'	47° 35'	503
835	Reutte (I) (3)	10° 43'	47° 29'	854
836	Lermoos (I) (4)	10° 53'	47° 24'	995
837	Gröbming (K) (2)	13° 54'	47° 27'	826
838				
839	Wald im Paltental (K) (4)	14° 41'	47° 27'	843
840	Patscherkofel, station of the cable railway (I) (2)	11° 28'	47° 13'	2,248
841	Hafelekar, station of the cable railway (I) (2)	11° 23'	47° 19'	2,334
842	Brenner See (I) (3)	11° 31'	47° 01'	1,309
843	St. Johann im Pongau (I) (2)	13° 12'	47° 21'	640
844	Zell am See (I) (2)	12° 48'	47° 19'	758
845	Tamsweg (K) (2)	13° 49'	47° 07'	1,021
846	Eibiswald (K) (4)	15° 15'	46° 41'	362
847				
848				
849				
850				
851	Payerbach (W) (1)	15° 52'	47° 41'	480
852				
853				
854	Vöcklabruck (W) (4)	13° 40'	48° 00'	433
855	Deutsch Altenburg (W) (4)	16° 55'	48° 08'	178
856	Bludenz (I) (4)	9° 49'	47° 09'	585
857				
858	Wörgl (I) (4)	12° 04'	47° 29'	511
859	Mauthen im Gailtal (K) (4)	13° 00'	46° 40'	707
860	St. Gilgen (W) (4)	13° 21'	47° 46'	550
861	Hungerburg, station of the Hafelekar cable railway (I) (2)	11° 24'	47° 17'	858
862	Seegrube, station of the Hafelekar cable railway (I) (2)	11° 23'	47° 18'	1,905
863	Igls (I) (2)	11° 25'	47° 14'	876

### Belgian Delegation.

April 27th, 1932.

In Belgium, the Government does not operate any air-transport undertakings. Regular air transport is carried on by the Société anonyme belge d'Exploitation de la Navigation aérienne.

The Government's rôle is confined to the establishment and maintenance of the ground organisation of the lines, whose installations (landing grounds, hangars, etc.) are administered and whose services (operation, signals, beacons, wireless telephony, wireless telegraphy and direction-finding) are carried on by the staff of the Air Administration.

In the Congo, the task of establishing the ground organisation of the lines at the expense of the colony has been assigned to the S.A.B.E.N.A. ; the use of this ground organisation is free on condition that the Company maintains it at its own expense.

The Government and the Colony are doing their best to develop commercial air navigation, and they grant the S.A.B.E.N.A. an annual subsidy to enable it to cover its operating deficit ; the basis on which these grants are paid differs for the lines operated in Europe and in the Congo and in respect of the arrangements for the future Belgium-Congo line.

Apart from the S.A.B.E.N.A., mention should be made of the following :

1. The civil-aviation schools whose operating centres are at the aerodromes of Deurne, Gosselies, St. Hubert, Liège, Le Zoute and Ostend.
2. The organisations engaged in aeronautical construction (construction and repair of aeroplanes and engines for the needs of civil and military aviation).
3. The tourist air clubs whose purpose is to encourage flying for touring purposes in Belgium.

In Belgium, the organisations dealing with civil aviation are entirely separate from those dealing with military aviation.

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### Brazilian Delegation.

Geneva, June 23rd, 1932.

1. Civil aviation in Brazil is under the " Departamento de Aeronautica Civil " (Department of Civil Aviation), which comes directly under the " Ministerio da Viação e Obras Publicas " (Ministry of Communications and Public Works).

The Department of Civil Aviation, the task of which is to supervise the services connected with civil and commercial aviation, was created by Decree No. 19902 of April 22nd, 1932.

It consists of three sections: I. Administration; II. Operation; III. Traffic. These sections maintain up to date a register of aircraft, supervise the condition of the material and the navigating and technical staff, control the traffic revenue and draw up statistics concerning movement.

2. The national air lines are at present operated by the following undertakings :

1. " Empresa de Viação Aérea Rio Grandense (Varig) " : Brazilian nationality. Seat : Porto Alegre.
2. " Sindicato Condor Limitado " : Brazilian nationality. Seat : Rio de Janeiro.
3. " Panair do Brazil, S.A. " : Brazilian nationality. Seat : Rio de Janeiro.
4. " Compagnie Générale Aéropostale " : French nationality. Seat : Paris.

The largest shareholder of the " Empresa de Viação Aérea Rio Grandense " is the Government of the State of Rio Grande do Sul, and the line receives, in addition, a subsidy and other advantages from that State.

The " Sindicato Condor Limitado " is financially assisted by the German group of the " Luft-Hansa. "

In the same way, the " Panair do Brazil ", joint-stock company, is connected with the North-American group of Pan-American Airways, Suc., and its lines in Brazil belong to the system of airways operated by that group, which are subsidised by the United States Postal Department.

Finally, the "Compagnie Aérienne Aéropostale" receives a grant from the French Government to keep in operation the international airway France-South America, to which the Brazilian branch belongs, from Natal along the coast as far as the Uruguayan frontier.

In addition to these undertakings, the following have received concessions to operate commercial air lines in Brazil: the "Empresa de Transportes Aereos, C<sup>ia</sup> Ltda" (Eta) and the "Companhia Aeropostal Brasileira," both being of Brazilian nationality. These companies are not at present in operation.

The lines operated by the four above-mentioned undertakings are the following:

A. "Empresa de Viação Aerea Rio Grandense" (Varig):

(a) *Central line*: Porto Alegre-Santa Cruz-Santa Maria, with optional and occasional calls at Cachoeira and a projected extension as far as Cruz Alta. *Length of line*: to Santa Maria, 269 kilometres; to Santa Cruz, 396, kilometres. *Frequency of journeys*: one flight per week in each direction.

(b) *Southern lines*: (1) Porto Alegre-Pelotas-Rio Grande. *Length of line*: 255 kilometres. *Frequency of journeys*: one flight per week in each direction. (2) Porto Alegre-Rio Grande-Pelotas-Bagé-Sant'Anna do Livramento. *Length of line*: 630 kilometres. *Frequency of journeys*: two flights a week in each direction.

The traffic on the above three lines (in the central line, to begin with, only as far as Cruz Alta) will be inaugurated early in April of the present year for the transport of passengers, packages and mail.

B. "Sindicato Condor Limitado":

(a) *Rio-Natal line*: Rio-Victoria-Caravélas-Belmonte-Ilhéos-Bahia-Aracajú-Penedo-Maceió-Recife-João-Pessoa-Natal. *Length of line*: 2,345 kilometres. *Frequency of journeys*: one flight per week in each direction.

(b) *Rio-Porto Alegre line*: Rio-Santos-Paranaguá-S. Francisco-Florianopolis-Porto Alegre. *Length of line*: 1,415 kilometres. *Frequency of journeys*: one flight per week in each direction.

(c) *Corumbá-Cuyabá line*: Corumbá-Porto Joffre-Cuyabá. *Length of line*: 465 kilometres. *Frequency of journeys*: one flight per week in each direction.

The traffic on these three lines, for the transport of passengers, packages and mail, is maintained with complete regularity. The undertaking is considering the extension of the line from Corumbá as far as S. Paulo, the following being the probable itinerary: S. Paulo-Baurú-Araçatuba-Tres Lagôas-Campo Grande-Corumbá-Cuyabá. This will make it possible to establish at Corumbá, or at Porta Suarez, joint traffic with the "Lloyd Aérien Bolivien".

The undertaking also operates a postal service for Europe in connection with the German liners of the South-American lines; the transshipment of postal mail is effected off the island of Fernando do Noronha.

It is probable that at some future date the system of air lines of the undertaking will be joined up with that of the "Luft-Hansa" by means of the Zeppelin dirigible line, which will again be tested this year (four journeys, one every fortnight between Friedrichshafen and Natal, during March, April and May, and six others in the course of September, October and November).

C. "Panair du Brésil, S.A.":

This operates a line *Belem* (State of Pará)-*Buenos Aires*: Belem-S. Luiz-Amaração-Camocim-Fortaleza-Natal-Recife-Maceió-Bahia-Ilhéos-Caravellas-Victoria-Rio-Santos-Paranaguá-Florianopolis-Porto Alegre-Rio Grande-Montevideo-Buenos Aires. *Length of line*: 6,485 kilometres. *Frequency of journeys*: one flight per week in each direction, for the transport of passengers, packages and mail.

This line operates jointly with the Pan-American Airways, Inc., at its two extremities: (a) at Belem with the Pan-American aeroplanes, which have authorisation from the Brazilian Government to fly over the north coast of Brazil from Oyapock to Belem, whether bound for North America via the Antilles and Miami, or for Venezuela, Colombia, Central America and Mexico, via Cristobal; (b) at Buenos Aires with the aeroplanes of Pan-American Grace Airways, Inc. (Panagra), which operate the air traffic along the Pacific coast from Buenos Aires to Cristobal, via Santiago (Chile).

With a view to accelerating postal interchange between the two Americas, the "Panair du Brésil, S.A." is studying the possibility of establishing an internal line which will go from S. Paulo to Belem via the Tocantins and Araguaya rivers.

D. "Compagnie Générale Aéropostale":

*Brazilian Section of the international line France-South America*: Natal-Recife-Maceió - Bahia - Caravellas - Victoria - Rio - Santos - Florianopolis - Porto Alegre-Pelotas. *Length of line* (Natal-Buenos Aires section): 4,650 kilometres. *Frequency of journeys*: one flight per week in each direction.

The South-American air section of the international line (Natal-Buenos Aires-Santiago, covering 5,850 kilometres) is connected with the Europe-Africa air section (Toulouse-Perpignan-Barcelona-Alicante-Málaga-Tangier-Rabat-Casablanca-Agadir-Cape Juby-Villa Cisneros-Port Etienne-St. Louis-Dakar, 4,695 kilometres in length) by means of the transoceanic section (Dakar-Porto Praia-Fernando do Noronha-Recife, 3,090 kilometres in length) which is covered by rapid boats (*arisoas*) only. The company only carries mail.

3. Of the four undertakings just mentioned, two at present operate lines outside Brazilian territory: (1) the "Panair du Brésil, S.A.", section Belem-Buenos Aires, over Uruguayan and Argentine territory; (2) the "Compagnie Générale Aéropostale", in the Europe-Africa section and the South-American section, in the part corresponding to the Uruguayan, Argentine and Chilean territories.

To sum up, the Brazilian commercial air lines are as follows:

	Kilometres	
<i>Varig</i> : Porto Alegre-Santa Maria . . . . .	200	}
Porto Alegre-Rio Grande . . . . .	255	
Porto Alegre-Sta. Anna do Livramento . . . . .	630	
<i>Condor</i> : Belem-Buenos Aires . . . . .	2,315	}
Rio-Porto Alegre . . . . .	1,415	
Corumbá-Cuyabá . . . . .	405	
<i>Panair</i> : Belem-Buenos Aires . . . . .		6,485
<i>Aéropostale</i> : Natal-Buenos Aires . . . . .		4,050
Total . . . . .		10,514

These lines are operated autonomously by the four companies mentioned; the Government does not know of any pool having been organised among them.

4. At present there are four organisations in Brazil for the purpose of practising flying as a sport:

(a) The Brazilian Air Club, with its headquarters at Rio de Janeiro, which is the Brazilian delegate to the "Fédération Aéronautique Internationale".

(b) The Natal Air Club, having its headquarters at Natal (State of Rio Grande do Norte);

(c) The Air Club of S. Paulo, at S. Paulo.

(d) The Air Club of Paraná, at Curitiba (State of Paraná).

These organisations are not yet in full activity. It is thought, however, that in the course of this year they will be able to co-operate effectively for the development of touring by air, for which Brazil offers great possibilities.

5. None of the above-mentioned undertakings for commercial air traffic in Brazil receives subsidies from the Government; they have its support, however, as regards all possible administrative facilities, to the extent and in the form laid down by Article 53 of Decree No. 20914, which regulates the operation of civil air services in Brazil. These companies are exempt from federal, State and municipal taxation. They also enjoy reduced rates for Customs duties on imported material.

6. The wireless service provided for the safety, guidance and traffic administration of commercial aviation is at present supplied by the air undertakings themselves by means of stations installed at the principal places of call on their lines. Stations of the different companies are established at the following points:

*Condor*: Natal, Bahia, Rio de Janeiro, Santos, Paranaguá and Porto Alegre;

*Panair*: Belem, Fortaleza, Bahia, Rio de Janeiro and Porto Alegre;

*Aéropostale*: Natal, Recife, Maceió, Bahia, Caravellas, Victoria, Rio de Janeiro, Santos, Florianopolis, Porto Alegre and Pelotas.

These stations, which are installed and operated on a provisional basis, will be placed under the "Regulations for the Operation of Wireless Services".

7. The air meteorological service is provided by the Directorate of Meteorology, by means of observations supplied direct to the air navigation undertakings by the Central Institute of Meteorology at Rio de Janeiro.

The Directorate of Meteorology is now thinking of laying the foundations of the air meteorological system, so as to be able to ensure, with its own resources and those of the undertakings, the weather forecast service, which constitutes an indispensable factor for the safety of air navigation.

8. The annexed tables and diagram contain statistics concerning commercial aviation in Brazil during the period from 1927 to 1931.

(a) The extension of traffic lines during this period (1927 to 1931) is shown in the statistical tables mentioned above. During the present year (1932), the distance covered (as from the month of April when the service "Empresa de Viação Aérea Rio Grandense" will be inaugurated) will amount to 16,514 kilometres.

(b) The only line equipped for night flying is that from Natal to Pelotas, which forms part of the South-American section of the international line France-South America, operated by the "Compagnie Générale Aéropostale", the aeroplanes of which make use of the airports of the "Compagnie Aéropostale brésilienne" which have been prepared and installed at Natal, Recife, Maceió, Belmonte, Caravellas, Victoria, Rio de Janeiro (Jacarépaguá), Santos, Florianópolis, Porto Alegre and Pelotas, and also the "Campo dos Affonsos (Rio de Janeiro)" of the Army Aviation School.

The airports of the "Compagnie Aéropostale brésilienne" are marked by red lights, and each possesses, in addition, two groups of reflectors of the Brandt and Feuilleret type.

The "Compagnie Générale Aéropostale" has a night service on its line between Buenos Aires and Pelotas, and between Victoria and Maceió, going north, and between Natal and Maceió and Santos and Pelotas, going south, when the atmospheric conditions are favourable. When that is not the case, the aeroplanes remain at Victoria for the night, going north, and at Santos, going south.

(c) There are at present two types of airports, installed on a provisional basis, which will have to comply with the provisions of Decree 20914, Article 54 :

#### *Land Aerodromes :*

Natal, Pitimbú aerodrome ; Recife, Iburá aerodrome ; Maceió, Maceió aerodrome ; Bahia, Itapoan aerodrome ; Belmonte, Belmonte relief aerodrome ; Caravellas, Caravellas aerodrome ; Victoria, Goiabeiras aerodrome ; Rio de Janeiro, Jacarépaguá aerodrome ; Santos, Santos aerodrome ; Florianópolis, Adolphe Konder aerodrome ; Porto Alegre, Grevatahy aerodrome ; Pelotas, Pelotas aerodrome ; Jaguarão, Jaguarão relief aerodrome.

These aerodromes belong to the "Compagnie Aéropostale brésilienne" and are utilised by the aeroplanes of the "Compagnie Générale Aéropostale" which normally land and take off at Rio de Janeiro, at the military airport of the "Campo dos Affonsos". Under Decree No. 20,914, these aerodromes, as stated above, will enter the category and comply with the regime of airports in general — that is, they will cease to be private use as they have been hitherto and may be utilised by aircraft belonging to any individual or undertaking.

#### *Maritime Aerodromes.*

These aerodromes consist of areas marked off by the Ministry for Communications and Public Works in the ports of call of seaplanes. Only the "Sindicato Condor" and "Panair du Brésil" at present make use of seaplanes.

There are areas set apart for seaplanes in the following ports : Belem, S. Luiz, Amarracão, Fortaleza, Natal, João Pessoa, Recife, Maceió, Aracajú, S. Salvador, Ilhéos, Belmonte, Caravellas, Victoria, Campos, Rio de Janeiro, Santos, Paranaguá, S. Francisco, Florianópolis, Laguna, Porto Alegre, Pelotas and Rio Grande.

For the present, aeroplanes from abroad pass through the Customs at the airports of Belem (State of Pará) when they are aircraft of the Pan-American Airways coming from North America, Rio Grande when they are aircraft coming from Buenos Aires, and Pelotas when they are aircraft of the "Compagnie Générale Aéropostale" coming from the Argentine. Aeroplanes of the latter company coming from Dakar pass through the Customs at Recife.

The "Panair" of Brazil and the "Sindicato Condor" have established at the maritime aerodromes of call for their seaplanes, in proportion to the importance of the lines which they serve, the most necessary land installations for the purpose of guiding and ensuring the safety of traffic, of refuelling aircraft and of taking on and landing passengers and packages.

(d) Only the airports of the "Compagnie Aéropostale brésilienne" are prepared for night flying as mentioned above (reply to item 8(b)).

(e) and (f) The statistical tables hereafter contain data concerning the passengers and mail carried in 1931.

OBSERVATION.

Brazil is a signatory to the protocols of three international Conventions on aerial navigation :

- The Convention of Paris of October 13th, 1919 ;
- The Ibero-American Convention of Madrid of November 1st, 1926 ;
- The Havana Convention of February 15th, 1928.

The general provisions of the Convention of Paris — accepted in the Madrid and Havana Conventions with very slight amendments — have served as a basis for Brazil's international aviation policy, principally as regards the administrative provisions appearing in the Annexes to the Paris Convention.

TABLE OF BRAZILIAN CIVIL AIRCRAFT (March 23rd, 1932).

Registered No.	Kind	Type	Passenger Accommodation	Useful load (in kilogrammes)
<i>Empresa de Viação Aérea Rio Grandense (Varig).</i>				
P-BAAC	Aeroplane	Morane Saulnier	1	85
P-BAAD	"	Nieuport Delage	4	380
P-BAAF	"	Junkers F 13	4	400
P-BAAG	"	Junkers F 13	4	400
P-BAAH	"	Junkers Junior	1	75
P-BBAC	"	Klemm L 25	1	195
P-BBAD	"	Klemm L 25	1	195
<i>Sindicato Condor Limitado.</i>				
P-BAAA	Seaplane	Dornier Wal	9	1,000
P-BAAB	"	Dornier Merkur	6	300
P-BABA	"	Junkers G 24	8	1,040
P-BAFB	"	Junkers F 13	4	300
P-BAGA	"	Junkers F 13	4	300
P-BAIA	"	Dornier Wal	10	1,150
P-BAJA	"	Junkers F 13	4	320
P-BAKA	"	Junkers F 13	4	320
P-BANA	"	Junkers W 34	7	250
P-BAOA	"	Junkers W 34	7	250
P-BAPA	"	Junkers W 34	7	250
P-BAQA	"	Junkers G 24	11	820
<i>Companhia Aerpostal Brasileira.</i>				
P-BEAA	Seaplane	Laté 25	4	1,073
P-BEAB	"	Laté 25	4	851
<i>Panair do Brasil, S.A.</i>				
P-BDAA	Seaplane	Commodore C 16	20	1,741
P-BDAB	Amphibian	Sikorsky S 38 B	8	810
P-BDAC	"	Sikorsky S 38 B	8	810
P-BDAD	"	Sikorsky S 38 B	8	810
P-BDAE	Seaplane	Commodore C 16	20	1,741
P-BDAG	"	Commodore C 16	22	1,741
P-BDAH	"	Commodore C 16	24	1,741
P-BDAI	"	Commodore C 16	22	1,741
P-BDAJ	"	Commodore C 16	22	1,741
P-BDAK	Amphibian	Sikorsky S 38 B	8	739
P-BDAL	"	Sikorsky S 38 B	8	739
<i>Private or Sporting Aviation.</i>				
P-BBAA	Aeroplane	Klemm L 20		Egon Prates et Carlos Chevalier
P-BABB	Seaplane	Dornier-Libelle		Karl Loyd
P-BABF	Aeroplane	Phœnix Meteor L 2 d		Joao Derschum & Cia
P-BABH	"	Schwalbe K 1 1 c		Carlos Llubisch
P-BABJ	Convertible	Fleet 2		Paulo da Rocha Vianna
P-BABL	Aeroplane	Moth D. H. 60		Raphael d'Oliveira
P-BABM	"	Moth 60 X		Raphael d'Oliveira
P-BARR	"	Bréguet Bidon 19		Joao Ribeiro de Barros

## STATISTICS OF COMMERCIAL AVIATION IN BRAZIL.

Year	Average length of line (in kilometres)	Flying personnel and material in use		Traffic				Transportation			
		Aircraft	Pilots	Number of flights	Distance flown (in kilometres)	Duration of flights		Passengers	Packages Gross weight (in kilogrammes)	Luggage (in kilogrammes)	Freight (in kilogrammes)
						Hours	Minutes				
1927 :											
Varig <sup>1</sup> . . . . .	290	4	3	104	28,310	243	35	643	101,225	5,789	210,355
Condor Sindikat <sup>2</sup> . . . . .	1,415	2	2	29	21,860	152	27	—	—	—	—
Latécoère <sup>3</sup> . . . . .	4,650	9	9	25	69,415	448	10	—	156,241	—	—
Total . . . . .	6,355	15	14	158	119,585	844	12	643	257,466	5,789	210,355
1928 :											
Varig . . . . .	530	8	7	358	95,360	738	10	1,483	158,566	10,666	452,768
Condor . . . . .	1,415	9	7	711	335,814	2,466	14	1,021	1,417,000	9,593	1,458,000
Aéropostale . . . . .	4,650	47	16	109	481,185	3,410	55	—	8,112,820	—	—
Total . . . . .	6,595	64	30	1,178	912,359	6,615	19	2,504	9,688,386	20,259	1,910,768
1929 :											
Varig . . . . .	530	7	7	353	98,235	768	54	1,510	409,995	10,536	1,122,466
Condor . . . . .	1,415	8	10	902	508,590	3,552	25	2,141	4,967,000	19,081	6,486,000
Eta <sup>4</sup> . . . . .	650	2	2	111	37,500	375	00	—	12,821	—	169,622
Aéropostale . . . . .	4,650	40	11	110	495,805	3,515	33	—	18,660,711	—	—
Total . . . . .	7,245	57	50	1,476	1,140,130	8,211	52	3,651	24,050,527	29,617	7,778,088
1930 :											
Varig . . . . .	290	8	7	285	81,360	582	17	893	487,180	6,647	2,411,750
Condor . . . . .	4,225	11	12	1,244	734,236	4,838	06	2,529	6,318,000	17,217	6,965,000
Nyrba <sup>5</sup> . . . . .	6,338	11	13	130	412,251	3,163	00	1,245	1,947,956	—	232,000
Aéropostale . . . . .	4,650	40	14	108	480,130	3,429	42	—	23,193,135	—	—
Total . . . . .	15,503	70	46	1,767	1,707,977	12,013	05	4,667	31,946,271	23,864	9,608,750
1931 :											
Varig . . . . .	524	5	4	281	40,921	318	48	168	186,408	661	612,220
Condor . . . . .	4,515	13	10	1,023	705,730	4,570	32	2,837	12,381,670	24,938	9,154,716
Panair . . . . .	6,485	13	8	337	619,795	3,953	34	2,097	10,884,000	21,019	12,149,000
Aéropostale . . . . .	4,650	37	7	105	488,250	3,254	03	—	24,455,678	—	—
Total . . . . .	16,174	68	29	1,746	1,854,696	12,096	57	5,102	47,907,756	46,618	21,915,936

<sup>1</sup> " Empresa de Viação Aérea Rio Grandense ".

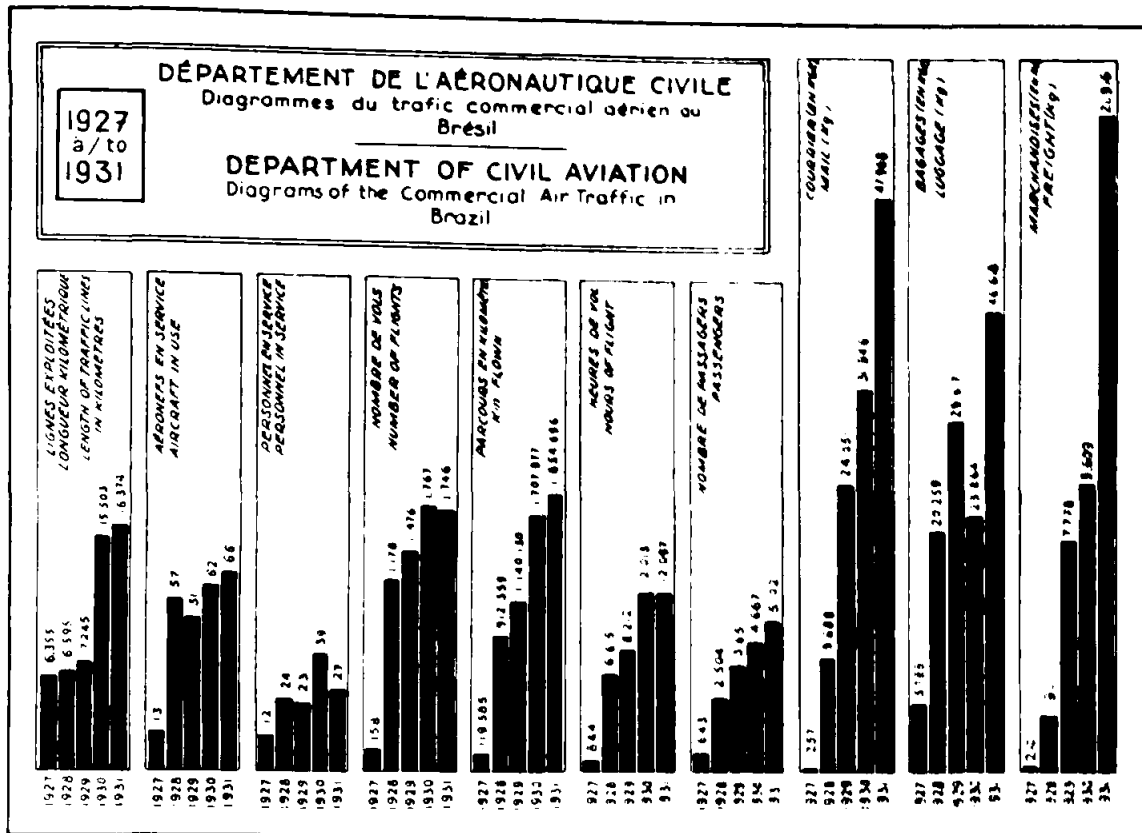
<sup>2</sup> In 1928, converted into " Sindicato Condor Limitado ".

<sup>3</sup> In 1928, transferred to " Compagnie Générale Aéropostale ".

<sup>4</sup> " Empresa de Transportes Aéreos ".

<sup>5</sup> " Nyrba do Brasil S.A.", in February 1931, changed its name to " Panair do Brasil S.A.".

**DIAGRAM CONCERNING COMMERCIAL AVIATION IN BRAZIL FROM 1927 TO 1931.**



United Kingdom Delegation.

April 8th, 1932.

**1. Administration.**

In Great Britain and Northern Ireland the regulation and control of civil aviation is exercised in accordance with the Air Navigation Act 1920, through which effect was given to, *inter alia*, the obligations of this country as a party to the Convention for the Regulation of Aerial Navigation 1919.

The chief administrative officer (under the Secretary of State for Air, through whom responsibility to Parliament is expressed) is the Director of Civil Aviation, who is charged with :

- (i) The administration of the provisions of the Air Navigation Act, 1920, and of the regulations issued thereunder;
- (ii) The registration and certification of aircraft;
- (iii) The licensing and certification of pilots and other technical personnel engaged in civil aviation;
- (iv) The licensing of aerodromes;
- (v) The organisation of civil air routes;
- (vi) The administration of schemes of Government assistance to civil aviation undertakings;
- (vii) The consideration of all matters connected with international flying;
- (viii) The interchange of information relating to civil aeronautics within the British Empire.

**2. Licensing of Personnel.**

The number of personnel licences in force as at December 31st, 1931, was as follows :

Pilots, public transport	315
Pilots, private	2,091
Navigators	88
Ground engineers	1,156



### 3. Civil Aircraft.

On December 31st, 1931, there were on the Air Ministry register 924 civil aircraft of the following descriptions :

Regular air transport . . . . .	35
Other air transport and aerial work . . . . .	166
Flying schools . . . . .	104
Flying clubs . . . . .	62
Demonstration and experimental types . . . . .	99
Privately owned . . . . .	385
Held by agents for resale . . . . .	73
	924

Aircraft construction in this country is not subsidised.

There are at present 28 firms engaged in the construction of air frames and 14 in the construction of aero engines, while more than 100 are concerned with the manufacture of aircraft and engine components and accessories. The output of these firms is in some cases, however, confined to aircraft and engines of military types.

Most of the leading firms are members of an association styled "The Society of British Aircraft Constructors, Ltd."

### 4. Ground Organisation.

At the end of the year 1931 there were 33 aerodromes licensed for public use, 4 of which were State-owned and 8 municipally-owned. In addition, there were 25 aerodromes licensed for private use, including 3 municipally-owned, and 99 licensed for short pleasure-flights.

The Air Ministry undertakes the provision of wireless telegraphy and meteorological facilities for civil aviation. In addition, the Automobile Association, under arrangements made with the Air Ministry, is now undertaking to a limited extent regular broadcasting of weather reports and forecasts from a wireless station at Heston.

The ground organisation, including route lighting, of the air routes to the Continent is undertaken by the Air Ministry.

#### *Air Operations.*

Civil aviation activities in this country may be categorised as follows :

- (a) Regular air transport.
- (b) Other form of air transport.
- (c) Aerial work (survey, photography, etc.).
- (d) Flying schools.
- (e) Light aeroplane clubs.
- (f) Private flying.
- (g) Gliding.

(a) *Regular air transport.*—The only regular air services at present are those operated by Imperial Airways Ltd., viz. :

- (i) London-Paris.
- (ii) London-Paris-Basle-Zurich (summer only).
- (iii) London-Brussels-Cologne.
- (iv) London-Karachi, via Italy, Greece, Palestine and Iraq.
- (v) London-Cape Town, via Italy, Greece and Egypt.

These services are maintained by the Company under contracts with the Air Ministry which provide for financial assistance from the State on a downward sliding scale, so framed as to call forth efforts from the Company to become commercially self-supporting by the time the agreements terminate. Air mails are carried on these services under arrangements made with the Postmaster-General.

The routes operated are all international. There are at present no internal regular air services, nor are any other air transport companies subsidised by the State.

(b) *Other forms of air transport.*—The number of organisations specialising in air taxi work and in point-to-point air transport as occasion demands is twenty-four.

Forty undertakings are engaged in providing short pleasure-flights and in giving air displays.

The following table of the distances flown in the course of the various air operations referred to in sub-paragraphs (a), (b) and (c) during 1931 afford some indication of the relative extent of these activities :

	Miles
Regular air services . . . . .	850,744
Air taxi flights . . . . .	753,256
Short pleasure flights and flying under sub-paragraph (c)	522,000

(c) *Aerial work.* — The two main forms of aerial work are :

- (i) Air survey and photography ;
- (ii) Sky writing.

Air survey and photography is, for the most part, in the hands of two companies and their subsidiaries. Occasional photographic contracts are, however, undertaken by flying clubs and firms normally engaged in other operations.

Sky writing in this country is in the hands of one company, which has specialised in this form of aerial work for several years.

(d) *Flying schools.* — There are twenty organisations engaged in giving flying instruction as distinct from flying clubs. In many cases, these schools have been established by aircraft-constructing firms, to whose sales organisation they are closely allied. These schools are not State-assisted.

(e) *Flying clubs.* — There are twenty-three subsidised flying clubs. The present subsidy consists of a grant of £10 in respect of a member who qualifies for the issue or renewal of pilot's licence. The grant is reduced to £5 in the case of an ex-wartime pilot, but is not payable for serving members of the Royal Air Force, the Royal Air Force Reserve or the Auxiliary Air Force. The maximum sum payable to any one club per annum is £2,000. The average total membership of these clubs during 1931 was 6,580, of whom 1,573 held pilots' licences at the end of the year. In addition, there are some fifteen clubs not State-assisted, making a total of thirty-eight clubs in all.

Eighteen of these clubs are affiliated to the Royal Aero Club, which undertakes the are responsibility of controlling in this country the sporting side of civil aviation.

(f) *Private flying.* — There are about 320 private owners of aircraft. Most of these members of one or more flying clubs.

(g) *Gliding.* — Gliding is controlled by the British Gliding Association, to which, at the end of 1931, eighty-six gliding clubs were affiliated with a total membership of 5,500, of whom 362 held various certificates of proficiency.

#### 8.<sup>1</sup> *Statistical Information.*

	Approximate kilometres
(a) Length of air lines regularly operated (internal and external) .	12,930
(a1) Length of air lines equipped for night flying (internal only) .	120
(b) Number of airports ( <i>i.e.</i> , licensed aerodromes and seaplane stations intended to be used permanently as such) . . . . .	57
(b1) Number of airports equipped for night flying . . . . .	3
(c) Number of kilometres flown on regular air service. . . . .	144,790,000
(d) Passenger ton-kilometres on regular air services . . . . .	1,075,670
(e) Freight (mail and packages) ton-kilometres on regular air services . . . . .	692,330

#### Bulgarian Delegation.

April 11th, 1932,

1. Civil aviation is under the Ministry of Railways, Posts and Telegraphs (Ministry of Communications). This Ministry has three departments :

- (a) Department of Railways and Ports ;
- (b) Department of Posts, Telegraphs and Telephones ;
- (c) Department of Aviation.

Civil aviation is controlled by the Ministry of Railways, Posts and Telegraphs and by the Cabinet.

<sup>1</sup> Note by Secretariat. — No reply has been received to questions 6 and 7.

2. The Civil Aviation Authorities are pursuing the study of the possibilities of the national air lines. These relate chiefly to the two central lines :

(a) Sofia - Varna and (b) Sofia - Burgas.

For the moment, none of these lines are operating. There are no private undertakings.

3. Undertakings operating air lines outside the national territory : None.

4. There are no organisations or private persons practising flying as a sport or for touring purposes.

5. No subsidies are granted by the Government.

6. The organisation of the wireless service is as follows :

One receiving and transmitting station at Bujurishdeh ;  
One receiving and transmitting station at Varna.

7. The organisation of the meteorological service consists of :

One central meteorological service with five aerodrome stations, twelve meteorological stations and nine auxiliary stations.

This service issues meteorological reports three times a day.

8. Statistical particulars :

(a) Length of lines under construction :

Sofia - Varna . . . . .	400 km.
Sofia - Burgas . . . . .	360 km.

(a1) There is no equipment for night flying.

(b) There are three airports, at Bujurishdeh, Varna and Burgas.

(b1) No airport is equipped for night flying.

(c) 45,000 km. were flown in 1931 in experimental flights.

(d) Number of passengers carried (regular services) : None.

Number of passengers carried during experimental flights : 24.

(e) Mail and packages carried : None.

*Postscriptum* : The foreign companies Cina, Deutsche Luft-Hansa and Lote are authorised to operate in Bulgaria certain lines forming part of the international system as follows :

The *Cina* operates the line Belgrade - Sofia - Svilengrad.

The *Deutsche Luft-Hansa* line operates the portion of the Berlin - Istanbul line which passes over Bulgarian territory.

The *Lote* operates the line Bucharest - Sofia - Salonika.

In 1931 these companies carried :

Company	Mail		Packages		Passengers	
	Imported kg.	Exported kg.	Imported kg.	Exported kg.	Arrivals	Departures
Cina . . . . .	343	44	7,070	2,103	68	115
Luft-Hansa . . . . .	4,045	272	2,327	5,433	—	—
Lote . . . . .	102	99	1,687	1,773	308	296

Canadian Delegation.

Geneva, July 5th, 1932.

1. In Canada, aeronautics is a function of the Federal Government and is administered by the Minister of National Defence.

The Civil Aviation Branch is a division of the Department of National Defence. Its head, the Controller of Civil Aviation, reports to the Deputy-Minister of National Defence.

Air regulations were promulgated on December 31st, 1919, and provide for the registration and inspection of aircraft, aerodrome licences, examination and licensing of personnel, rules of the air, dangerous flying, interstate flying, etc.

The Civil Aviation Branch has two main divisions — *e.g.*, Air Regulations Division and Airways Division.

Each division is in charge of a superintendent.

The superintendent (Air Regulations) has a staff of inspectors to carry out the duties. To afford prompt and efficient service to aircraft operators, the country has been divided into five districts with branch offices and resident district inspectors (Civil Aviation).

The superintendent (Airways) is charged with the inspection, licensing, and registration of airports; the supervision, development and maintenance of Government civil airports; and the investigation and development of air-mail routes. A staff of inspectors is employed and the country divided into two districts, with branch offices and resident district inspectors (Airways).

2. The following air-mail services are operated under contracts with the Post Office Department (June 1st, 1932) :

Route	Route Miles	Operator
Amos-Chibougamau . . . . .	190	General Airways Ltd.
Amos-Siscoe . . . . .	42	General Airways Ltd.
Leamington-Pelee Island . . . . .	22	National Air Transport Ltd.
Moncton-Charlottetown . . . . .	110	Canadian Airways Ltd.
Moncton-Magdalen Islands . . . . .	200	Canadian Airways Ltd.
Narrow Lake-Sioux Lookout . . . . .	336	Canadian Airways Ltd.
Peace River-North Vermillion . . . . .	167	Canadian Airways Ltd.
Quebec-Seven Islands . . . . .	345	Canadian Airways Ltd.
Seven Islands-Anticosti . . . . .	120	Canadian Airways Ltd.
Winnipeg-Pembina . . . . .	66	Canadian Airways Ltd.
McMurray-Aklavik . . . . .	1,676	Canadian Airways Ltd.
Montreal-Albany . . . . .	200	Canadian Colonial Airways.
Montreal-Rimouski . . . . .	330	Royal Canadian Air Force.
Prince Albert-Lake La Ronge . . . . .	162	Brooks Airways Ltd.
Vancouver-Victoria . . . . .	61	Canadian Airways Ltd.

3. Montreal to Albany, N.Y., air-mail service is operated by Canadian Colonial Airways Ltd.

A passenger and freight service is operated between Toronto, Ontario, and Detroit (Michigan) by Canadian Airways Limited.

An air-mail and passenger service is operated between Winnipeg and Pembina to connect with the United States air line to Chicago, Ill. The mail between Winnipeg and Pembina is carried under Post Office contract with Canadian Airways Ltd.

A passenger service is operated between Vancouver, Victoria, and Seattle by Canadian Airways Ltd.

4. Twenty-three Light Aeroplane Clubs, with a total membership of 2,639, and 41 private owners of aircraft.

5. Light Aeroplane Clubs are subsidised by the Government, the following being the system on which a subsidy is granted :

Each club is required to :

- (a) Provide its own flying field ;
- (b) To arrange for the services of an instructor and air engineer ;
- (c) Have at least thirty members prepared to qualify as pilots ;
- (d) Have not less than ten members already qualified.

And in return the Government provides :

(e) Each approved club will receive two aeroplanes and engines as an initial grant ;

(f) A further issue annually, for a period of five years, will be made of one aeroplane and engine complete, providing the club purchases an aeroplane of equal value ;

(g) The sum of \$100 will be granted to each club in respect of each member who qualifies as a pilot ;

(h) The sum of two dollars per hour will be granted to each club for a club member continuing his training and qualifying for a commercial pilot's certificate.

(i) An issue of closed aircraft in lieu of open aircraft to clubs graduating at least twenty-five pilots will be made ;

(j) One parachute will be loaned to clubs providing one at their own expense.

6. The stations of the Royal Canadian Corps of Signals are available to aircraft operators if required. Five radio directional beacon stations were erected in Western Canada as an aid to navigation on the night-flying air-mail service between Winnipeg and Edmonton. These beacons were erected and are maintained by the Royal Canadian Corps of Signals, Department of National Defence.

7. Meteorological information for civil aviation is available on request from the Meteorological Office, Department of Marine.

A copy of the Report on Civil Aviation 1931 is attached. Detailed information on the foregoing is contained therein.

8. (a) Length of the air lines : 8,108 kilometres.

(a1) Length of air lines equipped for night-flying : 2,116 kilometres.

(b) Number of airports : 77.

(b1) Number of airports equipped for night-flying :

Lighted airports : 11.

Lighted intermediate airports : 38.

(c) Number of kilometres flown : 11,337,458.

(d) Number of passengers carried (regular services in 1931) : 3,720.

(e) Mail and packages carried :

1. Total mail carried : 213,589 kilogrammes.

2. Total freight carried additional to 1 : 1,077,100 kilogrammes.

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#### Chinese Delegation.

April 18th, 1932.

1. Chinese civil aviation is under the Ministry of Communications in which a " Civil Aviation " Department has been created for the purpose of supervising such aviation.

2A. The Chinese Air Transport Company operates the following Chinese airways :

(a) Shanghai, Nanking, Kiukiang, Hankow, Ichang, Wanhsien, Tsunking and Chengtu.

(b) Nanking, Hsu Chow, Tsinan, Tientsin and Peiping.

(c) Shanghai, Ningpo, Wenchow, Foochow, Amoy, Swatow and Canton.

This Company is a joint stock company established under an agreement between the Chinese Ministry of Communications and the American Air Transport Company. Its capital is ten million Chinese dollars. It is managed by a Board of Directors of seven members, of which the Director-General of the Company is Chairman *ex officio*.

B. The Europe-Asia Aviation Company operates the following lines of the Chinese airways :

(a) From Shanghai to Europe via Nanking, Tientsin, Peiping, Manchuli and Asiatic-Russia.

(b) From Shanghai to Europe via Nanking, Tientsin, Peiping, Urga and Asiatic-Russia.

(c) From Shanghai to Europe via Nanking, the Provinces of Kangsu and of Sinkiang and Asiatic-Russia.

This Company is a joint stock company, established jointly by the Chinese Ministry of Communications and the German " Luft-Hansa " Company, for the transport of mail between Europe and Asia. Its capital is three million Chinese dollars. It is managed by a Board of Directors consisting of nine members.

3. The China-Europe air lines will be operated by the Europe-Asia Aviation Company under agreements to be reached between this Company and the countries concerned.
4. There is no flying in China as a sport or for touring purposes.
5. All the air lines are operated by the two above-mentioned companies, a great part of whose shares are held by the Government.
6. In all the main air-ports there are wireless installations.
7. In addition to observatories already existing in the various large centres, there is a meteorological service in each of the main air-ports.
8. (a) Of the whole system of airways, two thousand six hundred kilometres are in operation, and eight thousand kilometres are still in the experimental stage.
  - (a1) As yet no line has been equipped for night flying.
  - (b) There exist twenty organised air-ports at present.
  - (b1) There is as yet no air-port equipped for night flying.
  - (c), (d) and (e) The Chinese delegation has not yet received the official statistics asked for, and is consequently not in a position to reply to these three questions.

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**Danish Delegation.**

April 21st, 1932.

1. *Authorities.*
    - Ministry of Public Works (" Ministeriet for offentlige Arbejder ");
    - Aviation Council (" Luftfartsraadet ");
    - Aviation Control Board (" Luftfartstilsynet ") : Inspectorate of material, inspectorate of flying ;
    - Government Airport at Kastrup, near Copenhagen (" Statens Lufthavn, Kastrup ").
  - 2 and 3. *Det Danske Luftfartsselskab A/S (D.D.L.) : Danish Air Navigation Company (Joint-Stock Company).*
    - Air lines operated :
      - Copenhagen-Hamburg,
      - Copenhagen-Berlin,
      - Copenhagen-Malmö (Sweden).
    - General management :
      - Government airport at Kastrup, near Copenhagen.
    - Booking office :
      - Copenhagen.
    - The air lines of the Danish Air Navigation Company :
      - Copenhagen Hamburg,
      - Copenhagen-Berlin,
      - Copenhagen-Malmö (Sweden)
- are operated in conjunction with the Deutsche Luft-Hansa under the terms of a pool concluded with the latter.
4. Seven persons practise flying as a sport or for touring purposes.
  5. The Government grants an annual subsidy of 250,000 crowns to the Danish Air Navigation Company (" Det Danske Luftfartsselskab "), without any obligation as to flying over a specific number of kilometres. The Company's budget, accounts, tariffs, time-tables and regulations must be submitted to the Ministry of Public Works. No subsidies are granted to organisations of private persons practising flying as a sport or for touring purposes.
  6. *Organisation of the Wireless Service.* — The Government airport at Kastrup, near Copenhagen, has two broadcasting stations (call sign O.X.S. ; wave-lengths 900 metres, 1,210 metres and 1,316 metres, for the purposes respectively of communication with aviators in flight and radiogoniometry, communication with neighbouring airports and meteorological broadcasts). The station operates in accordance with the " Betriebsordnung für den internationalen Flugfunkdienst ".

7. *Organisation of the Meteorological Service.* — There is at the Government airport at Kastrup, near Copenhagen, a meteorological section which is responsible for the meteorological service for all civil aviation flying over Denmark. It operates on the most up-to-date principles and broadcasts news in conformity with the international plan for broadcasting information.

8. (a) Length of the air lines : approximately 150 km. in Denmark ; 800 km. in Denmark and outside.
- (a1) Length of air lines equipped for night flying : 145 km.
- (b) Number of airports : 1.
- (b1) Number of airports equipped for night flying : 1.
- (c) Number of kilometres flown : 218,124 km.
- (d) Number of passengers carried (regular service) : 2,885
- (e) Mail and packages carried (in kg.) : 58,138
- } in 1931.

#### Spanish Delegation.

Geneva, May 4th, 1932.

1. The official civil aviation services are organised by a general technical directorate of aviation known as the "General Directorate of Civil Aviation".

This General Directorate is placed under the Under-Secretariat for Communications, which in its turn is attached to the Ministry of the Interior; it consists of a General Secretariat, five Sections and the scientific services dealing with psycho-technical matters and bibliography. An Advanced Aero-technical School, which trains aeronautical engineers, specialists in aircraft and air engines, and air pilots, is attached to the General Directorate.

The national air traffic, over both land and sea, is also supervised by this General Directorate, which has representatives in all aerodromes open for traffic.

Lastly, it has supreme control over and regulates the operations of the company "Líneas Aéreas Postales Españolas".

The General Secretariat which, like all the other sections, has its own special functions, is responsible for general matters, questions of an international character and air policy, air propaganda, regulations and general legislation, archives and library. The publications of this organisation include, in particular, an *Aeronautical Year-Book* and an *Atlas-Guide* to Spanish aerodromes.

The First Section deals with all matters connected with the installation of airports and their auxiliary services (plans, estimates and works), such as meteorology, wireless communications, etc. This Section also deals with matters relating to the Central Airports Council and its secretariat.

The Second Section is responsible for matters connected with aviation material and navigating personnel, the training of the latter and the inspection of both, registration and the issue of airworthiness and other certificates, as well as log-books, licences, aeronautical statistics and the medical service.

The Third Section deals with the aeronautical industry, laboratories and the Advanced Aero-technical School, and the technical matters connected with those questions.

The Fourth Section is responsible for national and international air traffic, policy, the operation of lines and aerodromes and, in general, the jurisdiction of the State in aeronautical matters.

There is a Fifth Section, known as the Accounts Section, which, in addition to all matters coming within its sphere relating to pay, etc., is responsible for the National Air Traffic Fund, which was created in 1929 and ratified by decree of the Provisional Government of the Republic in 1931.

The Directorate also publishes a monthly official bulletin containing any special provisions relating to aviation and complete statistics of the air lines.

2 and 3. The national air lines are operated by the State through a commercial company known as the "Líneas Aéreas Postales Españolas", the board of directors of which is appointed by the Government, in accordance with the law.

The lines in operation are Madrid-Seville and Madrid-Barcelona. There is a daily service operated by triple-engined machines and a subsidy is granted in proportion to the number of kilometres flown.

There may be other lines, but these are not subsidised by the State.

4 and 5. Flying for tourist purposes and as a sport is organised in the form of regional federations of clubs, which in their turn constitute the National Federation known as the "F.A.E.". This Federation is controlled by the Government and receives a subsidy to be distributed among its member clubs for the purpose of organising competitions, encouraging air propaganda and training pilots.

6. The aviation wireless service is at present ensured solely by the stations of the military aerodromes.

The Directorate of Civil Aviation considers it essential to improve the means of inter-communication and is now organising for that purpose a radiogoniometric service on the Mediterranean coast and in the Balearic Islands, and also on the Seville-Larache-Cape Juby-Canaries route, as it is of great importance that both routes should be properly equipped as soon as possible.

7. The meteorological aviation service receives direct the latest bulletins regarding atmospheric conditions on the most important routes, the chief of which go from Madrid to Corunna, San Sebastian, Saragossa-Barcelona, Los Alcázares, Granada-Melilla, Seville-Larache and Cáceres.

Observations are transmitted twice daily to Cuatro Vientos, where they are centralised and sent out to all aerodromes. There are 75 telegraph or wireless stations which transmit local observations and 10 wireless stations belonging to aerodromes which undertake this task jointly with the aircraft service. The meteorological service is carried out by the Military Aviation Department and can easily be made use of by civil aviation, since various military aerodromes are acting as airports pending the construction and organisation (now in progress) of national airports by the Directorate of Civil Aviation.

General weather forecasts are issued by the National Meteorological Institute and its meteorological bulletins are received by the military aviation system mentioned above.

Spain has already adopted the International Meteorological Codes for Aviation, in virtue of the agreement with France and Italy concluded at the First Mediterranean Conference (May 1930), and also the time-table agreed upon for regional transmissions, and her wireless stations will shortly be working at the frequencies stipulated. Spain is also engaged in organising the meteorological observation service on her vessels in the Mediterranean, in accordance with the decisions of the Third Mediterranean Aeronautical Conference (November 1931).

8. (a) 920 kilometres.

(a1) There is no air line equipped for night flying.

(b) Airports under construction: Barajas (Madrid), Gando (Canary Islands). Aerodromes open for air traffic: Barajas (Madrid) — León — Gamonal (Burgos) — Logroño — Prat del Llobregat (Barcelona) — Tablada (Seville) — Granada — Los Alcázares. Maritime aerodromes: Barcelona — Alicante — Cádiz — Vigo — Málaga — Gran Canaria — Tenerife — Palma (Majorca) — Bahía de Alcudia (Majorca) — Bahía de Pollensa (Majorca).

(b1) Tablada (Seville), Cape Juby, Villa Cisneros (African possessions).

(c) 603,035 kilometres.

(d) 6,300 passengers.

(e) Goods: 31,965 kilogrammes.

Mail: 6,925 kilogrammes.

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#### Estonian Delegation.

Geneva, April 5th, 1932.

1. The Department of Roads and Works of the Ministry for Communications is responsible for the organisation and supervision of civil aviation.

In the matter of aviation, the duties of this Department are to draw up plans for air lines and the relevant contracts, to supervise the construction and airworthiness of aircraft, to organise tests for pilots and other persons concerned and to approve the time-tables of air lines.

2. The national air lines are operated by the following foreign undertakings:

(a) The Tallinn-Riga and Tallinn-Leningrad lines by the Germano-Russian Aviation Company "Deruluft", which has its headquarters at Berlin and an agency at Tallinn. Landing-ground: the Nehatu aerodrome, 13 kilometres from Tallinn;

(b) The Tallinn-Helsinki line by the Finnish Aviation Company "Aero", which has its headquarters at Helsinki and an agency at Tallinn. Landing-ground — the hydro-aerodrome at Tallinn, on Lake Ulemiste.

These undertakings have no permanent structures or technical aviation apparatus in Estonia.



3. None.

4. The flying associations at Tallinn, Tartu, Rakvere, Narva and Viljandi.

5. No Government subsidy.

6. There is no special wireless service for aircraft. They may make use, in accordance with the general regulations, of the wireless station at Tallinn E.S.B. (E.S.M.), situated at 24° 42' 20" E. and 59° 27' 12" N. (the description and characteristics of this station are published in the "Nomenclature des stations fixes et terrestres", International Bureau of the Telegraphic Union, Berne, 3rd edition, 1931, pages 192 and 193, and in the "Nomenclature des stations effectuant des services spéciaux", 3rd edition, Berne 1931, pages 162, 163 and 252).

In addition to the above-mentioned station, the Aero Company has its own station for the exclusive use of the Tallinn - Helsinki air line. This station is situated at Tallinn, near Lake Ulemiste, and its power is 0.01 kw., wave length 175 m., type A 1 and A 3.

7. There is no special meteorological service for aircraft. A meteorological synoptic bulletin is drawn up by the Meteorological Observatory of Tallinn University in accordance with the International Meteorological Code and on the basis of data received from the stations of Tallinn, Tartu, Filsandi, Narva, Jõesuu and Pakri. This bulletin is broadcast daily by the Tallinn wireless station at 7.30 a.m., 1.30 and 6.30 p.m. The information is supplied to aircraft upon request.

8. (a) Tallinn - Riga 304 kilometres, Tallinn - Leningrad 360 kilometres, Tallinn-Helsinki 90 kilometres.

(a1) None.

(b) An aerodrome (provisional) for aircraft at Nehatu and a hydro-aerodrome (provisional) for seaplanes on Lake Ulemiste (at Tallinn). A public airport is under construction at Tallinn.

(b1) None.

(c) 282,320 kilometres.

(d) 2,057 persons.

(e) 5,705 kilogrammes (mail) + 24,095 kilogrammes (packages) = 29,800 kilogrammes.

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#### Finnish Delegation.

April 8th, 1932.

1. The authority under which civil aviation is placed is the Ministry of Communications and Public Works, and in certain cases the Rapporteur of the Ministry on Air Questions. They are assisted by the inspector of aeroplanes and his deputies.

2. The air lines at present in operation are :

Helsinki - Turku - Stockholm,

Helsinki - Tallinn,

Stockholm - Copenhagen (night line).

3. These lines are operated by the limited liability company "Aero O.Y.", the only undertaking in Finland engaging in commercial air traffic. The line Helsinki - Turku - Stockholm is operated jointly with the Swedish Aerotransport Company. The lines Helsinki - Tallinn and Stockholm - Copenhagen, on the other hand, are operated by the "Aero O.Y.". These lines are maritime. Between Stockholm and Copenhagen, a land line has also been organised over the part of Sweden situated between these two towns.

4. In Finland, there is no special organisation engaging in flying as a sport or for touring purposes.

5. The "Aero O.Y." receives a Government subsidy per kilometre travelled. In 1931, the amount of this subsidy was approximately 1,950,000 Finnish marks.

6. The wireless station at Hanko is responsible for wireless communications with aeroplanes. At the Helsinki airport the "Aero O.Y." has a wireless station which communicates with aeroplanes for the purposes of the air service.

7. Meteorological information is given by the Central Meteorological Office.

8. (a) Length of the air lines (in kilometres):

Helsinki - Turku - Stockholm . . . . .	450
Helsinki - Tallinn . . . . .	90
Stockholm - Copenhagen (maritime line) . . . . .	640
Stockholm - Copenhagen (land line) . . . . .	525

(a1) Stockholm - Copenhagen (see (a)).

(b) Number of airports (for hydro-aeroplanes) . . . . . **3**

(b1) No airport equipped for night flying.

(c) Number of kilometres flown in 1931 (of which 77,765 at night) . . . . . 257,645

(d) Number of passengers carried in 1931 . . . . . 3,838

(e) Mail and packages carried in 1931 (in kilogrammes) . . . . . 30,062

(f) Baggage and freight carried in 1931 (in kilogrammes) . . . . . 54,101

**French Delegation.**

April 20th, 1932.

1. Up to last February, the services of French civil aviation were grouped under the authority of the Air Minister. At present, they are attached to the Ministry of Public Works and of the Merchant Marine.

*Present Organisation.*<sup>1</sup> — The civil aviation services are under the Directorate of Civil Aviation, which, in its turn, is under the orders of the Minister of Public Works and of the Merchant Marine.

The Air Attachés are directly responsible for all that concerns civil aviation to the Ministry of Public Works and the Merchant Marine.

The Minister of Public Works and of the Merchant Marine (Directorate of Civil Aviation) fixes the programme of works and buildings for civil aviation and specifies their order of importance.

He manages the installations and administers their staff, or, if necessary, entrusts their management to local bodies.

The Minister of Public Works and of the Merchant Marine also draws up the programmes of aeroplane models and miscellaneous material for civil aviation.

The plans or specimens sent in are submitted both to the Directorate of Civil Aviation and to the General Technical Directorate for making calculations and tests and determining the characteristics of utilisation.

The Minister of Public Works and of the Merchant Marine accepts or rejects the plans or specimens.

The credits granted for constructions from models of civil aeroplanes and miscellaneous material or for touring aviation are administered by the Minister of Public Works and of the Merchant Marine.

2 and 3. The French national air lines are operated by the "Air-Union" or by the Compagnie Générale Aéropostale as follows:

Operating company	Share capital	Lines	Observations
Air Union	14,000,000 French francs	Paris - Lyons- Marseille Marseille - Ajaccio - Tunis Tunis - Bone  Lyons - Cannes	By seaplane  In connection with the previous line, summer only In connection with the Paris - Lyons - Marseille line at Lyons.
Aéropostale	45,000,000 French francs	Marseille - Algiers	By seaplane.

<sup>1</sup> The present organisation was provisionally fixed by a Decree and an Ordinance dated March 29th, 1932.

The "Air-Union" Company, the Compagnie Générale Aéropostale, the Compagnie Internationale de Navigation Aérienne, the Air-Orient and the Société de Transports Aériens operate the following international air lines under the conditions given below :

Operating company	Share capital	Lines	Observations
Air Union	14,000,000 French francs	Paris - London Lyons - Geneva  Paris - Geneva direct	In connection with the Paris - Lyons - Marseilles line  Jointly with the Swiss company "Swissair"
Aéropostale	45,000,000 French francs	Toulouse-Casablanca Casablanca - Dakar - Natal - Rio de Janeiro - Buenos Ayres - Santiago de Chile  Marseilles-Barcelona	In connection with the Toulouse - Casablanca line at Barcelona
Air-Orient	22,400,000 French francs	Marseilles - Baghdad Saigon	By seaplane as far as Beirut
CIDNA	8,250,000 French francs	Paris - Istambul Prague - Warsaw Belgrade - Sofia - Istambul Paris - Basle - Zurich	Summer only Jointly with the Swissair Company (summer only)
Société Générale de Transports Aériens	10,000,000 French francs	Paris - Brussels - Amsterdam  Paris - Cologne - Berlin  Paris - Saarbruck - Frankfort - Leipzig - Hamburg  Brussels - Essen - Hamburg - Copenhagen - Malmö	Jointly with the Dutch Company K.L.M.  Jointly with the Deutsche Luft-Hansa  Jointly with the Deutsche Luft-Hansa (summer only)  Jointly with the Belgian Company S.A.B.E.N.A. In connection with the Paris-Brussels-Amsterdam line at Brussels (summer only)

4. On April 1st, 1932, 245 private persons owning 245 touring aeroplanes carried on flying as a sport and for touring purposes. Sixty-two clubs possess approximately 200 touring aeroplanes. They teach flying, carry out tours and take part in competitions.

5 (a). Subsidies are granted by the French Government to the French air companies in proportion to the useful tonnage carried, the commercial speed achieved, and the difficulties of the routes served.

(b) Subsidies are granted on the following conditions to national organisations and individuals in the form of allowances for the purchase and upkeep of aircraft :

Any organisation (club) or person wishing to obtain an allowance must undertake to use the aircraft thus purchased for purposes of touring or personal transport only.

The allowances may only be granted for the purchase and upkeep of machines constructed in France and of a type less than six years old.

In the case of private individuals, Government assistance may only be obtained for a single machine.

No person receiving remuneration from an air undertaking may obtain an allowance for the purchase or upkeep of a machine of the same type as those manufactured by the undertaking to which he belongs.

The amount of the allowances granted is calculated as follows :

*Purchase Allowance.* — The purchase allowance comprises : a fixed sum ; a useful load bonus based on the number of passengers carried with a radius of action of 300 kilometres ; a horse-power bonus in respect of new engines constructed in France, on the basis of their horse-power ; a special bonus for machines of metallic construction.

*Note.* — As regards seaplanes and amphibian apparatus, no purchase allowance is granted in respect of single-seaters.

*Upkeep Allowances.* — Upkeep allowances are granted for each hour's flight performed by the machines in excess of 100 hours, in respect of which no allowance is paid.

6. See Annex 1 attached.

7. See Annex 2 attached.

8. Length of air lines in kilometres . . . . .	} in 1931	} See Annex 3 attached.
Number of kilometres flown . . . . .		
Number of passengers carried . . . . .		
Mail and packages carried . . . . .		

The number of airports open to civil aviation is 51 aerodromes and 10 seaplane bases.

The number of these airports equipped for night-flying is 32 aerodromes supplied with obstacle lamps and 17 aerodromes supplied with searchlights.

The length of air lines equipped for night-flying is 2,578 kilometres — viz., Paris - St. Inglevert, 225 ; Paris - Valenciennes, 170 ; Paris - Strasburg, 403 ; Paris - Bordeaux, 535 ; Bordeaux - Toulouse, 215 ; Toulouse - Perpignan, 160 ; Paris - Marseille, 730 ; Clermont - Lyons, 140.

Annex 1.

ORGANISATION OF WIRELESS SERVICES.

Civil aviation uses wireless apparatus for two different purposes — first, for exchanges of communications, and, secondly, for the guidance of aircraft. These different services are governed by international agreements.

Exchanges of communications are of three kinds : meteorological communications, communications between aerodromes as regards traffic and communications with aircraft.

1. *Meteorological Communications.* — Meteorological observations and forecasts are made periodically by the National Meteorological Office. Each observation post sends information by telephone or wireless to a central or local post (concentration).

The latter collects the observations and sends them out by wireless (broadcasting). In this way, anyone can receive the local meteorological telegrams. The majority of the communications are dealt with by the transmitting and receiving wireless stations of civil aviation. The transmissions normally effected on long waves are usually duplicated by simultaneous short-wave transmission ; hence, when there is atmospheric interference with long-wave communications, the same communication can be listened to on short waves with much greater chance of success.

The information thus received on the aerodromes are posted up and placed at the disposal of pilots in the form of tables or charts. Information likely to interest aeroplanes in flight is also communicated to them by wireless.

2. *Communications between Aerodromes (Traffic).* — Each departure of an aeroplane is notified by the aerodrome of departure to the first stopping-place and to the point of arrival. It is thus possible to follow the aeroplane on its way, to avoid collisions in case of fog, and to prepare transport for the conveyance of passengers from the aerodrome to the town. In the more dangerous places, effective rescue work can also be organised. Arrivals of aeroplanes are, of course, communicated to the aerodrome of departure.

These communications are made by wire, or more often by wireless, and the receiving stations are placed at the aerodromes in the vicinity of the control station. Transmitting stations are, as a rule, placed outside the aerodromes at a distance of about 2 kilometres,

so that their aeriels should not hinder pilots. In such cases they are worked at a distance from the aerodrome. The transmitting stations may be divided into two categories according to their power. The high-power stations (2 kilowatts at the aerial) for long-distance communications are situated at Orly, Algiers, Marseilles, Tunis, Casablanca, Toulouse; they communicate among themselves or with the ordinary aerodrome stations placed near them. The ordinary stations have a power of approximately 600 watts at the aerial. As a rule, each station has several identical transmitters, or, if a single transmitter is sufficient, an ordinary station and a reserve station.

3. *Communication with Aeroplanes.* — The apparatus placed on the ground, whether transmitting or receiving, for communication with aeroplanes is similar to the apparatus employed for traffic communications. Many receivers, however, are equipped for direction-finding. The apparatus placed on board aeroplanes belongs, like the commercial aeroplanes themselves, to the air transport companies. The conditions of installation and operation of such apparatus are, however, fixed by the Government.

Communications between aeroplanes and the ground are carried out on waves of 870-900 and 930 metres. The aeroplane calls and the land station replies. Communication should be made telegraphically, but telephony is still allowed.

The majority of the communications relate to the aeroplane's position or to requests for information as to the weather; sometimes they report incidents occurring *en route* or ask for help. When an aeroplane is in distress it makes the S.O.S. signal and all other communications of the same wave-length are stopped. Special rules are then applied and the messages exchanged are known as distress communications. The main objective is usually to locate the aeroplane in order to assist it, and here direction-finding is used.

Direction-finding — or, more generally, guidance — is aimed at, telling the observer his position and the line to be followed to reach his objective. The simplest method of utilising direction-finding from the point of view of the pilot is, of course, to place the direction-finder on the ground. There is at present a complete system of direction-finders for aeroplanes on the ground. In France and North Africa, they are situated at the following places: Ajaccio, Algiers, Antibes, Auxerre, Biarritz, Bone, Casablanca, Dijon, Le Bourget, Marseilles, Oran, Perpignan, Strasburg, Toulouse, Tours, Tunis, Valenciennes.

These stations work with each other or with the neighbouring foreign stations, among which may be mentioned: Croydon, Lympne, Pulham, in England; Ostend, Brussels, in Belgium; Rotterdam, in the Netherlands; Stuttgart, Cologne, Dortmund, in Germany; Basle, Geneva, Zurich, in Switzerland.

The stations usually work in groups of three under the command of a directing station known as the control station.

An aircraft wishing to know its position calls the control station. The latter warns the neighbouring direction-finding stations and asks for their assistance. The aircraft is then requested to transmit for a minute and the direction-finding stations concerned make their measurements. These measurements, after examination and correction for systematic errors, are concentrated at the control station, which plots the position on the map and communicates it to the aircraft.

Another system of guidance employed by the Americans has just been adopted in France — namely, that of the radio beacon with fixed frames. An apparatus of this kind has been placed near Abbeville and marks the air route from Paris to London; it is sufficient for the aircraft desiring guidance to be supplied with a wireless-receiving set to be able to use the radio beacon and pursue its course even in a fog. When the machine is on the right course the operator hears a continuous sound, and if he deviates to the right or to the left he hears a signal which shows him on which side he is.

As regards administration, the Directorate of Civil Aviation has a communications section which centralises and studies all questions connected with wireless telegraphy. In each of the three district air navigation departments at Paris, Marseilles and Algiers, there is a radio-electric inspector responsible for the examination of the same questions for the territory of his district.

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#### Annex 2.

##### ORGANISATION OF THE METEOROLOGICAL SERVICE.

In France, the whole meteorological service is entrusted to a central organisation, the "National Meteorological Office".

This organisation is responsible for meeting all the meteorological requirements of the parties concerned, involving the utilisation of a general observation system (forecasts, bulletins, climatology and documentation).

It comprises a central service established at Paris and stations and posts situated at different points on French territory.

1. *Central Service.* — The central service has a directorate and special sections. The directorate organises, directs and co-ordinates the work of the different sections and services of the National Meteorological Office.

The special sections comprise :

(1) A *weather forecast section* responsible for preparing regional forecasts for the whole of France and weather bulletins for aviation.

This section functions day and night and operates conjointly with the competent commissions of the International Meteorological Committee; the Meteorological Commission of the CINA; the Meteorological Section of the International Committee of Geodesy and Geophysics.

(2) A *communications section* which centralises national and international intelligence and broadcasts forecasts and warnings.

It also undertakes research into the relations between meteorological phenomena and electro-magnetic waves.

For its bulletins, it employs the wireless stations of all the Ministries (P.T.T., National Defence, Colonies). Experiments are now being made with the use of *helinograms* for the daily transmission of part of the documentation prepared by the Weather Forecasts Section to the stations and posts of the N.M.O.

This section co-operates in the work of the commissions of the International Meteorological Committee and the commissions of the International Union of Scientific Radio-Telegraphy.

(3) A *climatology section*, which collects, studies and publishes all the meteorological observations made on the national territory.

The climatology section co-operates in the work of the corresponding commissions of the International Meteorological Committee and the league against crop pests.

(4) The National Meteorological Office also comprises a statistical section; an instructional section; a general inspectorate; an administrative section; a central study and instructional establishment at Mont Valérien.

2. *Regional Services.* — Meteorological posts are situated along and in the vicinity of the air navigation lines. They contribute to the protection of the aeroplanes employed along these lines.

These posts are placed under the authority of regional inspectorates responsible for controlling and directing them, for centralising supplementary information and for drawing up regional reports.

Apart from the posts belonging to the N.M.O., a system of auxiliary posts has been created with the assistance of organisations having a permanent staff on the spot, such as gendarmerie and forestry posts, railway station employees, etc.

At present the National Meteorological Office has 9 stations, 75 posts and 126 auxiliary posts.

In addition, an important climatological system constituted by small posts operates under the direction of the N.M.O. These posts are served by persons interested in the development of meteorology owing to their qualifications, their duties or their profession. Their number at present amounts in France to about 1,500.

The geographical distribution of the posts and stations of the N.M.O. is shown in the following table.

GEOGRAPHICAL DISTRIBUTION OF POSTS AND STATIONS OF THE NATIONAL METEOROLOGICAL OFFICE.

*Stations.<sup>1</sup>*

France :	Suresnes (Mont Valérien)	Marignane F.G.
	Dijon F.G.	Rennes
	Lyons F.G.	Tours F.G.
Algeria-Tunisia :	Algiers F.G.	
Morocco :	Rabat F.G.	
Syria :	Beirut F.G.	

*Posts.<sup>1</sup>*

France :	Abbeville F.G.	Metz F.G.
	Ajaccio F.G.	Montélimar F.G.
	Angers F.G.	Mourmelon F.G.
	Angoulême F.G.	Nancy F.G.
	Argentan	Nîmes F.G.
	Aulnat F.G.	Orléans F.G.
	Avord F.G.	Pau F.G.
	Beauvais F.G.	Perpignan F.G.
	Belfort	Poitiers F.G.
	Bordeaux F.G.	Le Puy
	Le Bourget F.G.	Rheims F.G.

<sup>1</sup> F.G.—flying ground; Aer.—balloonists; Stat.—station employees; Ph.—lighthouse; Gend.—Gendarmerie brigade.

France :	Brest Cazaux F.G. Chartres F.G. Châteauroux F.G. Cherbourg F.G. Compiègne Aer. La Courtine (camp) Cuers F.G. Epinal Aer. Etampes F.G. Le Havre Istres F.G.	Rennes Rochefort F.G. Romilly F.G. Romorantin F.G. St. Inglevert F.G. St. Raphaël F.G. Saverne Strasburg F.G. Thionville F.G. Toulouse F.G. Valenciennes F.G.
Algeria-Tunisia :	Adrar F.G. Ain Sefra F.G. Aoulef F.G. Beni-Abbès F.G. Bou-Bernous Colomb-Béchar F.G. El Goléa F.G. In-Salah F.G.	Laghouat F.G. Oran F.G. Setif F.G. Méchéria F.G. Tunis F.G. Kairouan F.G. Gabès F.G. Karouba (Bizerta) F.G.
Morocco :	Casablanca F.G. Bou-Denib F.G. Fez F.G. Marrakech F.G.	Meknès F.G. Tadla F.G. Tangiers F.G. Taza F.G.
Syria :	Damascus F.G. Deir-ez-Zor F.G. Deraa F.G. Muslimié F.G.	Palmyra F.G. Rakka F.G. Rayack F.G.

*Semaphore Posts.*

Ajaccio Alprech Arcachon Bénat Bréhat Calais Baraque Camarat Cap Béar Cap Corse Cap Couronne Cavallo Chassiron Croisettes Dunkirk	Faraman Fréhel Gavres Gris-Nez Iles Sanguinaires La Chiappa La Coubre La Hague La Hève Ouessant-Creac'h Penmarch Pertusato Pointe d'Ailly	Pointe de la Percée Pointe du Butte Pointe du Roc St. Mathieu Sète Sicié Socoa Talus Cap Falcon (Oran), Algeria Bouzareah (Algiers), Algeria Bougaroni (Constantine), Algeria Cap de Garde (Constantine), Algeria Cap Blanc, Tunisia
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*Auxiliary Posts.<sup>1</sup>*

France :	Agen F.G. Ambérieu F.G. Avignon-Pujaut F.G. Ballon Gend. Beaufort Gend. Beaumont Gend. Berck F. G. Bergerac Gend. and Inst. Tabacs Biarritz Parme F.G. Billy-sous-Mangiennes Gend. Blodelsheim Gend. Bonneville Gend. Bourgueil Gend. Brive Gend. Carcassonne F.G. Cassel Gend. Castellane Gend. Castelnaudary Phare. Chalon-sur-Saône Gend. Châteaubriant Gend. Châtillon Américain F.G. Châtillon-sur-Seine Gend. Chaumont Gend.	La Châtaigneraie Gend. La Ferté-sous-Jouarre Gend. Landes de Bussac F.G. Langres Gend. Lapleau Gend. Laon Gend. La Tour d'Auvergne Gend. Le Grand-Pressigny Gend. Ligny-en-Barrois Gend. Lormes Gend. Loudéac Gend. Mâcon Gend. Mâcon-Charnay F.G. Mézières Gend. Modane Gend. Montfaucon Gend. Montluçon Stat. Montmirail Gend. Montrésor Gend. Mont-Revard Stat. Mont St. Vincent Gend. Neung-s.-Beauvron Gend. Neuvy-le-Roi Gend.
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<sup>1</sup> See footnote, page 157.

France :

Clermont-en-Argonne Gend.  
Clermont-Ferrand Stat.  
Commercy Gend.  
Conches Gend.  
Coursan Gend.  
Crest Gend.  
Damvillers Gend.  
Digoin Gend.  
Feurs Gend.  
Fumay Gend.  
Gannat Stat.  
Hauteville Gend.  
Sallanches Gend.  
Sarrebourog Gend.  
Saulieu Gend.  
Scyssel-Corbonod Stat.  
Soissons Gend.  
Tarare Stat.

Nogent-le-Rotrou Gend.  
Noirétable Gend.  
Périgueux Gend.  
Poix F.G.  
Pontarlier Gend.  
Pont de Dore Stat.  
Romans Gend.  
St. Dizier Gend. and F.G.  
St. Laurent-du-Chamousset Gend.  
St. Michel Gend.  
St. Quentin F.G.  
St. Rambert-d'Albon F.G.  
Tulle Gend.  
Ussel Gend.  
Vigneules-les-Hattonchâtel Gend.  
Villefranche-de-Lauraguais Gend.  
Virieu-sur-Bourbre Gend.

Algeria-Tunisia :

Ain Beida Gend.  
Ain-el-Hadjaz Gend.  
Ain M'Lila Gend.  
Aumale Gend.  
Batna Gend.  
Béja Gend.  
Berroughia Gend.  
Biskra Gend.  
Blida Gend.  
Boghari Gend.  
Bordj-bou-Arréridj Gend.  
Bouira Gend.  
Bou-Saada Gend.  
Constantine Gend.  
Ghardimaou Gend.  
Guelma Gend.  
Le Kef Gend.  
Khenchela Gend.  
Lavigerie Gend.  
Mansourah Gend.  
Mascara Gend.  
Médéa Gend.

Medjaz-el-Bab Gend.  
Miliana Gend.  
Montagnac Gend.  
Mostaganem Gend.  
M'Sila Gend.  
Orléansville Gend.  
Oued-Zem Gend.  
Palestro Gend.  
Rolizane Gend.  
Sfax Gend.  
Sidi-bel-Abbès Gend.  
Souk Ahras Gend.  
Souk-el-Arba Gend.  
Sousse Gend.  
Tabarca Gend.  
Tebessa Gend.  
Téniet-el-Had Gend.  
Tiaret Gend.  
Tiflet Gend.  
Tlemcen Gend.  
Villars Gend.

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Annex 2.  
AIR TRAFFIC STATISTICS. — SUBSIDISED FRENCH LINES.  
YEAR 1931.

Air line	Length of lines in kilometres	Kilometres flown	Actual traffic (per line)			Kilometric traffic		
			Passengers paying or carried free <sup>1</sup>	Packages and excess baggage in kilogrammes	Mail in kilogrammes	Passenger kilometres, paying and carried free <sup>2</sup>	Packages and excess baggage in kilometric tons	Mail in kilometric tons
<i>Compagnie Générale Aéropostale</i>								
France-French West Africa-South America <sup>2</sup> . . . . .	13,855	1,425,545	256	6,325	31,056	377,510	13,988	200,155
France-Morocco <sup>2</sup> . . . . .	2,555	1,588,578	2,293	45,133	52,446	3,625,645	42,971	92,281
Marseilles-Algiers . . . . .	803	453,654	39	5,705	12,839	31,317	4,579	10,310
<i>Compagnie Internationale de Navigation Aérienne</i>								
Paris-Istambul and branch lines	4,199	1,611,234	3,138	268,787	18,257	2,161,956	239,855	18,999
Paris-Zurich . . . . .	492	75,276	608	12,405	2,767	179,720	5,296	953
<i>Compagnie Air-Union</i>								
Paris-London . . . . .	375	1,026,256	12,763	828,191	11,215	4,786,135	291,895	4,207
Paris-Marseilles . . . . .	730	556,990	2,998	81,196	6,607	1,788,965	49,181	3,516
Marseilles-Tunis-Bone . . . . .	1,293	630,091	3,147	13,194	11,662	2,225,102	10,409	10,482
Paris-Lyons-Geneva . . . . .	558	73,098	316	4,097	377	116,968	1,828	185
<i>Société Générale de Transport Aériens</i>								
Paris-Amsterdam . . . . .	460	384,667	3,042	219,460	10,338	744,445	72,200	3,277
Paris-Cologne-Berlin . . . . .	888	293,414	1,941	74,208	3,649	1,130,621	40,205	2,377
Paris-Saarbrück-Berlin . . . . .	1,010	137,765	1,140	29,084	12,858	467,015	14,985	4,339
Cologne-Malmö . . . . .	695	105,375	700	9,458	1,114	278,465	4,704	513
<i>Compagnie Air-Orient</i>								
Marseilles-Baghdad-Saigon . . . . .	12,289	906,290	319	8,327	11,426	508,922	17,406	47,176
<b>Total . . . . .</b>	<b>40,122</b>	<b>9,268,233</b>	<b>32,700</b>	<b>1,605,611</b>	<b>186,611</b>	<b>18,422,786</b>	<b>809,502</b>	<b>809,770</b>

<sup>1</sup> Excluding staff of the companies.

<sup>2</sup> Of which 1,079,590 kilometres by aeroplane.

<sup>3</sup> The Franco-Morocco service consists of : Bordeaux-Toulouse-Casablanca and Marseilles-Barcelona.

### Greek Delegation.

Geneva, April 4th, 1932.

1. Civil aviation is under the Department of Civil Aviation of the Air Ministry. In addition to the Administrative Service it comprises the following sections :

Air Communications Section with Bureau of Private Aviation and Propaganda ;  
Section of Statistics, Information, Contracts and Conventions ;  
Airports Section ;  
Air Navigation and Cartographical Section.

The Technical Service is common to military and civil aviation, as are the Accountancy Wireless and Meteorological Services.

2. The national air lines are operated by a limited company with a capital of 28,500,000 dr. entitled Greek Air Communications Company. Sixty per cent of the capital must be held by Greek subjects, otherwise the concession will be annulled. The company has concluded a contract with the Government for a period of fifteen years entitling it to operate certain lines within Greek territory and others outside the national territory.

The company is administered by an Administrative Board and is managed by a Director-General. A technical adviser from the Junkers factories is at the Company's disposal for a period of two years.

The company is subsidised by the Government on the basis of the number of kilometres travelled. The subsidy per kilometre is revised every four years on the basis of the expenditure and receipts of the last two years of each four-year period. The specifications for aeroplanes are laid down by the Air Ministry, as well as the maximum and minimum number of flights which may be effected each year.

Technical supervision is exercised in the airports by Government employees. Financial supervision is exercised at the end of each year by officials of the Department of Civil Aviation.

The Company utilises the Government airports on payment of certain fees in respect of landing and sojourn. The lines at present operated are the following :

Athens - Salonika and *vice-versa*, daily service in both directions throughout the year except on Sundays ;

Athens - Agrinion - Janina and *vice-versa*, daily service in summer and three times a week in winter in each direction.

3. At present no national undertaking operates air lines outside the national territory. The following foreign companies operate international lines with stations in Greek territory :

Aeroespresso :	1. Line Brindisi - Patras - Athens - Mitylene - Constantinople.
	2. Line Athens - Syra - Rhodes.
Air-Orient :	3. Line Marseilles - Corfu - Athens - Indochina.
Imperial Airways :	4. Line London - Athens - British India.
	5. Line London - Athens - Crete - South Africa.
K. L. M. :	6. Line Amsterdam - Athens - Java (Netherlands India).
Aeropot :	7. Line Salonica - Belgrade - Vienna.
Lot :	8. Line Salonica - Sofia - Bucharest - Warsaw - Danzig.

Proposals have also been put forward by other foreign companies whose lines have not yet begun to operate.

4. No flying is at present done in Greece by private persons.

The following organisations have been formed to support the efforts of private persons to organise private flying for sporting purposes :

(1) Central Aeronautical Committee of Greece, under the auspices of the Air Ministry, under whose authority the private organisations are placed ;

(2) Aero-Club of Greece ;

Air League of Athens ;  
Air League of Salonica (Friends of the Air) ;  
Air League of Piræus ;  
Air League of Corfu ;  
Air League of Janina ;  
Air League of Larissa ;  
Air League of Volo ;  
Air League of Agrinion.

5. The Greek Air Communications Company is subsidised by the Government on the basis of the kilometres travelled. The kilometric subsidy is revised every four years according to the receipts and expenditure of the last two years of each four-year period, the financial conditions prevailing and the material utilised.

The Central Aeronautical Committee receives as subsidy a sum fixed each year by the Air Ministry according to the work assigned to it by the Ministry for the coming year.

6. The Wireless Service of civil and military aviation is provided by a section of the military air staff. To meet the requirements of civil aviation at the points where there are no wireless stations belonging to the Air Ministry, the stations of the navy and of the Ministry of Communications (Postal and Telegraph Service) are utilised. Lastly, certain foreign air communications companies have received permission to set up private stations at their airports under Government control. The operation of these stations may at any time be suspended or stopped by order of the Air Ministry.

7. The meteorological service for civil aviation is provided by the Central Greek Meteorological Office, which constitutes a separate department of the Air Ministry and provides for all the meteorological requirements of the Government and of private individuals.

8. (a) Length of the air lines : 700 kilometres.

(a1) Nil.

(b) Mixed airports (land and naval) (1) Salonica.

Land airports (2) Janina, Agrinion.

Naval airports (2) Corfu, Athens (Phalera).

Land military aerodromes open to civilian air traffic (3) Tatoi (Athens), Larissa, Sedes (Salonica).

(b1) In 1931 : Nil ; in 1932 : (3) Tatoi (Athens), Larissa, Sedes (Salonica).

(c) From July 10th, 1931, to December 31st, 1931 (6 months) : 125,870 kilometres.

(d) 2,680 passengers, including 2,205 paying passengers, from July 10th, 1931, to December 31st (6 months).

(e) 1,295 kilogrammes from July 10th to December 31st (6 months).

(f) Goods and excess baggage 9,071 kilogrammes from July 10th to December 31st.

It should be noted that the figures given in paragraphs (c), (d), (e) and (f) above apply to the transport of the Greek company only and not that of the foreign companies operating lines through Greek territory.

It should also be noted that the regular line Athens - Salonica was inaugurated on July 10th, 1931, and the line Athens - Janina on November 23rd, 1931. Hence, the above figures only represent six months' flying on the Salonica line and one month's flying on the Janina line.

### Hungarian Delegation.

Budapest, April 1st, 1932.

1. The authority in which supreme control of Hungarian civil aviation is vested is the Ministry of Commerce, Section III of which has charge of the management and supervision of matters concerning this mode of transport.

Section III is at the same time the second-instance authority in air matters, the Minister of Commerce having granted it the status of an Aviation Bureau.

2. At the present time, Hungary possesses but one air-transport undertaking: the Magyar Légiforgalmi R.T. (Hungarian Air Transport Company, organised as a joint stock company).

This company operates the following national commercial and postal lines : Budapest - Pécs - Kaposvár and Budapest - Nyiregyháza.

It is only in summer that these lines are linked up with the international system (see below).

3. The same company also maintains the international commercial and postal line : Budapest - Vienna, operated jointly with the Oesterreichische Luftverkehrsges. A.G. and the Luft-Hansa A.G.

4. Flying for sport and touring purposes is under the supervision of the Hungarian Flying Federation (Magyar Aeró Szövetség). This federation is a member of the F.A.J. It comprises six sports clubs.

5. The Magyar Légiforg. R.T. is in receipt of an indirect subsidy paid in advance and a direct subsidy paid on the basis of results.  
No other subsidies are paid in respect of civil aviation.

6. The centre of the wireless system is at Budapest. Each aerodrome (see 8 (b)) is equipped with a station of its own.  
The wireless direction-finding service possesses two stations, at Budapest and Szombathely.

7. The national and international meteorological service is in the hands of the State Meteorological Institute, which supplies aerodromes with general meteorological information.

Each aerodrome has its own meteorological station, which supplements the above-mentioned information and maintains direct communication with pilots and aeroplanes in flight.

8. (a) Length of the air lines (excluding the projected Budapest - Venice line):  
715 kilometres.

(a1) Nil.

(b) One airport and eight aerodromes.

(b1) Nil.

(c) 197,160 kilometres.

(d) 3,498 passengers.

(e) 87,581 kilogrammes.

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Indian Delegation.

Geneva, May 17th, 1932.

1. Civil aviation is directly under the control of the Director of Civil Aviation in India, who is responsible to the Government of India in the Department of Industries and Labour. The Director is assisted by a Deputy-Director. The First Director of Civil Aviation in India was appointed in the year 1927.

The inspection and airworthiness of aircraft is supervised by an Inspector of Aircraft, who was engaged in 1929 and is responsible to the Director of Civil Aviation. An Assistant Inspector is being appointed shortly. Air traffic at the civil aerodromes at Karachi, Calcutta, Allahabad and Rangoon on the trans-India route is controlled by aerodrome officers.

2. The Delhi and United Provinces Flying Club Limited, a club subsidised by the Government of India, is at present temporarily operating an air-mail service between Karachi and Delhi. It is expected that, in the very near future, air-mail services on the routes (i) Karachi-Moghul Serai and (ii) Karachi-Bombay-Madras will be inaugurated by certain Indian companies. The Karachi-Moghul Serai service will supersede the Karachi-Delhi service.

3. Nil.

4. The following organisations exist for the encouragement of flying and the training of civil air pilots :

(1) The Delhi and United Provinces Flying Club, with centres at Delhi, Cawnpore and Lucknow.

(2) The Punjab Flying Club, Lahore.

(3) The Karachi Aero-Club, Karachi.

(4) The Bengal Flying Club, Calcutta.

(5) The Bombay Flying Club, Bombay.

(6) The Madras Flying Club, Madras.

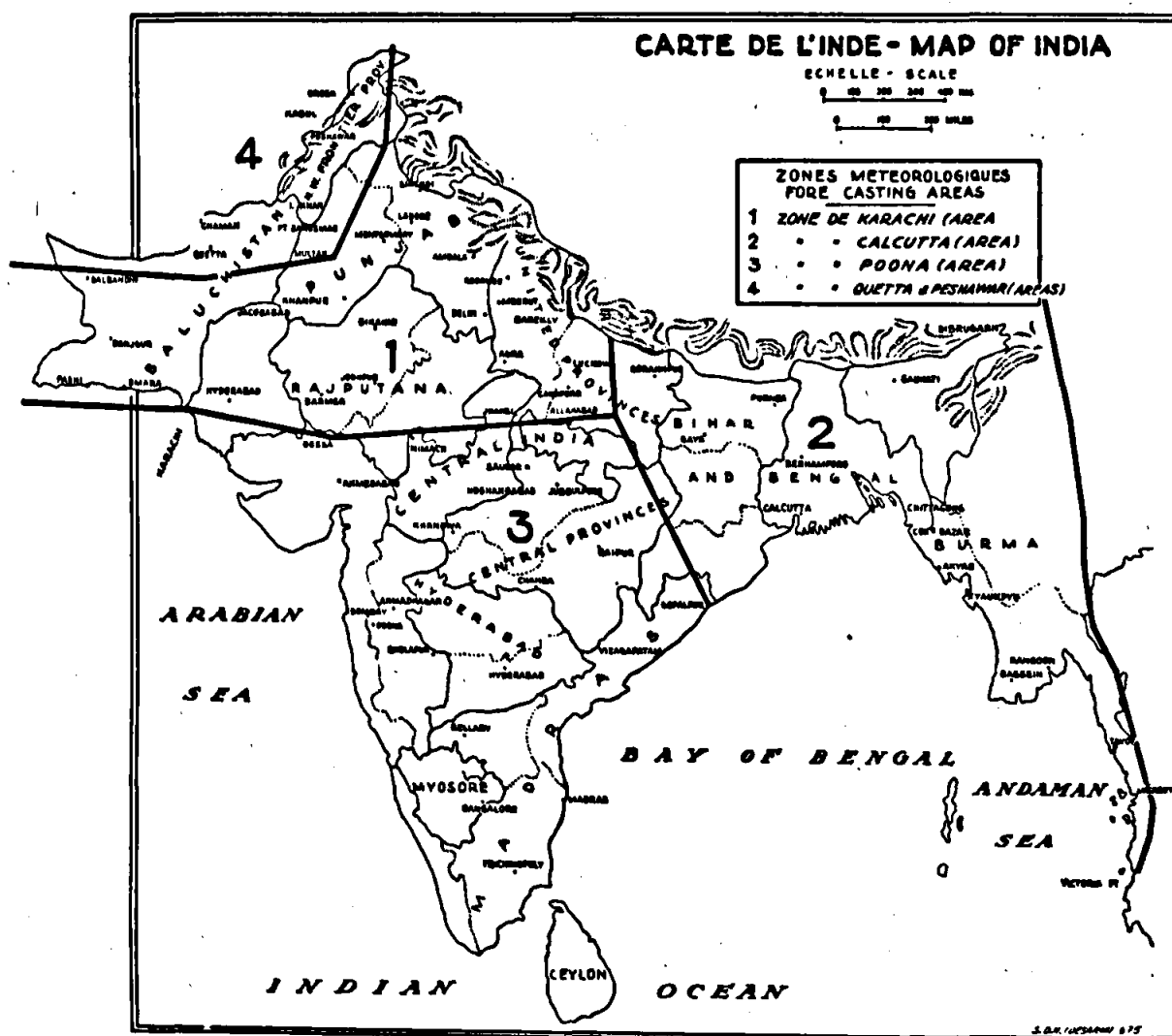
(7) The Jodhpur Flying Club, Jodhpur (Jodhpur State).

The number of private persons who are holders of current "A" class pilots' licences is 177. Of these, 21 are private owners of aircraft.

5. The first six flying clubs mentioned in paragraph 4 above are under the control of a parent club known as the Aero-Club of India and Burma Limited. The latter club received a subsidy from the Government of Rs.20,000 for the financial year 1931-32 and the flying clubs at Delhi, Lahore, Karachi, Calcutta, Bombay and Madras were each granted a subsidy of Rs.20,000 for the same year and, in addition, a bonus calculated at the rate of Rs.150 for each pilot trained during the year, subject to a maximum of Rs.5,000. These subsidies have been reduced in 1932-33 to a total of Rs.1,30,000. No other undertakings or private persons are in receipt of a Government subsidy.

6. Details of the stations in India and Burma normally available for communication with aircraft are given in the table attached. The following services are available :

- (a) Exchange of messages between aeronautical ground stations and aircraft ;
- (b) Exchange of messages between aircraft ;
- (c) Exchange of communications necessary for direction finding ;
- (d) Meteorological service for emission and reception of meteorological messages.



7. A meteorological service for aviation is provided by the Government of India (under the Director-General of Observatories). Information and advice from certain stations, details of which are attached, may be obtained for flights over any part of India and Burma.

- 8. (a) The length of the air line from Karachi to Delhi is 1,104 kilometres.
- (a1) Nil.
- (b) Airports      Aerodromes      Civil landing-grounds
- 2                      3                      14
- (b1) Nil.
- (c) 101,568 kilometres were flown.
- (d) The number of passengers carried was 108.
- (e) The weight of mails and packages carried was 2,248.69 kilogrammes.

**WIRELESS STATIONS OPERATING WITH AIRCRAFT.**

Station	Call sign	Normal wavelength (in metres)	Power of transmitter (in kilowatts)	Type of direction- finding apparatus
1. Akyab . . . . .	VTA	900	3	Marconi Bellini-Tosi
2. Allahabad . . . . .	VWA	900	3	Nil
3. Bassein . . . . .	VTX	900	1½	Nil
4. Calcutta . . . . .	VWC	900 and 600	6	Marconi Bellini-Tosi
5. Chittagong . . . . .	VTC	900	1½	Nil
6. Delhi . . . . .	VWD	900	6	Nil
7. Jodhpur . . . . .	VWI	900	3	Marconi Bellini-Tosi
8. Karachi . . . . .	VWK	900 and 600	6	Marconi Adcock
9. Rangoon . . . . .	VTW	900 and 600	6	Marconi Adcock
10. Sandoway . . . . .	VTS	900	1½	Nil
11. Victoria Point . . . . .	VTV	900	10	Nil

**FORECASTING STATIONS.**

Air station	Area for which forecasts are issued. Reference map attached
1. Karachi . . . . .	I
2. Calcutta . . . . .	III
3. Poona . . . . .	V
4. Peshawar . . . . .	Punjab, N.W.F.P., Waziristan
5. Quetta . . . . .	Baluchistan and Sind

**OBSERVATION STATIONS.**

Station	Information obtainable
1. Agra . . . . .	See note 1
2. Ahmedabad . . . . .	
3. Akyab . . . . .	See notes 1 and 2 <sup>1</sup>
4. Allahabad . . . . .	
5. Bahrein <sup>2</sup> . . . . .	See note 1
6. Bangalore . . . . .	
7. Chittagong . . . . .	
8. Dacca . . . . .	
9. Delhi . . . . .	
10. Gwadar <sup>3</sup> . . . . .	
11. Hakimpet (Hyderabad) . . . . .	
12. Jodhpur (Station not yet started) <sup>3</sup> . . . . .	
13. Jubbulpore . . . . .	
14. Lahore . . . . .	
15. Madras . . . . .	
16. Mucat <sup>3</sup> . . . . .	
17. Patna . . . . .	
18. Rangoon . . . . .	

*Notes.*

1. Latest available information on request, regarding the local surface and upper winds, in plain language or code, during office hours, to pilots leaving the station or their agents.
2. Weather reports from nearest forecasting centre and local weather situation.

<sup>1</sup> Only at present.  
<sup>2</sup> These stations are in the Karachi forecasting area and are shown in this list for information, although they are not in India.  
<sup>3</sup> Weather reports and forecasts supplied from Karachi.

Italian Delegation.

April 4th, 1932.

1. Civil aviation in Italy is under the Civil Aviation and Air Traffic Office (Ufficio Aviazione Civile e Traffico Aereo), which is one of the departments of the Royal Air Ministry.

This Office consists of :

- (a) A secretariat ;
- (b) The air-transport division, comprising two sections :
  - First Section : Agreements and contracts concerning the concession of subsidised air transport, airports open to civil air traffic, national register of aircraft ;
  - Second Section : Certificates ; licences and permits of various kinds ;
- (c) The section dealing with legislation in regard to aircraft and with treaties ;
- (d) The investigations, statistics and technical services section ;
- (e) The accounting section.

The Civil Aviation and Air Traffic Office exercises complete technical and administrative supervision over civil aviation. It also controls, through the managers of aerodromes, civil air traffic.

2. (a) *Società Anonima Avio-Linee Italiane*. — A joint-stock company with a capital of 4,000,000 Italian lire. Subsidised by the Government. A member of the International Air Traffic Association.

Headquarters : 48, via Calabria, Rome.

Organisation : A board of directors ; a general management (4, via Victor Hugo, Milan) ; a traffic management (Taliedo Aerodrome, Milan).

National air lines operated : Regular air services for passengers, baggage and mail between :

Rome - Milan,  
Milan - Turin.

(N.B. — For the international air lines, see paragraph 3, letter (b).)

(b) *Società Aerea Mediterranea*. — A joint-stock company with a capital of 18,000,000 Italian lire. Subsidised by the Government. A member of the International Air Traffic Association (IATA).

Headquarters : 29, viale Regina Elena, Rome.

Organisation : A board of directors ; a general management (29, viale Regina Elena, Rome) ; two traffic managements (Idroscalo Carlo del Prete, Ostia, Rome, and Aeroporto di San Nicolò del Lido, Venice).

National air lines operated : Regular air services for passengers, baggage and mail between :

Rome - Venice,  
Rome - Florence - Venice,  
Venice - Ancona - Bari - Brindisi,  
Rome - Bari - Brindisi,  
Rome - Cagliari,  
Rome - Palermo.

(N.B. — For the international air lines, see paragraph 3, letter (c).)

(c) *Società Anonima Navigazione Aerea*. — A joint-stock company with a capital of 12,000,000 lire. Subsidised by the Government. A member of the IATA.

Headquarters : Idroscalo Carlo del Prete, Ostia, Rome.

Organisation : A board of directors ; a general management (Idroscalo Carlo del Prete, Ostia) ; a traffic management (Idroscalo di Genova, Bacino Benito Mussolini).

National air lines operated : Regular air services for passengers, baggage and mail between :

Genoa - Rome - Naples - Palermo,  
Rome - Naples - Syracuse - Tripoli.

(N.B. — For the international air lines, see paragraph 3, letter (d).)

(d) *Società Italiana Servizi Aerei*. — A joint-stock company with a capital of 5,000,000 Italian lire. Subsidised by the Government. A member of the IATA.

Headquarters : Palazzo del Lloyd Triestino, Trieste.

Organisation : A board of directors ; a general management (Idroscalo di Portorose, Trieste) ; a traffic management (Idroscalo di Portorose, Trieste).

Air lines operated : Regular air services for passengers, baggage and mail between :

Turin - Pavia - Venice - Trieste,  
Portorose - Trieste - Zara - Ancona,  
Portorose - Trieste - Fiume - Lussimpiccolo - Zara,  
Fiume - Brioni - Venice.

(e) *Società Anonima Nord Africa Arianze*. — A joint-stock company with a capital of 1,000,000 Italian lire, subsidised by the Government.

Headquarters: Bengasi (Cirenaica).

Organisation: A board of directors; a general management (Bengasi); a traffic management (Bengasi).

National air lines operated: Regular air services for passengers, baggage and mail between:

Tripoli - Sirte - Bengasi.

3. (a) *Società Anonima Aero Espresso Italiana*. — A joint-stock company with a capital of 5,000,000 Italian lire. Subsidised by the Government. A member of the IATA.

Headquarters: 86, via Emilia, Rome.

Organisation: A board of directors; a general management (Rome); a traffic management (Brindisi).

International air lines operated: Regular air services for passengers, baggage and mail between:

Brindisi - Athens - Istanbul,

Brindisi - Athens - Rodi.

(b) *Società Anonima Avio-Linee Italiane*. — (For general information and the national air lines operated, see paragraph 2, letter (a).)

International air lines operated: Regular air services for passengers, baggage and mail between:

Milan - Trento - Bolzano - Innsbruck - Munich

(A tourist service operated in conjunction with the Deutsche Luft-Hansa, A.G., of Berlin, and the Oesterreichische Luftverkehrs, A.G., of Vienna);

Milan - Munich

(Through service);

Munich - Nuremberg - Leipzig - Berlin

(Service operated in conjunction with the Deutsche Luft-Hansa, A.G., of Berlin).

(c) *Società Aerea Mediterranea*. — (For general information and for the national air lines operated, see paragraph 2, letter (b).)

International air lines operated: Regular air services for passengers, baggage and mail between:

Cagliari - Tunis,

Rome - Tunis,

Palermo - Tunis,

Brindisi - Tirana - (Scutari - Koritza - Valona - Santi Quaranta),

Venice - (Klagenfurth - Graz) - Vienna. (Operated in conjunction with the Oesterreichische Luftverkehrs, A.G., of Vienna.)

(d) *Società Anonima Navigazione Aerea*. — (For general information and for the national air lines operated, see paragraph 2, letter (c).)

International air lines operated: Regular air services for passengers, baggage and mail between:

Genoa - Marseilles - Barcelona,

Genoa - Marseilles - Barcelona - Cartagena - Gibraltar - Cadiz. (A mail service leaving on fixed dates in connection with vessels crossing to America.)

4. Aerocentro Emiliano, Bologna;
- Aerocentro Ligure da Turismo, Genoa;
- Cattaneo Carlo, Pirano;
- Diverio Luigi, Milan;
- Gibertoni Gino, Capri;
- Società Aerea Mediterranea, Rome;
- Società Aeronautica Macchi, Varese;
- Società Anonima Aeroporto Scaligero, Verona;
- Società Aereo Turismo Atesino, Merano;
- Società Anonima Avio Linee Italiane, Rome;
- Società Anonima Transadriatica, Rome;
- Società Automobili A. Varaschini & Co., Tripoli;
- Società Italiana Servizi Aerei, Portorose;
- Vitale Vincenzo, Turin.

5. Commercial air-transport companies (see paragraphs 2 and 3) are subsidised by the Government. The chief form of subsidy is a fixed annual grant by the Government as a contribution towards the cost of organisation and equipment.

Organisations practising flying for touring purposes (see paragraph 4) do not receive a Government subsidy.



6. The wireless service for communication with and assistance to aircraft is provided in Italy by the Royal Air Ministry's wireless system, the final organisation of which is on the point of completion.

For the moment, and pending the completion of the installation of all the wireless centres contemplated, assistance is given to civil aircraft by the stations of the Royal Air Ministry near the civil air-line routes and these stations listen in, employing a wave-length of 900 metres.

In addition to rendering assistance, the wireless stations near the airports at which the various civil air lines terminate exchange communications relating to the departure and arrival of the aircraft belonging to the air lines terminating at the respective airports.

When the reorganisation of the Royal Air Ministry's wireless system has been completed, assistance to aircraft will be given solely by the wireless centres placed at suitable points, with due regard for the normal itinerary of the air lines.

7. The meteorological service is administered by the Aerological Service Section (Sezione Servizio Aerologico) of the Royal Air Ministry, which is responsible for the installation, organisation and operation of aerological stations.

The regional organs responsible for the aerological service are :

- The territorial departments of the air zone territorial services ;
- The regional meteorological centres ;
- The aerodrome service sections ;
- The aerological information centre ;
- The observation stations ;
- The Air Ministry's wireless system and certain wireless stations of the Royal Navy and Army.

The aerological stations are divided into :

- (a) 23 first-class ;
- (b) 54 second-class ;
- (c) 12 third-class.

It is their duty to furnish aircraft with the requisite information as laid down in Article 35(a) of the " Agreement for the Regulation of Air Navigation ".

The weather conditions observed are summarised in the observation bulletins every hour (from 4 a.m. to 4 p.m.) by the five second-class stations situated on the Apennines ; every two hours (from 4 a.m. to 4 p.m.) by all the other second- and first-class stations.

The first-class stations also make observations at 7 p.m., 8 a.m. and 2 p.m., at which times complete meteorological and aerological bulletins are drawn up in accordance with the International Code.

Observations between 4 and 5 a.m. are only made from May 16th to August 31st.

These services are supplemented by the communication of changes in the weather and the broadcasting of two general and two regional weather forecasts.

The general forecasts are issued by the " Radio Centocelle ", I.M.B., 1,500 metres, at 7.10 a.m. and 1.10 p.m. (5.10 a.m. and 1.10 p.m. from May 16th to August 31st), together with the isobars in figures ; the regional forecasts are issued by the " Radio Grottaglie ", I.K.G., 1,400 metres, at 7.50 a.m. and 6.20 p.m. (5.50 a.m. and 6.20 p.m. from May 16th to August 31st).

The Aerological Service Section is also responsible for the following services :

(1) The broadcasting of the " Metro Italia " by short waves at the following times : 8.20 a.m. ; 8.50 a.m. ; 2.20 p.m. ; 2.50 p.m. ; 7.20 p.m. and 7.50 p.m. (R.T. Rome, I.D.O., wave-length 33.09 metres).

(2) The transmission of warnings to air pilots when the ground conditions at the aerodromes are unfavourable for the landing of aircraft.

8. (a) Length of the air lines (in kilometres) : 18,723 ; proposed length : 19,585.

(a 1) There are no air lines equipped for night flying except the Venice - Brindisi line, which is under construction.

(b) By ministerial decree of September 29th, 1931, the number of airports open to civil air traffic was fixed as follows :

Customs airports. . . . .	38
Other airports. . . . .	40

(b 1) All airports are equipped for night flying.

(c) Number of kilometres flown in 1931 : 4,399,871.

(d) Number of passengers carried (regular services) in 1931 : 33,650.

(e) Mail and packages carried in 1931 (in kilogrammes) : 552,819.

**Japanese Delegation.**

April 8th, 1932.

1. Civil aviation is, in principle, under the Ministry of Communications. The Air Office of this Ministry exercises supervision over civil aviation in general; it watches over its development, directs propaganda in its favour and supervises air-transport undertakings. This office deals also with the establishment of airports and services relating to the arrival and departure of aircraft. In Chosen, however, civil aviation is under the Communications Office of the General Government, and in the Kwantung leased territory it is under the Communications Office of the Government of Kwantung.

2. The four following undertakings, subsidised by the State, operate the regular air lines mentioned below:

(a) The Nippon Koku Yuso Kabushiki-Kaisha (Japanese Air Transport Company, Ltd.):

(i) Tokio - Dairen (2,073 kilometres).

The company has the following landing-grounds on this route: Osaka, Fukuoka, Urusan, Keijo, Heijo. Between Tokio and Osaka there are twelve journeys in each direction per week, Sundays excepted. For the rest of the above-mentioned line, the number of journeys is six per week.

(ii) Osaka - Fukuoka (500 kilometres).

Six journeys in each direction per week, Sundays excepted.

(b) The Nippon Koku Yuso Kenkyujo (Japanese Institute for Air Transport):

Osaka - Matsuyama (290 kilometres).

There are six journeys in each direction per week, Sundays excepted. Takamatsau is the seaplane landing station on this route.

(c) The Tokio Koku Yuso Sha (Tokio Air Transport Company):

Tokio - Shimizu (260 kilometres).

Three journeys in each direction per week. The seaplane landing station on this route is at Shimoda.

(d) The Asahi Teiki Koku Kai (Asahi Newspaper Periodical Air Navigation Association):

Tokio - Niigata (380 kilometres).

Three journeys in each direction per week in summer.

3. Nil.

4. As an organisation for flying as a sport the Nippon Gakusei Koku Renmei (Students' Union for Flying as a Sport) may be mentioned; to this belong the University of Hôsei and eleven other universities and colleges.

5. The undertakings mentioned under No. 2 are subsidised by the State according to the distances effectively flown by aircraft in their service. The Students' Union for Flying as a Sport mentioned above also receives subsidies for general maintenance expenses and for encouragement.

6. The authorities under which the wireless service in Japan is placed are generally the same as those dealing with civil aviation. Thus, the Ministry of Communications is the central body with general supervision over the wireless service.

The following are the wireless stations for aircraft: Hakone, Kameyama, Fukuoka, Izuhara, Tomie and Urusan.

7. These services are under the Ministry for Education. Thus, the Tokio Central Meteorological Office, the Kobe Ocean Meteorological Office and the Air Observatory in the Prefecture of Ibaraki are directly supervised by this Ministry. Besides these meteorological institutes, there are in Japan numerous observatories and meteorological stations.

8. (a) Length of air lines subsidised (in kilometres) . . . . .	3,505
(October 1931)	
(b) Number of airports . . . . .	6
(Tokio, Osaka, Fukuoka, Urusan, Keijo, Dairen.)	
(c) Number of kilometres flown . . . . .	3,204,460
(d) Number of passengers carried . . . . .	7,675
(e) Mail and packages carried (in kilogrammes):	
Mail . . . . .	37,136
Packages . . . . .	29,989

Norwegian Delegation.

Geneva, April 5th, 1932.

Civil aviation is very undeveloped in Norway, chiefly for economic reasons. The flying undertaken by Norwegian civil aircraft must be described as experimental and occasional.

1. The public administration of civil aviation is in the hands of the Ministry of Defence. An Air Board consisting of four members acts as an advisory body in questions of civil aviation. This Board also delivers certificates for pilots and for the crews of aircraft, inspects aircraft and authorises landing-grounds, etc., and orders the inspection of these landing-grounds.

The observance of the laws and regulations on aviation is supervised by the police. There is no special air police.

2. No Norwegian undertakings regularly operate air lines.

3. No Norwegian undertakings operate air lines outside the country. In the last three years, postal air lines have been operated experimentally between Oslo and Gothenburg and Oslo and Copenhagen. This experiment was carried on for a year on behalf of the Government and with Government aircraft, and for two years with the machines of a private undertaking.

4. Flying as a sport and for touring purposes has been done occasionally with civil aircraft belonging to private persons or to undertakings. During the last few years, from 5 to 10 aircraft have been registered on an average.

5. During the last few years, the national budget has provided a credit of 10,000 kroner per annum as a contribution to civil aviation. This contribution has been distributed among certain of the undertakings which have made flying experiments, in order to cover part of their operating expenses.

6. There is no wireless service for aviation, but civil aviation may obtain the assistance of the military and naval wireless stations at the Kjeller and Horten landing-grounds.

7. There is no special meteorological service for aviation, but aircraft may obtain meteorological information by applying direct to the Meteorological Institute at Oslo.

8. As no regular civil aviation is carried on with Norwegian aircraft there are no statistics.

(b) Two airports.

(b 1) None.

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Netherlands Delegation.

April 14th, 1932.

I. KINGDOM OF THE NETHERLANDS IN EUROPE.

1. Civil air navigation is within the domain of the Ministry of "Waterstaat" (Public Transport), and more particularly within that of the *Air Service Department*.

The Government alone has the right to designate aerodromes, to prohibit the building of houses on land adjacent to aerodromes, and to grant concessions for the operation of air lines.

The Ministry of "Waterstaat" grants concessions for the operation of air lines by foreign companies, and is also responsible for surveying and approving land to be used for aerodromes, and for establishing prohibited zones.

It is the duty of the *Air Service* to issue, prolong, suspend and withdraw certificates of registration and of airworthiness in respect of aircraft and aircraft engines, certificates of flying capacity and licences for the navigating personnel. The Ministry has to superintend the strict observance of the conditions imposed on those in receipt of concessions to operate air lines; it supervises the establishment and maintenance of aerodromes and air routes, and lighting and beacons; it is responsible for the information service, the control of private wireless stations, the distribution of the "Berichten aan Luchtvaardenden" (Notices to Airmen) and the publication of the "Gids voor Luchtvaardenden" (Airmen's Guide), and for enquiring into the causes of accidents.

Dispensations from the various regulations and prohibitions contained in the Law on Air Navigation and the Decrees in connection therewith are granted either by the Ministry of "Waterstaat" or by the Director of the Air Service.

The State Aviation Research Department (Rijksstudiedienst voor de Luchtvaart), which is under the Ministry of "Waterstaat", undertakes aerodynamic, technical and scientific research both for the authorities and for private persons; supervises the building of aircraft and any important repairs thereto; and tests materials and engines.

2 and 3. The Royal Air Transport Company, Ltd. (N. V. Koninklijke Luchtvaart Maatschappij K.L.M.), is controlled by a Board of Management of not more than nine members (five of whom are appointed by the Ministry of "Waterstaat"), under the supervision of a Board of Directors, consisting of not less than seven members (two of whom are appointed by the Ministry of "Waterstaat").

The work of the company is carried on by one or more managers.

Important contracts, the selection of air lines, maximum fares and rates, the time-tables and the balance-sheet have to be passed by the Ministry of "Waterstaat". The higher officials must be of Dutch nationality, and the material must be of Dutch manufacture, subject to the right of the Minister to waive the latter condition.

A summary of the air lines in operation in the summer of 1931 is given below:

Amsterdam-Batavia and *vice versa*, up to October 1st, 1931, a fortnightly service; from October 1st onwards a weekly service K.L.M. . . . . Kilometres 14,350

*In Europe:*

Amsterdam-Rotterdam-London and <i>vice versa</i> (twice a day) K.L.M. . . . .	428
Amsterdam-London and <i>vice versa</i> (once a day) K.L.M. . . . .	373
Amsterdam-Rotterdam-Brussels-Paris and <i>vice versa</i> (once a day) Farman and K.L.M. . . . .	441
Amsterdam-Paris and <i>vice versa</i> (once a day) K.L.M. . . . .	428
Amsterdam-Bremen-Hamburg and <i>vice versa</i> (once a day) K.L.M. and D.L.H. . . . .	415
Amsterdam-Hamburg-Copenhagen-Malmö and <i>vice versa</i> (once a day) K.L.M. and A.B.A. . . . .	743
Amsterdam-Copenhagen-Malmö and <i>vice versa</i> (once a day) K.L.M. and A.B.A. . . . .	701
Amsterdam-Hanover-Berlin and <i>vice versa</i> (once a day) K.L.M. and D.L.H. . . . .	647

*In the Netherlands:*

Amsterdam-Rotterdam and <i>vice versa</i> (once a day) K.L.M. . . . .	57
Rotterdam-Haamstede and <i>vice versa</i> (twice a week) K.L.M. . . . .	55
Amsterdam-Eelde and <i>vice versa</i> (once a day) K.L.M. . . . .	170

Co-operation with other Companies. — The Amsterdam-Batavia and Amsterdam-(Bremen)-Copenhagen-Malmö services are operated by the K.L.M.

The following services are operated by a pool:

- Amsterdam-London, with the "Deutsche Luft-Hansa A.G.";
- Amsterdam-Paris, with the "S.G.T.A. Farman";
- Amsterdam-Copenhagen-Malmö, with the "A.B. Aérotransport".

As regards transit traffic on the line Amsterdam-Copenhagen-Malmö for Brussels and Paris, there is a pool with the Satena and Farman, and for the Malmö-Copenhagen section with the "Deutsche Luft-Hansa" and "Det Danske Luftfartsselskab".

4. Aviation for purposes of sport and pleasure is carried on in the Netherlands by the following organisations:

- Koninklijke Nederlandache Vereeniging voor Luchtvaart (Royal Aero-Club);
- Nationale Luchtvaartschool (National Pilot School);
- Rotterdamsche Aero-Club;
- Delftsche Studenten Aero-Club;
- Twentsche Aero-Club.

5. The K.L.M. and the National Pilot School are subsidised by the State.

K.L.M. — The financial aid accorded by the State was first given by means of a subsidy, then by means of a free grant (later transformed into a subsidy), and finally in the form of a subsidy up to a fixed maximum, in order to cover the company's losses. In the first instance, the subsidy was fixed by contract for several years, but the amount is now fixed annually.

The following amounts have been paid:

Subsidy:	Florins
1920 / . . . . .	420,000
1921 \ . . . . .	325,000
1922 . . . . .	

*Free Grant :*

1923 . . . . .	400,000
1924 . . . . .	400,000
1925 . . . . .	300,000
1926 . . . . .	300,000

*Subsidy :*

1927 . . . . .	500,000
1928 . . . . .	600,000
1929 . . . . .	925,000
1930 . . . . .	1,000,000
1931 . . . . .	900,000

Further, the Government is under obligation to take shares in the company for an amount not exceeding Fl.3,000,000, and to guarantee the interest and sinking fund of a debenture issue of Fl.2,500,000.

*National Pilot School.* — For the year 1931, the Government granted a subsidy not to exceed Fl.20,000, calculated according to the number of flying hours.

6. The wireless service is within the domain of the Director of the *Air Service*.

The following stations are in operation :

(a) Amsterdam (Schiphol). This station possesses a transmitter for communicating with aircraft, and a transmitter for communicating with aerodromes abroad; it has also a direction-finding apparatus and several appliances for the reception of traffic and meteorological messages.

(b) Rotterdam (Waalhaven). This station has a transmitter for communicating with aircraft, a direction-finding post, and the necessary appliances for the reception of meteorological messages.

The Air Service supervises the wireless service by apparatus on board aircraft, and, *inter alia*, issues permits for the installation of wireless apparatus on board aircraft and inspects the fixing, construction and working of such apparatus.

7. The meteorological service for air traffic is controlled by the Air Service in co-operation with the Royal Institute of Meteorology.

Wireless messages containing the observations of the Royal Institute of Meteorology at De Bilt, and of certain observation stations of the K.L.M. and the Air Service, are broadcast at the hours internationally fixed for the transmission of regional meteorological telegrams.

Once or twice a day these messages are supplemented by forecasts of the state of the weather along the air lines.

The Schiphol and Waalhaven aerodromes receive, compile and publish all meteorological messages of value to air traffic; in addition, synoptic meteorological maps are drawn up and placed at the disposal of those concerned.

	Kilometres
8. (a) Internal system . . . . .	282
European system . . . . .	2,642
Communication with the East Indies . . . . .	14,350
	17,274
Total . . . . .	17,274

(a1) 352 km.

(b) 24.

(b1) 3.

(c) 2,224,330 km.

(d) 12,512 passengers.

(e) 81,926 kg. of mails and 723,500 kg. of goods.

## II. DUTCH EAST INDIES.

1. Civil aviation is carried on by the "Koninklijke Nederlandsch-Indische Luchtvaart Maatschappij" (K.N.I.L.M.), which has concluded an agreement for the purpose with the Governor-General. In order to control civil aviation, the Governor-General has at his disposal the services of the Department of "Gouvernements-bedrijven", which has a bureau for aviation.

2. The K.N.I.L.M. operates the whole air system of the Dutch East Indies. The company and its head office are domiciled at Amsterdam. In the Dutch East Indies, the enterprise is managed by a representative who is directly under the orders of the head office. The appointment and the resignation of this representative are subject to the approval of the Governor-General. Such approval is also required for any change in the company's articles of association.

The following air services are in operation :

- Batavia-Bandung and *rice versa* (twice a day).
- Batavia-Samarang-Surabaya and *rice versa* (once a day).
- Batavia-Palembang (Sumatra) and *rice versa* (once a week).
- Batavia-Palembang-Singapore and *rice versa* (once a week).
- Batavia-Palembang-Medan (Sumatra) and *rice versa* (once a week).

3. The K.N.I.L.M. operates the Batavia-Singapore service. The service between Medan and Singapore has been discontinued, owing to unsatisfactory results.

4. Private persons engaging in aviation for sport are organised as members of the "Nederlandsch-Indische Vliegclub" at Bandung (Java). At the end of 1931, 10 persons had obtained licences for the practice of aviation for sporting purposes; no later figures are available.

5. While the agreement mentioned in paragraph 1 is in force, the Government contributes to the working expenses of the K.N.I.L.M.; the Government receives three-quarters of any profits the company may make.

6. The Government wireless stations are available for communication with aircraft

7. There is no special meteorological service for aviation, as depressions do not occur in the Dutch East Indies on account of their situation on the equator.

8. (a) Length of system : 4,015 km.  
(a1) There is no night service.  
(b) Number of airports : 7.  
(b1) There are no airports organised for night flying.  
(c) Kilometres flown in 1931 : 919,794.  
(d) Passengers carried in 1931 : 15,358.  
(e) Mails carried in 1931 : 18,818 kg. Parcels carried in 1931 : 92,300 kg.

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#### Polish Delegation.

Geneva, April 1st, 1932.

1. In virtue of the Law of March 14th, 1928, on air navigation, civil aviation in Poland is under the authority of the Ministry of Communications.

The Minister directs civil aviation through the independent Department of Civil Aviation, which is under the direct authority of the Minister.

The Department of Civil Aviation is divided into four sections :

- (1) General Administration Section ;
- (2) Legislation and Air Policy Section ;
- (3) Operating Section ;
- (4) Ground Organisation Section.

Supervision exercised over civil aviation :

(a) As regards the professional qualifications of the members of the crew, the state of health is examined periodically by the air medical examination centre; professional capacity must be approved by a special commission appointed by the Ministry of Communications.

(b) As regards material, the construction of the prototypes is supervised by the Institute of Aeronautical Research. Supervision over the material in use and material under construction is exercised by the Polish section of the Veritas Bureau.

(c) The observance of the rules and regulations is enforced by the commandants of the air ports and by the services of the other competent authorities (police, Customs, etc.).

2. There is only one company which operates all the air lines in Poland — namely, the Polskie Linje Lotnicze (Lot Company), a limited liability company.

The State and the municipalities of the chief towns in Poland participate in the share capital of the Lot Company, which amounts to 8 million zloty. This capital is divided into 100 shares of 80,000 zloty each. The State Treasury holds the greater part by statute; up to the present, there has been no private capital.

At the head of this company is the Director, under whom are the technical and commercial heads and the Secretary-General and Legal Adviser. The company possesses branches and traffic directors in all the towns with which it has connections. The national system served by the Lot Company comprises 1,920 kilometres, and provides connections between the capital and six large towns, the majority of which are on the natural international line of air routes. These towns are Bydgoszcz, Poznań, Katowice, Krakow, Lwów, and the Free City of Danzig.

Apart from the regular service, the company places at the public's disposal air taxis which only travel within the country.

The Lot Company has an air photography section which satisfies all the country's requirements as regards photographic surveying.

The company employs 300 persons, including managerial, clerical and technical staff, etc.

Its material comprises :

- 6 Fokker F.VII machines with 450 h.p. Lorraine-Dietrich engines.
- 9 Fokker F.VII 3 m. machines with three 220 h.p. Wright J5 engines.
- 12 F.13 Junkers machines with 300 h.p. J5 engines.
- 2 P.W.S.20 machines with 450 h.p. Lorraine-Dietrich engines.
- 1 D.H. Moth air taxi with 85 h.p. Gipsy engine.

The Warsaw workshops are equipped for general repairs on the largest scale.

The fact that there has never been any fatal accident on the Polish lines proves the absolute safety of air traffic in Poland.

The results of the Lot Company's activities from 1922 to 1931 may be summarised as follows :

- (a) Kilometres travelled : 8,702,970.
- (b) Passengers carried (regular service) : 72,273.
- (c) Baggage and goods carried : 1,841,327.
- (d) Mails : 229,433.

The Lot Company belongs to the I.A.T.A. (International Air Traffic Association).

Poland occupies a privileged geographical position in Europe from the point of view of air traffic. She is situated at the junction of the principal air lines connecting the western countries with the eastern countries and the northern with the southern; moreover, the configuration of the ground, the abundant reserves of fuel and the climate offer almost ideal conditions for the development of air traffic in Poland.

3. (a) The Lot Company serves the following lines :

- (1) Lwów-Cernauti-Galatz-Bucharest ;
- (2) Bucharest-Sofia-Salonika ;
- (3) Katowice-Břno-Vienna.

(b) The International Air Navigation Company Limited (CIDNA) operates the portion passing through Polish territory of the Prague-Warsaw section of the French air line Paris-Strasbourg-Prague-Breslau-Warsaw.

A brief outline of the organisation of the Lot Company has been given above (see paragraph 2).

The services of the Lot Company abroad are subordinate to the Central Directorate at Warsaw. In the foreign countries where its services operate—namely, Austria, Czechoslovakia, Roumania, Bulgaria and Greece, this company has general representatives who act for it in relations with the authorities and with private individuals.

As regards the organisation of the CIDNA in Poland, it need only be said that the CIDNA, which is a French limited company with headquarters in Paris, has a branch at Warsaw directly responsible to the general management in Paris.

The Lot Company and the CIDNA operate their own systems independently.

The foreign lines operated by the Lot Company are much more difficult to administer than the national line, owing to the conditions of the ground. The route is a very difficult one in view of the mountainous nature of the countries flown over, which are not equipped for regular air traffic.

The most difficult line to operate in this respect is the Bucharest-Sofia-Salonika line. Nevertheless, the creation of this line provided a connection of great international importance. It established connection between three seas (the Baltic, the Black Sea and the Aegean), and by connecting several other sections of the international air system it established air communications between the north and the south of Europe, at the same time being connected with the lines going from Asia to Africa.

The prolongation of the line Danzig-Warsaw-Lwów-Bucharest as far as Sofia was also of great importance from the point of view of propaganda in favour of air communications, for in comparison with other means of locomotion it greatly shortens the duration of the journey. The journey from Bucharest to Sofia by rail takes about 20 hours, and from Sofia to Salonika about 30 hours, while by aeroplane this journey only takes 4 hours.

4. The central organisation responsible for encouraging sport and touring in Poland in every form is the Polish Aero-Club (member of the International Air Federation).

The Sporting Aviation Commission is the official body responsible for the direction of sporting aviation. This Commission ensures liaison between the Polish Aero Club and affiliated aero clubs on the one hand and the official authorities on the other.

To the Polish Aero Club are affiliated nine district aero clubs situated at Warsaw, Lwów, Kraków, Poznań, Katowice, Wilno, Liala Podlaska, Lublin and Łódź. In addition, the Polish students of the Danzig Polytechnic School have founded the Danzig Students' Aero Club.

The chief aim of the Polish aero clubs is the training of their member pilots, as well as air touring properly so called. At present, all the aero clubs comprise 1,100 active members, including a large number of pilots.

Apart from aeroplanes, the aero clubs use gliders, expeditions being organised in groups arranged by each aero club. These expeditions aim at the instruction of glider pilots of all three categories, as well as at training and the setting-up of records.

At present, 1,500 glider pilots, one-third of whom are in category C, are undergoing training and performing flights of several hours' duration.

Flights in tow of aeroplanes are also carried out by members of the aero clubs; recently, a magnificent towed flight of over 500 kilometres was performed over the route Warsaw-Lwów-Bezmiechowa.

Apart from the aero clubs, there are a certain number of private persons in Poland who own touring machines and practise flying as a sport or for touring purposes.

In Poland, there are at present 90 registered touring aeroplanes. The system of Customs pass-books is employed.

5. (a) The national undertaking, the Lot Company, is subsidised by the Government on the basis of a kilometric bonus.

(b) The CIDNA receives, as a subsidy in Poland, the free use of airports, hangars and installations, and of the meteorological and wireless services, as well as exemption from certain taxes and duties.

(c) The sporting organisations are subsidised to a trifling extent by means of a refund for each hour's flight and the partial supply of flying material.

6. The organisation of the wireless service comprises the following stations :

Warsaw : central station with an aerial power of 5 kw. (which can be increased in case of need to 8 kw.) ; maximum radiating power, 1,800 metre-ampères.

Lwów : district station with a maximum power of 2 kw. ; maximum radiating power, 500 metre-ampères.

Katowice and Poznań : same as Lwów.

In addition, in order to provide the Kraków aerodrome with a wireless service, it is connected by cable with the Katowice station, which enables it to manipulate that station as if it were at Kraków.

Thus all the aerodromes normally used by the air lines are provided with powerful wireless stations.

These stations are extremely modern, and their frequency stability is excellent ; they are stations with a powerful master-oscillator.

The power of the stations is sufficient to ensure liaison at any time with an aeroplane in flight at a distance of at least 300 kilometres.

On the other hand, during periods of slight interference (atmospheric or other), the power of the stations can be reduced to a quarter of its maximum, so as to avoid unnecessary interference with neighbouring stations.

The stations are designed to work at different frequencies. The change of frequencies is performed absolutely automatically by the operator in a few seconds.



The stations are supplied with extra-selective and sensitive receivers. They enable Warsaw to work comfortably at a frequency of 228 kc/s without trace of interference from the broadcasting station with an aerial power of 150 kw. working with a frequency of 212.5 kc/s.

Seven special stations have been established for direction-finding — at Warsaw, Lwów, Katowice, Poznań, Toruń, Sandomierz and Tarnopol. This very close system enables the position of the aircraft to be determined within 500 metres.

These direction-finding stations are of the most modern construction, and make no errors by night. This permits of safe and easy night flying.

This wireless organisation is at the disposal of all the companies operating regular lines in Poland.

The distribution of the wireless stations is indicated on the attached map (see Annex 1).

7. The meteorological service is constituted by a system of meteorological stations, some controlled by the Government Meteorological Institute, some by the military authorities, and some by the Ministry of Communications direct. This system comprises 38 synoptic stations, 42 information posts and 72 observation posts.

The information is centralised in the airports, where the port commandants circulate it to pilots.

The transmission of meteorological messages is effected partly by telegraph and telephone and partly by wireless.

Annex 2 herewith shows the meteorological posts and the zones protected.

8. Statistical particulars relating only to the Polskie Linje Lotnicze (Lot Company) :

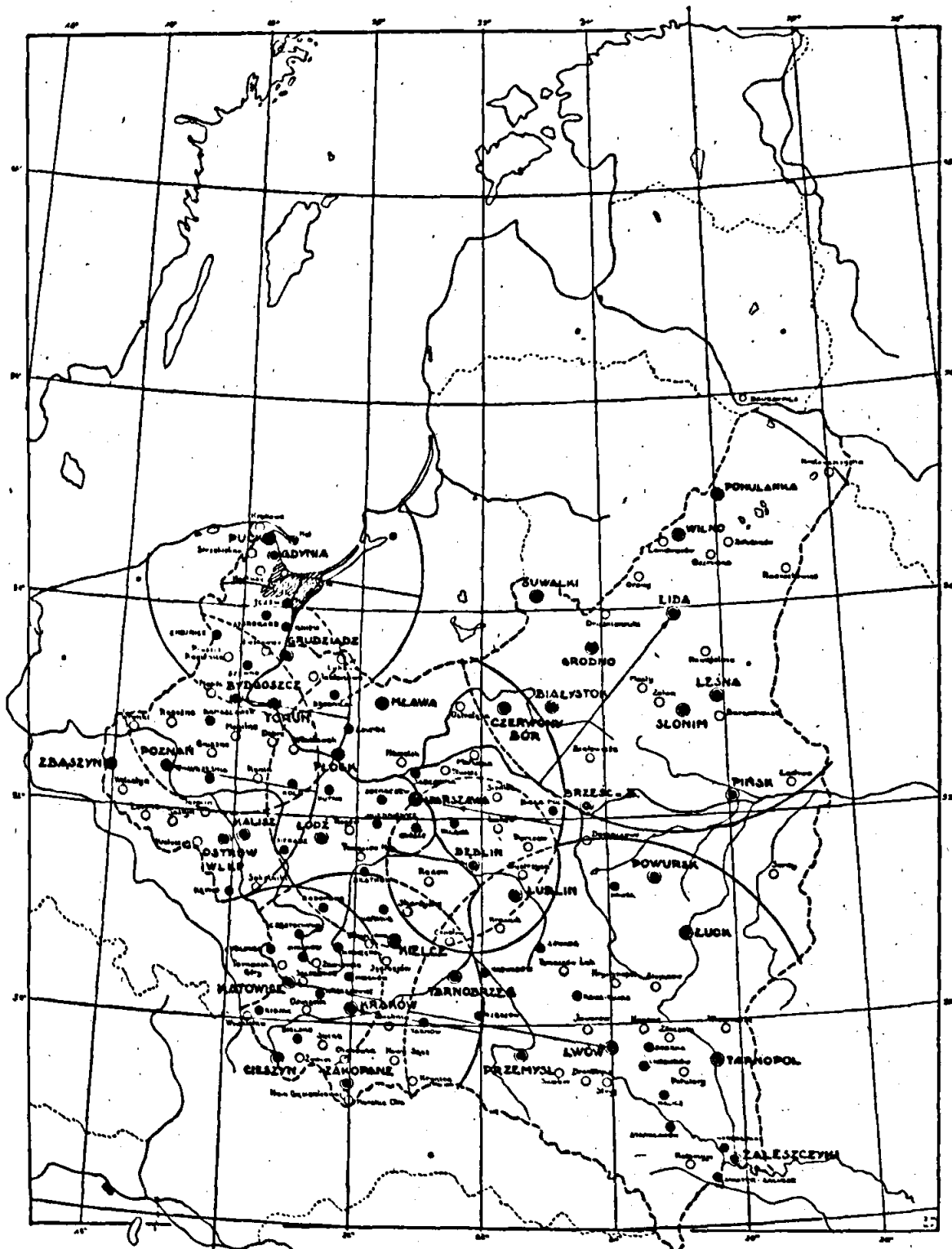
- (a) Length of air lines : 4,279 km.
- (a1) Length of air lines equipped for night flying : 1,000 km.
- (b) Number of air ports : 6.
- (b1) Number of air ports completely equipped for night flying : 3.
- (c) Number of kilometres flown : 1,440,489.
- (d) Number of passengers carried (regular services) : 13,275.
- (e) Mails and packages carried (in kilogrammes) : 406,313.

The figures for paragraphs (c), (d) and (e) relate to 1931.

Annexes 3 and 4 herewith show the air routes in Poland and the lighthouses.



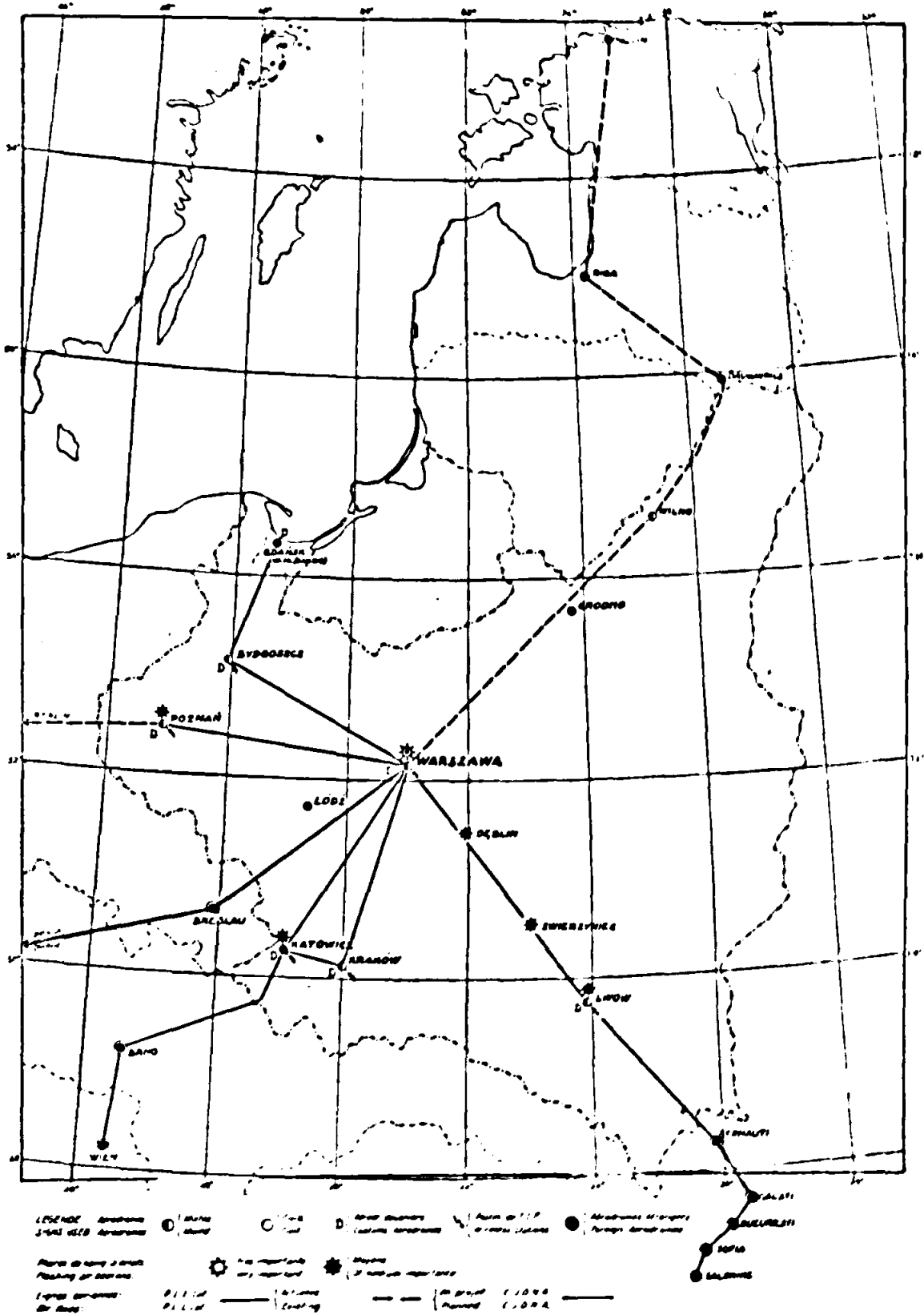
Annex 2.



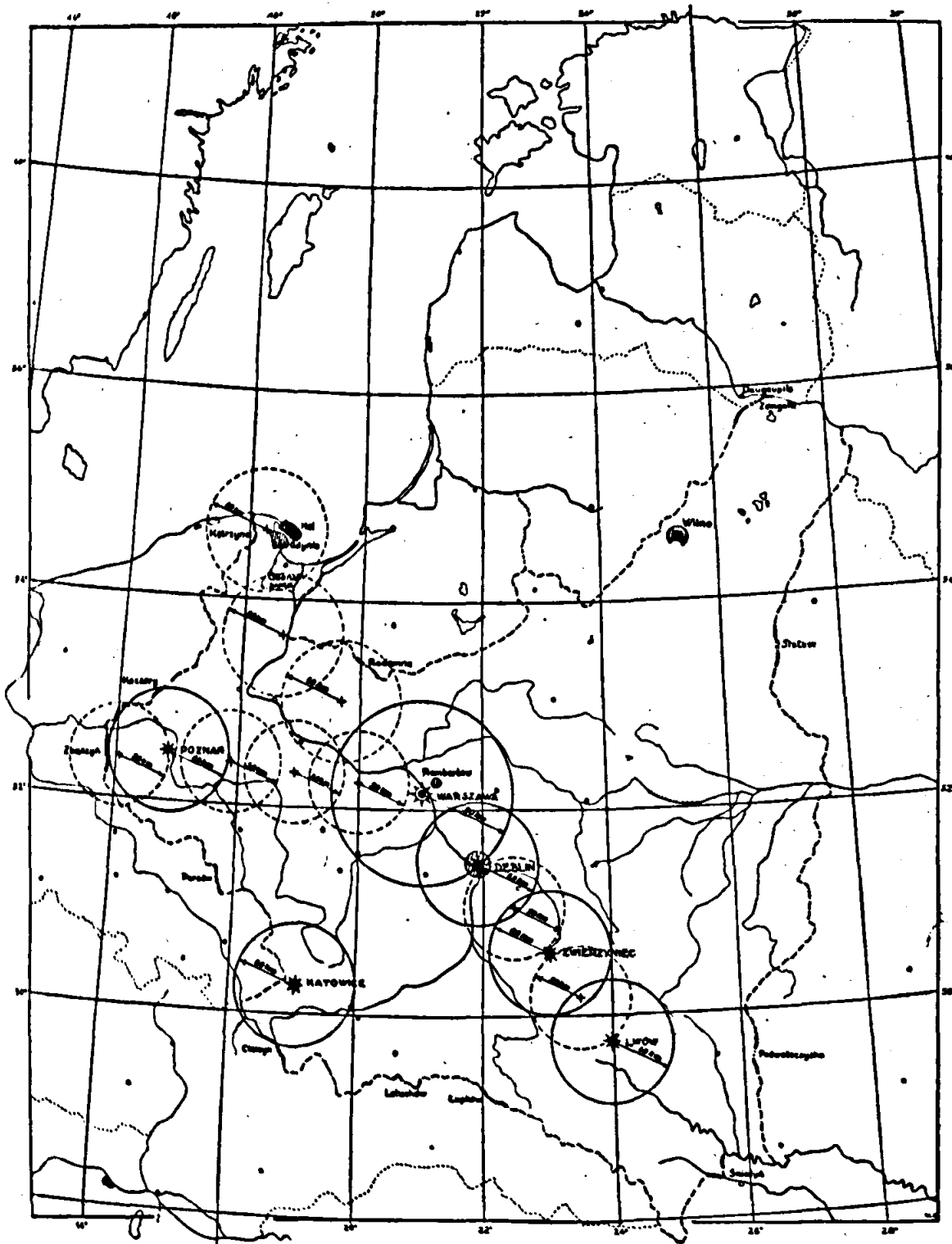
LEGENDE:  
SIGNS USED:

- (Large filled circle) *Stacje meteo najwazniejsze*  
Meteorological stations of great importance
- (Medium filled circle) *Stacje meteo najwazniejsze*  
Meteorological stations of medium importance
- (Small open circle) *Stacje meteo do swiadczenia*  
Meteorological stations of small importance
- (Large open circle) *Stacje obserwacyjne*  
Observation stations
- (Small open circle) *Stacje synoptyczne*  
Synoptic stations
- (Small open circle) *Stacje meteo do swiadczenia*  
Meteorological information stations
- (Small open circle) *Stacje obserwacyjne*  
Observation stations

Annex 2.



Annex 4.



LEGÈNDE: Plans de navigation à draps:  
 LIGNES AÉRIENNES: Flushing air services:

★ très importants  
 Very important

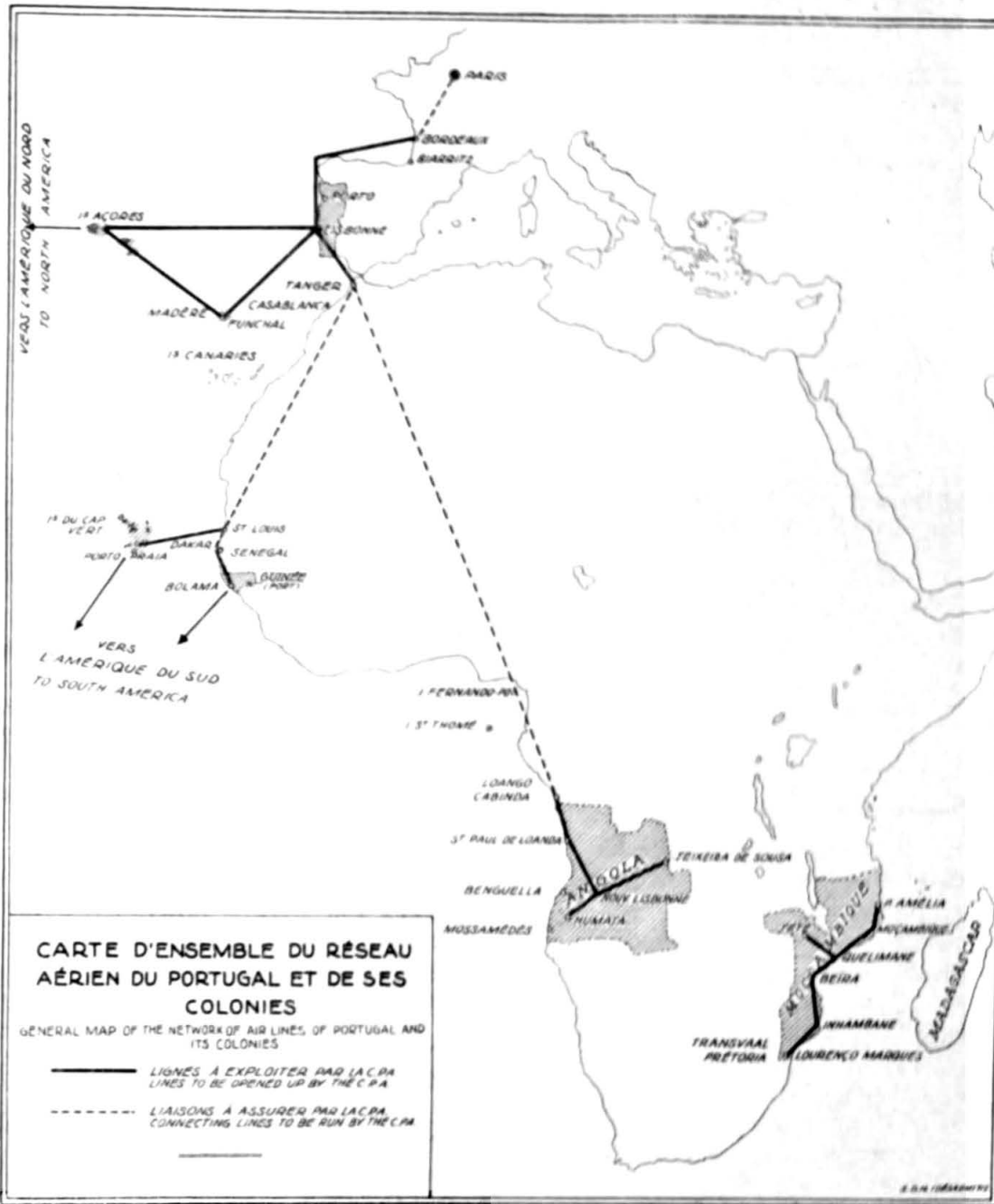
✱ Moyens  
 of medium importance  
 de construction  
 under construction

○ Zones interdites  
 Prohibited Zones

∩ Zones de franchissement  
 Crossing points

Portuguese Delegation.

Geneva, July 5th, 1932.



1. Civil aviation in Portugal is controlled by the National Air Council.

This body is directly under the Prime Minister's Department, which establishes liaison between the Ministries concerned.

The National Air Council is responsible for the supervision of civil aviation. It includes, amongst others, the Directors of Military and Naval Aviation and representatives of the Ministries for Foreign Affairs, Commerce, Finance, and the Colonies. This Council is assisted by the legal adviser of the Ministry for Foreign Affairs.

2. All international negotiations with reference to air traffic are directed by the Portuguese Government. Without prejudice to this right and the observance of existing obligations, the Government has agreed to allow a national undertaking to use the landing-grounds in the European and oversea territories, the company being responsible for the installation of the necessary ground equipment and the operation of the air lines. This undertaking is known as the Portuguese Aviation Company, and does not receive any Government subsidy.

3. The company has undertaken by the contract to operate the international lines projected and required by the Portuguese Government.

4. The Portuguese Aviation Company controls flying for touring purposes, and the Aero Club of Portugal controls flying as a sport.

5. No company, club or private undertaking is in receipt of a special direct subsidy from the Government.

6. The wireless service is under the Ministries of Marine and Commerce. The Radio-Marconi Company is responsible for the commercial operation of this service.

7. The necessary information is furnished by the meteorological services of the army and navy.

8. Statistics :

(a) Length of air lines : 8,750 kilometres.

(a1) There is no night service.

(b) Number of airports : 1 in service and 22 under construction.

(b1) Airports equipped for night flying : none.

(c) Kilometres flown in 1931.

(d) Number of passengers carried in 1931. } No services were in operation.

(e) Mail carried (in kilometres) in 1931. }

All these particulars refer to the initial organisation as it exists at the present time; it is proposed to develop this.

#### Roumanian Delegation.

April 5th, 1932.

1. Since 1929, civil aviation has been under the authority of the Ministry of Industry and Commerce, being dealt with by the "Civil Aviation and Air Navigation Service".

This service is under a director, and comprises :

(1) *A Central Administration* (air navigation service ; administrative service and technical service).

(2) *External Services* : The airports open for the use of public air traffic and an operating service entitled Roumanian Government operated air lines (LARES). The duties of the civil aviation and air navigation service are as follows :

(a) To direct, administer and supervise the central and external services of which it is made up (personnel, property, material and land) ;

(b) To centralise and study administrative, legislative and technical questions in connection with air navigation ;

(c) To study and prepare plans and to equip the general system of air lines. Study, direction and supervision of private aerodromes.

(d) To organise and maintain the services for the protection of air navigation ;

(e) To operate the air lines and the undertakings for the practical application of air locomotion belonging to the Government ;

(f) To draw up and supervise the execution of contracts between the Government and the undertakings holding concessions for air transport and other air activities, whether subsidised or not by the Government ;

(g) To enact laws and regulations regarding air traffic, and to control such traffic ;

(h) To study, prepare and carry out international agreements relating to air navigation ;

(i) To organise, direct and control civil air training ;

(j) Aviation propaganda ;

(k) To guide, encourage and control aviation for touring purposes, etc.

A bill is now before the Chamber of Deputies, on the proposal of the Ministers of War, of Industry and Commerce, and of Domains, which provides for the creation of an Under-Secretariat of State for the Air attached to the Ministry of War, to comprise military and civil aviation and the Central Meteorological Institute (at present under the Ministry of Domains).

2. The national air lines are at present operated by the Government civil aviation service, and specifically by the external organisation entitled Roumanian Government-operated lines (LARES).

As provided for in the law on public accountancy, the organisation of this undertaking comprises a central administration with its headquarters at Bucharest and operating centres in all the compulsory stopping-places of the air lines at present in existence or which may be set up in future.

The system of national air lines at present operated comprises :

(1) *The air line Bucharest - Galatz - Chisinau - Cernauti* three times a week ; public air transport of passengers, goods and mails.

(2) *The air line Bucharest - Constantza - Balcei* : daily ; transport of passengers, goods and mails. Only during the summer season (June 1st to September 15th).

(3) Apart from the lines just mentioned, the LARES service is authorised, on the basis of air agreements concluded with Poland, Czechoslovakia and Greece, with regard to the creation of regular air lines, to extend its operations beyond the frontiers on the following lines :

(a) Bucharest - Galatz - Cernauti - Lwów - Warsaw - Danzig ;

(b) Bucharest - Cluj - Užhorod - Košice - Bratislava - Brno - Prague ;

These lines will be operated under the conditions provided for in the agreements signed with the above-mentioned countries, and will begin to run as soon as all the necessary resources are available.

In principle, the lines mentioned above under (a) and (b) will be operated jointly with the air undertakings *Polskie Linje Lotnicze (LOT)* and *Ceskoslovenské Statní Aerolinie (CSA)*, authorised to carry air transport in Roumania in the basis of the agreements concluded.

3. No national undertaking has yet operated any international air line.

On the basis of the agreements concluded with the Roumanian Government, the following foreign air undertakings are authorised to carry paying traffic between Roumania and other countries :

(a) *The Compagnie internationale de navigation aérienne (CIDNA)*, a French joint-stock company with headquarters at Paris, operates the international air line Paris - Strasburg - Nuremberg - Prague - Vienna - Budapest - Belgrade - Bucharest - Istanbul : Daily service between Paris and Bucharest. Three times a week between Bucharest and Istanbul. Carries passengers, goods, baggage, mails and parcels.

In accordance with the agreement of January 11th, 1931, the stage Paris - Bucharest must be travelled in a single day ; the ground organisation of the stages Paris - Strasburg in France and Turnu - Severin - Bucharest in Roumania has been equipped for night flying.

(b) *The Polish Government undertaking, Polskie Linje Lotnicze (LOT)*, limited liability company ; headquarters : Warsaw, operates on the basis of the agreement of May 9th, 1930, the international line Danzig - Warsaw - Lwów - Cernauti - Galatz - Bucharest - Sofia - Salonika. Three times weekly. Carries passengers, goods, baggage and mails.

(c) *Ceskoslovenské Statní Aerolinie (CSA)*, Government undertaking ; headquarters : Václavské náměstí 72, Prague II, in accordance with the air agreement of June 20th, 1930, will begin this year to operate the international air line Prague - Brno - Bratislava - Košice - Užhorod - Cluj - Bucharest. Three times a week. Will carry passengers, goods, baggage and mails.

4. The organisations and private persons at present engaging in flying as a sport or for touring purposes in Roumania are the following :

(a) The Roumanian Association for Air Propaganda (ARPA) has created and maintains a civil pilots' school at the airports of Baneasa and Cernauti.

These schools possess 90 h.p. Messerschmidt sporting machines, and from 1930 up to the present have obtained 22 first-class air touring pilots' certificates and eight second-class certificates (international air touring certificates).

(b) The Ing. Mircea Cantacuzino, Roumanian association for the encouragement of air touring, has set up and maintains at the Baneasa airport a civil pilots' school which possesses Klemm-Daimler 20 h.p. sporting machines and, since 1928, has trained 18 pilots for first-class certificates and nine pilots for second-class certificates.

(c) There are at present six private persons owning aeroplanes of their own and practising flying for touring purposes.

5. Among the air transport undertakings, only the CIDNA receives an annual subsidy from the Roumanian Government, of not more than 8,000,000 lei.

This subsidy is paid to the company in the form of a kilometric bonus in proportion to the number of kilometres travelled in journeys regularly and completely carried out under the conditions of the above-mentioned agreement.

The tourist flying associations receive subsidies from the Roumanian Government in the form of grants for the purpose of school machines and various other advantages arising out of the fact that the schools are situated at the Government airports (free garaging for machines, reduced rates for repairs in the Government workshops, exemption from landing-fees, reductions on fuel, exemption from Customs taxes, etc.).



Since the creation of the Civil Aviation Service (January 1st, 1930), the following sums have been granted for these purposes from the State budget : in 1930, 1,098,000 lei ; in 1931, 500,000 lei. For the current year, a sum of 400,000 lei is proposed.

The only advantages enjoyed by private persons owning aeroplanes are those of being allowed to keep their machines in the hangars belonging to the Government and of paying reduced rates for repairs and fuel.

6. For the transmission of the meteorological telegrams necessary for the protection of air navigation and for telegrams concerning air traffic and circulation, the Civil Aviation Service has created a series of wireless stations at intervals along the air lines in operation.

At present eight wireless stations are in operation in Roumania.

These stations transmit and receive meteorological and traffic telegrams according to a time-table based on the departures and arrivals of aeroplanes on regular services, as well as any other communications relating to air traffic outside the time-table.

7. The meteorological protection of air navigation in Roumania is ensured by a series of meteorological visual observation posts (without apparatus) and by several meteorological stations supplied with apparatus for air soundings.

*Means of Transmission.* — The visual meteorological posts transmit their observations by telephone to the wireless stations, which centralise them and retransmit them.

*Codes.* — Meteorological communications are made by means of telegrams in code. The code used is that adopted by the International Meteorological Congress of Copenhagen in September 1929.

*Time-tables.* — The meteorological observations are taken in relation to the air lines in operation, and are transmitted one hour before the aeroplane's departure from the airport.

*Protected Zones.* — The meteorological posts are established in such a way as to ensure the protection of air navigation on the following lines :

Bucharest - Belgrade,  
Bucharest - Sofia,  
Bucharest - Istambul,  
Bucharest - Galatz - Cernauti,  
Bucharest - Galatz - Chisinau - Cernauti,  
Bucharest - Cluj - Satu - Mare,  
Bucharest - T. Severin - Arad,  
Bucharest - Constantza.

8. (a) The length of the national air lines operated by LARES was 1,000 kilometres in 1931.

(a1) The length of air lines provided with beacons and equipped for night flying is 280 kilometres (Bucharest - T. Severin).

(b) Airports open for public air traffic :

Bucharest-Baneasa . . . . .	Lat. 48°15' N. Long. 25°56' E.
Galatz . . . . .	Lat. 45°27' N. Long. 28°01' E.
Chisinau . . . . .	Lat. 47°03' N. Long. 28°07' E.
Cernauti . . . . .	Lat. 48°15' N. Long. 25°56' E.
T. Severin (emergency) . . . . .	Lat. 44°39' N. Long. 22°38' E.

Customs airports : Baneasa, Galatz, Cernauti.

Airports under construction :

Cluj . . . . .	Lat. 46°38' N. Long. 23°20' E.
Balcic . . . . .	Lat. 43°27' N. Long. 28°12' E.
Arad . . . . .	Lat. 46°12' N. Long. 21°16' E.
Constantza . . . . .	Lat. 44°08' N. Long. 28°37' E.

(b1) Airports equipped for night flying : Only Bucharest - Baneasa (preliminary announcement).

(c) Number of kilometres flown : During 1931, 105,875 kilometres were flown by the aeroplanes of the LARES service.

(d) Number of passengers carried (regular services) : During 1931, 728 passengers were carried by the air service of the LARES.

(e) Mails and parcels carried : Parcels amounting to 1,642 kilogrammes.

See annexed map.

Annex.

PARTICULARS FOR THE COMPILATION, IF DESIRED, OF STATISTICS OF NON-MILITARY FLYING EFFECTIVES AND OF PUBLIC FUNDS AT THEIR DISPOSAL.

I. NON-MILITARY FLYING EFFECTIVES IN ROUMANIA IN 1931.

A. *Commercial Aircraft :*

1. Aeroplanes and seaplanes with 4 seats or more :

Type	Nominal h.p.	Passenger seats	Useful load allowed (Kilogr.)	Goods load allowed (Kilogr.)	Capacity of normal tanks	Volume of compartments assigned to normal load	Date put into service
Aeroplane Junkers F. 13 . . .	280	4	800	420	360 l.	1 m <sup>3</sup>	1 in 1929 2 in 1931
Aeroplane Avia B. H. 25 . .	420	5	1,020	440	440 l.	1,007 m <sup>3</sup>	1928
Farman Goliath bi-motor . .	730	12	2,600	1,000	700 l.	2 m <sup>3</sup>	1928

2. Dirigibles : None.

3. Aeroplanes or seaplanes with 1 to 3 seats : None.

4. Aeroplanes or seaplanes assigned to special purposes and fitted with permanent equipment : 1 Messerschmidt aeroplane, type 18B, Siemens-Halske, 90 h.p., 2 Messerschmidt aeroplanes, type 12, 108/125 h.p. Walter engine, both adapted and equipped for air photography.

B. *Private Aircraft :*

8 touring aeroplanes, Messerschmidt 23 B two-seater, 90-h.p. Siemens-Halske engine.  
 3 touring aeroplanes, Klemm 23 B two-seater, Daimler 25-h.p. engine.  
 3 touring aeroplanes, De Havilland Moth two-seater, Gipsy D II I 85 h.p.  
 1 touring aeroplane, De Havilland Puss Moth two-seater, D II III 105 h.p.  
 1 touring aeroplane, Caproni two-seater, Gipsy D II 85 h.p.  
 1 touring aeroplane, S.E.T. (Roumanian manufacture), Salmson 9 Ab 230-h.p. engine.  
 2 touring aeroplanes, Farman four-seater, 190 Gnome engine and Rohne Titan 230 h.p.  
 1 touring aeroplane, Emsko three-seater, Pratt and Whitney Wasp 450-h.p. engine.

C. *Non-Military Aircraft at the Disposal of the Government or of Official Services :* None.

II. EXPENDITURE FROM PUBLIC FUNDS ON NON-MILITARY FLYING.

The questions under A, B and C below have been dealt with in the replies to the questionnaire.

The funds assigned to commercial and private aviation out of the State budget amount to 36,219,032 lei for 1931. This sum was divided as follows :

Government Civil Aviation Service:	Lei
Personnel . . . . .	12,216,232
Material and miscellaneous expenditure for the operation of Government airports and air lines . . . . .	18,502,800
Subsidy to CIDNA . . . . .	5,000,000
Subsidies to private aviation . . . . .	500,000

**Siamese Delegation.**

April 27th, 1932.

1. Civil aviation in Siam is under joint control of the Ministry of Defence and the Ministry of Commerce and Communications. By virtue of the law on aerial navigation, B.E. 2465, the Ministry of Defence has charge and control of civil aviation only in so far as its technique is concerned, such as the issuance of certificates of airworthiness and the licensing of personnel, etc., while the Ministry of Commerce and Communications controls civil aviation on its commercial side.

Private civil flights over Siamese territory may be carried out only after a previous authorisation has been obtained from the Ministry of Defence. As regards air-navigation lines, under the Act for the Control of Commercial Undertakings affecting the Public Safety or Welfare, B.E. 2471 (1928), no person may create and operate air lines over Siamese territory unless a Royal sanction or a concession has previously been obtained. Concessions embodying all the necessary conditions to be complied with by the company operating air lines in Siam are issued by the Ministry of Commerce and Communications.

2. The only company operating national air lines is the Aerial Transport Company of Siam, Ltd. It carries mail, passengers and goods. The line over which it is authorised to operate extends across the country from the Burmese frontier to the Indo-Chinese frontier in the north. It also operates local services in the north-eastern provinces.

3. None.

4. At present no flying club exists in Siam. There is only one private person who practises flying as a sport.

5. Neither the person above referred to nor the Aerial Transport Company of Siam, Ltd., is in receipt of a Government subsidy. The Aerial Transport Company is, however, under contract with the Government to carry mails for the Post and Telegraph Department.

6. There are two goniometric wireless stations, one at Laksi, near Bangkok, and the other at Pitsanuloke, which are in constant touch with flying aeroplanes. The stations are managed by the radio section of the Post and Telegraph Department.

7. The meteorological stations are under the control of the Ministry of Lands and Agriculture. In connection with civil aviation, such stations keep in touch with the Bangkok wireless station, which, in turn, broadcasts weather conditions daily at 13 o'clock. The above-mentioned wireless stations pick up this information and supply it to the planes when required.

8. *Statistical particulars :*

(a) Length of the air lines (in kilometres) : 620.

(a1) Length of air lines equipped for night flying : None.

(b) Number of airports : At present, there are three Customs aerodromes at Donmuang, Songkhla and Chiangmai, and another Customs aerodrome will shortly be opened at Nagor Panom. There are also landing grounds which are not Customs aerodromes and of which two have been completed — viz., at Korat and Pitsanuloke — while the others are still under construction. Among these, however, only one aerodrome (Donmuang) is provided with hangars and repair and other facilities.

(b1) Number of airports equipped for night flying : None.

(c) Number of kilometres flown : 69,425.

(d) Number of passengers carried (regular services) : 65.

(e) Mail and packages carried (in kilogrammes) : The total weight of mails and packages carried during the first three months of 1931 is 4,805.490 kilogrammes, there being no separate statistical particulars of mails and packages. For the next nine months, the statistical particulars of mails and packages carried are : mails 8,308.458 kilogrammes ; packages, 836,847 kilogrammes.

Swedish Delegation.

April 15th, 1932.

1. Civil aviation is controlled by a special bureau belonging to the Ministry of Communications, — viz., the Bureau of Civil Aviation — at the head of which is the Director of the section of the Ministry responsible for questions connected with civil aviation. In addition to the chief official, the staff of the Bureau consists of an air engineer, an assistant, and a shorthand-typist. The Bureau of Civil Aviation prepares the rules and regulations for civil aviation, delivers registration certificates and other certificates necessary for aircraft and aviators, and exercises technical supervision over aircraft through a certain number of inspectors. It also deals with questions connected with Government subsidies to civil aviation and controls the use of the subsidies granted.

2 and 3. The only air transport undertaking is the limited liability company, "Aktiebolaget Aerotransport" (A.B.A.). At present, this undertaking only operates for commercial purposes air lines providing communication with abroad. These lines are the following :

Stockholm-Helsingfors (hydro-aeroplanes),  
Malmö-Amsterdam.

As an experiment, a night postal air service has also been established between Stockholm and Gothenburg on the one hand and Amsterdam on the other, these services being carried on in conjunction with the postal authorities of the Scandinavian countries.

For the operation of the commercial lines mentioned above, "pooling" contracts exist between the A.B.A. and the Finnish company, Aero O/Y, for the Stockholm-Helsingfors line, and between the A.B.A. and the Dutch K.L.M., the German Luft-Hansa and the Danish Danske Luftfartsselskab for the lines Malmö-Hamburg, Malmö-Amsterdam, etc.

The A.B.A. works with private capital only. The Government appoints the Chairman of the Board of Directors and a controller. The company is subsidised by the Government, subject to the conditions stipulated in a special contract concluded with a view to the maintenance of a regular service on the lines Stockholm-Helsingfors and Malmö-Amsterdam. For details, see reply to No. 5.

4. The interests of flying as a sport and for touring purposes are in the hands of the Royal Aero Club (Kungl. Svenska Aeroklubben), which represents the International Air Federation in Sweden and aims at encouraging the development of aviation, and of the Swedish Air Association (Svenska Luftfartsförbundet), the membership of which consists of persons interested in flying for professional or other reasons.

5. (a) The subsidies granted to the A.B.A. have been laid down in a contract passed by Parliament in 1931, under which the A.B.A. is to receive an annual sum of 650,000 crowns during the financial years 1931 to 1936. The A.B.A. has undertaken to perform the following services : to operate during the whole year the line Malmö-Amsterdam and make 360 journeys in each direction ; to operate during eight months the line Stockholm-Helsingfors and to make 240 journeys in each direction. The contract also contains a clause with regard to regularity, under which the A.B.A. will receive the subsidies contracted for on condition that the number of journeys completed within the day on which they are begun will not be less than a percentage fixed for each year. The regularity required for the commercial lines is as follows :

	Malmö-Amsterdam	Stockholm-Helsingfors
	Per cent.	Per cent.
1931-32 . . . . .	90	92
1933 . . . . .	91	93
1934 . . . . .	92	94
1935 . . . . .	93	95
1936 . . . . .	94	96

(It should be added that, in 1930, the regularity on the Malmö-Amsterdam line was 96 per cent and on the Stockholm-Helsingfors line, 97.9 per cent.)

The reduction which the A.B.A. may suffer if it does not fulfil the obligations mentioned above is fixed at two crowns per kilometre, after a calculation made by the Bureau of Civil Aviation and based on the information contained in the registers of the undertaking.

If the receipts of the undertaking are in excess of 6 per cent on the capital, half this sum will be transferred to a fund which may be utilised by the company to make good a deficit in subsequent years. Any balance remaining in this fund will be paid over to the Government at the expiration of the contract.

The type of aeroplanes is fixed by the Bureau of Civil Aviation. The Government determines the passenger and goods tariff, as well as the time-table and any other rules which it may think advisable.

The proportions between the total receipts of the A.B.A. and the subsidies received have been as follows :

*Subsidies as a percentage of total receipts.*

1926	1927	1928	1929	1930	1931
53	49	44	44	41	38

(b) The Royal Aero Club and the Air Association receive no Government subsidies.

6. The wireless service is provided exclusively by the Telegraph Administration, which receives a special budget appropriation for the needs of civil aviation.

7. The meteorological service is provided by the Meteorological and Hydrographic Institute of the State, which receives special budget appropriations for the needs of aviation.

8. (a) The distance from Stockholm to Helsingfors is 415 kilometres; that from Malmö to Amsterdam; 697 kilometres, and the total distance covered by the aeroplanes of the postal service, 1,073 kilometres (Gothemburg, Malmö, Copenhagen, Hanover, Amsterdam).

(a1) Of the national air lines, only the Gothemburg-Malmö line is equipped for night flying.

(b) The number of airports is three — viz., the Lindarängen naval airport at Stockholm, the land and naval airport of Torslanda near Gothemburg, and the Bulltofta airport at Malmö.

(b1) Of these airports, two are equipped provisionally for night flying.

(c-e) Statistical particulars :

*A.B.A.*

	No. of km. flown	Paying passengers	Paying passenger-km.	Baggage kg.	Goods kg.	Mail kg.
1930 . . . . .	217,604	2,248	1,073,536	41,066	31,768	49,363
1931 . . . . .	—	1,791	807,429	29,911	—	—

*Undertakings operated jointly.*

	No. of km. flown	Paying passengers	Paying passenger-km.	Baggage kg.	Goods kg.	Mail kg.
1930 . . . . .	—	2,463	1,142,195	43,524	56,865	54,463
1931 . . . . .	—	4,230	1,901,590	72,452	—	—

# SUÈDE - SWEDEN



Note: Aux aéroports de Rinkaby, de Skillingaryd et de Vännäs, ce n'est qu'à certaines époques de l'année qu'on peut obtenir du carburant, de l'huile et du personnel, ou exécuter des réparations. Les aéroports de Karlsborg et de Västerås, actuellement (novembre 1929) en cours de construction, ne peuvent être utilisés jusqu'à nouvel ordre.

Note: At the aerodromes of Rinkaby, Skillingaryd and Vännäs fuel, oil, attendance and repairs can only be obtained during certain times of the year. The aerodromes at Karlsborg and Västerås are at present (nov. 1929) under construction, and should therefore not be used until further notice.

Swiss Delegation.

Lausanne, April 2nd, 1932.

1. Civil aviation is under the *Federal Council* (Order of January 27th, 1920, Article 4).

By an Order dated August 3rd, 1923, the Federal Council delegated to the Department of Posts and Railways some of its powers in this connection (issuing of police regulations).

The Federal Council exercises its powers as a supervising authority through the *Federal Air Office* set up under paragraph 3 of Article 4 of the Order of January 27th, 1920 ; this office is attached to the Department of Posts and Railways.

The Air Office is at present organised as follows :

(a) *Director*. — Supervision and control of the work of the various departments of the Air Office. Representation of the office abroad. Safeguarding of the general interests of Switzerland as regards the development of air traffic.

(b) *Technical Service*. — Preliminary inspection and periodical inspection of machines in service. Supervision of aircraft construction. All technical questions connected with safety in the air : wireless, meteorology, etc.

(c) *Air Police Service*. — Supervision of the air personnel (pilots' licences, instruction), special flying permits (foreign pilots, meetings, aerial advertisements, etc.), detection of breaches of the air regulations. Drafting and distribution of safety warnings. Statistics.

(d) *Administrative Service*. — Preparation of air legislation for Switzerland and preparation for the adoption of international conventions. Study of public and private air law. Information. Administrative supervision of private *state-aided* undertakings.

2. Apart from foreign undertakings operating autonomously or in collaboration with Swiss companies, we will only mention the following Swiss undertakings. These are :

Swissair, Swiss air navigation company, Walcheplatz, 19, Zurich ;  
Alpar, co-operative society, Berne-Belpmoos aerodrome ;  
Ostschweizerische Aerogesellschaft, co-operative society, St. Gall.

The two latter companies only operate domestic lines (connections, improvement of postal communication, at any rate as regards the two towns of Chaux-de-Fonds — Alpar and St. Gall — Ostschweizerische Aerogesellschaft).

With certain exceptions that are, so far, of no great importance, the Swiss system only operates in summer. The "season" properly so called runs from May 1st to October 31st ; but certain services are stopped before October 31st.

The operation of a line in summer involves the running of a daily service, Sundays excepted, there being one journey in each direction unless interrupted by *force majeure* (very bad weather, absence of available machine ; regularity in 1931 : 97 per cent). In practice, there are several journeys per day on certain routes, because they form part of several lines.

*Alpar Lines :*

Basle - Berne - Lausanne - Geneva (in 1931 and 1932) ;  
Berne - Bienne - Basle (in 1931 and 1932) ;  
Geneva - Lausanne - Chaux-de-Fonds - Basle (in 1931 and 1932) ;  
Berne - Lausanne (in 1932).

*Ostschweizerische Aerogesellschaft :*

Basle - St. Gall - Zurich (in 1931 and 1932).

*Swissair Domestic Line :*

Lucerne - Zurich (operates for a few weeks only).

3. The Swissair alone operates systems outside Swiss territory. For 1932, it operates the following systems :

Geneva - Basle - Mannheim - Frankfort - Cologne - Essen - Amsterdam.  
Geneva - Berne - Zurich - Munich - Vienna.  
Zurich - Stuttgart - Halle - Berlin.  
Zurich - Basle - Paris (London).  
Geneva - Paris (London).  
Basle - Cherbourg or Le Havre (purely postal).

All these lines are operated jointly by the Swissair and a foreign company. The Basle-Zurich-Munich-Prague connection, which operated in 1930 and 1931, will not do so in 1932.

4. *Touring Aviation.* — Touring flights are made for profit by the three companies mentioned above (Swissair, Alpar and Ostschweizerische Aerogesellschaft) and by the following companies :

Borner-Geneva-Air-Express, Geneva ;  
Aviatik beider Basel, Basle-Birsfelden.

Further, the sections of the Swiss Aero Club which have the necessary machines (*i.e.*, almost all sections) provide flying facilities for their members in return for partial or full payment of the cost.

*Pleasure Aviation.* — Of the 82 machines registered in Switzerland on January 1st, 1932, 55 were approved for pleasure or private touring only. Of the 186 pilots' licences at present granted, 156 were for pilots of categories I or II, who may not undertake any commercial transport. In other words, there are 156 civil pilots who practise pleasure flying (or private touring if they come under category II).

5. By "Government" are here meant three classes of public bodies: the Confederation, cantons and towns.

In the grants made by the Confederation, a distinction must be made between subsidies properly so called and payment for postal services. The latter payment has hitherto been made in the form of indirect subsidies. It will gradually cease to represent a subsidy and will become merely a payment for services rendered.

The post office is free to choose the lines it intends to use or subsidise, its criterion being utility for postal transport. It does not reserve its assistance for Swiss undertakings or for international traffic.

Actual subsidies by the Confederation are, however, granted, as bonuses for regularity, only to Swiss undertakings operating international lines of general interest. In practice, they are therefore given only to the Swissair.

As regards cantons and towns, they subsidise national or international lines and the Swiss or foreign undertakings whose activities are, in their opinion, of local or regional interest.

The amount of the subsidies depends on budgetary possibilities. In no case are they intended to ensure a profit for the operating company; if the company makes a profit, it keeps it; but the subsidy is reduced the following year. Subsidies are only intended to cover a deficit; they are only granted if the company is reasonably well managed.

No subsidies are given directly to private individuals or for facilitating the purchase of machines. A certain sum is devoted to *instruction premiums* paid to sections of the Swiss Aero Club which devote their efforts to training pleasure pilots.

6. Since the beginning of 1931, the air wireless service has been organised with its centre at Zurich. The Zurich central station communicates by wire and by "ticker" with the aerodromes. The latter communicate similarly with one another, so that wireless between ground stations is used only for communications with abroad, and only in so far as the foreign station has not a cable connection with Switzerland. Besides the central station, Dubendorf, Geneva and Basle have aircraft communication stations (meteorological and directional messages). Lausanne has a reserve station which normally does not operate.

7. The meteorological service is also centralised as far as may be; this is possible, thanks to cable communications (see under No. 6). The air meteorological service is organised by the Swiss central meteorological station at Zurich. This station keeps a specially trained professional meteorologist at each of the first-class Customs aerodromes (Basle, Zurich, Geneva).

8. (a) The total length of the air lines of Swiss companies in 1931, including foreign routes, was 5,079 kilometres. It will also be about 5,000 kilometres in 1932.

(a1) Nil.

(b) Six Customs aerodromes, together with two aerodromes for domestic traffic by land planes without permanent staff (Bienne, La Chaux-de-Fonds).

The following emergency landing-grounds must also be mentioned :

Aarau, Bellinzona, Bex, Bière, Bulle, Coire, Colombier-Planeyse, Delémont, Frauenfeld, Hilfikon, Lucerne-Horw, Olten, Payerne, Porrentruy, Spreitenbach, St. Gall-Winkeln, Thun, Granges-Soleure, Gland, Courtelary (the last three have not been finally approved).

(b1) Five.

(c) On lines operated by Swiss companies 919,400 kilometres.

(d) On lines operated by Swiss companies 12,895 passengers.

(e) On lines operated by Swiss companies 131,083 kilogrammes of mail; 182,163 kilogrammes of packages; 222,444 kilogrammes of chargeable luggage.



**Czechoslovak Delegation.**

April 20th, 1932.

1. Civil aviation is placed under the authority of the Ministry of Public Works, Prague.

It is administered by Section IIIB of the Ministry of Public Works. This section consists of four bureaux :

(13 a) Deals with technical and administrative questions concerning air lines, questions relating to air undertakings and subsidies ; air regulations, prohibited zones and frontier passages ; maps, meteorology ; propaganda ; international air conventions ;

(13 b) Questions relating to tests of machines and engines ; inspection of air park ; pilots' examinations ; flying instruction and training ; supervision of machines and pilots ;

(14 a) Questions relating to working and maintenance of aerodromes ; signals (wireless telephony and telegraphy, aerials, direction-finding) ; preparation of the air budget ;

(14 b) New aerodromes and buildings connected therewith.

The supervision of civil aviation is carried out by the Ministry of Public Works.

2. The national air lines are operated by Čs. státní Aérolinie, Prague, Čs. letecká společnost, Prague. Their organisation :

(a) The Čs. státní Aérolinie is managed by the Ministry of Public Works. The budget of the Company is included in the general budget of the Ministry of Public Works.

(b) The Čs. letecká společnost is a private undertaking, managed by its own directors.

3. The undertakings operating air lines outside the national territory are : Čs. státní Aérolinie and Čs. letecká společnost.

4. The organisations and private persons practising flying as a sport or for tourist purposes are : Aero Club of the Czechoslovak Republic, Prague ; Moravsko-Slezský Aero Club, Brno ; Východočeský Aero Club, Pardubice ; Slovenský Aero Club, Bratislava ; Západočeský Aero Club, Plzeň ; Masarykova Letecká Liga, Prague ; Association of German Flyers, Prague.

5. Subsidies : The Čs. státní Aérolinie is a State undertaking ; the Čs. letecká společnost is subsidised according to the number of kilometres flown.

The organisations mentioned in paragraph 4 receive a subsidy from the Ministry of Public Works in accordance with their activity in flying as a sport and with the sums available in the budget.

6. The wireless service is organised by the Ministry of Public Works and is operated by officials of the Ministry of Posts and Telegraphs.

7. The meteorological service is organised by the Ministry of Public Works and is operated by officials of the State Meteorological Institute, Prague.

8. Statistical particulars (for 1931) :

(a) Length of air lines : 3,555 km.

(a1) Length of air lines equipped for night-flying : 468 km.

(b) Number of airports : 7.

(c) Number of kilometres flown : 1,062,090 km.

(d) Number of passengers carried : 12,303 (regular services).

(e) Mail and packages carried : 438,688 kg.

## Union of Soviet Socialist Republics Delegation.

[Translation.]

May 9th, 1932.

Civil aviation in the Union of Soviet Socialist Republics is placed under the General Directorate of the Civil Air Fleet, known as the "Aeroflot". The law of February 26th, 1932, provides that this Directorate shall be placed directly under the Union of Soviet Socialist Republics Council of the People's Commissars, which shall appoint the chief and deputy chief. The same law assigns to the Aeroflot the duty of organising the following units, which are run independently — the four aviation trusts dealing with air transport, construction, repairs and supplies and equipment. The Union of Soviet Socialist Republics Association for the Campaign against Animals and Insects harmful to Agriculture and Forestry also has its own air-park. Another State undertaking, the "Gosaerofotosiemka", takes photographs from the air at the request of various economic organisations.

The law of February 26th, 1932, provides for the formation of a service to supervise the technical exploitation of air material employed by the various civil departments or organisations. This supervisory service forms part of the Aeroflot which, under this same law, controls all civil aviation activities. Another document, the Union of Soviet Socialist Republics Draft Air Code, which will be promulgated shortly, provides that all civil aircraft in the Union of Soviet Socialist Republics must be entered in the aircraft register kept by the Aeroflot, a few exceptions being made, however, in favour of foreign aircraft engaged in international air navigation.

The air lines of the Union of Soviet Socialist Republics are controlled by administrations which are grouped in an operating trust.

The international lines of the Union of Soviet Socialist Republics are also controlled by administrations grouped in an operating trust.

International services are run between the following places : Moscow-Berlin, Leningrad-Koenigsberg, Baku-Pahlevi, Tashkent-Kabul, Verkhne-Oudinsk-Oulan-Bator.

The national and international lines are enumerated in Table 1.

The Baku-Pahlevi line is run under a concession contract for an unlimited period concluded with the German Junkers-Dessau company. The Moscow-Berlin and Leningrad-Koenigsberg lines are run by the Soviet-German company "Deruluft" under a concession contract now in process of revision, concluded between the Union of Soviet Socialist Republics Government and the German "Luft-Hansa" company. The paid-up capital of the Deruluft is 1,350,000 German marks, which has been contributed in equal shares by each of the parties. Subsidies are paid to the Deruluft by the Aeroflot and the Luft-Hansa. The capital of the Deruluft is to be increased up to 2,700,000 marks. The Board of Directors consists of an equal number of Soviet and German members. This also applies to the material and personnel — one-half is Soviet, the other half German. The service runs six times a week from May 1st to October 31st. The new contract provides for the running of the Moscow-Berlin line all the year round.

The Union of Soviet Socialist Republics Draft Air Code provides that aircraft may be owned by the Aeroflot and its undertakings, other organisations or undertakings and by private individuals. Thus, the Statutes of the "Ossoaviakhim" Company of the Union of Soviet Socialist Republics, dated October 6th, 1930, provide in paragraph 3, sub-section (e) that the "Ossoaviakhim" Company ". . . shall organise air clubs, shall conduct propaganda in favour of flying as a sport and shall direct this; it shall undertake flights for purposes of propaganda, prospecting, records and other purposes". The "Ossoaviakhim" Company does not receive any subsidy from the Government.

The civil aviation wireless service is in the hands of the local administrations of the Aeroflot lines, which possess permanent wireless stations.

The civil aviation hydro-meteorological service is directed by the "Central Weather Office", which is under the Hydro-Meteorological Committee attached to the People's Commissariat for Agriculture of the Union of Soviet Socialist Republics. The local organisations of the Central Weather Office are the "Weather Announcement Offices". At the request of the civil aviation organisations, information is also given by the meteorological stations and look-out posts.

Statistical particulars of civil aviation in the Union of Soviet Socialist Republics are given in Table 2 annexed to this document.

There are no regulations in the Union of Soviet Socialist Republics providing for the publication of particulars of the civil air fleet. These are published from time to time.

TABLE 1. — LIST OF CIVIL AIR LINES OF THE UNION OF SOVIET SOCIALIST REPUBLICS IN 1931.

Name of line	Length of line (kilometres)
1. Moscow - Irkutsk . . . . .	4,700
2. Moscow - Tiflis . . . . .	3,025
3. Moscow - Tashkent - Kabul <sup>1</sup> . . . . .	4,179
4. Moscow - Bobriki . . . . .	200
5. Moscow - Leningrad . . . . .	650
6. Sverdlovsk - Magnitogorsk . . . . .	485
7. Termes - Stalinabad . . . . .	210
8. Tashkent - Alma - Ata . . . . .	813
9. Tashkent - Tcharjdji . . . . .	630
10. Stalinabad - Kuliab . . . . .	180
11. Stalinabad - Garm . . . . .	170
12. Tcharjdji - Tachause . . . . .	469
13. Novo - Ourgentch - Tourtkoul . . . . .	74
14. Tashkent - Oche . . . . .	448
15. Alma - Ata - Djarkent . . . . .	300
16. Alma - Ata - Semipalatinsk . . . . .	1,100
17. Semipalatinsk - Kustanai . . . . .	1,400
18. Sergiopol - Bakhty . . . . .	254
19. Semipalatinsk - Ridder . . . . .	230
20. Novosibirsk - Kouznetzk . . . . .	450
21. Irkutsk - Iakutsk . . . . .	2,706
22. Vitim - Bodaibo . . . . .	288
23. Verkhneudinsk - Oulan - Bator <sup>1</sup> . . . . .	540
24. Khabarovsk - Okhé on Sakhalin Island . . . . .	1,180
25. Mariinsk - Alexandrovsk on Sakhalin Island . . . . .	280
26. Archangel - Syktyvkar . . . . .	1,000
27. Rostov - Sochi . . . . .	455
28. Lugansk - Chakhty . . . . .	75
29. Kharkov - Derdiansk . . . . .	240
30. Kharkov - Odessa . . . . .	625
31. Baku - Pahlevi <sup>1</sup> . . . . .	390
Total . . . . .	27,746

TABLE 2. — PARTICULARS OF THE OPERATION OF CIVIL AIR LINES IN THE UNION OF SOVIET SOCIALIST REPUBLICS IN 1931.

Item	Air lines operated by the U.S.S.R.	Air lines operated by the Deruluft	Air lines operated by the U.S.S.R. and the Deruluft combined
Length of air lines in kilometres . . . . .	27,746	2,728	30,474
Number of kilometres flown . . . . .	5,241,073	903,200	6,144,273
Number of passengers carried . . . . .	18,984	3,658	22,642
Passengers per kilometre . . . . .	11,991,086	2,078,851	14,069,937
Baggage and freight carried (in kilogrammes) . . . . .	228,314	87,524	315,837
Tons per kilometre for baggage and freight . . . . .	148,402	58,351	206,753
Mail (in kilogrammes) . . . . .	324,214	29,057	353,271
Tons per kilometre for mail . . . . .	242,125	20,699	262,824
Total weight (passengers, freight, mail) in kilogrammes . . . . .	1,881,408	372,640	2,254,048
Total tons per kilometre . . . . .	1,293,479	244,707	1,538,186

*Campaign against Insects and Animals harmful to Agriculture and Forestry.*

1. Number of flights . . . . . 10,870
2. Kilometres flown . . . . . 340,200
3. Number of hectares disinfected . . . . . 245,079

*Flights for the Taking of Photographs*

1. Number of flights . . . . . 995
2. Number of kilometres flown . . . . . 372,078
3. Area photographed (in square kilometres) . . . . . 103,201

*Exploitation Service (Seal-hunting in the Kara Sea, etc.).*

1. Number of flights . . . . . 318
2. Number of kilometres flown . . . . . 127,476

<sup>1</sup> International lines.

Venezuelan Delegation.

Geneva, April 4th, 1932.

1. Civil Aviation is placed under the authority of the Ministry of *Fomento* (of National Development). This department comprises the following branches: mines, national and international posts, telegraphs and telephones, immigration and colonisation, national statistics, commerce, banks and air navigation for civil and commercial purposes. To carry on these services it possesses three bureaux under its direct authority, one of them being the Directorate of Statistics and Communications, under which is civil aviation.

The Ministry of National Development checks the papers of aircraft and their crews; it studies and decides on the advisability of subsidising existing or proposed air lines; it decides upon the acceptance in Venezuela of foreign air navigation certificates and grants or refuses applications for permission to carry and utilise photographic, topographical and cinematographic apparatus on board aircraft; it approves tariffs, prices, insurances, guarantees and rights in connection with public air navigation services and performs other functions stipulated in the law on aviation.

2. There are no Venezuelan civil aviation undertakings. The postal and passenger air service, both home and foreign, is at present carried on by three foreign companies, the *Compagnie Générale Aéropostale*, with headquarters at Paris, the *Pan-American Airways, Inc.*, with headquarters at New York, and the "*Sociedad Colombo-Alemana de Transportes Aéreos (Scadta)*":

The *Compagnie Générale Aéropostale* carries on the following services:

*On Tuesdays*: Line Maracay - Coro - Maracaibo and *vice versa*, in Venezuelan territory;

*On Thursdays*: Line Maracay - Ciudad Bolivar - Guasipati - Tumeremo, and *vice versa* in Venezuelan territory.

Services of the *Pan-American Airways, Inc.*

*On Tuesdays*: Line Maiquetia - Cristobal - Colon - Maturin, inland service; and international service from Trinidad and the other Greater and Lesser Antilles, United States, Canada and Europe (via New York).

*On Tuesdays and Saturdays*: Line Maiquetia - Maracaibo, inland service; and international service with the South American Pacific countries, Central America, Mexico, United States, Canada and Europe (via New York).

*On Thursdays*: Line Maiquetia - Maturin - Cristobal - Colon, inland service; and international service with Trinidad and the South American Atlantic Republics.

The "*Sociedad Colombo-Alemana de Transportes Aéreos (Scadta)*", runs a service between Venezuela, Colombia, Panama, El Ecuador and Curaçao, by means of a direct aerial connection between the aerial route established by the *Scadta* in those countries and the Venezuelan city of Maracaibo.

The airships of the *Scadta* can pursue the following routes:

1. From Barranquilla to Maracaibo and *vice versa*.
2. From the port of El Banco on the River Magdalena to the port of Encontrados on the River Catatumbo and thence to Maracaibo, and *vice versa*, with a facultative landing at Encontrados.
3. From Cúcuta to Maracaibo and *vice versa*, with facultative landing at Encontrados.
4. From Maracaibo to Curaçao and *vice versa*.

*Note.* — The oil companies, Standard Oil Company of Venezuela, Caribbean Petroleum Company, Colon Development Company, Ltd., and Venezuelan Petroleum Company employ, with the Government's permission, in Venezuelan territory exclusively, aeroplanes for the transport of their directors and employees and for taking air photographs of the areas in which their respective concessions are situated.

3. The foreign companies mentioned above.

4. There are no organisations nor private persons practising flying as a sport or for touring purposes.

5. No subsidies.

6. In Venezuela there is one principal wireless station and seven secondary stations — viz.:

Central Station:

MARACAY.

*Position*: Longitude: meridian of Caracas, 0° 40' 18" W.; latitude: 10° 15' 17" N.

Waves 15/60 m., power 20 kw. at the aerial, with four aerials directed towards New York and Berlin. Receiver in connection with four aerials. Receives radiograms from all parts of the world and also transmits them all over the world. Permits of telephonic communications with the U.S.A. and Europe. Made by Telefunken.

Secondary Stations :

CARACAS.

*Position* : Longitude : 66° 55' 49" W. of Greenwich ; latitude : 10° 30' 24" N.  
Wave 1,200 m., power 2 kw. For telegraphy. Made by Radio Corporation of America. Inland service and communication with Curaçao.

MAIQUETIA.

*Position* : Longitude : meridian of Caracas, 0° 1' 45" W. ; latitude : 10° 37' 38" N.

Wave 600/3,600 m., power 3 kw. For telegraphy and telephone. Made by Telefunken. Inland service and communication with Curaçao and ships at sea.

PUERTO CABELLO.

*Position* : Longitude : meridian of Caracas, 1° 5' 12" W. ; latitude : 10° 32' 15" N.

Wave 600/3,600 m., power 3 kw. For telegraphy. Made by Radio Corporation of America. Inland service and communication with ships at sea.

SAN CRISTOBAL.

*Position* : Longitude : meridian of Caracas, 5° 18' 41" W. ; latitude : 10° 32' 15" N.

Wave 28 m., power 200 w. For telegraphy. Made by Radio Corporation of America. Inland service.

MARACAIBO.

*Position* : Longitude : meridian of Caracas, 4° 40' 47" W. ; latitude : 10° 38' 32" N.

Wave 28 m., power 1 kw. For telegraphy. Communication with New York.

Wave 2,800 m., power 3 kw. For telegraphy. Made by Radio Corporation of America. Inland service.

PORLAMAR.

*Position* : Longitude : meridian of Caracas, 3° 5' 8" E. ; latitude : 10° 57' 11" N.

Wave 600/1,000 m., power 1.5 kw. For telegraphy. Made by Telefunken. Inland service.

MATURIN.

*Position* : Longitude : meridian of Caracas, 3° 44' 59" E. ; latitude : 9° 4' 55" N.

Wave 600/3,600 m., power 3 kw. For telegraphy. Made by Radio Corporation of America. Inland service and communication with ships at sea.

7. The meteorological stations are the following : Caracas, La Guaira, Puerto Cabello, Maracaibo, Ciudad Bolivar, Carupano, and seventeen other towns in Venezuela which supply any information asked for, but no special service has been created for aviation.

8. (a) Length of the air lines -(in kilometres):

	Kilometres
Line Maracay - Coro - Maracaibo . . . . .	479
Line Maracay - Ciudad Bolivar - Guasipati - Fumeremo . . . . .	773
Line Maiquetia - Cristobal Colon - Maturin . . . . .	738
Line Maiquetia - Maracaibo . . . . .	519
Total . . . . .	2,509

(a1) Length of air lines equipped for night flying : Nil.

(b) Number of airports : 13.

(b1) Number of airports equipped for night flying : 1.

(c) Number of kilometres flown in 1931 : No statistics.

(d) Number of passengers carried (regular services) in 1931 : No statistics.

(e) Mail and packages carried (in kilogrammes) in 1931 : No statistics.

Yugoslav Delegation.

Geneva, April 1st, 1932.

1. Civil aviation is placed under the authority of the Directorate of Civil Aviation, which forms part of the Air Force Command of the Ministry of the Army and Navy.

The Directorate of Civil Aviation comprises three sections :

(1) General Section — dealing with all questions of an administrative and general character concerning commercial and sporting aviation ;

(2) Communications Section — dealing with all questions relating to the air service — i.e., subsidies, time-tables, tariffs, conclusion of contracts with air navigation companies, etc. ;

(3) Technical Section — dealing with all questions of a technical nature concerning the material of commercial and sporting aviation, control of flying-machines, land installations, supervision of the national aeronautical industry, etc.

2. Commercial aviation in Yugoslavia is represented by the Aeroput National Air Navigation Company, which is a limited liability company. This company operates the following lines within the country under a long-term contract concluded with the State and published in the review *Droit aérien*, 1929, page 579 :

- (a) Belgrade-Serajevo-Podgorica ;
- (b) Belgrade-Serajevo-Split-Zagreb ;
- (c) Sušak-Zagreb.

3. The same national air navigation company mentioned under 2 operates jointly with an Austrian and a French air navigation company the international line : Belgrade-Zagreb-Gratz-Vienna.

This international line has been prolonged as far as Salonica via Skoplje and is at present being operated by the Aeroput Company.

4. The Royal Aero Club of Yugoslavia, " Naša Krila ", contributes direct or through the district aero clubs to the development of private aviation in the country by means of the organisation of air meetings, competitions, lectures, publication of monthly reviews, etc.

5. The State only gives financial subsidies to the Aeroput National Air Navigation Company. This subsidy is based on kilometric bonuses varying from 26 to 39 dinars per kilometre, as well as on the air lines operated over national or foreign territory, and on the flying machines employed, whether single-engined or multi-engined.

6. The wireless stations at the Belgrade, Zagreb, Skoplje and Serajevo aerodromes which have receiving and transmitting apparatus are under the control of the military authorities and are placed at the disposal of civil aviation for its requirements.

7. The meteorological stations at the above-mentioned aerodromes and along the routes of the air lines are under the control of the military authorities and provide adequately for the meteorological protection of the regular air services.

8. Statistical particulars :

- (a) Length of the air lines (in kilometres) : 2,332.6.
- (a1) Length of air lines equipped for night flying : 150 kilometres.
- (b) Number of Customs air ports : 3.
- (b1) Number of air ports equipped for night flying : 3.
- (c) Number of kilometres flown : 265,590.7 (jointly with other enterprises 336,200.7).
- (d) Number of passengers carried (regular services) in 1931 : 2,442 (jointly 3,044).
- (e) Mail and packages carried (in kilogrammes) in 1931 :

Baggage : 25,443 (jointly 31,432.210).  
Mail : 1,804.5 (jointly 2,867.5).  
Goods : 23,482 (jointly 39,481).

SECOND PART.

A. QUESTIONNAIRE (DOCUMENT CONF.D./C.A.7.)

With reference to document Conf.D./C.A.6, dated March 18th, 1932, and with a view to completing the information requested, the Secretary-General of the Disarmament Conference, at the request of and in agreement with the President of the Air Commission, has the honour to request delegations who have not already done so to forward to him, before April 4th, 1932, at the same time as their reply to the questionnaire in document Conf.D./C.A.6, the reply to the questionnaire which is to be found on pages 8 and 9 of the document emanating from the Communications and Transit Organisation (document C.95.M.47.1932.VIII [Conf.D.53])<sup>1</sup> and reproduced below.

I. Effectives of Non-Military Aviation.

A. COMMERCIAL AVIATION.

1. *Aeroplanes and seaplanes carrying four persons or more :*

- |  |   |   |
|--|---|---|
| <p>(a) Nominal horse-power;<br/>Number of passengers carried<br/>in normal service;<br/>Useful load permitted;<br/>Freight permitted.</p> <p>(b) Normal content of tanks;<br/>Volume of compartments holding freight.</p> <p>(c) Date of entry into service.</p> | } | <p>According to the regulation<br/>certificates of airworthiness.</p> |
|--|---|---|

(The particulars grouped under (a) and (b) might be given in aggregate figures, the number of aircraft to which they refer being indicated.)

2. *Dirigibles :*

Volume;  
Horse-power;  
Normal load;  
Range of flight with normal load.

3. *Aeroplanes or seaplanes carrying from one to three persons :*

Number and total horse-power.

4. *Aeroplanes or seaplanes used for special purposes involving permanent installations (photography, spraying of crops or forests, wireless for patrolling purposes) :*

Number and horse-power, by categories, according to purpose for which the aircraft are used.

B. PRIVATE AVIATION.

Number and total horse-power, by categories of single-seaters, two-seaters, three to five-seaters and six or more seaters, aeroplanes, seaplanes and amphibians being classified separately.

Number and total horse-power of dirigibles.

C. NON-MILITARY AVIATION AT THE DISPOSAL OF THE STATE OR OF OFFICIAL SERVICES.

This class would include, for instance — enumerated by categories according to use, and the total horse-power being indicated — police aircraft for forest patrols or attached to State meteorological or scientific services.

<sup>1</sup> The information requested is that relating to 1931.

## II. Expenditure of Public Funds upon Non-Military Aviation.

### A. COMMERCIAL AVIATION.

*Direct Assistance.* — Mileage subventions ; postal contracts ; guarantees of minimum revenue from postal traffic ; indemnities for crew or passenger accommodation placed at the disposal of contributing parties ; subsidies to training schools for air transport crews ; exemption from taxation ; guaranteed interest on issues of bonds ; Treasury advances.

*Indirect Assistance.* — Establishment of airports and air routes ; meteorological services ; insurance funds ; other means of indirect assistance.

### B. PRIVATE AVIATION.

Expenditure on *civil training centres*.

Expenditure on *subsidised schools* for training pilots or specialists.

Expenditure on *clubs* possessing aircraft (engine-driven only) placed at the disposal of their members for learning to fly or for free use.

Purchase, upkeep and efficiency bonuses granted to private persons, whether or not such bonuses render the aircraft so acquired liable for service.

Requisition bonuses.

### C. NON-MILITARY AVIATION AT THE DISPOSAL OF THE STATE OR OF OFFICIAL SERVICES.

Relevant budget entries.

In each of the categories A, B and C, a distinction should be drawn between expenditure borne on the national or federal budget, on that of federated States, or of district, provincial or municipal organisations, according to the political and administrative structure of the country concerned.

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## B. REPLIES TO QUESTIONNAIRE (DOCUMENT CONF.D./C.A.7.)

### Union of South Africa Delegation.

Geneva, April 5th 1932.

#### I. EFFECTIVES OF NON-MILITARY AVIATION.

##### A. *Commercial Aviation* :

1. Aeroplanes and seaplanes carrying four persons or more : Nil.
2. Dirigibles : Nil.
3. Aeroplanes or seaplanes carrying from one to three persons : 12 aeroplanes of the "Moth" or similar type.
4. Aeroplanes or seaplanes used for special purposes involving permanent installations, etc. : Nil.

B. *Private Aviation* : No statistics available. Not more than four light aeroplanes of the "Moth" or similar type.

C. *Non-Military Aviation at the Disposal of the State* : Nil.

#### II. EXPENDITURE OF PUBLIC FUNDS UPON NON-MILITARY AVIATION.

A. *Direct Assistance* : Government subsidy of approximately £80,000 per annum to the Imperial Airways in respect of a London-Cape air-mail service ; Government subsidy of £80,000 to the Union Airways Limited in respect of a Union air-mail service ; subsidy of £7,000 to the Junkers Airway Company by the mandated territory of South West Africa.

*Indirect Assistance* : Airports are constructed by local authorities (municipalities) free of cost to the aviation companies. Meteorological information is furnished free by the State.

B. *Private Aviation* : No assistance is given by the State.

C. *Non-Military Aviation at the Disposal of the State* : Nil.

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**German Delegation.**

Berlin, April 6th, 1932.

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As regards the League of Nations communication, document Conf. D./C.A.7, of March 22nd last, it should further be noted that Germany cannot yet reply to the questionnaire given on pages 8 and 9 of League document C.95.M.47.1932.VII (Conf. D.53). This questionnaire was originally prepared as a draft for the Convention to be concluded on the publication of information relating to civil aviation. The German Government has approved this questionnaire and is also ready to supply the particulars required. It would nevertheless draw attention to the fact that, in a letter on this subject to the Secretary-General of the League of Nations, it pointed out at the time that the questionnaire was, on some points, not entirely adapted to the position of aviation in Germany. In order to supply the required particulars, it would be necessary to bring the tables and lists kept in the Reich Ministry of Communications into harmony with the form of the questionnaire. This adaptation has not yet been carried out, since the draft questionnaire has, so far, not been finally accepted. Moreover, the League communication, C.L.197.1931.IX, stated that the particulars required need only be supplied after the conclusion of the Convention on the publication of information relating to civil aviation.

**United States of America Delegation.**

Geneva, April 7th, 1932.

The American delegation would be glad to furnish the information desired, but regrets exceedingly that, as far as concerns the particulars requested in this questionnaire, no data has been compiled by the Government of the United States along these lines, and, furthermore, that American records are not maintained in a manner that would make such statistics available in the form desired.

The American delegation is disposed to furnish all information on the subject which might be helpful in the studies which the Air Commission desires to make in the premises, but would probably not be able to forward the pertinent statistics within a period of time which would make such data useful to the Air Commission for inclusion in its studies.

The American delegation may point out in this connection, however, that certain information with respect to civil aviation in the United States which was forwarded by the American delegation in its response of March 28th, 1932 (page 7), to the questionnaire contained in document Conf.D./C.A.6, of March 18th, 1932, might be helpful to the Commission as far as concerns the pertinent questions with regard to civil aviation. In fact, the response of the delegation, dated March 28th, transmitted most of the available information with regard to civil aviation in the United States.

If the Air Commission desires the American delegation to request any further data which might be available in Washington, we would be happy to forward such a request to the authorities in the United States.

**Argentine Republic.<sup>1</sup>**

January 19th, 1932.

**I. NON-MILITARY AIR EFFECTIVES.**

*Private Aviation.*

	Horse-power
60 two-seater aeroplanes totalling . .	5,910
25 three-seater aeroplanes totalling . .	3,780
1 five-seater aeroplane of . . . . .	225
3 six-seater aeroplanes totalling . . .	825
1 amphibian four-seater of . . . . .	175

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<sup>1</sup> Reply to the questionnaire sent by the Communications and Transit Organisation, under date of August 10th, 1931.

*Commercial Aviation.*

*Pan-American Airways System*

Aeroplanes or flying-boats carrying four or more persons : "Commodore" type : 1 No. P-BDAA. — Nominal power : 2 air-cooled "Pratt and Whitney" engines of 175 h.p. each. Hornet B, 9-cylinder radial, of a total power of 1,150 h.p.

These craft carry from 16 to 20 passengers, according to the arrangement of the seats, which varies appreciably according to the machine.

The United States Department of Commerce authorises 3,450 kilogrammes. The Pan-American Argentine Aviation Co., Ltd., authorises and uses only 2,727 kilogrammes; that is the available load of the aeroplane. The weight of petrol, oil, equipment, wireless apparatus, crew and special equipment, life-saving waistcoats, life-boats, anchors, etc., must be deducted from this total.

The usual load for an ordinary flight is as follows :

	Kilogrammes
Fuel and oil . . . . .	900
Crew . . . . .	280
Aeroplane equipment . . . . .	255
Wireless equipment . . . . .	69
Crew's luggage . . . . .	40
Mail bags . . . . .	5
Total weight of equipment . . . . .	1,549 (ordinary average)
Load which can be carried in the cabin . . . . .	1,178
Total authorised load . . . . .	2,727

The total weight empty of a "Commodore" is 10,000 lb. The gross authorised weight loaded is 17,600 lb., but the Pan-American only utilises 16,000 lb.

The foregoing shows that the total weight allowed for passengers, correspondence, luggage, parcels or goods is limited by the "weight which can be carried in the cabin", which is determined mainly by the quantity of petrol and oil necessary to cover the distance between the points of departure and destination respectively, plus the necessary quantity to meet eventualities.

The total capacity of the tanks of a "Commodore" is 640 United States gallons (two tanks of 320 gallons each). These tanks are placed in the central part of the wing. Normally, each aeroplane carries 300 gallons of petrol and 36 gallons of oil. These craft have three compartments of about 230 cubic feet each, for the commercial load. In two of these compartments seats are placed; the last is for luggage and cargo. In one compartment of about 270 cubic feet in front of these are situated the lavatory, wireless, life-saving apparatus and reserve provisions.

The P-BDAA flying-boat was put into commission on November 8th, 1931, after it had been completely overhauled in our workshops at Buenos Aires. At present, this is the only "Commodore" maintaining a regular service. Its base is at Buenos Aires, Puerto Nuevo.

The "Commodore" P-BDAA is undergoing repairs and is at present dismantled for repairs and complete overhauling in our Puerto Nuevo workshops. It cannot be put into commission again before the end of next January.

The "Sikorski" type (Serquiplan amphibian): L.P-BDAA reserve aeroplane. — Nominal power: two 420-h.p. engines — i.e., 840 h.p. in all — "Pratt and Whitney" Wasp "C" type, 9-cylinder radial, air-cooled.

Can carry 5 passengers and a crew of 3.

The United States Department of Commerce authorises 1,820 kilogrammes useful load for a "Sikorski".

The following is a table of loading for an ordinary flight :

	Kilogrammes
Oil and fuel . . . . .	700
Crew . . . . .	220
Crew's luggage . . . . .	30
Wireless . . . . .	70
Aeroplane equipment . . . . .	170
Mail bags . . . . .	5
Total weight of equipment . . . . .	1,195
Load which can be carried in cabin . . . . .	625
Total authorised load . . . . .	1,820

The "load which can be carried in the cabin" of 625 kilogrammes is utilised entirely for passengers, mail, parcels and cargo. The weight of the aeroplane empty is 6,400 lb.; its gross weight, 10,400 lb.

It possesses four tanks of 80 United States gallons each, or a total of 320 gallons of petrol; two oil tanks of 15 gallons each, or 30 gallons in all. The normal average amount of fuel and oil required by a "Sikorski" of this type to accomplish a normal flight is 180 gallons of petrol and 20 gallons of oil.

The passenger cabin of a "Sikorski" is of about 220 cubic feet content. Under the prow, in the forepart of the pilot's cabin, there is a space of about 10 cubic feet for luggage, goods, life-saving apparatus and reserve provisions. After having been completely repaired and tested at the Puerto Nuevo base, the P-BDAA was put into commission on August 10th, 1931.

We shall shortly possess an aeroplane with a "Fairchild" cabin, which will be stationed at Moron and will have the following characteristics: A 420-h.p. "Pratt and Whitney" Wasp "C" 9-cylinder radial air-cooled engine. It will be able to carry 4 passengers and the pilot.

The United States Department of Commerce authorises 1,830 lb. useful load and 588 lb. commercial load in all.

This aeroplane has three tanks of 60 United States gallons each, totalling 180 gallons of petrol, placed in the wing, two oil tanks of 7½ gallons each — *i.e.*, a total of 15 gallons of oil. It is generally used fully loaded.

The total space available for passengers and luggage is approximately 180 cubic feet.

#### *General Aeropostal Company.*

##### Aeroplanes carrying 4 or more persons:

8 Laté 28 with wireless; 1 500-h.p. engine; 1 cabin for 8 passengers; authorised useful load, 824 kilos; authorised commercial load, 824 kilos; fuel-tank capacity, 735 litres; oil-tank capacity, 60 litres.

The volume of the compartments of the commercial load is 0.5 cubic metre for the fore compartment and 1.5 cubic metre for the rear compartment.

These aeroplanes were put into commission in 1929 and 1930.

22 Laté 26 with wireless and 450-h.p. engine; 1 cabin for 4 passengers and a pilot, one of the seats being reserved for the wireless operator; authorised useful load, 1,092 kilos; authorised commercial load, 1,092 kilos; fuel-tank capacity, 820 litres; oil-tank capacity 65 litres.

The volume of the compartment for the commercial load is as follows: 1 compartment behind the pilot's seat of 0.45 cubic metre; 1 to the rear of the passenger cabin of 0.5 cubic metre; 1 in front of the passenger seats of 1.2 cubic metre; and 1 to the rear of the passenger seats of 1.1 cubic metre.

These aeroplanes were put into commission during 1927, 1928 and 1929.

15 Laté 25, not provided with wireless; 450-h.p. engines; 1 cabin for 4 passengers, in addition to the pilot; authorised useful load, 750 kilos; authorised commercial load 750 kilos; fuel-tank capacity, 660 litres; oil-tank capacity, 65 litres; volume of compartments for cargo, 1 of 0.65 cubic metre and 1 of 0.95 cubic metre.

These aeroplanes were put into commission during 1926, 1927 and 1928.

##### Aeroplanes carrying from one to three persons:

5 Potez 25, not provided with wireless; 450-h.p. engine; place for 1 passenger and a pilot; useful authorised load, 112 kilos.; authorised commercial load, 112 kilos.

The tanks of these aeroplanes contain 500 litres of fuel and 35 litres of oil.

These aeroplanes were put into commission during 1929 and 1930, and are in service throughout the whole of South America.

**Australian Delegation.**

Geneva, May 20th, 1932.

*Statistics regarding the Effectives of Non-Military Aviation and Details of Public Funds expended on Such Aviation.*

**I. EFFECTIVES OF NON-MILITARY AVIATION.**

**A. Commercial Aviation.**

**1.<sup>1</sup> Aeroplanes and seaplanes carrying four or more persons :**

Aircraft	Normal horse-power	No. of passengers	Weight unloaded	Weight loaded	Pay load	Normal contents of tank	Number of aircraft
			Lb.	Lb.	Lb.	Gallons	
Type A	645	8	6,000	10,225	4,225	150	5
Type B	350	4	—	—	—	—	1
Type C	230	4	2,300	4,000	1,700	50	2
Type D	220	4	2,387	4,200	1,813	55	15
Type E	450	8	3,726	7,000	3,274	83	3
Type F	900	14	8,890	15,600	6,710	300	2
Type G	240	4	1,100	2,000	900	55	2
Type H	900	10	6,832	11,460	4,628	315	3
Type I	450	—	3,280	6,600	3,320	75	7
Type J	220	4	2,600	3,700	1,100	70	1
Type K	330	4	4,000	5,600	1,600	120	1
Type L	900	12	7,800	12,350	4,550	300	2
Type M	420	5	2,250	4,000	1,750	83	1
Type N	240	4	2,032	3,364	1,332	64	1
Type O	240	4	2,126	3,694	1,568	74	1

2. Dirigibles.— Nil.

3. Aeroplanes or seaplanes carrying from one to three persons :

Number of machines	Total horse-power
36	3,800

4. Aeroplanes or seaplanes used for special purposes involving permanent installations. — Nil.

**B. Private Aviation.**

Number of machines	Total horse-power	Dirigibles
98	11,700	Nil

**C. Non-Military Aviation at the Disposal of the State or of Official Services.**

Number of machines	Total horse-power
23	2,500

These machines are held by the Controller of Civil Aviation and allotted to various aero-clubs for training purposes, etc.

<sup>1</sup> In regard to Item (c) — "Date of Entry into Service" — under subhead A.1(c), information under this item is not available.

With reference to "Freight permitted" under Item A.1 (a), the information has been furnished in the column headed "Pay load".

With regard to the types of aircraft shown under the heading I.A.1, type "B" is a Bristol monoplane of obsolete type, in regard to which no further information is possessed by the delegation.

II. EXPENDITURE OF PUBLIC FUNDS UPON NON-MILITARY AVIATION.

A. *Commercial Aviation.*

Direct Assistance. — Subsidies to Air Transport Services : £94,330.

The amount of £94,330 represents payments made to various operating companies during 1930-31. There is no other form of direct assistance, as the carriage of mails is on a strictly commercial footing, the postal surcharge being based on the rates charged by the company for the transportation of mails.

Indirect Assistance. — Meteorological and wireless services controlled by the Commonwealth Government in Australia are at the disposal of commercial aviation without payment, while the maintenance of Government aerodromes and landing grounds is also provided for, but it is not possible to estimate the value of such services. No other indirect assistance is afforded.

B. *Private Aviation.* — The aero-clubs in the Commonwealth (ten in all) receive assistance from the Controller of Civil Aviation in the form of aircraft on loan for training purposes and/or cash bonuses in respect of pilots trained at such schools who reach the requisite standard required by regulations.

C. *Non-Military Aviation at the Disposal of the State or of Official Services* : £1,400. — This amount is provided for the maintenance of machines held by the Controller of Civil Aviation.

Austrian Delegation.

Geneva, June 8th, 1932.

I. EFFECTIVES OF NON-MILITARY AVIATION.

A. *Commercial Aviation*

1. Aeroplanes and seaplanes carrying four persons or more . . . . .	11
(a) Nominal horse-power . . . . .	5,500
Passenger capacity . . . . .	65
Total load (kilogrammes) . . . . .	13,125

(It was not possible to make a distinction between "useful load permitted" and "freight permitted", as the regulation certificates in Austria state the total load only ("Zuladung", which means the load added to the net weight of the machine); this includes the useful load, the weight of the petrol, lubricants and other substances consumed, and of the crew.)

(b) Content of tanks : 7,300 litres of petrol, and 510 litres of lubricants.

(The volume of the compartments holding freight cannot be given, as the registration and admission certificates do not contain the necessary data.)

(c) These 11 aeroplanes were put into service in the following years : 1 in 1923 ; 1 in 1925 ; 3 in 1927 ; 2 in 1928 ; 3 in 1929 ; 1 in 1931.

2. Dirigibles : Nil.

3. Aeroplanes or seaplanes carrying from 1 to 3 persons : 17 aeroplanes and 1 seaplane with a total horse-power of 2,050

4. Aeroplanes or seaplanes used for special purposes involving permanent installations : Nil.

B. *Private Aviation.*

Twenty-four aeroplanes (1 single-seater, 20 two-seaters, 3 three-seaters) with a total horse-power of 2,410.

No dirigibles.

C. *Non-Military Aviation at the Disposal of the State or of Official Services.*

One two-seater aeroplane, 230 horse-power, belonging to the Federal Ministry of Commerce and Communications (for official journeys, meteorological observations, etc.).

II. EXPENDITURE OF PUBLIC FUNDS UPON NON-MILITARY AVIATION.

A. *Commercial Aviation.*

Direct assistance :	Schillings
Kilometric subventions granted to the Austrian Air Navigation Company . . . . .	2,087,000
Sums paid for the transport of mail :	
To the Austrian Air Navigation Company . . . . .	17,063
To foreign aviation companies . . . . .	24,207
For the training of commercial air pilots . . . . .	27,120

No other grants are made.

Under the Law for the encouragement of air traffic of July 18th, 1929, *Bulletin of Federal Laws* No. 261, favoured treatment is granted to air navigation undertakings operating public air services in Austria, in respect of stamp duty, judicial and other charges, taxes and Customs duties.

Indirect assistance :	Schillings
Miscellaneous installations at airports run by the Government (at Vienna, Graz and Klagenfurt) . . . . .	167,772
Cost of administration of those airports . . . . .	257,596
Contributions to foreign airports . . . . .	27,000
Miscellaneous installations for the purpose of increasing the safety of aviation (wireless and meteorological services) . . . . .	212,603
Administration of the services intended to increase the safety of aviation . . . . .	266,865

B. *Private Aviation.*

No grants.

C. *Non-Military Aviation at the Disposal of the State or of Official Services.*

Expenditure on the aeroplane mentioned under I.C. is charged against the funds enumerated under II.A.

Belgium.<sup>1</sup>

December 7th, 1931.

I. EFFECTIVES OF NON-MILITARY AVIATION.

A. *Commercial Aviation.*

1. Aeroplanes and seaplanes carrying four persons or more (see tables attached).
2. Dirigibles : Nil.
3. Aeroplanes or seaplanes carrying from one to three persons :  
    Number : 15.  
    Total horse-power 1,640.
4. Aeroplanes or seaplanes used for special purposes involving permanent installations (photography, spraying of crops or forests, wireless for patrolling purposes) : Nil.

B. *Private Aviation.*

- Single-seaters : Aeroplanes : Number : 4. Total horse-power 539.  
 Two-seaters : Aeroplanes : Number : 37. Total horse-power 3,530.  
 Three- to five-seaters : Aeroplanes : Number : 1. Total horse-power 230.  
 Six-seaters (or more) : Aeroplanes } Nil.  
   Dirigibles }

C. *Non-Military Aviation at the Disposal of the State or of Official Services : Nil.*

Aeroplanes and seaplanes carrying four persons or more :

<sup>1</sup> Reply to the questionnaire sent by the Organisation for Communications and Transit, under date of August 10th, 1931.

*Belgium.*

Registration of machines	Horse-power	Number of passengers	Useful load permitted Kg.	Freight permitted Kg.	Content of tanks Litres	Volume of compartments holding freight Cubic metres	Date of entry into service
00-AIB	240	5	696	320	296	5	26. 9.1927
00-AIC	240	5	702	346	276	5	25. 9.1927
00-AID	690	9	1,421	686	575	15	19. 9.1929
00-AIE	690	9	1,837	857	820	15	14.12.1929
00-AIF	690	9	1,785	805	820	15	14.12.1929
00-AIG	690	9	1,385	405	820	15	28.11.1929
00-AIH	690	9	1,797	819	820	15	27.12.1929
00-AII	690	9	1,790	810	820	15	31.12.1929
00-AIJ	690	9	1,734	754	820	15	16. 1.1930
00-AIK	690	9	1,749	769	820	15	28. 2.1930
00-AIL	690	9	1,767	787	820	15	30. 5.1931
00-AIM	690	9	1,769	789	820	15	14. 2.1930
00-AIN	690	9	1,776	796	820	15	3. 4.1931
00-AIO	690	9	1,788	808	820	15	15. 3.1930
00-AIP	690	9	1,733	753	820	15	1. 7.1930
00-AIQ	690	9	1,706	726	820	15	18. 7.1930
00-AIR	690	9	1,755	775	820	15	1. 8.1930
00-AIS	690	9	1,750	770	820	15	19. 8.1930
00-AIT	690	9	1,785	805	820	15	8. 9.1930
00-AGC	309	5	955	467	408	5	9. 7.1930
00-AGD	309	5	955	467	408	5	9. 7.1930
00-AGE	309	5	955	467	408	5	11. 8.1930
00-AGF	309	5	955	467	408	5	10. 9.1930
00-AHG	840	11	1,800	500	1,120	15	13. 9.1928
00-AHJ	720	13	1,497	540	782	16	1. 9.1928
00-AHL	720	13	1,497	540	782	16	11.10.1928
00-AHM	720	13	1,497	540	782	16	10.10.1928
00-AHY	840	11	1,840	540	1,120	15	13. 9.1928
00-AHZ	840	11	1,840	540	1,120	15	12. 9.1928
00-AKB	300	4	456.5	146.5	230	2	27. 3.1931
00-ALE	230	4	762	384	298	4	1. 8.1930
00-ALC	450	4	883	450	353	4	17. 6.1930

Schreck seaplane.

Aeroplanes carrying four persons or more :

*Belgian Congo.*

Registration of machines	Horse-power	Number of passengers	Useful load permitted Kg.	Freight permitted Kg.	Content of tanks Litres	Volume of compartments holding freight Cubic metres	Date of entry into service
00-AIA	240	4	686.5	390	202.5	4	21. 3.1927
00-AIU	690	9	1,772.7	792.5	820	15	25. 9.1930
00-AIV	690	9	1,799	819	820	15	12. 6.1930
00-AIW	690	9	1,791	811	820	15	2. 6.1930
00-AIX	690	9	1,805	825	820	15	11. 5.1930
00-AIY	690	9	1,796	816	820	15	26. 4.1930
00-AIZ	690	9	1,775	795	820	15	5. 4.1930
00-AHN	840	11	2,170	739	1,201	15	13. 1.1925
00-AHO	840	11	2,157	706	1,201	15	7. 2.1925
00-AHP	840	11	2,170	739	1,201	15	12. 2.1925
00-AHQ	840	11	2,170	739	1,201	15	2. 3.1925
00-AHR	840	11	2,170	739	1,201	15	2. 6.1925
00-AHS	840	11	2,170	739	1,201	15	9. 7.1925
00-AHT	840	11	2,540	1,150	1,120	15	26. 3.1925
00-AHU	840	11	2,540	1,150	1,120	15	18. 5.1925
00-AHX	240	4	670	400	180	2	19. 6.1925
00-AHV	240	4	670	400	180	2	—
00-AHW	240	4	670	400	180	2	—

## II. EXPENDITURE OF PUBLIC FUNDS UPON NON-MILITARY AVIATION.

### A. *Commercial Aviation.*

Direct Assistance. — In order to promote commercial air navigation, the State and the colony have participated in the constitution of the "Société anonyme belge d'exploitation de la navigation aérienne"; as a result of the adoption of the Law of May 25th, 1929, the capital of the company was fixed at 20,000,000 francs, half of which was subscribed by the State and the colony.

The State and the colony have further authorised the company to issue mortgage or other bonds whose interest and sinking fund payments they guarantee. The proceeds of the issue of bonds enjoying this guarantee are reserved for the acquisition of the flying-machines required for the service and of the usual initial supplies of spare parts for these machines.

As regards the subsidies granted to cover the operating deficit of the company, the details vary for the services of the Congo, Europe and the future air line Belgium-Congo (see Statutes annexed); the budgets and accounts of these various services are clearly separated so as to enable continuous and regular activities to be carried on by each of these services.

The subsidies granted by the Belgian Government for the European services amounted in 1929 and 1930 to 14,743,354.11 and 22,939,167.24 francs respectively.

The subsidies granted by the colony for the same years amount to 7,500,000 and 6,000,000 francs.

The Transport Department granted to the civil aviation schools during the years 1929 and 1930 subsidies totalling 142,848 and 131,328 francs in respect of the contribution of civil aviation to the training of military pilots.

Indirect Assistance: 1. *In Belgium.* — The initial installation expenses in connection with the construction of aerodromes, buildings, sheds, wireless installations, etc., amounted in 1929 to 34,089,466 francs, and in 1930 to 14,743,959 francs.

The equipment of air lines for night flying cost 859,638 and 3,000,000 francs in 1929 and 1930 respectively.

The meteorological services necessary for the protection of aviation are provided by the Ministry of Science and Art at the Government's expense.

2. *In the Belgian Congo.* — Initial installation expenditure in connection with the establishment of aerodromes, buildings and sheds: 14,312,984 francs up to August 31st, 1931.

B. *Private Aviation.* — Subsidies to touring aviation clubs for the purchase of flying-machines: In 1929, 180,000 francs, plus 45,000 francs; in 1930, 180,000 francs.

The machines acquired by means of these subsidies cannot be used for school purposes.

Pilotage grants amounted to 20,000 francs in 1929 and 20,000 francs in 1930.

Contribution to the operating expenses of a school of air navigation totalled 101,820 francs in 1929 and 101,820 francs in 1930.

C. *Non-Military Aviation at the Disposal of the State or of Official Services:* Nil.



United Kingdom Delegation.

May 2nd, 1932.

I. EFFECTIVES OF NON-MILITARY AVIATION.

A. *Commercial Aviation* (effective aircraft on Civil Register on December 31st, 1931).

1. Aeroplanes and seaplanes carrying four persons or more :

Type of aircraft	Weight empty (lb.)	Useful load (lb.)	Maximum permissible weight authorised (lb.)	Commercial load (lb.)	Normal seating capacity (including crew)	Normal content of tanks (gallons)	Nominal horse-power	Number of aircraft on register
A . .	19,000	10,500	29,500	5,100	41	500	2,220	4
B . .	18,600	13,400	32,000	5,000	18	740	2,220	3
C . .	18,500	11,000	29,500	5,500	27	500	1,960	4
D . .	15,600	7,400	23,000	2,600	19	480	1,470	1
E . .	14,000	8,500	22,500	4,000	18	490	1,455	4
F . .	9,700	5,900	15,600	2,700	14	300	1,275	6
G . .	12,000	6,500	18,500	3,200	23	320	1,260	2
H . .	13,000	6,200	19,200	3,300	22	360	1,260	3
I . .	7,827	5,673	13,500	2,000	15	355	1,260	1
J . .	7,270	2,730	10,000	600	4	220	920	1
K . .	6,930	3,200	10,130	1,000	13	231	900	1
L . .	8,800	5,000	13,800	2,800	16	220	880	2
M . .	7,150	2,350	9,500	520	6	188	840	1
N . .	8,200	3,000	11,200	1,000	16	200	710	1
O . .	6,300	3,925	10,225	1,700	10	234	645	2
P . .	3,800	2,200	6,000	800	6	96	420	2
Q . .	3,000	2,000	5,000	900	5	104	300	2
R . .	3,715	2,238	5,953	1,070	6	140	280	2
S . .	2,600	1,600	4,200	750	5	55	240	1
T . .	2,200	1,100	3,300	500	4	54	210	2
U . .	2,600	1,100	3,700	500	4	50	208	3
								48

2. Dirigibles : Nil.

3. Aeroplanes or seaplanes carrying from one to three persons: 374 aircraft; total horse-power, 52,781.

4. Aeroplanes or seaplanes used for special purposes, involving permanent installations: information not readily available from Air Ministry records.

B. *Private Aviation.*

1. Effective aircraft on Civil Register on December 31st, 1931: 375 aircraft; total horse-power, 40,945.

C. *Non-Military Aviation at the Disposal of the State or of Official Services.* — Except for a very few experimental civil aircraft, there are no non-military aeroplanes at the disposal of His Majesty's Government in the United Kingdom or of any services controlled by them.

EXPENDITURE OF PUBLIC FUNDS UPON NON-MILITARY AVIATION  
(Estimated Expenditure 1932-33).

A. *Commercial Aviation.*

Direct assistance. — Subsidies to air transport services :

	£
European services . . . . .	110,000
England-India service . . . . .	210,000
Egypt-South Africa service . . . . .	231,000
	551,000
Deduct contributions from Dominion and Colonial Governments . . . . .	166,000
	385,000
Net subsidy . . . . .	385,000

There is no other form of direct assistance. The carriage of mails is on a strictly commercial footing. The postal surcharge is based on the rate charged by the company for the transport, a small percentage being added for the expenses of the Post Office.

Indirect Assistance. — Meteorological and wireless services are placed by His Majesty's Government in the United Kingdom at the disposal of commercial aviation without payment; but it would be impossible to estimate the precise value of such services. No other indirect assistance under the other headings named is given.

B. *Private Aviation.* — Estimated expenditure on clubs possessing aircraft (engine-driven only) placed at the disposal of their members for learning to fly, or for free use: £10,000. (The expenditure is in respect of grants to clubs on the basis of the number of pilots belonging to them who qualify for the issue or renewal of their pilots' licences.) No other form of assistance is given to private aviation.

C. *Non-Military Aviation at the Disposal of the State or of Official Services.* — There is no estimated expenditure under this heading except for the cost of constructing a very few experimental civil aircraft and of the subsequent experimental flights with them.

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Bulgarian Delegation.

[Translation.]

Geneva, April 11th, 1932.

I. EFFECTIVES OF NON-MILITARY AVIATION.

A. *Commercial Aviation:*

1. Aeroplanes and seaplanes carrying 4 persons or more:

(a) }  
(b) } Nil.  
(c) }

2. Dirigibles: Nil.

3. Aeroplanes or seaplanes carrying from 1 to 3 persons: Nil.

4. Aeroplanes used for special purposes, etc.: Nil.

B. *Private Aviation:* Nil.

C. *Non-Military Aviation at the Disposal of the State:*

(a) School and training aeroplanes: 20.  
Total horse-power: 1,500.

(b) Aeroplanes used for liaison purposes: 10.  
Total horse-power: 3,000.

II. EXPENDITURE.

A. *Commercial Aviation:* Three foreign companies — the CINA, Luft-Hansa and LOT — operate certain lines in Bulgarian territory forming part of international routes. Bulgaria affords these companies the following facilities:

Direct assistance: No subsidies, but exemption from taxation for all aviation material.

Indirect assistance: Free use of airports and hangars, the right to erect buildings on land granted by the Bulgarian Aviation Administrative Offices, free use of the Bulgarian meteorological service, the right to set up wireless and meteorological stations, right to use of workshops at cost price.

B. *Private Aviation:* Nil.

C. *Non-Military Aviation at the Disposal of the State:*

Budget entries	Leva
1923-24 . . . . .	8,438,835
1924-25 . . . . .	23,073,140
1925-26 . . . . .	78,086,310
1926-27 . . . . .	34,594,653
1927-28 . . . . .	46,829,252
1928-29 . . . . .	37,628,200
1929-30 . . . . .	38,601,675
1930-31 . . . . .	36,706,000
1931-32 . . . . .	36,400,000

Canadian Delegation.

Geneva, July 5th, 1932.

I. EFFECTIVES OF NON-MILITARY AVIATION (1931).

A. *Commercial Aviation.*

1. Aeroplanes and seaplanes carrying four persons or more . . . . .	108
(a) Nominal horse-power . . . . .	37,740
Passenger capacity . . . . .	554
Useful load permitted (lb.) . . . . .	200,120
Freight permitted (in lieu of passengers) (lb.) . . . . .	116,460
(b) Normal tankage (Imperial gallons) . . . . .	9,460
Volume of freight compartments . . . . .	Not obtainable
(c) Date of entry into service: 1 in 1922, 12 in 1927, 27 in 1928, 24 in 1929, 23 in 1930, 21 in 1931.	
2. Dirigibles . . . . .	Nil
3. Aeroplanes and seaplanes carrying from one to three persons . . . . .	208
Total horse-power . . . . .	22,540
4. Aeroplanes and seaplanes used for special purposes . . . . .	—

*Note:* Certain of those under Section 1 above are adaptable for photography, spraying, etc., and are used as such as required.

B. *Private Aviation.*

Single-seater aeroplanes . . . . .	16
Horse-power . . . . .	660
Single-seater seaplanes or amphibians . . . . .	—
Two-seater aeroplanes . . . . .	37
Horse-power . . . . .	5,695
Two-seater seaplanes . . . . .	4
Horse-power . . . . .	515
Two-seater amphibians . . . . .	—
Three-seater and up aeroplanes . . . . .	9
Horse-power . . . . .	920
Three-seater and up seaplanes . . . . .	1
Horse-power . . . . .	180
Three-seater amphibians . . . . .	—
Dirigibles . . . . .	—

C. *Non-Military Aviation at the Disposal of the State or of Official Services.*

Forest Patrol <sup>1</sup> . . . . .	36
Horse-power . . . . .	9,220
Control of Civil Aviation . . . . .	7
Horse-power . . . . .	890
Light Aeroplane Clubs . . . . .	74
Horse-power . . . . .	7,316

<sup>1</sup> Forest Patrol aircraft owned and operated by the Province of Ontario.

**II. EXPENDITURE OF PUBLIC FUNDS UPON NON-MILITARY AVIATION.**

**A. Commercial Aviation.**

Direct assistance given by the Federal Government :

	Dollars
Air Mail — Post Office Contracts (April 1st, 1931, to March 31st, 1932)	910,877.77
Air Mail routes (April 1st, 1931, to March 31st, 1932)	246,466.00
St. Hubert Aerodrome and Airship Base (April 1st, 1931, to March 31st, 1932)	90,218.00

By Municipalities :

Airports . . . . . Information not available

**B. Private Aviation.**

	Dollars
Light Aeroplane Clubs, including equipment and bonuses (April 1st, 1931, to March 31st, 1932).	37,525.00

**C. Non-Military Aviation at the Disposal of the State or of Official Services.**

	Dollars
Maintenance and operation of aircraft used by Civil Aviation Branch.	11,900.00
Control of Civil Aviation . . . . .	56,000.00

*Note* : Figures not available as regards maintenance of Ontario Provincial Forest Protection Service.

*Aircraft of a Non-Military Type at the Disposal of the State, but owned by the Department of National Defence, and operated by Military Air Personnel.*

Category	Active	Reserve
Transportation . . . . .	30	
General Purpose . . . . .	6	31
Photographic . . . . .	26	
Test and Experimental . . . . .	4	
 Total brake horse-power	 19,080	 Total brake horse-power 7,730

**Danish Delegation.**

Geneva, April 21st, 1932.

**1. EFFECTIVES OF NON-MILITARY AVIATION.**

**A. Commercial Aviation.**

1. Aeroplanes and seaplanes carrying four persons or more :

- (a) Nominal horse-power :  $4 \times 450 = 1,800$ .  
 Number of passengers carried in normal service :  $4 \times 8 = 32$ .  
 Useful load permitted (in kilogrammes) :  $4 \times 1,475 = 5,900$ .  
 Freight permitted (in kilogrammes) :  $4 \times 875 = 3,500$  (passengers and freight).
- (b) Normal content of tanks (in litres) :  $4 \times 400 = 1,600$ .  
 Total content of tanks (in litres) :  $4 \times 720 = 2,880$ .  
 Volume of compartments holding freight :  $4 \times 2\text{m}^3 = 8\text{ m}^3$ .  
 Volume of compartments holding passengers :  $4 \times 11\text{ m}^3 = 44\text{ m}^3$ .
- (c) Date of entry into service :  
 Fokker F.VII. OY-DAC : March 16th, 1928.  
 Fokker F.VII. OY-DYF : May 8th, 1929.  
 Fokker F.VII. OY-DED : May 1st, 1930.  
 Fokker F.VII. OY-DAD : May 15th, 1930.

2. Dirigibles : Nil.
3. Aeroplanes or seaplanes carrying from one to three persons :  
Number : 1.  
Total horse-power : 105.
4. Aeroplanes or seaplanes used for special purposes involving permanent installations : Nil.

**B. Private Aviation.**

Number of two-seater aeroplanes or seaplanes : 7 aeroplanes.  
Total horse-power : 585.  
Dirigibles : Nil.

**C. Non-Military Aviation at the Disposal of the State or of Official Services.**

Aeroplanes or seaplanes : Nil.

**II. EXPENDITURE OF PUBLIC FUNDS UPON NON-MILITARY AVIATION.**

By way of direct assistance the Danish Air Navigation Company has been granted for four years (financial years 1931-32 to 1934-35) an annual Government subsidy of 250,000 crowns and an annual subsidy of 100,000 crowns from the commune of Copenhagen. These subsidies are not conditional on a certain number of kilometres being flown, but are merely subject to Government control in the form of Government representation in the company's management and of provisions whereby the company's budget and accounts and also its tariffs, time-tables and regulations must be submitted to the Ministry of Public Works.

Apart from these subsidies, no direct assistance is accorded to civil aviation.

As regards indirect assistance it may be noted that near Kastrup, in the island of Amager (a quarter of an hour by motor-car from the centre of Copenhagen), the Government has installed an airport, with the necessary annexes, to which are attached meteorological and wireless services. Further, for the purpose of the night-flying trials for the transport of mail which have been made during the last few years, the Government has established a system of lighting for aircraft by the fitting up of five beacons along the Copenhagen-Rødby route, in connection with which three lighted landing-grounds have also been equipped for forced landings.

**Spanish Delegation.**

Geneva, April 20th, 1932.

**I. EFFECTIVES OF NON-MILITARY AVIATION.**

**A. Commercial Aviation.**

1. Aeroplanes and seaplanes carrying four persons or more :

Register	Nominal horse-power	Number of passengers carried in normal service	Useful load permitted	Freight permitted	Normal content of tanks (litres)	Volume of compartments holding freight	Date of entry into service
EC-BBA	300	5			460		1927
EC-ADA	900	9			1,300		1928
EC-AAF	900	9			1,300		1928
EC-FAA	900	9			1,300		1929
EC-AHH	780	8			1,000		1929
EC-HHA	450	5			300		1929
EC-AKK	780	8			1,000		1930
EC-KKA	900	10			800		1930
EC-LAA	260	4			153		1930

2. Dirigibles : There are no non-military dirigibles in Spain.
3. Aeroplanes and seaplanes carrying from 1 to 3 persons : Nil.

4. Aeroplanes or seaplanes used for special purposes involving permanent installations (photography, spraying of crops or forests, wireless for patrolling purposes): Four.

**B. Private Aviation.**

Number of aeroplanes		Number of seaplanes	Number of amphibians	Total horse-power
Single-seaters . . . . .	—	—	—	—
Two-seaters. . . . .	64	—	—	7,225
Three to five-seaters . .	1	—	—	120
Six-seaters (or more). . .	—	—	—	—

**C. Non-Military Aviation at the Disposal of the State or of Official Services.** — There are at present no machines used for police duties, patrolling forests or attached to State meteorological or scientific services.

**II. EXPENDITURE OF PUBLIC FUNDS UPON NON-MILITARY AVIATION.**

**A. Commercial Aviation.**

Direct Assistance. — Amount of the subsidies granted each year by the Spanish Government to air lines : 3,500,000 pesetas.

Indirect Assistance. — Amount of the subsidies granted each year by the Spanish Government for the establishment of airports : 1,300,000 pesetas.

**B. Private Aviation.** — The Government grants a subsidy of 90,000 pesetas per annum to clubs possessing aircraft (engine-driven only) and of 48,000 pesetas in respect of purchase bonuses.

**C. Non-Military Aviation at the Disposal of the State or of Official Services.** — There are no machines of this category.

**Estonian Delegation.**

Geneva, April 5th, 1932.

**I. EFFECTIVES OF NON-MILITARY AVIATION.**

**A. Commercial Aviation :**

1. Nil.
2. Nil.
3. Nil.
4. Nil.

**B. Private Aviation :** One 2-seater sports model aeroplane; horse-power : 60.

**C. Non-Military Aviation at the Disposal of the State or of Official Services :** Nil.

**II. EXPENDITURE OF PUBLIC FUNDS UPON NON-MILITARY AVIATION.**

- A. Nil.
- B. Nil.
- C. Nil.

### Greek Delegation.

Geneva, April 5th, 1932.

#### I. EFFECTIVES OF NON-MILITARY AVIATION.

##### A. Commercial Aviation:

##### 1. Aeroplanes and seaplanes carrying four persons or more:

- 4 Junker  
machines  
G.24 he. } (a) Nominal horse-power: 960 ;  
Number of passengers carried in normal service: 13 ;  
Useful load permitted: 2,580 kilogrammes (passengers, goods and fuel) ;  
Freight permitted: 1,223 kilogrammes (passengers and goods) ;
- (b) Normal content of tanks: 1,050 kilogrammes ;  
Volume of compartment-holding freight: 3.33 cubic metres.
- (c) Date of entry into service: July 1931.

#### II. EXPENDITURE OF PUBLIC FUNDS UPON NON-MILITARY AVIATION.

A. *Commercial Aviation*: Direct assistance: The Hellenic Air Communications Company receives a mileage subvention, the rate of which is at present fixed at 42 drachmæ per kilometre flown. Under a postal contract with the State, the company pays the postal authorities 5 per cent of the proceeds of the sale of air-mail stamps. It enjoys exemption from taxation in various forms (on fuel, machines and material used in operating the lines, the company's shares and bonds, etc.).

Indirect assistance: The company uses the State airports in return for the payment of certain landing and airport dues. The Central Hellenic Meteorological Office, which is administered separately from the Air Ministry, gives its services to civil aviation free of charge.

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### Hungarian Delegation.

Geneva, April 12th, 1932.

#### I. EFFECTIVES OF NON-MILITARY AVIATION.

##### A. Commercial Aviation:

##### 1. Aeroplanes and seaplanes carrying 4 persons or more: 5.

Particulars in aggregate figures:

- (a) Nominal horse-power: 3,360 ;  
Number of passengers carried in normal service: 48 ;  
Useful load permitted: 5,300 kilogrammes ;  
Freight permitted: 1,460 kilogrammes.
- (b) Normal content of tanks: 2,982 kilogrammes ;  
Volume of compartments holding freight: 11.69 cubic metres.
- (c) Date of entry into service :  
1928 : 3 aeroplanes ;  
1929 : 2 aeroplanes.

##### 2. Dirigibles: Nil.

##### 3. Aeroplanes or seaplanes carrying from 1 to 3 persons: 12. Total horse-power: 2,880.

##### 4. Aeroplanes or seaplanes used for special purposes involving permanent installations: Nil.

**B. Private Aviation:**

Aeroplanes : 3-seaters : 1 ; horse-power : 105.  
2-seaters : 35 ; aggregate horse-power : 3,800.

Dirigibles : Nil.

**C. Non-Military Aviation at the Disposal of the State or of Official Services:**

Police aircraft : Nil.

Forest patrol aircraft : Nil.

Aircraft used for photography : 4 ; aggregate horse-power : 1,680.

Aircraft attached to meteorological services : 6 ; aggregate horse-power : 2,520.

Aircraft attached to scientific services : 12 ; aggregate horse-power : 5,040.

**II. EXPENDITURE OF PUBLIC FUNDS UPON NON-MILITARY AVIATION.**

**A. Commercial Aviation:** Direct assistance : Magyar Légiforgalmi RT "Malert" : a Hungarian navigation company ; the only company, but has no monopoly.

Subsequent subsidy : 200,000 pengö per year : State.

Advance subsidy : 30,000 pengö per year : the towns interested along the national lines.

Postal contracts : Of no material importance.

Customs and tax exemption : Partial.

Indirect assistance : The State places at the "Malert's" disposal, without charge, the aerodrome and buildings required for the traffic, and the meteorology and wireless services.

**B. Private Aviation:** receives no subsidy.

**C. Non-Military Aviation at the Disposal of the State or of Official Services:** Relevant budget entries :

(a) 200,000 pengö.

(b) Nil.

(c) 5,200,000 pengö.

**India.<sup>1</sup>**

December 23rd, 1931.

**I. EFFECTIVES OF NON-MILITARY AVIATION.**

**A. Commercial Aviation.**

1. Aeroplanes and seaplanes carrying four or more persons : Nil.

2. Dirigibles : Nil.

3. Aeroplanes or seaplanes carrying from one to three persons :

Seaplanes : Nil.

Number of aeroplanes carrying one person : Nil.

Number of aeroplanes carrying two persons : 3 (also used for photography).

Number of aeroplanes carrying three persons : 6 (include three used for photography).

Total horse-power of aeroplanes carrying :

Two persons : 295.

Three persons : 1,035.

4. Aeroplanes or seaplanes used for special purposes involving permanent installations (photography, spraying of crops or forests, wireless for patrolling purposes) : Nil.

**B. Private Aviation.** — Number and total horse-power, by categories, of single-seaters, two-seaters, three to five-seaters and six-seaters, aeroplanes, seaplanes, etc. :

Seaplanes : Nil.

Aeroplanes : single-seaters : 2.

two-seaters : 37.

three-seaters : 11.

four-seaters : 1.

five-seaters : Nil.

six-seaters : Nil.

<sup>1</sup> Reply to the questionnaire sent by the Organisation for Communications and Transit, under date of August 10th, 1931.



**Total horse-power :**

- Single-seaters : 67.
- Two-seaters : 2,915.
- Three-seaters : 1,150.
- Four-seaters : 240.
- Five-seaters : Nil.
- Six-seaters : Nil.

C. *Non-Military Aviation at the Disposal of the State or of Official Services.*— One 10-seater totalling 645 horse-power.

**II. EXPENDITURE OF PUBLIC FUNDS UPON NON-MILITARY AVIATION.**

**A. Commercial Aviation.**

Direct assistance. — Subsidised air service : £38,900 per annum. Ceases December 1931.

Indirect assistance :

- Establishment of aerodromes and airship stations : Rs. 54,35,000.<sup>1</sup>
- Establishment of wireless and meteorological stations : Rs. 16,93,800.<sup>1</sup>

B. *Private Aviation.* — Expenditure on clubs possessing aircraft (engine driven only) placed at the disposal of their members for learning to fly or for free use : Rs. 1,70,000.<sup>2</sup>

C. *Non-Military Aviation at the Disposal of the State or of Official Services.*— Actual expenditure to the end of November 1931 : £11,270.

**Japanese Delegation.**

Geneva, April 8th, 1932.

**I. EFFECTIVES OF NON-MILITARY AVIATION.**

**A. Commercial Aviation :**

1. Aeroplanes and seaplanes carrying four persons or more :

- (a) Nominal horse-power : 11,105.  
Number of passengers carried in normal service : 183.  
Useful load permitted : 32,365 kilogrammes.  
Freight permitted : 2,525 kilogrammes.
- (b) Normal content of tanks : 15,400 kilogrammes.  
Volume of compartments holding freight : 35 cubic metres.
- (c) Date of entry into service :

Number of aircraft	Date
1	June 1927
1	December 1927
1	March 1928
1	April 1928
2	May 1929
3	June 1929
1	July 1929
2	August 1929
3	October 1929
1	December 1929
1	January 1930
2	May 1930
4	August 1930
1	October 1930
1	December 1930
1	October 1931
1	December 1931
1	January 1932
1	February 1932
1	March 1932

**Total 30**

<sup>1</sup> Capital expenditure to end of August 1931.

<sup>2</sup> Sanctioned for the year 1931-32.

2. Dirigibles : Nil.

3. Aeroplanes or seaplanes carrying from one to three persons :

Number of aeroplanes : 18.

Total horse-power : 5,155.

Number of seaplanes : 8.

Total horse-power : 1,680.

4. Aeroplanes or seaplanes used for special purposes involving permanent installations (photography, spraying of crops or forests, wireless for patrolling purposes) : Nil.

B. *Private Aviation* : Number and total horse-power by categories of single-seaters, two-seaters, three- to five-seaters and six-seaters (or more) : aeroplanes, seaplanes and amphibians being classified separately.

Aeroplanes :

Single-seaters . . . . . 18

Two-seaters . . . . . 63

Three- to five-seaters. . . . . 1

Seaplanes :

Two-seaters . . . . . 5

Three- to five-seaters. . . . . 3

Amphibians :

Two-seaters . . . . . 1

Total. . . . . 91

Total horse-power : 13,130.

C. *Non-Military Aviation at the Disposal of the State or of Official Services* : Nil.

## II. EXPENDITURE OF PUBLIC FUNDS UPON NON-MILITARY AVIATION.

A. *Commercial Aviation* : Direct assistance : Mileage subventions, granted in respect of the number of miles flown : 898,068 yen (financial year 1931).

Indirect assistance : Expenditure on the establishment of airports : 787,486 yen (financial year 1931) ; expenditure on meteorological services : 156,506 yen (financial year 1931).

B. *Private Aviation* : The Students' Sporting Aviation Union is subsidised.

C. *Non-Military Aviation at the Disposal of the State or of Official Services* : Nil.

### Latvia.<sup>1</sup>

Riga, October 17th, 1931.

Latvia has no commercial aviation, air traffic through Latvia being in the hands of the joint Russo-German Company "Deruluft".

Private aviation is in the hands of the two following organisations : the "Aviators' Club of the Latvian Republic" and the "Aviation Society of Latvia", which possess the following sporting machines :

1 2-seater machine (130 h.p.)

1 4-seater machine (185 h.p.)

1 2-seater machine (45 h.p.)

1 2-seater machine (80 h.p.)

1 single-seater machine (25 h.p.)

No direct subsidies are granted by the Latvian Government to private aviation.

As indirect assistance may be regarded the permission given to private aviation to utilise the Spilve aerodrome at Riga free of charge, this aerodrome also being placed at the disposal of commercial aviation for a moderate fee.

<sup>1</sup> Reply to the questionnaire sent by the Organisation for Communications and Transit, under date of August 16th, 1931.

Mexico.<sup>1</sup>

November 30th, 1931.

The Mexican Government has no dirigibles at present.

The Federal Government is encouraging the development of aviation by means of intense propaganda conducted periodically through the Press; it grants facilities to companies, institutions and private persons in order to promote the development of aviation, and it intends to open an official school for the training of pilots. Up to the present, it has granted no subsidies to the existing companies which provide regular air services, but it is now contemplating a scheme of financial assistance to be granted to these undertakings in the future.

In virtue of an explicit decision by the Executive, imported flying material pays no import duty, the only compulsory tax being the income-tax.

The civil flying-schools at present in existence have been established by private persons and societies. The following may be mentioned: seven schools in Mexico City, one at Morelia (Mich.), two at Tampico (Tamps.), one at Chihuahua (Chih.), one at San Luis Potosí (S.L.P.), one at Tijuana (B.C.), and one at Veracruz (Ver.).

There are various private societies whose aim is to encourage aviation and to create a favourable attitude towards it among the public.

The chief of these societies are the Aero-Club of Mexico and the Mexican Air Association; both have various local sections and a considerable number of members.

LIST OF COMMERCIAL AND TOURING AEROPLANES REGISTERED AT THE  
AIR COMMUNICATIONS BUREAU.

Registration letters	Aeroplane, type and number	Engine, type and number
1. X-BACB	Bip. Avro 504, No. 24	Radial Gnome, No. 31
2. X-BACC	Bip. Avro 504, No. 187	Radial Gnome, s/n
3. X-BACE	Mon. Stinson Det., No. 246	Pratt-Whitney, 978
4. X-BACG	Mon. Stinson jr., No. 1036	Werner Scarab, s/n
5. X-BACH	Avro Avian, Mark IV	Cirrus, 88-III-228.3
6. X-BACI	Bip. Avro Avian, No. 305	Cirrus III
7. X-BACJ	Bip. Curtiss J.N., 4-D.	Hispano-Suiza, s/n
8. X-BACK	Bip. Eagle Rock, 8-A-14	Wright J6, A.14/29
9. X-BACL	Bip. Lincoln Std., s/n	Hispano-Suiza, 82138
10. X-BACM	Mon. Stinson jr., M-1024	Warner Scarab, No. 51
11. X-BACQ	Bip. De Havilland Moth, 923	Gipsy 606, No. 204
12. X-BACR	Bip. Avro 504, No. 28	Gnome M. Soupape, 27
13. X-BACS	Bip. Fairchild, No. 391	Wright J6, No. 11230
14. X-BACW	Mon. Fairchild, No. 31	Wright J5, No. 8107
15. X-BACY	Bip. Travel Air, No. 1101	Wright J6, No. 10412
16. X-BACZ	Mon. Travel Air, No. 2008	Wright J6, A-12420
17. X-BADA	Mon. Lockheed Sirius	P. & W., No. 425
18. X-BADE	Mon. Cessna, No. 234	Wright J5, B-9196
19. X-BADF	Mon. Spartan, No. B.X.4	Wright jr., No. 893
20. X-BADG	Bip. Avro, 504, s/n	Hispano-Suiza, 43254
21. X-BADH	Bip. Spartan, A-2	Wright J6, 12230
22. X-BADJ	Mon. Curtiss Robin, No. 686	Challenger, No. 522
23. X-BADK	Bip. Avro Avian, No. 180	Jenet Major, 14909
24. X-BADM	Bip. Spartan, No. 147	Wright J6, A-11567
25. X-BADO	Mon. Curtiss Robin, No. 649	Challenger, No. 482
26. X-BADP	Mon. Ryan, No. 218	Wright J6, 10692
27. X-BADR	Bip. De Havilland Moth, 971	Cirrus, No. 369.3
28. X-BADS	Bip. Travel Air, No. 3000	Hispano-Suiza, s/n
29. X-BADU	Bip. De Havilland Moth, s/n	Gipsy, No. 172
30. X-BADV	Mon. Fairchild, No. 108	Wright J5, 10272
31. X-BADW	Mon. Fairchild, No. 513	P. & W. Wasp, No. 833
32. X-BADX	Bip. Spartan, No. 129	Wright J6, 11393
33. X-BADY	Mon. Stinson jr., No. 1015	Warner, No. 32
34. X-BADZ	Curtiss Robert, No. 556	Challenger, No. 66
35. X-BAEA	Mon. Aeromarine, No. 2-61	Leblonf 7, DF 724
36. X-BAEC	Bip. Xaco, No. 3396	Kinner B. 5, 46
37. X-BAEB	Mon. Fairchild	
38. X-BAEE	Mon. Fairchild PC2, No. 24	Wright J5, 24-10-27
39. X-BAEF	Mon. Ryan, No. 110	Wright J5, 8460
40. X-BAEG	Bip. De Havilland Moth, 159	Gipsy, No. 50019

NOTE. — A list of 194 landing-grounds is attached, many of which are provided with numerous facilities — maintenance and mechanics' service, lighting, paved tracks, meteorological service, communications service. Other documents are also attached to this communication, but we reproduce only those replying to the questions in the two questionnaires C.A.6 and C.A.7.

<sup>1</sup> Reply to the questionnaire sent by the Communications and Transit Organisation under date of August 10th, 1931.

Registration letters	Aeroplane, type and number	Engine, type and number
41. X-BAEH	Mon. Bellanca P.M., No. 171	Wright J6, 10668
42. X-BAEI	Mon. Davis, No. 506	Kinner, No. 1139
43. X-BAEJ	Bip. Eagle Rock, No. 881	Hispano-Suiza, s/n
44. X-BAEL	Bip. Avro 504 Anahuac, s/n	Gnome, No. 15787
45. X-BAEN	Mon. Curtiss jr., No. 1080	Szekeley, No. 865
46. X-BAEM	Bip. Avro Avian, No. 954	Cirrus III, 1229-228, 3
47. X-BAEO	Bip. Fleet	Warner, No. 111
48. X-BAEP	Bip. Avro 504, s/n	Wright J6, 11308
49. X-BAEQ	Bip. Avro 504, s/n	Gnome Rot, No. 15260
50. X-BAER	Bip. Stearman, No. 147	Wright J5, No. 9027
51. X-BAES	Mon. Curtiss jr., No. 1238	Szekeley, No. 1125
52. X-BAET	Mon. Stinson jr., No. 8033	Lymoming, No. 560
53. X-BAEU	Mon. Curtiss jr., CW1-1239	Szekeley, No. 1126
54. X-BAEV	Bip. Eagle Rock, No. 588	Hispano-Suiza, s/n
55. X-BAEW	Mon. Verville, No. 4	Wright J6, 12266
56. X-BAEX	Bip. Spartan, No. 100	Walter, No. 11140
57. X-BAEY	Bip. Avro, 504 Anahuac	Kinner B-5, No. 249

*Government Aeroplanes.*

58. X-BAGA	Mon. Curtiss Robin, 696
59. X-BAGC	Mon. Stinson, No. 264
60. X-BAGD	Mon. Stinson, No. 268
61. X-BAGE	Bip. Eagle Rock, No. 613
62. X-BAGF	Bip. Bird, No. 4030

*Mexican Aviation Co.*

63. X-ABCA	Trimotor Ford, No. 22
64. X-ABCB	Trimotor Ford, No. 12
65. X-ABCC	Trimotor Ford, No. 11
66. X-ABCF	Trimotor Ford, No. 40
67. X-ABCH	Fairchild F.C.2-71, No. 618
68. X-ABCI	Fairchild F.C.2-71, No. 603
69. X-ABCK	Fairchild F.C.2-71, No. 601
70. X-ABCM	Fairchild F.C.2-30
71. X-ABCO	Fairchild F.C.2-43
72. X-ABCR	Fokker F-10, No. 1050
73. X-ABCS	Fokker F-10, No. 1053
74. X-ABDC	Stearman, No. 204

*Air Transport Association.*

75. X-ABHA	Mon. Lockheed Vega, No. 62
76. X-ABHB	Mon. Lockheed Vega, No. 59
77. X-ABHD	Mon. Ryan, No. 56
78. X-ABHE	Mon. Ryan, No. 174
79. X-ABHF	Mon. Ryan, No. 175
80. X-ABHG	Mon. Ryan, No. 176
81. X-ABHH	Mon. Ryan, No. 177
82. X-ABHI	Mon. Lockheed Vega, No. 103
83. X-ABHJ	Mon. Lockheed Vega, No. 61
84. X-ABHK	Mon. Lockheed Vega, No. 100
85. X-ABHM	Mon. Lockheed Vega, No. 88
86. X-ABHO	Mon. Bellanca Air Buss, No. 701

*School.*

87. X-AEX1	Bip. Ecole.
88. X-AEX2	Mon. Alco jr., Allison No. 1

TABLE SHOWING CIVIL AVIATION ACTIVITY IN MEXICO IN FIRST HALF OF 1931.

Services	Number of kilometres flown	Time		Number of passengers	Mail, in kilogrammes	Packages, in kilogrammes	Baggage	
		Hours	Minutes				Number of pieces	Kilogrammes
Mexican Aviation Co., Ltd.	637,234	3,760	12	4,774	30,773.310	34,257.525	6,892	65,534.500
Air Transport Association, Ltd.	884,315	4,454	2	3,501	8,593.965	159,659.773		33,448.618
Mexico-Cuba Air Transport Co.	25,821	188	10	95	105.270	5,935.700		
Occasional and pleasure flights	117,293	746	35	2,381			428	3,328.000
	1,661,663	9,148	59	10,751	39,472.545	199,852.998	7,320	102,309.118

Norway.<sup>1</sup>

November 23rd, 1931.

I. EFFECTIVES OF NON-MILITARY AVIATION.

A. *Commercial Aviation.* — There exists in Norway no real commercial aviation with Norwegian aircraft, only some occasional or trial aviation by means of aircraft which must be called private aircraft.

The reply to the question under paragraph A must, therefore, be : Nil.

B. *Private Aviation.*

Land aeroplanes : Four, having altogether 869 h.p. ; whereof : 2 five-seaters, 1 three-seater and 1 two-seater.

Seaplanes : Six, having altogether 944 h.p. ; whereof : 1 six-seater, 1 five-seater and 4 two-seaters.

Amphibium-aircraft : One 20 h.p. two-seater.

C. *Non-military Aviation at the disposal of the State or of Official Services* : Nil.

II. EXPENDITURE OF PUBLIC FUNDS UPON NON-MILITARY AVIATION.

A, B and C. — For the financial year July 1931 to June 1932, the Norwegian State has granted the following sums :

	Kroner
Towards administration . . . . .	9,000
Towards establishment of airports and their use . . . . .	46,500
Towards assistance for private aviation . . . . .	10,000
Towards Conventions, etc. . . . .	7,000

Netherlands Delegation.

May 2nd, 1932.

I. NON-MILITARY AIRCRAFT.

A. *Commercial Air Fleets* :

1. Aeroplanes and seaplanes carrying four and more persons :

Type of aircraft	Number of this type at present in service	Nominal power (h.p.)	Seats for passengers in normal service	Authorised useful load (kilogrammes)	Authorised commercial load (kilogrammes)	Normal capacity of tanks (litres)	Volume of compartments for commercial load (cub. metres)	When put into service
Fokker FVII . . . . .	1	480	8	1,404	560	720	12.75	1925
FVIIa . . . . .	7	480	8	1,392	545	720	12	1 in 1925
				1,587	730			2 in 1926
								2 in 1927
								2 in 1929
FVIIb . . . . .	4	720	8	1,865	380	1,440	12	2 in 1929
				2,240	560			2 in 1931
FVIII . . . . .	5	960	16	2,075	830	1,000	20	1928
				2,235	1,000			
FIX . . . . .	1	1,440	18	3,700	1,100	2,640	25	1929
FXII . . . . .	6	1,275	14	2,680	315	2,010	23	1 in 1930
				2,970	1,150			4 in 1931
								1 in 1932
Koolhoven FK 40	1	240	5	726	215	360	5.4	1929
Werkspoor (cargo)	1	480	0	1,697	935	600	14.5	1930

<sup>1</sup> Reply to the questionnaire sent by the Organisation for Communications and Transit, under date of August 10th, 1931.

2. Dirigibles : None.
3. Aeroplanes or seaplanes carrying from 1 to 3 persons : None.
4. Aeroplanes or seaplanes permanently equipped for special purposes :  
1 photographic aeroplane (type Fokker FVIIa), power 480 h.p.

B. *Private Aircraft.*

	International horse-power per aeroplane	Number in category	Total horse-power per category
<b>Single-seaters :</b>			
1 Pander DB . . . . .	24	2	129
1 Koolhoven FK 45 . . . . .	105		
<b>Two-seaters :</b>			
3 Pander EC . . . . .	60	15	1,154
3 Pander EF 85 . . . . .	70		
1 Pander EF 85 . . . . .	85		
2 Pander EG 1 . . . . .	92		
1 Pander P2 . . . . .	85		
1 Pander P3 . . . . .	110		
1 Koolhoven FK 41c . . . . .	105		
1 Koolhoven FK 44 . . . . .	105		
1 Curtiss-Wright Junior . . . . .	45		
1 Klemm VL 25 IA . . . . .	45		
<b>Three-seaters :</b>			
1 Koolhoven FK 41 . . . . .	60	3	251
1 Koolhoven FK 41b . . . . .	86		
1 De Haviland Puss Moth . . . . .	105		

C. *Non-Military Aircraft at Disposal of the State or Official Services.*

One experimental aeroplane (type Fokker F II, horse-power 185) belonging to the State Aerotechnical Research Service at Amsterdam.

II. EXPENDITURE OF PUBLIC MONEY ON NON-MILITARY AIRCRAFT.

A. *Commercial Flying.*

*Direct Support.* — The Government grants the Koninklijke Luchtvaart Maatschappij voor Nederland en Koloniën (K.L.M.) a subsidy to meet the loss incurred up to a certain fixed maximum. At present, the amount of the grant is determined each year ; previously, the sum was decided by agreement for several years in advance.

Sums allotted since 1920 :

Grant:	Florins
1920	420,000
1921	
1922 . . . . .	
<b>Advance free of charge (later converted into grant):</b>	
1923 . . . . .	400,000
1924 . . . . .	400,000
1925 . . . . .	300,000
1926 . . . . .	300,000
<b>Grant :</b>	
1927 . . . . .	500,000
1928 . . . . .	600,000
1929 . . . . .	925,000
1930 . . . . .	1,000,000
1931 . . . . .	900,000

The Government has also undertaken to take up K.L.M. shares to an amount not exceeding Fl. 3,000,000, and to guarantee the interest and sinking fund on a debenture loan of Fl. 2,500,000.

As regards postal traffic between the Netherlands and the Dutch Indies, the K.L.M. receives a fixed payment from the Post Office for each flight.

In 1931, the Government founded a course for public transport pilots as a branch of the Naval School at Amsterdam. An item of Fl. 28,000 was included in the budget for this purpose.

*Indirect Support.* — The Government has aided flying by installing the ground organisation required for safe flying. The Government had also intended to prepare and maintain the principal airports, but it has now generally entrusted this task to the communes.

As regards ground organisation, the Government undertakes :

1. To provide a forwarding service divided into three principal branches :
  - (a) Communications between aerodromes (traffic service);
  - (b) The wireless service with aircraft (aircraft service);
  - (c) Meteorological reports for air traffic (meteorological service).
2. To provide secondary aerodromes and emergency landing-grounds on the air routes.
3. To provide lighthouses on these routes.
4. To publish *Notices to Air Pilots* and *The Air Pilots' Guide*, with supplements.

**B. Private flying.**

In 1931, the Government granted a subsidy of Fl. 20,000 to the National School for Air Pilots. Of this, Fl. 15,000 was granted as a subsidy at the rate of Fl. 10 per flying-hour up to the maximum of the loss sustained. The other Fl. 5,000 was to compensate the undertaking for expenditure incurred in the practical training of pupils taking part in the Government training course for public transport air pilots.

**C. Non-Military Aircraft at the Disposal of the State or Official Services.**

The State Aerotechnical Research Service at Amsterdam.

During the period 1921-1932, the following sums were included in the national budget :

Year	A		B	C
	Direct aid: grant to K.L.M. Florins	Indirect aid: grounds, lighting, wireless and meteorological services Florins	Private flying Florins	Aerotechnical Research Service Florins
1920 and 1921	420,000	225,000	—	155,350
1922	325,000	318,000	—	125,300
1923	400,000	107,100	—	95,035
1924	400,000	54,900	—	95,987
1925	300,000	62,125	—	90,822
1926	300,000	44,160	—	91,590
1927	500,000	45,800	—	101,185
1928	600,000	66,250	—	97,228
1929	925,000	81,187	—	124,170
1930	1,000,000	91,331	—	132,106
1931	900,000	115,750	20,000	150,226
1932	803,500	59,900	14,000	150,334

Siamese Delegation.

Geneva, June 9th, 1932.

I. EFFECTIVES OF NON-MILITARY AVIATION.

A. *Commercial Aviation.*

1. Aeroplanes and seaplanes carrying four persons or more : Nil.

2. Dirigibles : Nil.

3. Aeroplanes or seaplanes carrying from one to three persons :

There are 4 single-engined cabin monoplanes with engines of 120 horse-power, a total of 480 horse-power.

4. Aeroplanes or seaplanes used for special purposes involving permanent installations (photography, spraying of crops or forests, wireless for patrolling purposes) :

There are no aircraft fitted for photography, spraying of crops or forests, no planes fitted with wireless for one-way or two-way radio, nor are any planes fitted with wireless for patrolling purposes.

B. *Private Aviation.*

There is only one privately-owned aircraft, with engine of 90 horse-power. There are no private dirigibles.

C. *Non-Military Aviation at the Disposal of the State or of Official Services.*

The four aircraft enumerated above are not at the disposal of the State except in case of national emergency.

II. EXPENDITURE OF PUBLIC FUNDS UPON NON-MILITARY AVIATION.

A. *Commercial Aviation.*

Direct assistance :

Mileage subventions : Nil.

Postal contracts : Contract with the Post and Telegraph Department to carry mail between internal towns.

Indemnities : There are no indemnities for space at disposal of contracting parties.

Subsidies for schools : There are no subsidies for training schools for air-transport crews.

Exemption : There is no exemption from taxation.

Interest : No guaranteed interest on issued bonds.

Treasury advances : There are no Treasury advances, for the Company is a private company registered under Company Law.

Indirect assistance :

Airports and Air Routes : Aerodromes and landing-grounds are being constructed by the Government at its own expense, and air routes are fixed by the Government.

Meteorological Services : Meteorological information and weather reports are furnished by the Ministry of Agriculture.

Wireless stations and goniometers are being erected for use both of Siamese and of foreign aircraft.

There is no insurance fund.

Apart from the above, there are no other methods of indirect assistance.

B. *Private Aviation.*

There are no civil training centres or schools for training pilots, and there are no flying clubs in this country.

C. *Non-Military Aviation at the Disposal of the State or of Official Services.*

As already stated in I.-C, in national emergency the civil aircraft can be commandeered, but there is no Government budget for the purpose.



**Swedish Delegation.**

Geneva, November 5th, 1932.

**I. EFFECTIVES OF NON-MILITARY AVIATION.**

**A. Commercial Aviation :**

**1. Aeroplanes and seaplanes carrying four persons or more :**

Type	Registration of machines Marks	Nominal horse-power	Number of passengers carried in normal service	Unladen weight	Maximum laden weight permitted	Commercial load (full tanks)	Normal content of tanks	Date of entry into service
				Kg.	Kg.	Kg.		
Junkers F. 13	SE-AAB	300	5	1,650	2,300	200	350	22.III.1930
Junkers F. 13	SE-AAC	300	5	1,658	2,300	200	350	29.IV.1932
Junkers F. 13	SE-ACK	300	5	1,830	2,700	390	350	15.V.1930
Fokker F. XII	SE-ACZ	1,260	13	4,650	7,450	783	2,000	29.II.1932
Junkers Ju. 52 ci. 3m.	SE-ADR	1,725	12	6,115	9,000	945	2,000	14.VII.1932

2. Dirigibles : Nil.

3. Aeroplanes or seaplanes carrying from one to three persons :

Number : 5.

Total horse-power : 780.

4. Aeroplanes or seaplanes used for special purposes involving permanent installations :

Number : 2.

Total horse-power : 600.

Purpose : Ambulance services.

**B. Private Aviation.**

Single-seaters (aeroplanes) :

Number : 1.

Total horse-power : 40.

Two-seaters (aeroplanes) :

Number : 10.

Total horse-power : 920.

Three to five-seaters (aeroplanes) :

Number :

Total horse-power : } Nil.

Six or more seaters :

Aeroplanes : } Nil.

Dirigibles :

**C. Non-Military Aviation at the Disposal of the State or of Official Services : Nil.**

**II. EXPENDITURE OF PUBLIC FUNDS UPON NON-MILITARY AVIATION.**

**A. Commercial Aviation.**

Direct assistance :

Mileage subventions . . . . . 546,400

Postal contracts . . . . . 387,500

Indirect assistance :

Establishment of air-ports . . . . . 70,000

Meteorological services . . . . . 40,500

Wireless services . . . . . 40,000

**B. Private Aviation : Expenditure on clubs.**

**C. Non-Military Aviation at the Disposal of the State or of Official Services : Nil.**

**Swiss Delegation**

Berne, April 9th, 1932.

**I. EFFECTIVES OF NON-MILITARY AVIATION.**

**A. Commercial Aviation :**

**1. Aeroplanes and seaplanes carrying 4 persons or more.**

Position on December 31st, 1931.

Registration No.	Type of machine	a				b			c Date of entry into service
		Nominal horse-power	Number of passengers carried in normal service	Useful load permitted (kilogrammes)	Freight permitted (kilogrammes)	Normal content of tanks (litres)	Volume of compartments holding freight (approximate) in cubic metres		
							Cabin for passengers	Hold for freight	
<i>Aeroplanes</i>									
CH 142	Dornier-Merkur	450	6	1,124	700	700	7.4	1.5	20.V.1927
CH 157	Fokker F.VIIa	420	8	1,524	1,000	720	7.9	2.4	11.IV.1927
CH 162	Fokker F.VII3m	900	8	2,180	1,000	1,440	7.9	2.4	11.III.1930
CH 163	Fokker F.VII3m	900	8	2,153	1,000	1,440	7.9	2.4	11.III.1930
CH 164	Fokker F.VII3m	900	8	2,153	1,000	1,440	7.9	2.4	11.III.1930
CH 165	Fokker F.VII3m	900	8	1,903	1,000	1,440	7.9	2.4	28.II.1931
CH 166	Fokker F.VII3m	900	10	2,074	1,000	1,440	7.9	2.4	25.III.1931
CH 171	Dornier-Merkur	450	6	1,134	700	700	7.4	1.5	9.VIII.1927
CH 186	Hopfner HV 628	300	4	713	400	560	3.5	1.0	19.IV.1929
CH 188	Fokker F.XI	240	4	636	400	372	5.3	1.3	5.VI.1929
CH 189	Comte A.C.8	230	5	605	400	350	3.4	0.9	27.VI.1930
CH 190	Fokker F.VII3m	690	8	1,763	1,000	1,440	7.9	2.4	28.II.1929
CH 191	B.F.W.M18 D	230	6	650	480	250	4.3	0.5	10.IV.1930
CH 192	Fokker F.VII3m	690	9	1,800	1,000	1,440	7.9	2.4	1.V.1930
CH 280	Comte A.C.8	300	5	636	400	350	3.4	0.9	6.VI.1930
CH 282	Comte A.C.8	300	5	590	400	350	3.4	0.9	29.VI.1930
CH 283	Junkers F. 13 ké	280	5	1,055	500	418	4.5	0.5	21.IV.1931
<b>Total</b>	<b>17 aeroplanes</b>	<b>9,080</b>	<b>113</b>	<b>22,693</b>	<b>12,380</b>	<b>14,850</b>	<b>105.8</b>	<b>28.2</b>	

Seaplanes : Nil.

**2. Dirigibles : Nil.**

**3. Aeroplanes or seaplanes carrying from 1 to 3 persons : Aeroplanes : 8.**

Registration No.	Type of machine	Engine hp.
CH 125	Caudron C.59 . . . . .	180
CH 146	Caudron G.3 . . . . .	80
CH 187	Comte A.C.4 . . . . .	105
CH 246	B.F.W.M.23 . . . . .	40
CH 262	Comte A.C.4 . . . . .	105
CH 264	Comte A.C.4 . . . . .	105
CH 284	Klemm L.26 . . . . .	80
CH 285	Comte A.C.11 . . . . .	200
<b>Total . . . . .</b>		<b>895</b>

Seaplanes : Nil.

**4. Aeroplanes or seaplanes used for purposes involving permanent installations (photography, spraying of crops or forests, wireless for patrolling purposes) : Nil.**

B. *Private Aviation: Aeroplanes:*

Single-seaters : Nil.  
 Two-seaters : 41 aeroplanes with a total horse-power of 3,185.  
 Three to five-seaters : 15 aeroplanes with a total horse-power of 1,590.  
 Six-seaters (or more) : Nil.  
 Seaplanes and amphibians : Nil.

C. *Non-Military Aviation at the Disposal of the State or of Official Services:* Nil.

II. EXPENDITURE OF PUBLIC FUNDS UPON NON-MILITARY AVIATION FOR THE YEAR 1931.

A. *Commercial Aviation:*

Direct assistance :

	Francs
Mileage subventions granted to Swiss and foreign lines by the Confederation . . . . .	460,000
Subventions granted by cantons and towns interested in Swiss and foreign lines . . . . .	375,000
Total . . .	835,000
Postal contracts, postal indemnities to Swiss and foreign lines (Confederation) . . . . .	1,300,000
Guarantees of minimum revenue from postal traffic . . . . .	—
Indemnities for crew or passenger accommodation placed at the disposal of contributing parties . . . . .	—
Subsidies to training schools for air transport crews . . . . .	—
Exemption from taxation . . . . .	—
Guaranteed interest on issues of bonds . . . . .	—
Treasury advances . . . . .	—

Indirect assistance :

Establishment of airports and air routes :	
Confederation . . . . .	10,000
Cantons and towns . . . . .	600,000
Meteorological services : Confederation . . . . .	50,000
Insurance funds . . . . .	—
Other forms of indirect assistance : Aviation Safety Service (wireless, radiogoniometry, cables, signals, etc.):	
Confederation . . . . .	95,000
Cantons and towns . . . . .	100,000
Total . . . . .	195,000

B. *Private Aviation:*

Expenditure on training centres . . . . .	—
Expenditure on subsidised centres for training pilots or specialists . . . . .	—
Expenditure on <i>clubs</i> possessing aircraft (engine-driven only) placed at the disposal of their members for learning to fly or for free use (Confederation) . . . . .	5,000
Purchase, upkeep and efficiency bonuses granted to private persons, whether or not such bonuses render the aircraft so acquired liable for service . . . . .	—

C. *Non-Military Aviation at the Disposal of the State or of Official Services:* Relevant budgetary entries . . . . .

—

Czechoslovak Delegation.

Geneva, April 20th, 1932.

I. EFFECTIVES OF NON-MILITARY AVIATION.

A. Commercial Air Service.

1. Commercial Aeroplanes :

Date of registration	Mark	Type	Number of seats	Total horse-power	Useful weight	Commercial weight	Weight of tanks
13. VI.28	OK-AAB	A-23	6	420	824	3,160	450
22. VI.28	OK-AAC	A-23	6	420	824	3,170	450
2. VII.28	OK-AAD	A-23	6	420	824	3,170	450
25. VII.28	OK-AAE	A-23	6	450	840	3,200	450
25.VIII.28	OK-AAF	A-23	6	420	825	3,200	450
25.VIII.28	OK-AAG	A-23	6	420	835	3,200	450
5. X.29	OK-ACB	A-38	8	420	1,075	3,170	325
8. II.30	OK-AUA	A-35	5	225	435	1,900	232
1. II.30	OK-ACC	A-38	8	420	1,060	3,200	325
21. II.30	OK-ACD	A-38	8	420	1,055	3,200	320
9. VII.30	OK-AFA	Fokker FVII 3 m.	8	720	1,163	5,200	781
28. VII.30	OK-AFB	Fokker FVII 3 m.	8	720	1,240	5,200	770
13. X.30	OK-AUB	A-35	5	240	520.50	1,900	220
23. XI.30	OK-AUC	A-35	5	240	520	1,930	210
28. XI.30	OK-AUD	A-35	5	240	520	1,930	215
14. III.31	OK-AUE	A-35	5	240	529	1,930	213
14. III.31	OK-AUF	A-35	5	240	527	1,930	218
14. III.31	OK-AUG	A-35	5	240	528	1,930	217
2. XII.31	OK-AFC	Fokker FVII 3 m.	8	720	1,110	5,200	790
13. XI.31	OK-ADA	S-32	5	435	540	2,750	300
2. XII.31	OK-AFD	Fokker FVII 3 m.	8	720	1,115	5,200	790
	OK-AFE	Fokker FVII 3 m.	8	720	1,010	5,200	790
25. II.28	OK-ABB	BH-25	5	420	733	3,005	382
2. III.28	OK-ABC	BH-25	5	420	730	2,980	382
26. III.28	OK-AAH	Fokker FVII a.	8	420	924	3,500	524
26. III.28	OK-AAI	Fokker FVII a.	8	420	951	3,500	524
7. V.28	OK-ABE	BH-25	5	420	750	2,980	382
4. VI.28	OK-ABF	BH-25	5	420	678	2,950	382
12. VI.29	OK-ABA	BH-25	5	420	704	3,100	400
18. VII.30	OK-ABM	Fokker FVII 3 m.	8	630	1,146	5,100	720
4. IX.30	OK-ABO	Fokker FVII 3 m.	8	720	1,208	5,200	725
17. XI.30	OK-ABP	Fokker FVII 3 m.	8	630	1,155	5,100	740
24. I.31	OK-ABR	Fokker FVII 3 m.	8	720	1,085	2,200	775
9. III.32	OK-ABS	Fokker FVII 3 m.	8	750	1,150	5,200	790
9. III.32	OK-ABT	Fokker FVII 3 m.	8	750	1,121	5,200	785
9. III.32	OK-ABN	Fokker FVII 3 m.	8	630	1,155	5,100	740
Total number of commercial aeroplanes :		36	237	17,280	31,389	128,986	17,667

2, 3, 4. — Czechoslovakia has no airships or aeroplanes coming under the paragraphs mentioned above.

B. Private Aviation.

	Total number	Total horse-power
Single-seaters . . . . .	7	1,441
Two-seaters . . . . .	58	9,705
Three- to five-seaters. . . . .	19	4,115
Six-seaters . . . . .	2	960

C. Non-Military Aviation placed at the Disposal of the State or of Official Services. — Two machines with a total horse-power of 240, used for the meteorological and navigation services and for experiments and transport by the "Čs. státní Aerolinie" Company and by the Ministry of Public Works.

## II. EXPENDITURE OF PUBLIC FUNDS UPON NON-MILITARY AVIATION.

### A. Commercial Aviation.

**Direct Assistance.** — The Ministry of Public Works subsidises air navigation companies in proportion to the number of kilometres flown. There is no minimum grant to provide for a regular postal service; there are no indemnities to the air navigation companies in respect of reduced rates granted for the conveyance of the navigating personnel or of accommodation placed at their disposal; there are no subsidies for the training of commercial pilots; there is no exemption from taxation.

**Indirect Assistance.** — The State builds airports at its own expense; meteorological information is supplied to air lines free of charge.

**B. Private Aviation.** — Expenditure on training centres and expenditure on schools for training pilots or specialists: The civil centre for training pilots or specialists is at Prague—Central School for Pilots. This school was opened at the beginning of 1930 and received an initial subsidy of 500,000 Czechoslovak crowns.

For working expenses it has received from the State the following subventions:

	Kč.
At the end of 1930 . . . . .	200,000
In 1931 . . . . .	50,000
	<hr/>
Total in two years . . . . .	250,000

Further, in connection with the flying clubs, there are civil flying schools for members of these clubs; the schools are at Plzen, Brno, Bratislava, Pardubice and Olomouc; they are not subsidised.

Expenditure on clubs possessing aircraft (engine-driven only) placed at the disposal of their members for learning to fly or free use: The Ministry of Public Works gives an annual subsidy to pleasure-flying organisations. The total of this subvention in 1931 amounted to 534,000 Czechoslovak crowns.

So far no purchase, upkeep or efficiency bonuses have been given in Czechoslovakia.

**C. Non-Military Aviation at the Disposal of the State or of Official Services.** — The sums necessary for the upkeep of the two machines mentioned in paragraph C are drawn from the budgets of the "Čs. státní Aerolinie" and of the Ministry of Public Works.

Items in this budget: In the State budget for 1932, expenditure on civil aviation appears under the heading of Ministry of Public Works.

	Kč.
Expenditure on personnel, in accordance with laws and decrees in force . . . . .	4,062,500
Expenditure on material . . . . .	6,825,300
Extraordinary expenditure on material:	
Subsidies to air lines . . . . .	13,600,000
Meteorological and wireless service . . . . .	1,500,000
Encouragement of flying . . . . .	1,200,000
Purchase of machines . . . . .	8,500,000
Completion of equipment of the "Čs. státní Aerolinie" Company . . . . .	300,000
Purchase of land for airports, buildings, etc., on these lands, and State subsidy to air undertakings . . . . .	11,600,000
Preparation of aerodromes . . . . .	1,900,000
	<hr/>
Total . . . . .	38,600,000

There is no item for civil aviation in the budgets of the other State departments.

Yugoslav Delegation.

Geneva, July 12th, 1932.

I. EFFECTIVES OF NON-MILITARY AVIATION.

A. *Commercial Aviation.*

1. Aeroplanes and seaplanes carrying four persons or more :

6 aeroplanes, type "Potez" 29, 1 triple-motor "Farman", type 301.

"Potez" aeroplanes 29 :

- (a) Nominal horse-power : 450.  
Number of passengers carried in normal service : 5.  
Useful load permitted : 1,045 kg.  
Freight permitted : 480 kg.
- (b) Normal content of tanks : Motor spirit, 355 kg. ; oil, 50 kg.  
Volume of compartments holding freight : 10.8 cubic metres.
- (c) Date of entry into service : February 1928.

"Farman" aeroplane 301 :

- (a) Nominal horse-power : 720.  
Number of passengers carried : 8.  
Useful load permitted : 1,800 kg.  
Freight permitted : 800 kg.
- (b) Normal content of tanks : Motor spirit, 765 kg. ; oil, 75 kg.  
Volume of compartments holding freight : 14 cubic metres.
- (c) Date of entry into service : June 1931.

2. Dirigibles : Nil.

3. Aeroplanes or seaplanes carrying from one to three persons :

1 "Puss Moth" aeroplane, 120 h.p.

4. Aeroplanes or seaplanes used for special purposes : Nil.

B. *Private Aviation.*

1. 17 two-seater aeroplanes, 2,070 h.p.

1 amphibian, 85 h.p.

2. Dirigibles : Nil.

C. *Non-Military Aviation at the Disposal of the State or of Official Services.*

Nil.

II. EXPENDITURE OF PUBLIC FUNDS UPON NON-MILITARY AVIATION.

A. *Commercial Aviation.*

Direct assistance : Mileage subsidy : 26 dinars per kilometre. Contract between the State and the National Air Navigation Company dated January 25th, 1927, published in *Le Droit aérien*, 1929, page 579.

Postal contract between the National Company and the Ministry of Communications, Postal Service, 0.065 gold dinar per 100 grammes per 100 km.

The subsidy in question amounted to :

Financial Year	Dinars
1928-29. . . . .	5,000,000
1929-30. . . . .	6,500,000
1930-31. . . . .	8,000,000
1931-32. . . . .	10,000,000

Indirect assistance : Subsidies in kind : airports (ground organisation), the meteorological and wireless services of the military air force are used by commercial aircraft.

**B. Private Aviation.**

Indirect assistance to clubs as with commercial aviation.

General administrative expenses for the encouragement of private aviation :

Financial Year	Dinars
1928-29. . . . .	600,000
1929-30. . . . .	800,000
1930-31. . . . .	800,000
1931-32. . . . .	1,000,000

**C. Non-Military Aviation at the Disposal of the State or of Official Services.**

Nil.

*Series of League of Nations Publications :*  
IX. Disarmament. 1932. IX. 43.

*Official No. : Conf. D./C.A.9.*

Geneva, April 15th, 1932.

**OBJECTIVE STUDY ON THE INTERNATIONALISATION OF CIVIL AVIATION AND ON ANY OTHER MEASURE CALCULATED TO PREVENT THE SIGNATORY STATES FROM UTILISING CIVIL AVIATION FOR MILITARY PURPOSES.**

*Prepared in execution of the Decision taken by the Air Commission on March 17th, 1932.*

**TABLE OF CONTENTS.**

	<b>Page</b>
Introduction . . . . .	231
 <i>Part 1. — STATUS OF CIVIL AVIATION :</i>	
I. Historical . . . . .	232
II. The Present Bases of Public International Air Law . . . . .	235
 <i>Part 2. — INTERNATIONAL AERONAUTICAL ORGANISATIONS . . . . .</i>	
Chapter I. — International Commission for Air Navigation . . . . .	244
A. Composition . . . . .	244
B. Organisation . . . . .	245
C. Duties . . . . .	245
1. Organ for the Revision of the Convention . . . . .	247
2. Commission for the framing of Technical Regulations . . . . .	247
3. Arbitration Commission . . . . .	249
4. Advisory Organ for Governments . . . . .	249
5. Organ for the Collection and Dissemination of Information . . . . .	249

	Page
Chapter II. — Air Mail Conferences . . . . .	251
Report of the Air Mail Conference . . . . .	251
Annex 1. Report of the Sub-Committee . . . . .	255
Annex 2. Proposed System . . . . .	255
Annex 3. Questionnaire concerning the Air Mail Service to be answered by the European Administrations . . . . .	255
 <i>Part 3. — CO-OPERATION BETWEEN CIVIL AVIATIONS : POOLS AND THE ORGANISATION OF INTERNATIONAL AIR LINES OR AIRWAYS :</i>	
Chapter I. — The Work of the International Air Traffic Association :	
A. Constitution and Object of the Association . . . . .	256
B. Scope of its Activities . . . . .	256
C. Report on Night Air Mail Lines . . . . .	258
 Chapter II. — Diplomatic Conventions of a Commercial Character . . . . .	
A. The Anglo-Greek Convention of April 7th, 1931 . . . . .	259
B. Greco-Polish Convention of April 22nd, 1931 . . . . .	260
C. Austro-Yugoslav Agreement of March 1st, 1930 . . . . .	260
D. Franco-Polish Agreement of August 2nd, 1930 . . . . .	261
E. Agreement between Austria and Italy of May 11th, 1928 . . . . .	262
F. Special Convention between Spain and France of March 22nd, 1928 . . . . .	262
G. Convention relating to Air Mails between the Imperial Government of Persia and the Government of the Union of Soviet Socialist Republics . . . . .	263
H. Franco-Belgian Agreement of May 23rd, 1930 . . . . .	264
I. Agreement between the Government of Afghanistan and the Government of the Union of Soviet Socialist Republics of November 28th, 1927 . . . . .	265
 Chapter III. — Pools . . . . .	
List of Agreements establishing Pools . . . . .	266
Operation Agreement . . . . .	267
Annex to the Operation Agreement . . . . .	268
 <i>Part 4. — WORK OF THE LEAGUE OF NATIONS IN CONNECTION WITH CO-OPERATION BETWEEN CIVIL AVIATIONS AND THE PREVENTION OF THEIR USE IN WAR :</i>	
Chapter I. — Work of the Preparatory Disarmament Commission . . . . .	
Chapter II. — Work of the Communications and Transit Organisation and of the Air Transport Co-Operation Committee :	
A. Communications and Transit Organisation . . . . .	274
B. Air Transport Co-operation Committee . . . . .	274
C. Work of the Special Sub-Committee on the Constitution and Operation of a Main Network of Permanent Air Routes . . . . .	277
 Chapter III. — Publicity of Civil Aviation . . . . .	
List of Proposals made by the Various Delegations in the Course of the General Discussion on the Subject of the Internationalisation or Supervision of Civil Aviation . . . . .	278



## INTRODUCTION.

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On March 17th, the Air Commission adopted the following resolution :

“ The Air Commission requests its Bureau :

“ 1. With the assistance, if necessary, of the Secretariat and of the competent international organisations, to prepare, in order to facilitate its task, an objective documentary study summarising the principal work of these international organisations and the official proposals of the delegations on the internationalisation of civil aviation, and also the proposals of delegations with regard to any other measure calculated to prevent the signatory States from using this aviation for military purposes ;

“ 2. To circulate all the concrete proposals relating to the question, together with statements of the reasons for them, which the Commission recommends the delegations to send in to the Bureau as soon as possible ;

“ 3. To prepare a study on the organisation of the national civil aviations on the basis of the information which the Bureau trusts the delegations will supply to it ;

“ 4. To prepare a programme for the resumption of the Commission's work. ”

The present report has been drawn up in pursuance of paragraph 1 of this resolution.

The Rapporteur has endeavoured to submit objective information concerning :

I. Conventions and agreements between States or between civil aviation companies and also decisions of international organisations of an official or semi-official character, in so far as those conventions, agreements and decisions affect :

A. The international status of civil aviation ;

B. The international services established as a result of the development of civil aviation ;

C. Co-operation between the national aviations, their *rapprochement* or amalgamation into international groups ;

D. Any circumstance calculated to prevent States from using civil aviation for military purposes.

II. Investigations and proposals made by international associations of an official or semi-official character concerning any of the questions enumerated in the previous paragraph.

III. Proposals of delegations relating to the same questions.

In accordance with the desire expressed by the Commission :

(a) Investigations and proposals of a private character will be mentioned only as an exception and in the form of notes ;

(b) The report will not deal with documents which by their nature can have no direct or indirect bearing on the problem of disarmament.

We should have liked, within the above limits, to omit nothing of importance, but this was hardly possible. On the one hand, certain agreements of very great interest have not been published and are even confidential. This applies to the majority of agreements of a commercial or business nature. We have only been able in such cases to give information which is already common knowledge or which we have been expressly authorised to mention. On the other hand, we had only a very short time for our enquiries and consultations. It may be possible to include the additional information collected in a supplementary report.

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Part 1.

STATUS OF CIVIL AVIATION.

I. HISTORICAL.

The regulations concerning air navigation undoubtedly constitute the newest part of public international law. Of tardy origin, air navigation has developed with remarkable speed and has already made very great progress. It is desirable at this point to recall the principal circumstances of its brief history, during which the desire to prevent the use of civil aviation for military purposes has been constantly manifested.

A number of studies on air law<sup>1</sup> were published as long ago as the close of the last century. In 1889, the International Aeronautical Congress, which met at Paris, appointed a Permanent International Aeronautical Commission to prosecute the study of certain legal questions, in particular *the use of airships in war*.

In 1889, aviation was not yet in existence, and the first dirigibles had only succeeded in making a few timid flights. However, from that time onwards more and more rapid progress was made. Twenty years later, Blériot flew across the Channel! The problems of air law, hitherto mainly of theoretical interest, imposed themselves with increasing insistence upon the attention of technicians and statesmen. As a natural consequence, international meetings dealing with this matter became more frequent. A list of those held before 1914<sup>2</sup> is given below :

- |   |   |
|---|---|
| (a) International Aeronautical Congresses :             | (c) Sessions of the International Law Association :             |
| Paris, 1889.  | Paris, 1912.  |
| Paris, 1900.  | Madrid, 1913.   |
| Milan, 1906.  |   |
| Brussels, 1907.   |   |
| Nancy, 1907.  |   |
| (b) Sessions of the "Institut de Droit international" : | (d) Juridical Congress on Aviation :                            |
| Neuchâtel, 1900.  | Verona, 1910.   |
| Brussels, 1902.   |   |
| Ghent, 1906.  | (e) Congress of the International Legal Committee on Aviation : |
| Florence, 1908.   | Paris, 1911.  |
| Paris, 1910.  | Geneva, 1912.   |
| Madrid, 1911.   | Frankfort-on-Main, 1913.  |

To this list should be added the two Hague Conferences which dealt with problems concerning the military use of aeronautics and the *International Conference on Air Navigation* convened at Paris in 1910, particulars of which are given below.

The object of the Conference was to draw up an *International Convention regulating Air Navigation*. The participating States<sup>3</sup> proposed to establish their own regulations *thereafter*, in accordance with the provisions approved by the community of nations. In other words, by what was doubtless a unique exception at that time, they wished international law to *precede* the law of the individual countries — or, rather they wished the law of the individual countries to represent, as it were, only the application, according to circumstances, of one and the same universal law. The status of aeronautics would thus have been unmistakably different from that of any other means of transport.

A Commission of the Conference prepared a draft in which most of the principles laid down at about the same time by the jurists who met at Verona<sup>4</sup> were embodied. The majority of its essential provisions were also reproduced in the draft which M. Fauchille submitted during the following year to the "Institut de Droit international" (Madrid session). A doctrine was obviously in process of formation, by which post-war jurists would be guided to some extent.

The Commission's draft was discussed at length by the General Meeting. In the end, the Conference was unable either to adopt it or to agree upon the amendments to be introduced. The principle of the sovereignty of States in the air-space above their territory

<sup>1</sup> Cf. Henry COUANNIER : " Les éléments créateurs du Droit aérien ", 1929.

<sup>2</sup> Vide A. ROPER : " La Convention internationale du 13 octobre 1919 ". Paris, Librairie du Recueil Sirey, 1930, page 20.

<sup>3</sup> The States represented were : Austria-Hungary, Belgium, British Empire, Bulgaria, Denmark, France, Germany, Italy, Monaco, Netherlands, Portugal, Roumania, Russia, Serbia, Spain, Sweden, Switzerland, Turkey.

<sup>4</sup> At the International Juridical Congress for the Regulation of Air Locomotion.

was the main question which gave rise to profound divergencies of view. It was finally decided to adjourn until November 29th. Actually, however, there was no further meeting of the Conference and the draft was never completed.<sup>1</sup>

After the breakdown of the Conference, several Governments decided that it was not possible for them to wait any longer before drawing up national regulations for air navigation above their territory.<sup>2</sup>

France and Germany even resolved to conclude a bilateral agreement relating to aerial navigation on July 26th, 1913. It was expressly stipulated therein that this agreement would apply as a *temporary measure pending international regulation between a greater number of States*.

The chief object of the agreement, which is in the form of an exchange of identical letters, was to define the conditions under which the aircraft of each country would be allowed to fly over the territory of the other.

The most important provision relates to military aircraft — that is to say, aircraft belonging to the military authorities or which comprise among those conveyed thereon military persons in uniform. In principle, such aircraft are forbidden to fly over the territory of the other country. The agreement lays down the procedure to be followed should a military aircraft be compelled to sojourn on the neighbouring territory, and the precautions to be taken “in order to avoid such cases as far as possible”. (It should not be forgotten that, in 1913, the most frequent case was still that of a balloon, which had practically no means of modifying its course, being carried by the wind over the territory of another country.)

Another clause of the Convention deals with civil aircraft and lays down the conditions under which they may fly over and alight on the neighbouring territory. This provision is reproduced below :

“ Outside the zones prohibited by (French) legislation, aircraft coming from (Germany), which do not belong to the military authorities nor comprise among those conveyed thereon military persons in uniform, may fly over and alight on (French) territory on the following conditions :

“ (1) The aircraft must be provided with a permit issued by the competent (German) authorities, or by some association authorised by the same, and with a certificate of (German) registry. It must bear distinctive marks whereby it can be identified even during flight ;

“ (2) The pilot must be furnished with a certificate of competency, issued by the competent (German) authorities or by some association authorised by the same ;

“ (3) The pilot, as also every person accompanying him, must be provided with documents establishing his nationality, identity, and military situation ;

“ (4) The pilot must be provided with a clearance certificate, issued by a (French) diplomatic or consular representative ; such certificate will be granted upon production of proofs of the identity of the aircraft and of those conveyed thereon and upon a declaration of the object of the voyage. Such aircraft and the persons conveyed thereon must comply with the provisions of the (French) general legislation, Customs regulations, and the special regulations for aerial navigation in (France) ; when the aircraft and the pilot come from (Germany), the permit and the pilot's certificate of competency will have the same validity as is possessed by the corresponding documents issued in (France). Aircraft coming from (Germany), which do not belong to the military authorities nor comprise among those conveyed thereon military persons in uniform may not be forbidden to alight on (French) territory in case of distress, even if they do not comply with the foregoing requirements ; in such a case, however, they must alight as soon as possible, and report themselves to the nearest civil authorities. In other respects, such aircraft will be treated in accordance with the (French) laws.”<sup>3</sup>

Lastly, a final provision mentions the measures to be taken in each country for the protection of the aircraft of the other nation and the safety of those conveyed thereon.

The progress of aviation, which was considerable from 1910 to 1914, became still more rapid from 1914 to 1918. While international legislation relating to aircraft was useful before the war, it became an imperative necessity on the morrow of the great conflagration. Consequently, the official efforts which had been made from 1910 onwards with a view to the conclusion of a general convention were resumed as soon as peace was restored.

During the Versailles Conference, an “ Air Commission of the Peace Conference ” was set up. It was entrusted by two decisions of the Supreme Council on March 12th and 15th, 1919, with various tasks, the chief one being “ to draw up a convention relating to air navigation ”.

<sup>1</sup> Several essential articles are missing from the text in the form in which it was left by the first session.

<sup>2</sup> A. ROPER, *op. cit.*, page 27, mentions six which drew up national regulations between 1910 and 1914 : Germany, Great Britain, France, Austria, Serbia and Italy.

<sup>3</sup> We have reproduced the text of the French letter. In the German letter, the words in brackets are changed : “ France ” and “ French ” become “ Germany ” and “ German ” and *vice versa*.

It accordingly drafted the text which became the Convention of October 13th, 1919. This diplomatic instrument has so far been ratified or acceded to by the following States (these are given in the order in which ratifications or accessions were received): Belgium; Great Britain; Canada; Australia; Union of South Africa; New Zealand; India; France; Greece; Japan; Portugal; Yugoslavia; Siam; Persia; Irish Free State; Italy; Bulgaria; Czechoslovakia; Roumania; Uruguay; Poland; Chile; Saar Territory; Sweden; Denmark; Netherlands; Norway; Iraq and Finland.

It is only necessary to glance at this list to see that many Powers whose civil aviation is highly developed are omitted. It is not within the scope of this report to enquire into the reasons for these omissions. We need only say that efforts have been made on various occasions to enlarge the number of acceding States,<sup>1</sup> and that, so far, they have only been partly successful. We would add that:

(a) Two other international Conventions have been concluded with the same object in view—namely:

(1) The Ibero-American Convention of November 1st, 1926, so far ratified by five States: Spain, Paraguay, Mexico, the Dominican Republic and Costa Rica;

(2) The Pan-American Convention, relating to commercial aviation, of February 29th, 1928, so far ratified by Guatemala, Mexico, Nicaragua, Panama and the United States of America.

(b) A large number of bilateral Conventions have been concluded, either between States which have remained outside all the multilateral conventions referred to above or between a State party to at least one of these general diplomatic instruments and a State not a party thereto, for the purpose of regulating the questions dealt with in the multilateral Conventions.

It is very difficult to draw up an absolutely complete list of the Conventions referred to above. All those the existence of which it has been possible to ascertain have been included in the following list:

Austria-Czechoslovakia, February 15th, 1927.  
Austria-Hungary, August 29th, 1924.  
Austria-Italy, May 11th, 1928.  
Austria-Netherlands, December 31st, 1929.  
Austria-Poland, May 5th, 1925, and April 10th, 1930.  
Belgium-Switzerland, June 13th, 1922.  
Canada-United States of America, March 22nd, 1928.  
France-Switzerland, December 9th, 1919.  
Germany-Austria, May 1st, 1925.  
Germany-Belgium, May 29th, 1926.  
Germany-Czechoslovakia, January 22nd, 1927.  
Germany-Denmark, April 22nd, 1922.  
Germany-France, May 22nd, 1926.  
Germany-Great Britain, July 29th, 1927 (modified July 5th, 1930).  
Germany-Italy, May 20th, 1927.  
Germany-Netherlands, July 24th, 1922.  
Germany-Norway, January 23rd, 1929.  
Germany-Saar Territory, April 25th/30th, 1929.  
Germany-Spain, December 9th, 1927.  
Germany-Sweden, May 19th, 1925.  
Germany-Switzerland, December 28th, 1920.  
Great Britain-Switzerland, November 6th, 1919.  
Netherlands-Saar Territory, May 15th, 1925.  
Netherlands-Switzerland, May 18th, 1925.  
Spain-France, March 22nd, 1928.  
Spain-Italy, August 15th, 1927, and October 3rd, 1927.  
Switzerland-Saar Territory, August 15th, 1928.  
United States of America-Italy, October 13th, 1931.

International air navigation is thus regulated by about thirty different Conventions, each of which binds only two or a limited number of States. What has become of the ideal of simplicity to which the initiators of the 1910 Conference aspired? The confusion which might result from this multiplicity of texts is, however, lessened to a great extent by the similarity of the principles on which they are all based.

<sup>1</sup> The text has several times been modified to meet the objections of States which have not yet acceded to the Convention. It was amended for the first time on October 27th, 1922; for the second time on June 27th, 1923 (these amendments came into force in December 1926); and for the third time in December 1929, as the outcome of an international conference in which, in addition to the States parties to the Treaty, seventeen non-acceding States participated (Germany, United States of America, Austria, Brazil, China, Colombia, Cuba, Spain, Estonia, Finland, Haiti, Hungary, Luxemburg, Norway, Panama, Switzerland and Venezuela).

The Ibero-American Convention differs from the Agreement of October 12th, 1919, on three important points only :

(1) The different wording of Article 5, which accords the contracting States greater freedom to allow the aircraft of non-contracting States to fly over their territory. (The amendments proposed in 1929 to the text of the 1919 Convention were designed to bring it more closely into line, as regards its practical effects, with the Ibero-American text.)

(2) The insertion of an addition to Article 7, leaving States free to regulate the registration of their aircraft.

(3) The omission of the reference in Article 34 to the League of Nations.

While the Pan-American Convention differs more widely from the 1919 text, it reproduces many of its essential provisions.

Lastly, the bilateral Conventions, a list of which has been given, are usually based on the same guiding principles, which do not differ substantially from those of the multilateral Conventions.

## II. THE PRESENT BASES OF PUBLIC INTERNATIONAL AIR LAW.

While the multiplicity of Conventions has created a difficult situation, which there is a general desire to bring to an end as soon as possible, certain principles of public air law nevertheless appear to be very widely recognised to-day. The Air Commission of the Peace Conference laid down at its meeting on March 17th, 1919, the principles by which it proposed to be guided. These texts will be taken as the basis of the present survey ; where necessary, the extent to which certain existing agreements depart from the texts drawn up at that time will be indicated.

*First principle.* — “ 1. Recognition of (1) the principle of the full and complete sovereignty of each State over the air space above its territory and territorial waters, involving the right to exclude foreign aircraft ; (2) the right of each State to impose its jurisdiction in the air space above its territory and territorial waters.”

This principle has been most explicitly recognised by the three multilateral Conventions enumerated above.

The text of the 1919 Convention and of the Ibero-American Convention reads as follows :

“ *Article 1.* — The High Contracting Parties recognise that every Power has complete and exclusive sovereignty in the air space above its territory.

“ For the purpose of the present Convention, the territory of a State shall be understood as including the national territory, both that of the mother country and of the colonies, and of the territorial waters adjacent thereto. ”

The Pan-American Convention begins as follows :

“ *Article 1.* — The High Contracting Parties recognise that every State has complete and exclusive sovereignty over the air space above its territory. ”

The bilateral Conventions do not usually affirm this principle ; but they apply it to some extent, since their object is not to *recognise* the right of foreign aircraft to fly over their territory, but to *grant* this right to certain aircraft belonging to a certain State and under certain conditions. Such a concession can only be regarded as an act of the sovereign Power.

Before the war, the sovereignty of States over the air space above their territory was not so commonly recognised.

It had been recognised, it is true, at a time when aeronautical problems had not actually arisen ; it was then very generally admitted that the rights of the sovereign Power, like the rights of the proprietor, could be exercised both above and below the soil, without any limit as to height or depth. However, this theory was challenged on many sides as soon as the air ceased to be empty. Was every landowner to be allowed to prohibit flight over his fields? If not, what would remain of a right of ownership the only possible application of which was disputed? If the air could not form the subject of a real right of ownership, could it form the subject of a sovereign right? Eminent jurists denied this.<sup>1</sup> The authors of the draft Convention of 1910 refused to affirm this right. The Fauchille draft<sup>2</sup> of 1911 disregarded it so completely that according to the terms of the draft acts occurring on board a balloon were regarded as coming within the jurisdiction of the courts of the State whose nationality the balloon possessed, except in case of the immediate contact of the balloon with the soil of another State.<sup>3</sup>

<sup>1</sup> Paul FAUCHILLE, who must be regarded as one of the founders of public international air law, began by absolutely denying this sovereign right, but later admitted a *limited* sovereignty of States over the air space above their territory.

<sup>2</sup> Submitted to the Madrid session of the Institut de Droit international.

Even those who denied the sovereign right of States over the air admitted their right to protect themselves against certain abuses, such as espionage from the air or the throwing overboard of harmful substances; but they regarded this not as a real sovereign right but as part of the general right of States to do what is necessary for their preservation.<sup>1</sup>

This was the view adopted by the International Legal Committee on Aviation when drawing up at its third Congress (Frankfort-on-Main, 1913) its draft International Air Code, Article 1 of which reads:

“Aerial circulation shall be free, except that the subjacent States have the right to take such steps as may be laid down with a view to their own security and the safety of the persons and property of their inhabitants”.

On the other hand, since the war, the principle of absolute sovereignty has consistently been affirmed.

*Second principle.* — “2. Subject to the principle of sovereignty, recognition of the necessity of granting to international air navigation the fullest possible freedom compatible with the security of the State, the application of the regulations relating to the admission of aircraft of the contracting States (which regulations must not be unduly severe), and the internal legislation of the country.”

Each of the three multilateral Conventions contains the following text:

“Article 2. — Each contracting State undertakes in time of peace to accord freedom of innocent passage above its territory to the aircraft of the other contracting States, provided that the conditions set forth in this Convention are observed . . .”

However, even in this text, and in other provisions of these treaties, the above-mentioned principle is restricted considerably:

(a) In the case of the Pan-American Convention, the principle applies only to private aircraft—that is to say, aircraft other than military or naval aircraft, or those exclusively employed in State service, such as posts, Customs, police. The Pan-American Convention deals solely with private aircraft.

The other two Conventions subject State aircraft to a special regime, as we shall see later. Moreover, the definition of State aircraft differs in each case.

(b) Article 3 of the 1919 Convention and of the Ibero-American Convention contains the following stipulation:

“Each contracting State has the right, for military reasons or in the interests of public safety, to prohibit the aircraft of the other contracting States, under the penalties provided by its legislation and subject to no distinction being made in this respect between its private aircraft and those of the other contracting States, from flying over certain areas of its territory.

“If it makes use of this right, it shall publish and notify beforehand to the other contracting States the location and extent of the prohibited areas.”

Article 3 of the Pan-American Convention contains similar provisions (with a few minor differences in drafting).

In each case, the contracting States have the sovereign right to determine the position and extent of the prohibited areas. In theory, these might be extended indefinitely, *on condition that* the prohibition applied to all their national private aircraft which should, in practice, prevent them from making these prohibitions excessive. This condition of equality was made less rigorous by an amendment to the 1919 Convention proposed by the 1929 Conference and approved by the International Commission, but which has not yet come into force. This amendment stipulates that:

“Each contracting State may, as an exceptional measure and in the interest of public safety, authorise flight over the said areas (those previously referred to) by its national aircraft”.

(c) The right to prohibit the flight of aircraft is extended in the following amendment proposed, under the above-mentioned conditions, to Article 3 of the 1919 Convention:

“Each contracting State reserves also the right, in exceptional circumstances in time of peace and with immediate effect, temporarily to limit or prohibit flight over its territory or over part of its territory, on condition that such limitation or prohibition shall be applicable without distinction of nationality to the aircraft of all the other States.

“Such decision shall be published, notified to all the contracting States and communicated to the International Commission for Air Navigation.”

<sup>1</sup> See, in particular, FAUCHILLE: “Le domaine aérien et le régime des aérostats”, in the *Revue générale de droit international public*, 1901.

(d) Facilities of principle accorded by the various multilateral Conventions (these facilities are very similar to those provided for in bilateral Conventions) are conceded only by way of exception in return for advantages granted by the signatories to each other as the result of their agreement, and not as the consequence of a *general principle* of universal application.

On the other hand, in the original text of the 1919 Convention each signatory expressly reserved the privilege of flight over its territory to its co-signatories.

Article 5 read as follows :

“ *Article 5.* — No contracting State shall, except by a special and temporary authorisation, permit the flight above its territory of an aircraft which does not possess the nationality of a contracting State. ”

From the outset, this clause was difficult to apply, and the contracting States agreed that, pending the possibility of amending the text,<sup>1</sup> the term “special and temporary authorisation”<sup>2</sup> would be interpreted as widely as possible. The text was modified by the International Commission on October 25th, 1922. However, the necessary ratifications were not obtained until 1926, and the new text came into force on December 14th of that year. The article is at present supplemented as follows :

“ . . . unless it has concluded a special convention with the State in which the aircraft is registered. The stipulations of such special convention must not infringe the rights of the contracting Parties to the present Convention and must conform to the rules laid down by the said Convention and its annexes. Such special convention shall be communicated to the International Commission for Air Navigation, which will bring it to the knowledge of the other contracting States. ”<sup>3</sup>

The Ibero-American Convention replaced Article 5 by the following text :

“ The contracting States shall have complete freedom to allow or prohibit the flight over their territory of aircraft possessing the nationality of a non-contracting State. ”

(e) Other exceptions to the second principle will be examined in dealing with the seventh principle.

*Third principle.* — “ 3. As regards internal regulations relating to the admission and treatment of the aircraft of the contracting States, recognition of the principle of the absence of any discrimination based on nationality. ”

The three multilateral Conventions stipulate :

“ *Article 2* (Article 4 of the Pan-American Convention). — All regulations made by a contracting State as to the admission over its territory of the aircraft of the other contracting States shall be applied without distinction of nationality. ”

This applies solely to equality of treatment as between *foreign* aircraft belonging to the co-contracting countries.

Equality as between private national and foreign aircraft is only provided for in the case laid down in Article 3 (Article 5 of the Pan-American Convention) and within the limits stipulated therein as mentioned above. The principle of equality is subject to other restrictions also, which will be dealt with when we come to the seventh principle.

*Fourth principle.* — “ 4. Recognition of the principle that every aircraft must possess the nationality of a single contracting State and must be entered in the register of the State whose nationality it possesses. ”

In virtue of the first principle, every aircraft flying over the territory of a State is in the territory of that State and is subject to the latter's sovereignty. Moreover, its status during flight over that territory is regulated by an agreement between the State flown over and the State to which it belongs and is accorded to it only by reason of the nationality which it can claim. This necessarily involves the recognition of the fourth

<sup>1</sup> The text of the Convention may be modified only by decision of the International Commission for Air Navigation ratified by all the co-contracting States. The Commission itself was unable to begin work until a certain number of ratifications had been deposited, which was not until 1922.

<sup>2</sup> Formal derogations of Article 5 are authorised under certain conditions in an Additional Protocol of May 1st, 1920.

<sup>3</sup> The 1929 Conference referred to above proposed the following text for Article 5. This text, which was accepted by the International Commission for Air Navigation, has now been submitted to the High Contracting Parties for ratification :

“ Each contracting State is entitled to conclude special conventions with non-contracting States.

“ The stipulations of such special conventions shall not infringe the rights of the contracting Parties to the present Convention.

“ Such special conventions, in so far as may be consistent with their objects, shall not be contradictory to the general principles of the present Convention.

“ They shall be communicated to the International Commission for Air Navigation, which will notify them to the other contracting States. ”

principle: the system would not be applicable, or even conceivable, unless aircraft possessed a definite and single nationality.

However, while the principle of the nationality of the air space above a country almost inevitably involves the principle of the nationality of the aircraft the converse does not hold good. National aircraft may quite conceivably fly through air space which is not national territory, just as ships flying a national flag traverse the high seas and aircraft fly over the ocean. The idea of giving a nationality to aircraft was commonly accepted long before the idea of nationalising the air space met with a like measure of assent. The draft Convention drawn up at Paris in 1910,<sup>1</sup> the Madrid proposals of 1911,<sup>2</sup> the draft drawn up at Frankfort-on-Main in 1913,<sup>3</sup> all three nationalise aeroplanes without nationalising air space. We can even assert that, in the view of many jurists, the idea of nationalising aircraft was first regarded as a means of avoiding the nationalisation of the air space, while bringing aircraft in flight under the jurisdiction of a certain nation, in the absence of a competent international jurisdiction.

In any case, the prevalent doctrine to-day and all the texts of existing agreements are based, on the conception of *national* aircraft flying through *national* air space, and not of aircraft subject to the sovereignty of one nation alone, flying through an air space subject to a common international jurisdiction.

*This is an essential factor from the point of view of the present survey, since all proposals for the internationalisation of civil aviation must either be limited to the provisions of the existing law or involve the revision of that law.*

The nationality of aircraft is dealt with in Chapter II of the 1919 Convention and of the Ibero-American Convention, — in both cases in Articles 5 and 10.

As we have seen, Article 5 lays down the conditions under which aircraft other than those possessing the nationality of one of the contracting States *may* or *must* be excluded. It thus goes somewhat beyond the subject matter of the chapter. We would point out, however, that the exclusion of aircraft which cannot claim the nationality of any of the contracting States would result, if the Convention became truly universal, in the outlawry of machines which possess no nationality, which would be under the same disability as vessels in a like case.

The Pan-American Convention contains no equivalent provision.

As regards the actual principle of nationality, its application is regulated by Articles 7, 8 and 9 of the Pan-American Convention and Articles 6 to 10 of the other two multilateral Treaties. The texts of these Articles are given below in parallel columns, thus enabling the points on which they resemble each other and those on which they differ to be seen at a glance.<sup>4</sup>

Pan-American Convention.

"Article 7. — Aircraft shall have the nationality of the State in which they are registered and cannot be validly registered in more than one State.

"The registration entry and the certificate of registration shall contain a description of the aircraft and state the number or other mark of identification given by the constructor of the machine, the registry marks and nationality, the name of the aerodrome or airport usually used by the aircraft, and the full name, nationality and domicile of the owner, as well as the date of registration.

"Article 8. — The registration of aircraft referred to in the preceding article shall be made in accordance with the laws and special provisions of each contracting State."

1919 Convention and Ibero-American Convention.

"Article 6. — Aircraft possess the nationality of the State on the register of which they are entered . . .

"Article 8. — An aircraft cannot be validly registered in more than one State.

"Article 6 (after the words quoted above): . . . in accordance with the provisions of Section I (c) of Annex A.

"Article 7. — No aircraft shall be entered on the register of one of the contracting States unless it belongs wholly to nationals of such State.

"No incorporated company can be registered as the owner of an aircraft unless it possesses the nationality of the State in which the aircraft is registered, unless the president or chairman of the company and at least two-thirds of the directors possess such nationality and unless the company fulfils all other conditions which may be prescribed by the laws of the said State."

<sup>1</sup> Draft Convention prepared by the Commission of the International Conference on Air Navigation.

<sup>2</sup> Text relating to the juridical regime of aircraft adopted by the Institut de Droit international (Madrid, 1911).

<sup>3</sup> International Air Code. Draft adopted by the International Legal Committee on Aviation at its Third Congress held at Frankfort-on-Main, 1913.

<sup>4</sup> As a rule, the stipulations of bilateral conventions do not differ in principle from those reproduced here.



It would appear to be difficult to reconcile the *present* text of Article 7 of the 1919 Convention with several of the proposals made in regard to the internationalisation of aviation, since the latter assume that the ownership of the machines is shared among persons of different nationality, or that they belong to associations possessing an international status,<sup>1</sup> or at least to associations of a less exclusively national character than those referred to in the text. It is of interest to note that it was the desire to prevent the use of civil aviation in war which led the authors of the 1919 Convention to adopt this text, which now runs counter to other efforts with this object in view.

The Legal Sub-Commission of the Air Commission of the Peace Conference entrusted with the drawing up of the text of the Convention expressed itself in the following terms in its first report on the article with which we are dealing :

“ While making the nationality of the aircraft dependent on that of the State which registers it, the Sub-Commission unanimously decided that an aircraft can only be registered by a State if it belongs to a national of that State.

“ In this connection, very clear declarations were made by the American delegation, which stated that a sudden attack by aircraft was the great danger that threatened the peace of the world. Such an attack could easily be made by aircraft belonging to owners resident in the territory of a State which was inoffensive from a military standpoint but who possessed the nationality of a State which gave cause for great anxiety on this score.

“ The reason for which the aircraft is given the nationality of the owner precludes the possibility of its having two owners : one belonging to a nation which affords every guarantee of security and the other belonging to a country which is less reliable. In the light of the experience of the War, the Sub-Commission considers that it is not possible to confer the nationality of a State upon an aircraft which is not wholly owned by a national.

“ The question becomes more delicate in the case of a firm or company. The Italian delegation developed the view that the nationality of a firm or company from an aeronautical standpoint should be determined in the same manner as in any other connection — that is to say, according to its seat.

“ The American delegation referred to the danger of a sudden air attack by aircraft in the service of a firm or company whose seat is in a neutral country. In order to prevent this risk as far as possible, the American delegation urged that, in the case of firms, all the partners should be nationals, and, in the case of companies, no foreign capital should be allowed. However, in view of the difficulty of nationalising shares, which would make it necessary for them to be registered, the French delegation proposed that two-thirds of the directors should be nationals, the State registering the aircraft being free to determine the conditions under which its nationality would be conferred. This proposal was unanimously accepted by the Sub-Commission.”

The Commission in its turn approved these reasons and made the original text proposed even more emphatic.

However, many objections have since been raised to this text and its replacement by less restrictive provisions has frequently been contemplated. As we have seen, the Pan-American Convention leaves this matter to be regulated entirely by the various States. The Ibero-American Convention also departs in this instance from its customary model, and the text of Article 7 reproduced above is followed by these supplementary provisions :

“ If any Ibero-American State which is a signatory of the Convention finds that the conditions laid down in the present article for the determination of the nationality of an aircraft are incompatible with the provisions of its own internal legislation, it may make a reservation on the matter in an additional protocol to the Convention.

“ The State making such a reservation shall be free to regulate the registration of its aircraft and flight over its territory, including its territorial waters, but in no case may it grant the advantages laid down in this Convention to other signatory or acceding States, except in the case of aircraft which comply with all the conditions expressly stipulated in paragraphs 1 and 2 of the present Article.”

Moreover, the Conference which met in 1929 for the purpose of re-examining certain provisions of the 1919 Convention proposed to replace the present text of Article 7 by that in Article 8 of the Pan-American Convention ; this was approved by the International Commission for Air Navigation and the new text has been submitted to the signatory States for ratification.

It has not yet come into force.

We will now resume the comparative examination of the texts :

Pan-American Convention

“ Article 9. — Every aircraft engaged in international navigation must carry a distinctive mark of its nationality, the nature of such distinctive mark to be agreed upon by the several contracting States. The distinctive marks adopted will be communicated to the Pan-American Union and to the other contracting States.”

1919 Convention and Ibero-American Convention

“ Article 10. — All aircraft engaged in international navigation shall bear their nationality and registration marks as well as the name and residence of the owner in accordance with Annex A.”

<sup>1</sup> We have not dealt with the problem of international associations in general, which exceeds the scope of this survey.

*Fifth principle.* — “5. The following clauses are recognised as desirable from an international standpoint, with a view to ensuring the safety of air navigation :

“ (a) Regulations making certificates of airworthiness and licences for wireless apparatus, at all events in the case of commercial aircraft, compulsory. Mutual recognition of these certificates and licences by the contracting States.

“ (b) Regulations making certificates for pilots and other flying staff compulsory. Mutual recognition of these certificates by the contracting States.

“ (c) International air regulations, including international rules as to signals and lights and rules for the prevention of collisions. Rules for landing and ground regulations. ”

The stipulations of the multilateral and bilateral Conventions relating to these questions are too technical for details to be reproduced here. We need only state that, in this connection, the 1919 Convention grants very extensive rights in the matter of regulation to the International Commission for Air Navigation (these rights are in some cases subject to the ratification of the decisions taken by a certain number of States, while in others this is not required), and that the Ibero-American Convention grants similar rights to the Ibero-American Commission for Air Navigation. This is an important provision from the point of view of the internationalisation of civil aviation, and deserves detailed study. It will be dealt with in another part of this report. <sup>1</sup>

*Sixth principle.* — “6. Recognition of the principle of special treatment for military, naval and State aircraft — that is to say, aircraft in the service of Governments. ”

Since the Pan-American Convention applies only to private aircraft, the determination of a special regime for military, naval or State aircraft is outside its scope.

Similarly, a number of bilateral Conventions apply solely to private aircraft.

The 1919 Convention and the Ibero-American Convention deal with State aircraft, which they define as follows :

“ *Article 30.* — The following are deemed to be State aircraft :

“ (a) Military aircraft ;

“ (b) Aircraft exclusively employed in State service, such as posts, Customs, police.

“ Every other aircraft is a private aircraft. ”

Military aircraft is defined as follows :

“ *Article 31.* — Every aircraft commanded by a person in military service detailed for the purpose is deemed to be a military aircraft. ”

At the 1929 Conference, certain doubts were expressed as to the value of this definition. The German delegation proposed that a different definition should be adopted, based partly on the nature of the aircraft and on its military characteristics. It submitted the following text to the Conference :

“ The following are deemed to be military aircraft :

“ (a) Aircraft bearing military identity marks ;

“ (b) Aircraft which are armoured or protected in any way, fitted with appliances for the installation of war material of any kind, such as guns, machine-guns, torpedoes, bombs, or with sighting or discharging apparatus for such material ;

“ (c) Aircraft whose pilots or crew belong to an army and have been detailed for this purpose ;

“ (d) Aircraft belonging to the military forces. ”

Without expressing any opinion on the substance of this question, the Conference decided to ask the International Commission for Air Navigation to make a further study of the matter.

The Commission examined this question at its session in December 1929. A fresh definition has not yet been arrived at.

The two Conventions with which we are at present dealing subject the various classes of military aircraft to different treatment.

Military aircraft are subject to certain restrictions at ordinary law and enjoy certain privileges.

“ *Article 32.* — No military aircraft of a contracting State shall fly over the territory of another contracting State nor land thereon without special authorisation. In case of such authorisation, the military aircraft shall enjoy, in principle, in the absence of special stipulation, the privileges which are customarily accorded to foreign ships of war.

“ A military aircraft which is forced to land or which is requested or summoned to land shall by reason thereof acquire no right to the privileges referred to in the above paragraph. ”

<sup>1</sup> See Part 2.

The question whether, for the purposes of international conventions, aircraft used on State lines organised for the conveyance of passengers, goods or mail under similar conditions to those under which private lines are established should be regarded as State aircraft has given rise to a great deal of discussion.

According to the Legal Sub-Commission of the Commission appointed to draw up the 1919 text:

“ . . . a State may have three classes of aircraft :

“ (1) Military aircraft ;

“ (2) Aircraft exclusively employed in State Services (posts, Customs, police) ;

“ (3) Commercial aircraft if, as in the case of railways, the State itself operates its air lines like a private company.

“ The first two classes of aircraft belong to the State as a public authority, and the third to the State as a private person. Consequently, the Convention regards as State aircraft, for the purpose of applying special treatment to them, only military aircraft and aircraft exclusively employed in State service. ”

The treatment provided for in the 1919 Convention (and the Ibero-American Convention) differs slightly from that indicated in the above quotation.

Their text defines as State aircraft only those belonging to the State as a Power and embraces the same category of machines as the Commission's text.

But whereas the latter excludes from the benefit of the Convention *all* machines defined as State aircraft, the 1919 Convention (and the Ibero-American Convention) in principle treat State aircraft with the exception of certain well-defined categories, in the same way as private aircraft.

“ *Article 30.* — All State aircraft, other than military, Customs and police aircraft, shall be treated as private aircraft and as such shall be subject to all the provisions of the present Convention. ”

This clearly shows that if, as the result of an association or of co-operation between States for the international operation of commercial air lines, or even of a mail service, certain aircraft employed for services commonly reserved at present for private aircraft were to become State aircraft, their international status would not be modified under the 1919 Convention (or the Ibero-American Convention). Under the Pan-American Convention, it would be modified only in the case of a mail service.

*Seventh principle.* — “ 7. Recognition of the right of transit without landing for international traffic between two points situated outside the territory of a contracting State, subject to the right of the State flown over to reserve its commercial air traffic for its own aircraft and to compel any aircraft flying over its territory to land by means of agreed signals. ”

The recognition of this principle has led to important restrictions in the application of the second general principle, formulated in Article 2 of the 1919 Convention and of the Ibero-American Convention, and in Article 4 of the Pan-American Convention.

(a) If a private aircraft belonging to one of the contracting States crosses the air space of another contracting State without the intention of landing, it may be compelled :

(1) Either to follow a specific route,

(2) Or to land if ordered to do so by means of signals.

These stipulations are included in Article 15 of the 1919 Convention (and of the Ibero-American Convention) :

“ *Article 15.* — Every aircraft of a contracting State has the right to cross the air space of another State without landing. In this case, it shall follow the route fixed by the State over which the flight takes place. However, for reasons of general security it will be obliged to land if ordered to do so by means of the signals provided in Annex D.

“ Every aircraft which passes from one State into another shall, if the regulations of the latter State require it, land in one of the aerodromes fixed by the latter. Notification of these aerodromes shall be given by the contracting States to the International Commission for Air Navigation<sup>1</sup> and by it transmitted to all the contracting States . . . ”

The majority of these provisions are reproduced in a more or less similar form in the Pan-American Convention :

The principle of the route to be followed is laid down in Article 5 :

“ . . . each contracting State may furthermore prescribe the route to be followed over its territory by the aircraft of the other States, except in cases of *force majeure*, which shall be governed in accordance with the stipulations of Article 18 of this Convention . . . ”

<sup>1</sup> In the text of the Ibero-American Convention the words “International Commission for Air Navigation” are replaced by “Ibero-American Commission for Air Navigation.”

The principle of forced landing is laid down in Article 18, paragraph 6 :

“ Every aircraft of one of the contracting States which flies over the territory of another contracting State shall be obliged to land as soon as ordered to do so by means of the regulation signals, when for any reason this may be necessary. ”

(b) The obligation on the part of each contracting State to allow the aircraft of another contracting State to cross its air space does not involve the obligation to allow them to convey passengers, goods or mail from one point of its territory to another. Thus, Article 16 of the 1919 Convention (and of the Ibero-American Convention) provides that :

Paragraph 1. — “ Each contracting State shall have the right to establish reservations and restrictions in favour of its national aircraft in connection with the carriage of persons and goods for hire between two points on its territory. ”

“ Such reservations and restrictions shall be immediately published, and shall be communicated to the International Commission for Air Navigation,<sup>1</sup> which shall notify them to the other contracting States. ”

The Legal Sub-Commission which prepared the text of this Convention proposed a much more radical wording for Article 16 :

“ Each contracting State shall have the right to reserve for its national aircraft the carriage of persons and goods for hire between two points on its territory. ”

In justification of this text it stated that :

“ By analogy with the maritime coasting trade, commercial navigation may be prohibited, between two places situated within the frontiers of a country, to the foreign flag : an English sport plane is free to fly from Paris to Marseilles, from Marseilles to Bordeaux, from Bordeaux to Paris ; but an English commercial aircraft is not free to do so without the permission of the State flown over and, in accordance with the present Convention, this permission cannot be granted to one of the Contracting States unless it is extended to the others also. ”

The stipulations in question are reproduced almost literally in the text of Article 22 of the Pan-American Convention :

“ Each contracting State shall have the right to establish reservations and restrictions in favour of its own national aircraft in regard to the commercial transportation of passengers and merchandise between two or more points in its territory and to other remunerated aeronautical operations wholly within its territory. Such reservations and restrictions shall be immediately published and communicated to the other contracting States and to the Pan-American Union. ”

(c) Lastly, does the obligation on the part of a contracting State to allow the aircraft of the other contracting States to fly over its territory without landing involve the obligation to permit the establishment of regular lines across its territory ?

This is a question which has given rise to lengthy controversy. This right appears to be clearly established by the text of the Pan-American Convention. The text of the 1919 Convention (and of the Ibero-American Convention) is less definite.

These Conventions stipulate, at the end of Article 15, that :

“ The establishment of international airways shall be subject to the consent of the States flown over. ”

The wording proposed in 1919 by the Legal Sub-Commission was : “ The establishment of *lines* of communication ”. This wording was strongly opposed by the British delegation, to which the Sub-Commission replied in the following terms :

“ Contrary to the opinion of the British experts, the establishment of international *lines* of air communications is subject to the consent of the States flown over. ”

As the British experts held to their opinion, a compromise was agreed upon : the word *lines* was replaced by *airways*, but the difficulty again arose later when this term had to be interpreted.

At the first session of the International Commission, the Belgian delegation asked for an interpretation of the text. After prolonged discussion, it was decided to postpone any decision until a dispute arose.

The discussion was resumed at the 1929 Conference. The German delegation proposed that this text, which was obviously interpreted differently, even by the States parties to the Convention, should be made more explicit and suggested the following wording :

“ The installation and operation of regular air lines from the territory of one contracting State to the territory of another contracting State or over the latter's territory, with or without intermediate landing, shall form the subject of a special agreement between the contracting States concerned. ”

<sup>1</sup> In the text of the Ibero-American Convention the words “ International Commission for Air Navigation ” are replaced by “ Ibero-American Commission for Air Navigation. ”

This text was opposed by the British delegation. In the latter's opinion, previous authorisation was only required for the establishment of an *airway* — that is to say, a regularly organised route provided with aerodromes and the necessary installations. Once this airway had been established, the aircraft of all contracting States should be allowed to use it, whether they belonged to a regular line or not. However, the principle that previous authorisation was required for the establishment of an international line, even without landing, was adopted by 27 votes to 4 (United States of America, British Empire, Netherlands, Sweden). The vote showed that there was a large majority in favour of this principle, and the proposal of the following text was unanimously agreed upon :

“ Every contracting State may make conditional on its prior authorisation the establishment of international airways and the creation and operation of regular international air navigation lines, with or without landing, on its territory. ”

This amendment, which was approved by the International Commission for Air Navigation, has now been submitted to the High Contracting Parties for ratification. <sup>1</sup>

*Eighth principle.* — “ 8. Recognition of the right of the aircraft of all contracting States to use all public aerodromes, on the understanding that landing charges will be imposed without any distinction based on nationality. ”

This principle is incorporated in the 1919 Convention (and in the Ibero-American Convention) in the following terms :

“ *Article 24.* — Every aerodrome in a contracting State, which, upon payment of charges, is open to public use by its national aircraft, shall likewise be open to the aircraft of all the other contracting States.

“ In every such aerodrome there shall be a single tariff of charges for landing and length of stay applicable alike to national and foreign aircraft. ”

The corresponding provision in the Pan-American Convention is rather more limited :

“ *Article 24.* — The aircraft of one contracting State engaged in international commerce with another contracting State shall not be compelled to pay other or higher charges in airports or aerodromes open to the public than would be paid by national aircraft of the State visited, likewise engaged in international commerce. ”

*Ninth principle.* — “ 9. Recognition of the principle of mutual compensation between contracting States to cover damage done to persons or property in one State by an aircraft of another contracting State. ”

This principle does not call for any comments in connection with the present report.

*Tenth principle.* — “ 10. Recognition of the necessity for a Permanent International Commission for Air Navigation. ”

This important principle will be dealt with later. <sup>2</sup>

*Eleventh principle.* — “ 11. Recognition of the obligation of each contracting State to regulate its internal legislation in accordance with the clauses of the Convention. ”

This principle appears to be outside the scope of this report.

*Twelfth principle.* — “ 12. Recognition of the principle that the Convention does not affect the duties and rights of belligerents and neutrals in the event of war. ”

The comments to which this principle might give rise appear to be outside the scope of this report.

\* \* \*

*Note.* — We have not considered it necessary to deal here with the *Convention for the Unification of certain Rules relating to International Air Transport*, concluded at Warsaw on October 12th, 1929, at the Second Conference on Private Air Law, as the problems with which it is concerned (transport documents, liability of the carrier, etc.) have only a very remote bearing on the subject of this report.

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<sup>1</sup> It is expressly stipulated in certain bilateral conventions that the establishment of regular lines, with or without landing, is subject to the prior authorisation of the State flown over (see, for instance, the Convention between France and Germany of May 22nd, 1926). On the other hand, the right to fly over the territory of the other State is expressly recognised in certain recent conventions (Anglo-Greek Convention of April 7th, 1931).

<sup>2</sup> See Part 2.

Part 2.

INTERNATIONAL AERONAUTICAL ORGANISATIONS.

All the international aeronautical organisations — and there are a large number of them — are engaged to some extent and in some particular form in the "internationalisation" of civil aviation, or of one of the activities connected therewith or to which it gives rise. Consequently, the work of all these organisations has some bearing on the subject of this report.

It is not an easy matter to enumerate them all. In addition to those which are definitely of an official character there are others which enjoy official patronage, and the degrees and forms of that patronage are very numerous. While there are many organisations which deal solely with aeronautics, there are a still larger number which are concerned principally or occasionally with this subject. It is not always possible to draw a hard-and-fast line between organisations which are of a more or less official nature and those which are not. It is still more difficult to distinguish those whose aeronautical activities are of importance from other organisations.

It would therefore be useless to attempt to draw up a complete and final list of these organisations. It may be of interest, however, to reproduce the list proposed in the *Revue aéronautique internationale* for December 1931. It is as follows :

1. The International Commission for Air Navigation (CINA).
2. International Conferences on Private Law Affecting Air Questions.
3. The Ibero-American Conference.
4. International Aeronautical Conferences (CAI).
5. The Mediterranean Aeronautical Conference.
6. International Congresses.
7. The International Aeronautical Federation (FAI).
8. The International Air Traffic Association (IATA).
9. The International Legal Committee on Aviation.
10. The League of Nations.
11. The Pan-American Union.
12. L'Office international d'Hygiène publique.
13. The International Aeronautical Register.
14. Air Mail Conferences.
15. International Radio-Telegraph Conferences.
16. The International Hydrographical Bureau.
17. The International Chamber of Commerce.
18. The International Meteorological Organisation.
19. The International Law Association.
20. The International Standard Association.
21. The International Commission on Illumination.

We shall deal solely with the activities of those of the above-mentioned associations which are of the greatest importance from the point of view of our subject.

CHAPTER I. — INTERNATIONAL COMMISSION FOR AIR NAVIGATION.

This Commission — usually known by the initials of its French name, CINA — was set up by the 1919 Convention and is, broadly speaking, responsible for its administration and revision, if necessary.

A. *Composition.*

This was determined by Article 34 of the Convention in its original text, as follows :

"Article 34. — There shall be instituted, under the name of the International Commission for Air Navigation, a permanent commission placed under the direction of the League of Nations and composed of :

" Two representatives of each of the following States : The United States of America, France, Italy and Japan ;

" One representative of Great Britain and one of each of the British Dominions and of India ;

" One representative of each of the other contracting States.

" Each of the five States first named (Great Britain, the British Dominions and India counting for this purpose as one State) shall have the least whole number of votes which, when multiplied by five, will give a product exceeding by at least one vote the total number of votes of all the other contracting States.

" All the States other than the five first named shall each have one vote. "

These provisions gave rise to a great deal of discussion. As soon as it was established in 1922, the CINA turned its attention to their revision. A protocol embodying a new text was drawn up by it on June 30th, 1923, and came into force on December 14th, 1926.

The revised text provides that :

“ Each State represented on the Commission (Great Britain, the British Dominions and India counting for this purpose as one State) shall have one vote. ”

Equal votes were thus given to all the acceding States. As we shall see later, however, they do not all exercise the same influence when a decision is taken. <sup>1</sup>

#### B. Organisation.

Article 34 provides that the CINA shall meet at Paris on the convocation of the French Government, and shall be constituted as soon as the majority of the signatory States have notified their ratification. The Commission shall itself choose its permanent seat and shall lay down its own procedure. The expenses of its operation shall be borne by the States parties to the Convention.

In accordance with these provisions, the CINA was constituted on July 11th, 1922. It fixed its permanent seat at Paris, adopted its rules of procedure and set up a permanent secretariat. At the present time the latter consists of a Secretary-General (M. Albert Roper), a secretary, two drafter-translators, one drafter, five shorthand-typists and five office employees or messengers.

The CINA publishes a weekly Bulletin of Information, which contains, *inter alia*, the information which the Commission is required by the Convention to transmit to Governments.

The CINA holds regular meetings, which were at first convened fairly frequently, whenever important arrangements had to be made; they are now held at longer intervals (approximately every ten months). The total number of sessions which have so far been held is eighteen. Records of these sessions are given in the *Official Bulletin*.

The activity displayed by this organisation can be gauged by the fact that the number of decisions which it has been called upon to take at its sessions already exceeds 600.

In addition to the regular sessions, the technical sub-commissions set up by the CINA meet regularly and are also very active. These are :

1. The Operational and Materials Sub-Commission;
2. The Legal Sub-Commission;
3. The Wireless Sub-Commission;
4. The Meteorological Sub-Commission;
5. The Medical Sub-Commission;
6. The Maps Sub-Commission.

#### C. Duties.

These are defined in Article 34 of the Convention as follows :

“ Article 34. — The duties of this Commission shall be :

“ (a) To receive proposals from or to make proposals to any of the contracting States for the modification or amendment of the provisions of the present Convention ;

“ (b) To carry out the duties imposed upon it by the present Article and by Articles 9, 13, 14, 15, 16, 27, 28, 36 and 37 of the present Convention ;

“ (c) To amend the provisions of the Annexes A to G ;

“ (d) To collect and communicate to the contracting States information of every kind concerning international air navigation ;

“ (e) To collect and communicate to the contracting States all information relating to wireless telegraphy, meteorology and medical science which may be of interest to air navigation ;

“ (f) To ensure the publication of maps for air navigation, in accordance with the provisions of Annex F :

“ (g) To give its opinion on questions which the States may submit for examination. ”

The provisions referred to in (b), imposing certain duties upon the CINA, read as follows :

“ Article 9. — The contracting States shall exchange every month among themselves, and transmit to the International Commission for Air Navigation referred to in Article 34, copies of registrations and of cancellations of registrations which shall have been entered on their official registers during the preceding month. ”

“ Article 13. — Certificates of airworthiness and of competency and licences issued or rendered valid by the State whose nationality the aircraft possesses, in accordance with the regulations established by Annex B and Annex E and hereafter by the International Commission for Air Navigation, shall be recognised as valid by the other States . . . ”

<sup>1</sup> See page 234 for the list of States which are at present members of the CINA.

" *Article 14.* — . . . Every aircraft used in public transport and capable of carrying ten or more persons shall be equipped with sending and receiving wireless apparatus when the methods of employing such apparatus shall have been determined by the International Commission for Air Navigation.

" This Commission may later extend the obligation of carrying wireless apparatus to all other classes of aircraft in the conditions and according to the methods which it may determine. "

" *Article 15.* — . . . Every aircraft which passes from one State into another shall, if the regulations of the latter State require it, land in one of the aerodromes fixed by the latter. Notification of these aerodromes shall be given by the contracting States to the International Commission for Air Navigation and by it transmitted to all the contracting States . . . "

" *Article 16.* — Each contracting State shall have the right to establish reservations and restrictions in favour of its national aircraft in connection with the carriage of persons and goods for hire between two points on its territory.

" Such reservations and restrictions shall be immediately published, and shall be communicated to the International Commission for Air Navigation, which shall notify them to the other contracting States. "

" *Article 27.* — Each State may, in aerial navigation, prohibit or regulate the carriage or use of photographic apparatus. Any such regulations shall be at once notified to the International Commission for Air Navigation, which shall communicate this information to the other contracting States. "

" *Article 28.* — As a measure of public safety, the carriage of objects other than those mentioned in Articles 26 and 27 may be subjected to restrictions by any contracting State. Any such regulations shall be at once notified to the International Commission for Air Navigation, which shall communicate this information to the other contracting States. "

" *Article 36.* — . . . Nothing in the present Convention shall be construed as preventing the contracting States from concluding, in conformity with its principles, special protocols as between State and State in respect of Customs, police, posts and other matters of common interest in connection with air navigation. Any such protocols shall be at once notified to the International Commission for Air Navigation, which shall communicate this information to the other contracting States. "

" *Article 37.* — . . . Disagreement relating to the technical regulations annexed to the present Convention shall be settled by the decision of the International Commission for Air Navigation by a majority of votes.

" In case the difference involves a question where the interpretation of the Convention or that of a regulation is concerned, final decision shall be made by arbitration as provided in the first paragraph of this Article. "

Lastly, the Annexes which, in accordance with Article 34 (*c*), the International Commission for Air Navigation is required to amend when necessary, relate to :

*Annex A.* — The marking of aircraft and call signs.

*Annex B.* — Certificates of airworthiness.

*Annex C.* — Log-books.

*Annex D.* — Rules as to lights and signals. Rules of the air.

*Annex E.* — Minimum qualifications necessary for obtaining certificates as pilots and navigators.

*Annex F.* — International aeronautical maps and ground markings.

*Annex G.* — Collection and dissemination of meteorological information.

This list shows the very varied and complex nature of the Commission's duties. As explained by the Secretary-General :

" The CINA at the same time acts as :

" 1. A council responsible for supervising the application of the Convention and ensuring its normal evolution by proposing from time to time to the contracting States the amendments required by the development of international air navigation ;

" 2. A sort of international parliament with the power at all times to adapt technical regulations to the requirements of air traffic ;

" 3. A tribunal for the settlement in the first and last resort of differences which may arise between the contracting States in regard to the interpretation of the technical regulations which it is empowered to issue ;



" 4. An advisory committee which gives opinions on questions that those States may submit for its examination ;

" 5. An organ for the collection and dissemination of all information which is indispensable to air navigators. " <sup>1</sup>

These various activities will be examined in turn.

#### 1. *Organ for the Revision of the Convention.*

We must again refer to the provisions of Article 34 :

" *Article 34.* — . . . Any proposed modification of the Articles of the present Convention shall be examined by the International Commission for Air Navigation, whether it originates with one of the contracting States or with the Commission itself. No such modification shall be proposed for adoption by the contracting States unless it shall have been approved by at least two-thirds of the total possible votes.

" All such modifications of the Articles of the Convention (but not of the provisions of the Annexes) must be formally adopted by the contracting States before they become effective. "

As regards their essential principles, these rules do not differ appreciably from those generally recognised in the matter of amendments to international conventions. Each State is bound only by what it has formally approved, and the text to which it has given its ratification may not be modified without its consent in the form of a further ratification. A session of the CINA at which all the States concerned are represented does not differ greatly from a diplomatic conference. It should be noted, however, that :

(a) In accordance with the procedure laid down in Article 34, the previous consent of States is not required for the discussion of an amendment, as would be the case if they had been asked to send plenipotentiaries to a conference ;

(b) The initiative in the matter of amendments need not be taken by one of the contracting parties, and that the right of initiative belongs to the CINA itself ;

(c) Its interposition is *essential* before revision can take place. No diplomatic meeting can submit proposals for revision to Governments in its stead. Thus, after the War, although the great majority of the States concerned wished to amend Article 5, it was impossible for them to do so because the conditions under which the CINA was authorised to meet had not yet been fulfilled.

The procedure described above has stood the test of experience.

For the first time (on October 25th, 1922), the CINA proposed a new text for Article 5. On a second occasion (June 30th, 1923), it proposed a new wording for Article 34. It should be noted that, in each case, the new texts were drawn up after lengthy negotiations with non-member States whose accession was desired, and that outside influence was thus very prominent. These two amendments were approved by all the States parties to the Convention as soon as they were proposed ; the time which elapsed before they were ratified did not exceed that usually required for the exchange of a large number of ratifications (they came into force on December 14th, 1926).

A large number of amendments were submitted to States for their ratification on June 15th, 1929, and, on this occasion also, the CINA, before drawing up the texts of those amendments, consulted non-acceding States, which were convened at its request to a Conference held from June 10th to 15th, at which nearly all Powers possessing a large number of aircraft were represented. In addition to the parties to the Convention, the following countries sent representatives : Germany, United States of America, Austria, Brazil, China, Colombia, Cuba, Spain, Estonia, Finland, Haiti, Hungary, Luxemburg, Norway, Panama, Switzerland, Venezuela.

All the decisions of the Conference were accepted by the CINA. The great majority of the States concerned have now ratified the whole of these amendments.

#### 2. *A Commission for the framing of Technical Regulations.*

As a marked exception to the rules generally recognised, the CINA is entitled on its own authority to amend the Annexes to the Convention, which have the same effect as the Convention itself (Article 39) and which deal, not with minor details of execution, but with technical questions of considerable importance.

The original text of Article 34 read as follows :

" *Article 34.* — Any modification of the provisions of any one of the Annexes may be made by the International Commission for Air Navigation when such modification shall have been approved by three-fourths of the total possible vote which could

<sup>1</sup> *Revue aéronautique internationale* for September 1931, page 7.

be cast if all the States were represented. Such modification shall become effective from the time when it shall have been notified by the International Commission for Air Navigation to all the contracting States."

In 1922, at the same time as it amended, in virtue of the procedure referred to in the previous paragraph, the method of representation and voting powers of States, the CINA modified the above rule, and this amendment also came into force on December 14th, 1926.

The three-quarters majority must now include at least three of the following five States: United States of America, the British Empire, France, Italy and Japan.

However, this rule was also criticised, and, as the outcome of the 1929 Conference, a new text of Article 34, abolishing this singling out of certain Powers, was submitted to States for ratification. It provides that the majority must be three-quarters of the total votes of States represented at the session, and two-thirds of the total possible votes.

There is thus a marked tendency towards the granting of equal voting powers to all States and towards greater facility for the revision of texts.

The CINA makes constant use of the essential right conferred upon it. The text of the annexes is frequently amended to keep pace with technical developments.

Hence the contracting States, after affirming their absolute sovereignty in the air space above their territory, have actually handed over to an international authority an important part of their rights of supervision over that air space. While they still have the power to authorise or prohibit the establishment of regular air lines, to prohibit flight above such portions of their territory as they may indicate and to fix routes, the conditions of flight are to a large extent determined by the CINA. For instance, it is the CINA which decides what aircraft shall be obliged to carry wireless apparatus and the conditions under which this must be installed. The CINA also fixes the general conditions of air navigation to which national regulations must conform. It likewise specifies the minimum qualifications necessary for obtaining certificates of competency as pilots (which must be accepted by all the other contracting States).<sup>1</sup> In addition, it specifies the conditions under which certificates of airworthiness will be issued for each aircraft, and, lastly, it regulates the operation of certain general services which are useful or essential from the point of view of the satisfactory functioning of air navigation.

It would take us a long time to draw up a complete list of the questions dealt with by the CINA, as, we have already stated, the number of its resolutions exceeds 600. We will therefore merely mention the principal problems to which it has devoted its attention, according to the list given by M. Roper, the Secretary-General:

The fixing of the minimum requirements for the issue of the certificate of airworthiness with which every aircraft engaged in international air navigation must be provided;

The determination of the methods of employment of wireless apparatus carried on aircraft (Article 14 of the Convention);

The publication of maps for air navigation, to be drawn in a uniform manner for all countries;

The standardisation of the documents carried by aircraft, with a view to simplifying the formalities which the air journey involves;

The regulation of lights and signals and the framing of the rules of the air;

The standardisation of the models of certificates of airworthiness, certificates of competency and licences, so as to permit of the rapid identification of the holders, in whatever language the documents have been drawn up;

The standardisation of the terms and symbols used in aeronautics, with a view to facilitating international discussion and the translation of reports, surveys, etc.;

The exchange between the contracting States of all national legislative texts relating to air navigation;

The medical examination of aircraft pilots;

The organisation of first-aid chests on board aircraft;

The illumination of aerodromes at night;

The adoption, for purposes of calculation, of an international standard-atmosphere;

Transport prohibited to aircraft;

The institution of navigators' certificates and meteorologists' certificates;

The composition of the operating crew of aircraft;

The collection and communication of meteorological information;

The standardisation of the requirements with which material used for aeronautical construction must comply;

The suitability of women as pilots;

Enquiries into accidents to aircraft abroad;

The adoption of a wireless alarm signal for aircraft;

The compilation, collection and publication of air traffic statistics;

<sup>1</sup> Except where the certificate has been issued by another contracting State to one of the nationals of the State in question.

The preparation of regulations for the international aeronautical wireless service ;  
The age-limit of the operating crew of aircraft. <sup>1</sup>

A list of the principal questions to be dealt with at the next session is given below :

Further regulations concerning the minimum requirements for certificates of airworthiness ;

Completion of Annex E, Section VI, to the Convention — Medical Requirement, for Air Navigation ;

Revision of Annex F to the Convention — Aeronautical Maps ;

Completion of Annex G to the Convention — Meteorology ;

Air traffic statistics ;

Amendment of Article 16 of the Convention ;

Regulations for the international wireless service for air navigation ;

Revision of Chapter III of the Convention ;

Revision of Annex H to the Convention — Customs ;

Age-limit of members of the operating crew of aircraft employed in public transport ;

Examination of the draft Convention for the medical regulation of air navigation. <sup>2</sup>

### 3. *Arbitration Commission.*

Its functions are defined in paragraphs 4 and 5 of Article 37, which read as follows :

“ . . . Disagreement relating to the technical regulations annexed to the present Convention shall be settled by the decision of the International Commission for Air Navigation by a majority of votes.

“ In case the difference involves the question whether the interpretation of the Convention or that of a regulation is concerned, final decision shall be made by arbitration as provided in the first paragraph of this article. ”

This stipulation strengthens the power of the CINA very considerably, by adding the powers of the arbitrator to those of the legislator ; hence the CINA itself decides the disputes to which its own decisions may give rise.

### 4. *Advisory Organ for Governments.*

These advisory functions are conferred upon the CINA by Article 34 (*g*), which requires it to “ give its opinion on questions which the States may submit for examination ”.

### 5. *Organ for the Collection and Dissemination of Information.*

The Convention provides that the CINA is to act as a central organ for the collection and distribution of information necessary for the satisfactory working of air navigation services. In particular it is the duty of the CINA :

To publish the list of aerodromes in which aircraft are required to land in virtue of Article 15 ;

To publish the reservations and restrictions in connection with commercial transport established by States under Article 16 ;

To publish the prohibitions or regulations established by States in regard to the carriage of photographic apparatus ;

To publish the prohibitions or regulations relating to other transport ;

To publish the special protocols in respect of posts, Customs and other matters contracted by two States parties to the Convention in virtue of Article 36 ;

To collect and communicate to the contracting States information of every kind concerning international air navigation ;

To collect and communicate to the contracting States all information relating to wireless telegraphy, meteorology and medical science which may be of interest to air navigation ;

To ensure the publication of special maps ;

To receive each month from every State a copy of the entries and cancellations of entries made during the previous month in their official registers (of certificates of airworthiness for aircraft).

It is true that only States parties to the Convention are required to send information to the CINA, which in its turn is only obliged to communicate the information it obtains to those States. Actually, however, the information requested is transmitted regularly by a very large number of Governments, and the Commission communicates its weekly

<sup>1</sup> *Revue aéronautique internationale*, September 1931, page 8.

<sup>2</sup> *Revue aéronautique internationale*, September 1931, page 10.

*Bulletin* to them all. Some idea can be formed of the importance of this publication and of the variety of data which it contains by the following description of its *general plan* :

I. *Conventions, Laws, Regulations.* — Conventions, agreements or arrangements relating to air navigation, concluded between the contracting States and non-contracting States, in accordance with Article 5 of the Convention. Conventions between States not parties to the Convention. Special protocols in respect of Customs, supervision, posts and all other matters of common interest in connection with air navigation referred to in Article 36 of the Convention. National laws. National regulations relating to the carriage and use of photographic apparatus in air navigation prohibited zones, Customs aerodromes, prohibited transport, the construction of aircraft, the issue of certificates and licences, the rules of the air, etc.

II. *Register of aircraft.* — Entries and cancellations of entries of aircraft in the official registers of the various States (communications referred to in Article 9 of the Convention).

III. *List of licences* issued by the various States to pilots, navigators, ground engineers, etc.

IV. *Information.* — Notices published by the contracting States in regard to aerodromes and emergency landing-grounds, the condition of those aerodromes, dangerous zones, the establishment or abolition of landing-grounds, the installation or demolition of lighthouses or wireless masts, the price of fuel, special rules for landing to be observed in certain military aerodromes, etc.

Information relating to wireless telegraphy, meteorology and medical science. Official information of every kind concerning international air navigation.

V. *Air traffic statistics.* — Statistics published officially by Governments.

The *Bulletin* shows the scope of the CINA's administrative functions. As an organ possessing legislative and executive powers and the power of judicial settlement, it offers a remarkable example of an international institution governing, in the truest sense of the word, certain domains of civil aviation.

\* \* \*

*Note I.* — The Ibero-American Convention provides for the setting up of an Ibero-American Commission similar to the CINA. This Commission is to enter upon its duties as soon as the majority of the signatory States have ratified the Convention.

This condition has not yet been fulfilled.

The Pan-American Convention does not provide for a Commission endowed with similar powers.

*Note II.* — In addition to the documentary publications of the CINA, mention must be made of the *International Aeronautical Register*, the publication of which was decided upon at an international meeting held at Paris from June 20th to 22nd, 1927, and convened on the initiative of the Veritas Bureau. The *International Aeronautical Register* appears each year and is brought up to date by means of monthly supplements. It contains a list of aircraft which have been duly registered. Applications for classification must be made in writing to the Association concerned, affiliated to the *Register*. The parties making the application are required to comply with the regulations of that Association.

The affiliated Associations are :

The Veritas Bureau.  
The American Bureau.  
The British Corporation.  
The Germanischer Lloyd.  
The Registro Italiano.  
The Japanese Imperial Corporation.  
The Norske Veritas.

*Note III.* — A Mediterranean Aeronautical Conference, to which the French, Italian and Spanish aeronautical services send representatives, is held periodically.

International Aeronautical Conferences are also held regularly, to which representatives were at first sent by France, Great Britain and Belgium, but at which Germany, the Netherlands, the Saar Territory, Switzerland and Czechoslovakia have subsequently been represented.

These Conferences deal with practical problems of co-operation between civil aviators — for instance, the rules to be followed for assisting aircraft which break down in the Mediterranean, meteorological observations in the Mediterranean, measures of safety for crossing the English Channel and other similar problems.

A certain part of their work also comes within the scope of the CINA.

*Note IV.* — International Congresses on Air Navigation<sup>1</sup> have been held at frequent intervals since 1889. They are convened on the initiative of a Government, but are not of the nature of diplomatic conferences. An International Congress on the Medical Requirements of Air Navigation was also held at Paris in 1929 and an International Congress on Safety in Air Navigation at Paris in 1930.

The recommendations made by these meetings cover many important questions, to some of which we shall have to refer in other parts of this report.

## CHAPTER II. — AIR MAIL CONFERENCES.

The Air Commission of the Peace Conference had already considered the necessity of organising, by means of international co-operation, the transport of mail by aeroplanes or dirigibles. It had even contemplated the preparation of a postal convention to be annexed to the 1919 Convention.

On closer examination, however, it appeared that the question was not yet ripe, and it was decided to ask the CINA to undertake further enquiries.

As the CINA, whose time was entirely taken up by other matters, had not examined the question by 1926, the International Chamber of Commerce then suggested to the postal administrations that a special conference should be held with a view to the preparation of an international convention.

The proposal was communicated officially by the postal administration of the Union of Soviet Socialist Republics, and the Conference was convened at The Hague in 1927.

Thirty-eight postal administrations and a number of air navigation companies were represented at the Conference.

Two Conventions were adopted which were to be put into application by the postal administrations as far as possible before January 1st, 1928. Their scope is defined in the report sent by the Conference to the administrations.

### REPORT OF THE AIR MAIL CONFERENCE.

The undersigned delegates to the Conference of The Hague, in submitting to the Offices of the Universal Postal Union the text of the provisions they have adopted, consider it their duty to lay before them the considerations by which they were guided in dealing with the most important questions of principle :

The first aim of the Conference was unification of the surcharges demanded of the public and the simplification of the method of remunerating the transport undertakings. The solution of these questions was seen by all to be the best means of developing and popularising the air mail service.

The opinions of the representatives of the aerial transport companies were heard on the subject, and after long discussions certain results — which it would be well to have more definite — were arrived at.

With regard to the letter-post, the principle of cost of transport in proportion to weight and distance, and of surcharges based on weight and distance in large zones, could as a general rule be accepted ; an exception had to be made for services the working expenses of which were exceptionally high.

The utilisation of air lines for the conveyance of postal parcels, on the other hand, provoked considerable apprehension among the representatives of the transport companies, which no explanations were able to overcome.

In this service, the rates will, temporarily, be fixed by special agreements to be made between the Administrations and the Air Navigation Companies ; the latter have, however, agreed to accept as principle that the transport rates for postal parcels shall not exceed the goods rates.

We may consequently express the hope that on these conditions the codification of the rules to be applied to air-carried parcels will not remain a question of theory, but that it will contribute to the creation and development of international exchanges.

In all essential points the proposed regulations for the aerial transport of correspondence are based on the provisions of the Universal Postal Convention of Stockholm and its Agreements. The new methods introduced are justified by the special nature of the operations or by the necessity for favouring the extension of this new mode of communication.

Certain measures are only recommended temporarily ; this is the case, for example, with the tariff applicable to the settlement of accounts between the Offices, and with the daily verification of the actual weight of correspondence carried, and will cease when the traffic has been stabilised.

The transport of the mails by aeroplane being still in a phase of organisation only and as yet relatively little used, it was not deemed necessary immediately to frame definite regulations which would be binding for all the Offices.

The Conference accepted texts which are to be put into force as far as possible on January 1st, 1928, so that the practical test of the provisions over a considerable period may provide the basis for a new examination of the question by the special Committee of the U.P.U. and facilitate the decisions to be taken by the Congress of London.

The desire of the delegates is that the experiments in question shall be on a large scale.

<sup>1</sup> Before the war, International Aeronautical Congresses.

These measures were subsequently submitted to the Universal Postal Congress held in London in 1929, which approved them almost without modification.<sup>1</sup>

On the initiative of the Belgian Government, another Air Mail Conference was held at Brussels in October 1930.

It was attended by delegates of the postal administrations of Belgium, Czechoslovakia, Denmark, Finland, France, Germany, Great Britain, Italy, the Netherlands, Norway, Sweden and Switzerland, together with delegates of the air administrations of Belgium, Finland, France, Germany, Great Britain, Italy and the Netherlands, and delegates of the International Bureau of the Universal Postal Union.

The convocation of the Conference had been justified by the Belgian Government in the following terms :

“ The transport of the mails by airplane having attained very large proportions in the United States of America, it was thought advisable to study the question from the European point of view.

“ The success which has attended air mail transport in the United States is due chiefly to the following causes :

- “ 1. The transport is performed over great distances ;
- “ 2. The air mails are very widely advertised ;
- “ 3. The air traffic is performed night and day without interruption ;
- “ 4. Regularity is insured by a highly developed lighting equipment ;
- “ 5. The lighting equipment includes apparatus which enables pilots to fly in all weathers and increases the security of the flights ;
- “ 6. There is a uniform air mail fee ;
- “ 7. There are, so to say, no formalities in the use of the air mails ;
- “ 8. The transport of the mails is separate from that of passengers.

“ From the point of view considered, Europe must not offer less than America.

“ Nothing less than a European agreement can bring about a rational organisation of the air mail transport.”

A questionnaire was subsequently drawn up, and after examination by the Universal Postal Union, it was sent to the postal administrations.

The Conference proposed for 1931 was to meet at Brussels in October. Various circumstances made it necessary to postpone the Conference until 1932. However, an important preparatory meeting took place at Prague in June last, at which the postal and air administrations of eleven European countries were represented.

The essential part of the report sent by it to the postal administrations is reproduced below :

“ The most difficult matter laid before the Committee was the possible creation of a system of night services, with the question as to whether these services would be worked all the year round, or if, for the time being, they would be limited to the summer months.

“ The Committee was of opinion that the confidence of the public could only be won by a regular service. Experience has shown that, as things now are, and in face of the climatic conditions of Europe, it is impossible to work a winter service with even approximate regularity.

“ The Committee consequently decided unanimously that any night service must, for the time being, be limited to the summer months, but could be prolonged later on according to the progress made in aeronautic engineering.

“ With regard to the present summer and winter services, the Committee had to examine complaints about the inconvenience arising out of the frequent changes that the air navigation companies make in their time-tables, and the lack of co-ordination in the dates of these changes.

“ It expressed the wish that every administration would take the necessary steps to induce their air navigation companies to reduce the changes in the time-tables to a minimum, to fix if possible only one time-table for the summer and one for the winter, and to arrange that these time-tables come into force on all the lines on the same date.

“ The Conference of Brussels had gone thoroughly into the question of a special air fee. The discussion had shown that some countries favour the principle of the transmission of the ordinary mails by air without special air fee, but that most of the postal administrations are not yet in a position to abolish the air fee.

<sup>1</sup> The text of these Conventions will be found in the *Treaty Series* published by the League of Nations: The 1927 Convention on the Conveyance of Mails by Air in Volume LXXV, page 7, the Convention on the Transmission of Air Parcels, in Volume LXXV, page 39, the Universal Postal Convention relating to air transport in Volume CII, page 509.

“ The Preparatory Committee confirmed the resolution of Brussels which left each administration free to maintain or to abolish the special air fee as it deemed best, subject to the consent of the countries of transit.

“ The principle of adopting a uniform air fee applicable to the whole of Europe gave rise to a lengthy discussion.

“ With a view to conciliating the various points of view, the Committee finally resolved to recommend the institution of a uniform air fee not exceeding 15 gold centimes per unit of weight, with liberty to reduce the air fee normally charged, on correspondence with neighbouring countries.”

“ Other points :

“ (a) *Essential.* — Efforts should be directed to finding out the best means for having the air mails delivered by the first delivery rounds.

“ (b) *Important.* — In certain cases it might be preferable to make use of afternoon deliveries.

“ In such cases the countries should notify, for each delivery, the interval between the arrival of the airplane at the aerodrome and the time of the delivery.”

Certain difficulties of procedure having arisen, it was decided to divide the work into two different parts : the first interested exclusively the representatives of the postal administrations, while all the members of the Conference participated in the second part.

During the first part of the work, the importance of the problem of air mail transport for distances of 1,000 kilometres or more was recognised.

The following decisions were taken :

1. Each postal administration is at liberty to send correspondence for which it charges no special fee, by day or night flights and without obtaining the consent of the countries of destination, on the following conditions : (a) of paying to the latter any extraordinary expenses resulting therefrom, (b) of previously notifying the transit countries, (c) of coming to an agreement with the postal administrations concerned as to the special conditions for sending the correspondence in question (making up of special mailbags, etc.).

2. The countries of destination are the sole judges of the steps to be taken for the delivery of such correspondence ; they are not bound to have it delivered by the first delivery round that takes place after the arrival of the airplane.

3. The responsibility for the loss of registered articles carried by airplane, but for which no special air fee is charged, is the same as for the loss of those for which an air fee is paid.

During the second part of the work an interesting report was read on the development of the air mail in the United States. After discussion, the following questions were retained for consideration at a further conference :

1. To request the European postal administrations to fix the average weight of letters and postcards addressed to the different important cities of Europe, which it would be advantageous to have carried by air.

2. Means of propaganda that might be suggested.

3. Creation of a European system of air mail lines, and the co-ordination of the time-tables.

4. Co-operation of aviation with the already existing means of communication by land and sea.

5. Creation of appropriate lighting equipment.

6. Air mail fees.

7. Improvement of the conditions for posting air mail matter.

8. Is it advisable or not to have the mails carried by special airplanes used solely for correspondence to the exclusion of passengers, goods, etc.?

9. The best system of co-operation for obtaining an efficient international working of the air mail lines.

For the purpose of increasing the air traffic, some administrations proposed the adoption of a scale of weight of ten grammes. Others, on the contrary, laid stress on the inconvenience that the adoption of such a scale would give rise to. They pointed out that this reduction might result in a diminution of the weight really transported and, as a consequence, induce the companies to demand higher rates of transport. Some administrations also mentioned advantages that would follow the adoption of the scale of weight fixed by the Postal Convention for letters, at least on European air lines where the special air fees are relatively moderate.

The question having been put to the vote, the Committee decided by 6 votes to 4 to maintain the 20 grammes scale of weight.

A request was presented to the Committee by the IATA that the transport rates for the European lines might be raised. The IATA suggested a tariff of 10 or 12 centimes. The Committee was of opinion that, under present conditions, it would not be advisable to raise the rates, as that would of necessity tend to raise the air mail fees and be followed by a falling-off in the amount transported. Such a measure would harm both the development of the air mails and the interests of the air navigation companies. The Committee decided unanimously to reject the demand of the IATA.

As regards the time-tables for the air services, it was found impossible in certain cases to combine a late start with an arrival that would allow of the air mails being delivered in the morning. The Committee was of opinion that in these cases more importance should be given to the time of arrival.

The Committee then proceeded to examine the most important part of its tasks, namely the possibility of creating a specifically postal system of air lines.

In reply to a questionnaire sent to the Administrations, concrete projects had been worked out, especially by the German and French Administrations, which projects served as basis for the discussions. A suggestion was made by Great Britain, tending to limit the elaboration of a detailed plan, in the first place, to the creation of a system of night air mails between the large cities of Central Europe.

After a minute discussion, a common plan presented by the German and French delegations was examined by the Committee. This plan was examined in detail and modified so as to satisfy the wishes of the various Offices. The discussion showed that the air lines in question were of two kinds:

(a) Existing lines, including those which already have, or will in the near future have, night services;

(b) An ideal system answering the needs of the post, but the creation of which cannot be undertaken in the immediate future.

A long exchange of views disclosed the postal, technical and financial difficulties that the integral execution of the plan, as foreseen, would entail. The Committee consequently instituted a Sub-Committee charged with the task of examining:

1. A system of night services for Central Europe necessitating the establishment of new services;
2. The manner of linking up the central system with the rest of Europe by means of the existing lines.

The Sub-Committee (see Annex No. 1) unanimously adopted a plan for a general postal system, to be carried out in stages, in a certain number of years; this plan might serve as a guide for the establishment of the lines foreseen by certain countries for the near future (see Annex 2).

The establishment of a limited plan had, however, to be given up. The Sub-Committee was of opinion that the elimination, *a priori*, of a large number of European countries was not desirable.

The Committee adopted the plan worked out by the Sub-Committee and decided to send it to the European administrations as being a general system which, once in working order, would secure air correspondence between all the countries of Europe and considerably accelerate the mails.

The Committee recognised that, before presenting this plan for the examination of the Conference of Brussels, it would be necessary to find out to what extent and under what conditions the creation, in the near future, of at least part of the general system could be contemplated.

As things are at present, the creation of a specifically postal system of air lines is out of the question. The costs of working air lines are in fact very heavy and, except in a few cases, they cannot be covered by the receipts derived from the transport of the mails. Therefore the receipts derived from the transport of passengers, goods, etc., and the subsidies granted by the Governments of various countries have to be taken into consideration.

The Committee is of opinion that, although it submits its general plan to the European Conference, its detailed suggestions should be accompanied with as complete information as possible about the conditions in which the plan could be executed.

It consequently proposes to adopt the following manner of proceeding:

In the first place, the general plan, as now prepared, will be sent to all the European administrations by the International Bureau, with the request to supply this Bureau, not later than August 1st, with an estimate of the weight of air mails to be carried by the various services. This estimate should be made separately for every country of destination. If there are several lines between two countries, the information must be kept separate for each line. A questionnaire, forming Annex 3, was prepared for each administration.

When once in possession of this information, which will be distributed by the International Bureau as rapidly as possible, each Administration will be able to calculate, as far as its own services are concerned, the probable receipts to be expected from the transport of the mails.

Each administration will immediately come to an agreement with the Air Ministry of its country as to the choice of the air navigation companies to which the services shall



be entrusted, the examination of the technical questions and the regulation of the question of subsidies. The results of these measures must likewise be communicated to the European administrations by the International Bureau to which they must be sent not later than October 1st, in order that they may serve as basis for the deliberations of the Conference of Brussels.

The Preparatory Committee is of opinion that the Conference of Brussels should meet as soon as possible after the aforesaid information has been received.

The Belgian Postal Administration will arrange with the International Bureau the exact date for the Conference of Brussels. When notifying this date, the International Bureau will request the Administrations interested to make the necessary arrangements with the air ministry of their respective countries.

In presenting its plan for the creation of a general system of air lines for Europe, the Preparatory Committee of Prague is well aware that, in the present state of affairs, the execution of the plan will probably encounter difficulties of all kinds, at least in some countries. It reckons, however, that, thanks to the co-operation of all the countries interested, these difficulties may gradually be surmounted, and it hopes that, by placing the first landmarks of a rational organisation of European air lines, it may have contributed its part towards the development of postal aviation.

The Committee also dealt with the question of the costs of the European Aero-postal Conference and decided that they should be borne by the European countries only, but that the documents relating to the Conference should be distributed free to all the countries of the U.P.U. according to the number fixed by Article 82, section 3 of the Regulations of the Universal Postal Convention.

#### Annex 1.

##### REPORT OF THE SUB-COMMITTEE.

(*Rapporteur* : M. MAINGUET, French delegate.)

The Sub-Committee, under the chairmanship of M. Prochazka, in its first two sittings and after lengthy exchange of views, prepared a general plan of air mail lines connecting the European capitals and principal centres of industry.

It considers that this plan, the execution of which will inevitably be spread over a fairly long period, may be taken as a guide by the countries called upon to participate in the constitution of the air mail system.

Desirous of responding to the repeated suggestions of the Chairman of the Preparatory Committee, the Sub-Committee sought in two other sittings to draw up a limited plan to include only a small number of the great international lines. The difficulty of drawing up this limited plan without a preliminary examination of the conditions for executing it — an examination that can only be undertaken after the administrations themselves have carefully examined them — decided the Sub-Committee not to pursue its object. It seemed preferable that the complete plan should be laid before the Committee to serve as a basis for studying the lines indicated, with a view to their future execution.

#### Annex 2.

##### PROPOSED SYSTEM.

(The annex consists of a diagram which it was not considered necessary to reproduce here.)

It will be found in the volume of maps annexed to the documents of the Conference.

International Bureau of the Universal Postal Union, Berne, 1931.

#### Annex 3.

##### QUESTIONNAIRE CONCERNING THE AIR MAIL SERVICE TO BE ANSWERED BY THE EUROPEAN ADMINISTRATIONS.

1. Countries of destination (in alphabetical order).<sup>1</sup>
2. Total daily weight (L.C.) of the mail sent by the ordinary routes to the countries mentioned in No. 1.
3. Proposed times of departure of aeroplanes on each line (see proposed system).
4. Probable percentage of the air mail (%).
5. Estimate of the daily weight (L.C.) of the mail which may be carried by air at the times indicated in No. 3.

<sup>1</sup> When the air mail for extra-European countries is liable to be carried in transit over a European country included in No. 1, the weight of this mail should be added to that of the mail intended for the country in question.

6. Estimate of the daily weight of the mail for which a special fee is charged, intended for extra-European countries, which may be sent by air at the times indicated in No. 3.<sup>1</sup>
7. Estimate of the weight of other articles which may be sent by air (printed matter, samples, post parcels).
8. Observations.

In short, the air mail conferences are organising a scheme for close and systematic co-operation between a large number of European lines for the establishment, according to a general plan, of a system of night communications designed to facilitate and extend the conveyance of letters and postal matter by air. The importance of the investigations of the air mail conferences from the point of view of the problems of disarmament will be shown in another part of this report.

### Part 3.

## CO-OPERATION BETWEEN CIVIL AVIATIONS : POOLS AND THE ORGANISATION OF INTERNATIONAL AIR LINES OR AIRWAYS.

### CHAPTER I. — THE WORK OF THE INTERNATIONAL AIR TRAFFIC ASSOCIATION.

#### A. *Constitution and Object of the Association.*

Commercial aviation was practically non-existent in 1914. It did not begin to develop until after peace had been concluded. As soon as progress was being made, however, the operating companies realised the necessity for close agreement and constant co-operation. On August 25th, 1919, they formed the International Air Traffic Association and the IATA was thus established even before the CINA.

At first the organisation was very rudimentary. The representatives of a number of German, English, Netherlands and Scandinavian companies merely met together from time to time to exchange their views and experiences, so as to maintain a common outlook favourable to unity of action. It was not long, however, before the gravity of the problems which arose made a more formal procedure necessary, while their complex nature created the need for systematic study and careful preparation for the discussions. The IATA was obliged to set up administrative machinery for this purpose and its object was thus modified or at least extended.

A Central Office was created at The Hague in 1920 and sessions have been held regularly since that time (the twenty-seventh took place at Warsaw on March 15th and 16th last). Reports on the items figuring on the agenda are submitted to the assemblies by the Sub-Committees (Legal, Postal, Radiotelegraphic and Technical).

A large number of questions of a very varied nature have already been discussed by the IATA.

It is sometimes required to give its opinion on a problem which interests several associations, such as the best method of ensuring comfort in commercial aeroplanes.

More frequently it is called upon to organise co-operation between companies for the achievement of some definite object, for instance :

- A time-table for air-lines ;
- Combined transport ;
- International air consignment note ;
- Co-operation between companies in aerodromes ;
- Standard rules for booking seats ;
- International tariffs and coupons ;
- General conditions for the carriage of passengers ;

and many other similar questions which are included in the list of those dealt with.

#### B. *Scope of its Activities.*

In many cases, it was found during the discussion of problems of this nature that their solution called for some legal reform or official action, usually of an international character and that, in order to obtain a concrete result, it was necessary to enlist the official co-operation of some organisation or other. For instance, in the case of the transport of mail, the intervention of the Universal Postal Union is required. In the case of a problem

<sup>1</sup> When the air mail for extra-European countries is liable to be carried in transit over a European country included in No. 1, the weight of this mail should be added to that of the mail intended for the country in question.

so essential as that of night flying, the consent of Governments to mark out the routes must be obtained, a number of other measures have to be taken by different authorities and even, as we shall see later, the co-operation of the postal authorities, to whose rôle we have already referred more than once, is required.

Thus, the IATA cannot carry on its work without the help of other aeronautical organisations. Moreover, the directors of companies are realising more and more every day that in all air matters their opinion needs to be taken into account, and that in many cases their interests have to be defended. Consequently, nearly all questions to be dealt with at other sessions, meetings or conferences are beginning to appear regularly on the programme of its sessions, and it is becoming customary for the IATA to be represented at them all. It discusses legal problems, such as compulsory insurance, as well as purely technical problems. There is often a striking parallelism between the enquiries undertaken by its sub-committees and those of similar bodies set up by various conferences.

Some idea of the variety of the work of the IATA can be gained from the decisions taken at its twenty-sixth session :

*Statistics.* — The General Reporter drew up statistical tables showing, for companies members of the IATA, the results of air traffic during 1930.

As regards the form of these statistics, the IATA decided that :

1. In the case of passenger statistics, "paying passengers" must include, not only those who paid the full fare, but also those who paid a reduced fare. All passengers, however, who have been transported free are excluded from the statistics ;

2. From now on, the statistics concerning air mail and post parcels carried must figure in ton-kilometres.

*General Conditions of Carriage.* — The IATA made certain alterations in the "General Conditions of Carriage"<sup>1</sup> adopted by it at Antwerp in 1930 and decided to publish "directions" for the use of the forms annexed thereto.

*Air Mail.* — M. Wronsky submitted a report on the findings of the Prague Air Mail Conference. The IATA decided to continue the examination of the items on the agenda of the air mail conferences<sup>2</sup> and to instruct its Postal Committee to prepare proposals for submission to the Air Mail Conference to be held at Brussels in October 1931.<sup>3</sup>

*Combined Transport : Air-Rail-Goods.* — The IATA asked its Reporters to pursue their investigations in conjunction with the competent sub-committee of the International Railway Union.

*Combined Transport by Air and Rail for Passengers and Baggage.* — The IATA reached the following decisions :

A. — The members of the IATA, in signing the contracts concerning the combined air rail service for passengers and baggage accepted at Antwerp, can make the following reservations :

(a) That each air traffic company will have the right to refuse subsequently to pay the requisitions issued by another air traffic company which fails to comply with its obligation in this matter, if the railway administration of the country of the former company agrees with such a stipulation.

(b) That each air traffic company will have the right to invite the railway companies to refuse the acceptance of requisitions issued by a foreign air traffic company which fails to reimburse all amounts that the company itself has paid to the railway companies against the requisitions of the foreign air traffic company.

(c) That the present Convention will take effect only after the air traffic company concerned has concluded a contract with the railway administration of its own country and after this Convention has been adopted by the International Railway Union in plenary session.

B. — The Convention concerning the combined air rail service for passengers and baggage accepted in Antwerp, will enter into force on March 1st, 1932 : at first only for those members of the IATA who have deposited the Convention duly signed, before this date, at the Central Office of the IATA and who have concluded a convention with the railway administration of their own country, at the same time giving notice to the Central Office of this fact. The Convention will be only applicable for those members of the IATA who have fulfilled these conditions and only for requisitions issued by its members. Subsequent adhesion depends on the accomplishment of the same formalities. The Central Office will decide in this case as to the coming into operation of the adhesion.

*Changes in Time-Tables.* — The IATA requested the Time-Table Conference to examine the possibility of reducing to a minimum the number of changes in time-tables.

<sup>1</sup> These "General Conditions of Carriage" were published in the *Information Bulletin* No. 14 of the IATA.

<sup>2</sup> See page 251.

<sup>3</sup> This Conference was postponed until the beginning of 1932.

*Code for Inter-Company Messages.* — After being adopted by the International Aeronautical Conferences,<sup>1</sup> the IATA Code for inter-company messages was abolished in March 1931 by the Thirty-second Conference, which decided to go back to the Bulox Code; the IATA accordingly decided to request its companies to urge the representatives of their air administrations on those Conferences to see that the IATA Code is again brought into use.

### C. Report on Night Air-Mail Lines.

It is quite out of the question to attempt to summarise in this report the work of the twenty-seven sessions of the IATA, which have had hundreds of problems on their agenda.<sup>2</sup>

We will accordingly confine ourselves to studying in some detail one of the reports submitted, in view of its importance and very close bearing on the work of the Air Mail Conferences already referred to and on the work of the League of Nations, with which we shall deal later.

This report by M. Florman (of the Air Transport Company of Stockholm) deals with the essential problem of night air-mail lines.

After stressing the importance from the point of view of the companies of obtaining a new clientèle by means of the organisation of night services for the conveyance of mail, he goes on to say that :

“ In order to make the night air-mail service as remunerative as possible and to obtain the maximum amount of traffic, the work must be organised on an international basis and *close co-operation must be established, not only between the air transport companies and post offices, but also between the latter.*”

In order to form an exact idea of the commercial prospects of this service, the author considers that a definite reply must first be given to the following three questions :

1. What are the quantities of first-class mail the exchange of which may be anticipated between European countries in cases where the mail of one country cannot reach the other *in a single night* by the ordinary means of communication, assuming that the whole of the mail of this category is sent by air without a surcharge?

2. What are the economic possibilities of the organisation of a night mail service of this description from the point of view of the air traffic companies ?

3. What economic sacrifices would be imposed upon the various postal administrations if this programme were carried out ?

On all these points the author gives remarkably explicit replies.

He found in the statistics of the international postal service the number of letters and postcards sent from and to each of the countries covered by his enquiries. By careful examination, he ascertained in each case the approximate number of letters and postcards which it would not be advantageous to send by air.

Taking the average gross weight of each letter as 11 grammes, he was thus able to ascertain the average daily weight of the mail which would be sent from each of those countries to each of the others.

By pursuing his enquiries still further, he also ascertained the weight to be carried from each important town to every other important town.

He then drew a diagram of the lines which might be used for this traffic, fixed the exact times of departure for each aeroplane on each line and took as a basis a commercial speed of 180 kilometres an hour. He thus ascertained :

The revenue from each line on a conservative estimate of the receipts. On the whole the result was encouraging.

He was then able to determine within what part of Europe letters sent from any large centre on the previous evening could be delivered to any other large centre on the following morning.

This area is bounded by a line enclosing London, Copenhagen, Oslo, Stockholm, Tilsit, Warsaw, Vienna, Bâle and Paris.

In a final table he estimated the time which would be saved in each case. This is usually considerable and in some cases extraordinary. For instance, a letter leaving London by air on Monday evening could be delivered at Helsingfors on Tuesday morning, whereas at present it does not get there until Thursday morning.

M. Florman concludes his report as follows :

“ In view of the foregoing facts, I venture to propose that the air transport lines affiliated to the IATA should endeavour to interest the post offices of the various countries in the scheme outlined above and should obtain their co-operation. I also propose that wherever the support of the post offices is enlisted, lines should be organised and equipped by the Governments and air transport undertakings concerned. *Close collaboration between the various air transport undertakings is essential and they should not be allowed as hitherto to act more or less independently.*”

<sup>1</sup> See *Revue aéronautique internationale*, No. 1, September 1931, page 18.

<sup>2</sup> The proceedings of all these sessions from the eleventh onwards have appeared in the *Information Bulletin* published by the Central Office of the Association (The Hague).

During the discussion which followed the reading of his report, M. Florman said that it was absolutely essential, if civil aviation was to progress on sound lines, that the services rendered by it should be increased and that it should not continue to rely chiefly on Government subsidies for its means of existence. He went on to say :

“ For the moment we all enjoy more or less important subsidies from our respective Governments. But the time is bound to come, in five, ten or fifteen years, when those Governments will grow tired of our repeated appeals to their generosity and will reply: ‘What is the use? Is air traffic really necessary? Why should we continue to subsidise from year to year an air passenger service which has proved incapable of yielding an economic return?’ Believe me, the day will come when we shall be glad to prove that from one point of view at least our traffic has rendered *real service* and has been appreciated by the public at large.”

The IATA decided to refer the report to its Postal Committee, assisted by experts, who would be asked to study the important problem of the establishment of lighting equipment which would permit of night flying under satisfactory conditions.

## CHAPTER II. — DIPLOMATIC CONVENTIONS OF A COMMERCIAL CHARACTER.

A large number of bilateral conventions grant certain advantages either to specified companies or to companies to be specified later by the contracting States. For instance, the privilege of flight over their territory is accorded to those companies under certain conditions and usually in return for a similar concession to companies of the other State. In many cases, companies of the two nationalities have the right to operate the same lines, and the agreement thus involves a certain measure of co-operation between those undertakings for the operation of a given line. In other cases, this co-operation is expressly provided for or even required.

The stipulations in question are sometimes inserted in a bilateral convention of a more general character ; at other times they form the subject of separate instruments.

It is not possible here to analyse or even to draw up a list of all these agreements. We will merely give as examples the most characteristic provisions of some agreements of different types.

### A. *The Anglo-Greek Convention of April 7th, 1931.*

The chief object of this Convention is to grant to the English air transport companies operating the English air services between the United Kingdom and Africa or Asia the right to fly over Greek territory under the conditions stipulated in the agreement, and to Greek air transport companies the right to establish regular seaplane services to Malta and Cyprus and to use the landing places.

The principal provisions are given below :

“ *Article 3.* — I. The British air transport companies operating the air services between the United Kingdom and Africa and Asia shall have the right to fly over Greek territory in accordance with the provisions of the present Convention.

“ II. The British air services, in crossing Greek territory, may follow any or all the following routes, that is to say, the route Yugoslavia-Salonica-Athens and beyond, the route Italy-Athens and beyond and the route Malta-Athens and beyond.

“ III. For the purpose of operating the British air services, the British air transport companies shall be entitled to use the landing places at Salonica, Athens, Corfu, Mirabella, Candia, Suda Bay and Navarino, and for the Malta-Athens route, Ithaca and Patras.

“ IV. In the event of a British air transport company desiring to operate one of the routes specified in paragraph II of this Article instead of or in addition to one of the others, a notification to that effect shall be made to the Greek Government by the company at least a week before commencing the operation of that route.

“ V. In the event of any meteorological stations announcing, or of the pilots judging, that flight is impossible on any route along which the British air transport companies are or may be permitted to operate, British aircraft may follow the route by Navarino-Suda Bay or the route Sofia-Istanbul-Salonica-Athens, as the case may be.

“ *Article 4.* — The Greek air transport companies shall have the right to establish and to operate regular seaplane services to Malta and Cyprus and for that purpose to make use of the landing places at Kala Mistra and the eastern side of Marsascirocco Bay at Malta, and a commercially practicable seaplane station in Cyprus to be agreed upon between the competent aviation authorities of the High Contracting Parties.

“ *Article 5.* — The air transport companies shall have the right to operate such other routes and to utilise such other landing places as may from time to time be agreed upon, either instead of or in addition to those specified in the preceding articles.

“ *Article 7.* — I. Subject to the provisions of Article 6 (I) of the present Convention, aircraft may embark and disembark mail, passengers and goods at any landing place.

“ II. Nothing in the present Convention shall affect the rights of either High Contracting Party under Articles 16 and 17 of the Convention for the Regulation of Aerial Navigation of October 13th, 1919; provided, however, that the British air transport companies may embark passengers, goods and mails at any air station in Greek territory situated on a route along which those companies are or may be permitted to operate in accordance with the provisions of the present Convention, for carriage to another such air station, so long as those stations are not connected by a Greek air service.”

#### B. *Græco-Polish Convention of April 22nd, 1931.*

This concerns the granting by each Government, to a company coming under the other, of the right to operate a specific line, each Government reserving the right to designate the company of its nationality to which the other is to accord operating rights. Agreement between the operating companies is expressly stipulated.

The following are the main provisions of the treaty :

“ *Article 1.* — The Government of the Greek Republic will grant to a Polish air navigation enterprise, to be designated by the Polish Government, the authorisations necessary for the operation on Greek territory of the line of air communication :

“ Salonica-Sofia-Bucharest-Lwow and *vice versa*.

The Government of the Republic of Poland will grant to a Greek air navigation enterprise, to be designated by the Greek Government, the authorisations necessary for the operation on Polish territory of the line of air communication :

“ Lwow-Bucharest-Sofia-Salonica and *vice versa*.

“ *Article 2.* — The conditions of operation of the line mentioned in the preceding Article shall be defined in an agreement to be concluded by the competent Aeronautical Administrations of the two High Contracting Parties.

“ *Article 3.* — The establishment of air lines crossing the territories of the two High Contracting Parties, other than those referred to in Article 1 of the present Convention, may be effected in virtue of an agreement between the two High Contracting Parties.

“ All the stipulations of the present Convention shall be equally applicable to such new air lines.

“ *Article 4.* — The itineraries of the air lines, the points between which the frontiers may be crossed, and the Customs aerodromes, shall be fixed by each of the High Contracting Parties within forty days from the date of the signature of the present Convention, and at least one month prior to any change.

“ *Article 11.* — The concessionary enterprise, designated by one of the High Contracting Parties, shall employ in its service in the territory of the other Contracting Party Polish and Greek nationals only.

“ The employment of nationals of third-party States shall be allowed only on previous authorisation accorded to the enterprise concerned by the competent Aeronautical Administration of the other Contracting Party.

“ *Article 12.* — Each concessionary enterprise shall be required to transport air mail on conditions fixed by an agreement which will be concluded between it and the Postal Administration of the other Contracting Party on the basis of a previous arrangement between the Postal Administrations of the two High Contracting Parties.”

#### C. *Austro-Yugoslav Agreement of March 1st, 1930.*

This also concerns the concession of a single line operated by two companies, one designated by each of the contracting Governments.

It differs, however, from the foregoing Convention by the absence of certain important provisions and the insertion of certain others.

The main provisions are as follows :

“ 1. The Austrian Federal Government for the duration of the validity of the present Agreement will, in so far as Austrian territory is concerned, permit the aircraft employed by a single air navigation company authorised by the Government of the Yugoslav Kingdom, to fly over its territory and to transport passengers, goods or periodicals in so far as relates to traffic between Vienna and Belgrade with intermediary landings at Graz, Zagreb and optionally at Maribor.

“ 2. The Government of the Yugoslav Kingdom for the duration of the validity of the present Agreement will, in so far as Yugoslav territory is concerned, permit the aircraft employed by a single air navigation company authorised by the Austrian Federal Government, to fly over its territory and to transport passengers, goods or periodicals, in so far as relates to traffic between Belgrade and Vienna with intermediary landings at Zagreb, Graz and optionally at Maribor.

“ 3. The air navigation company referred to in paragraph 1 shall be designated freely by the Government of the Yugoslav Kingdom without its being required to come to an understanding on the subject with the Austrian Federal Government, and the air navigation company referred to in paragraph 2 shall be designated freely by the Austrian Federal Government without the necessity of a previous understanding with the Government of the Yugoslav Kingdom.

“ 4. In the event of the Austrian air navigation company, without any fault on its part, being prevented by a measure of the Yugoslav Government from exercising the rights on Yugoslav territory granted to it under the authorisation of the Yugoslav Government, the Austrian Federal Government reserves the right to revoke the authorisation to the Yugoslav air navigation company in respect of Austrian territory.

The Yugoslav Government reserves reciprocally the same right as regards the Austrian air navigation company.

“ 7. The Contracting Parties agree that, with a view to ensuring the prompt application of the provisions of the present Agreement, the competent authorities of each of the two States shall concert and correspond direct on the subject of the said provisions without passing through the ordinary diplomatic channels.”

(The sections in question are those of the common frontier which may be crossed.)

#### D. *Franco-Polish Agreement of August 2nd, 1930.*

This concerns the operation of several lines, a particular feature of the agreement being that those lines cross the territory of third Powers.

The following are the main provisions :

“ *Article 1.* — The Government of the Republic of Poland accords to the Government of the French Republic the authorisation to cause to be operated in its territory by the French air companies which the French Government shall designate, the following air lines :

- “ Paris - Berlin - Poznan - Warsaw, with stoppages at Poznan and Warsaw.
- “ Paris - Strasburg - Prague - Warsaw, with stoppage at Warsaw.

“ The Government of the French Republic accords to the Government of the Republic of Poland the authorisation to cause to be operated in its territory by the Polish air companies which the Government of the Republic of Poland shall designate, the following air lines :

- “ Warsaw - Poznan - Berlin - Paris, with stoppage at Paris.
- “ Warsaw - Prague - Strasburg - Paris, with stoppages at Strasburg and Paris.

“ *Article 2.* — It is understood that each of the High Contracting Parties will make it its particular business to obtain authorisations for passage on the part of States whose territory will be flown over on these lines.

“ Each of the High Contracting Parties undertakes, however, to support and to favour any action of the other High Contracting Party tending towards the establishment of air connections between the two High Contracting Parties, or other connections which may be established in a common and reciprocal interest and which pass over the territory either of the Contracting States or of third-party States.

“ *Article 8.* — The authorised companies shall be required to convey air mail on the conditions laid down in the agreements which shall be concluded between these companies and the postal administrations of the two High Contracting Parties on the basis of a prior arrangement between the two administrations.”

*“ Protocol of Signature.*

“ Ad *Article 1.* — Subject to the observance of the regulations in force in the territories of each of the High Contracting Parties, the authorised companies shall be entitled to effect all commercial transport (goods, passengers, mail) between the stopping-places situated in the territory of each of the High Contracting Parties and the stopping-places situated in foreign territory, mentioned in the Convention.

“ It is understood that the operation of the Berlin - Warsaw section of the Paris - Berlin - Poznan - Warsaw line may be undertaken only after the establishment by the Government of the Republic of Poland in agreement with the Government of the Reich, of an air line operated on the same section by the Polish company.

“ The Polish Government undertakes, after the conclusion of an agreement with the Government of the U.S.S.R., to examine sympathetically any request that may be made by the French Government to extend the French air system eastward beyond Warsaw, and at that time the French Government will favour the extension westward beyond Paris of the Polish air system.

“ Ad *Article 2.* — The French Government declares that it is not opposed to the operation by a Polish company of the Bucarest - Constantinople air line.

“ The French Government takes note of the intention of the Polish Government to prolong the Warsaw - Bucarest air line to Sofia and Salonica.

“ The Polish Government declares forthwith that it is not opposed to the Compagnie Internationale de Navigation Aérienne ceding eventually, with the concurrence of the French Government, to a French company whose designation will be submitted to the acceptance of the Polish Government, the rights and obligations resulting from the contracts it made with the Polish Government on July 21st, 1921, and July 16th, 1927, the second of which expires on July 21st, 1931.

“ Furthermore, it consents in principle, on conditions which will be determined in due time by the Polish and French aeronautical authorities, to the renewal of the concession forming the subject of the said contracts, it being understood that the renewal will be effective in favour of the French company designated in the last preceding paragraph. The negotiations between the two High Contracting Parties relative to the renewal will commence prior to January 1st, 1931.”

*E. Agreement between Austria and Italy of May 11th, 1928.*

This agreement, while organising immediate co-operation between the aviations of the two countries, also contains provisions, like several of the agreements already referred to, designed to facilitate the establishment of a wider system, extending far beyond the national territories.

The most characteristic passage is as follows :

“ 3. The authorisation of the Federal Ministry of Commerce and Communications mentioned in I(b) shall be granted on condition that the Royal Air Ministry guarantees that the time-table of air communications between Venice and Rome shall be established in such a manner as to permit of the flights mentioned in 1(b) and 2(b) being effected by machines of the Italian and Austrian undertakings respectively in the same day, before nightfall, between Vienna and Rome via Venice.

“ The authorisation of the Royal Air Ministry mentioned in 2(b) shall be granted on condition that the Federal Ministry of Commerce and Communications shall endeavour, in respect of the flights mentioned in 1(b) and 2(b), to render possible communication in the same day between Berlin and Rome via Vienna and Venice. For this purpose, the Federal Ministry of Commerce and Communications undertakes to render possible the above-mentioned communication in the same day between Berlin and Rome by obliging the Austrian undertaking to establish its time-table in such a manner as to guarantee the necessary international connections with Berlin, unless the Federal Ministry of Commerce and Communications is prevented from so doing by serious and obvious difficulties of an international nature.

“ The Federal Ministry of Commerce and Communications similarly undertakes to oblige the Austrian company operating the Graz-Budapest route to adopt a time-table in which regard is had to the landings of the Italian company at Graz.

“ It is agreed that each of the two undertakings operating the services mentioned in (1) may employ for these services aeroplanes of the type which it considers most suitable.

“ Unless otherwise agreed by the air authorities of the two States, the summer time-table is understood to mean the summer time-table fixed from time to time by the International Air Traffic Association (IATA).”

*F. Special Convention between Spain and France of March 22nd, 1928.*

Apart from the usual clauses, this Convention contains a clause providing not only for co-operation between the operating companies but for their amalgamation in a Franco-Spanish company.



The chief provisions are as follows :

" *Article 1.* — The Spanish Government accords to the French Government the authorisation to have operated over Spanish territories, by companies which the French Government will designate, the commercial air lines indicated below :

" 1. Line from Perpignan to Dakar and to Oran, via Perpignan, Barcelona, Alicante (junction for Oran), Malaga, Casablanca, Agadir, Cap Juby, Villa Cisneros, Port-Etienne, Dakar, with optional stoppages at all these places.

" 2. Line from Marseilles to Algiers with optional stoppages in the Bays of Palma de Mallorca, Pollensa or Alcudia, according to atmospheric conditions, or in any other national seaplane station in the Isle of Majorca open for commercial traffic.

" *Article 2.* — The French Government accords to the Spanish Government the authorisation to have operated over French territories, by companies which the Spanish Government will designate, the commercial air lines indicated below :

" 1. Line from Spain to Spanish Guinea and the Canary Islands, along the west coast of Morocco as far as Cap Juby (junction for the Canaries); thence along the west coast of Africa as far as Guinea.

" 2. Line from Barcelona to Geneva via Marseilles and Lyons with optional stoppages in these two towns.

" *Article 3.* — The two High Contracting Parties will endeavour to establish as soon as possible a Paris-Madrid air connection via Bordeaux to be operated by a Franco-Spanish Company. Until such time as the operation can be thus effected by a Franco-Spanish Company, each High Contracting Party shall be entitled to have this connection effected by a company of its own nationality."

Provisions with regard to the possible amalgamation of the operating companies are also contained in the Italo-Spanish Convention of August 26th, 1929.

Attention may be drawn in particular to Article 11, which reads as follows :

" *Article 11.* — If when the service is in operation the two concerns consider it desirable to amalgamate on the basis of complete equality, the two Governments may authorise their amalgamation, on the recommendation of the concerns themselves."

G. *Convention relating to Air Mails between the Imperial Government of Persia and the Government of the U.S.S.R.*

This Convention provides for the conclusion between the operating organisations of an agreement wider than that generally provided for and dealing to some extent with other subjects.

The chief provisions are as follows :

" *Article 1.* — The Government of Persia of the one part, and the Government of the U.S.S.R. of the other part, declare themselves in agreement that, with a view to the development of commercial, postal and passenger traffic relations between Persia and the U.S.S.R. and of international postal exchange, the air lines of Persia and the U.S.S.R. shall be connected between Pehlévi and Baku.

" *Article 2.* — For this purpose the Government of Persia authorises the aeroplanes of the 'Ukrwosduchputj' Company to carry out regular flights between Baku and Pehlévi and *vice versa*, and the Government of the U.S.S.R. will also authorise regular flights on the same line, that is to say, Pehlévi-Baku and *vice versa*, in respect of the aeroplanes of the company which has established air mail and passenger communications in Persia and carries out this service under a special agreement concluded between such company, which is called Junkers, and the Persian Government.

" *Article 3.* — The two Governments declare themselves in agreement that in matters tending to facilitate Customs formalities and visas, as well as the granting of monthly visas to aviators and mechanics for several flights and the exemption from Customs duties of machines and their accessories, they will accord legal assistance of every kind to the above-mentioned companies.

" *Article 5.* — The two Governments will reciprocally place their aerodromes at the disposal of the machines of the above-mentioned Companies. Soviet aeroplanes at Pehlévi may use the same aerodrome as that used by the Junkers Company.

" *Article 6.* — A special agreement shall be concluded between the above-mentioned aviation companies for the distribution of mail, as well as for baggage and passengers, rates, tickets, etc."

## H. Franco-Belgian Agreement of May 23rd, 1930.

This Agreement concerns the operation of lines extending as far as the Congo and deals with a large variety of subjects.

By reason of its importance it is reproduced below in full :

### CHAPTER I.

*Article 1.* — The French Government grants to the Belgian Government the right to fly over the territories indicated below, with the technical stoppages necessary :

1. Home territory, from the Franco-Belgian frontier to Marseilles (or Perpignan) ;
2. French territorial waters of the Marseilles-Algiers (or Oran) Section ;
3. French territory in Africa :

(a) Territory of Algeria and French West Africa from Algiers or Oran to Lake Tchad, following the route fixed in the Annex to the present Convention. <sup>1</sup>

(b) Territory of French Equatorial Africa from Lake Tchad to the frontier of the Belgian Congo (Bangui-Libengé), following the route fixed in the Annex to the present Convention. <sup>1</sup>

*Article 2.* — The Belgian Government grants to the French Government the right to fly over the territory of the Belgian Congo with the technical stoppages necessary for connecting :

- (a) Bangui-Libengé to the frontier of Rhodesia via Bandundu, Luluanbourg and Elisabethville ;
- (b) Bangui-Libengé to Brazzaville via Bandundu and Leopoldville ;
- (c) French Equatorial Africa to Angola by the most direct route, to be determined by common agreement.

### CHAPTER II.

*Article 3.* — Each of the High Contracting Parties agrees that the Belgium-France-Congo air connection shall be effected in collaboration, following a route fixed by the Governments of the two countries and given in the Annex to the present Convention.

*Article 4.* — The Belgian company will alone operate the initial section, Antwerp-Brussels-Paris.

The Paris-Elisabethville section will be operated in common by two companies, one Belgian and the other French, designated by their respective Governments. Both Governments reserve the right to replace the operating enterprise by giving notice not less than six months or more than one year in advance.

Pending an extension of the line beyond Elisabethville, the Paris-Elisabethville section will be operated in common as far as Bangui-Libengé only.

The two companies will conclude agreements for the operation in common of the sections of the line as well as of a secondary line, Bangui-Libengé-Leopoldville-Brazzaville (or Brazzaville-Leopoldville). They may also, if they consider it desirable, conclude agreements for the operation of other connecting or branch lines.

*Article 5.* — Other conditions being equal, the Belgian Government guarantees to the Belgian company a priority right for the conveyance of the air mail designated below :

On departure from Belgium, priority right for air mail having for destination the African territories crossed by the line beyond Algiers (or Oran) and having for destination territories situated beyond the Belgian Congo.

On departure from the Belgian Congo, priority right for air mail having for destination African territories crossed by the line and Europe.

This priority right does not apply to mail exchanged between stopping-places situated in the Belgian Congo.

It also undertakes not to subsidise other companies for the Belgium-France-Congo connection during the continuance of the present Convention.

Other conditions being equal, the French Government guarantees to the French company a priority right for the conveyance of the air mail designated below :

On departure from France, priority right for air mail having for destination the African territories crossed by the line beyond Algiers (or Oran) and having for destination territories situated beyond the Belgian Congo.

On departure from French possessions in Africa, priority right for air mail having for destination African territories crossed by the line and Europe.

This priority right does not apply to mail exchanged between the various stopping-places from Algiers (or Oran) to Bangui.

It also undertakes not to subsidise other companies for the above-mentioned connection during the continuance of the present Convention.

*Article 6.* — Each company shall share completely and exclusively with the company of the other country the advantages resulting from the last preceding Article or any other traffic advantages which may be accorded to it by its Government apart from those referring specially to interior traffic as provided for in paragraphs 2 and 5 of the last preceding Article.

<sup>1</sup> Not reproduced here.

*Article 7.* — Air mail shall be charged, in addition to the ordinary postage rates of all kinds, extra postage fixed by common agreement. The extra postage charged by the postal administrations of the countries passed through shall be based on the same scales of weight. It shall be fixed according to the equivalent remuneration paid by the administrations of the countries passed through to the air carriers, it being understood that such remuneration shall be increased so as to take into account the expense borne by the postal service.

The rates shall be based on the gold franc as it is defined by Article 28 of the Universal Postal Convention of London ; they shall be converted at the legal rate of exchange into the currency of the contracting countries and shall if necessary be rounded off to the higher decimal.

Air mail parcels are considered as forming part of the air mail. So far as they are concerned, however, a subsequent arrangement between the companies and the administrations concerned will determine the conditions of their transport. The fixing of the rates for such parcels shall be based on the same principles as stated above.

Changes in the rates of extra postage may be made only after agreement between the High Contracting Parties as provided for in Article 14 hereafter and in conformity with the regulations concerning air mail.

Priority of transport shall be reserved for air mail as against any other freight.

*Article 8.* — The advantages accorded and the obligations imposed by the postal administrations under the authority of the High Contracting Parties shall be identical for both companies.

*Article 9.* — Each of the High Contracting Parties undertakes to ensure in the territories under its sovereignty the organisation and maintenance of the infrastructure necessary for the Belgium-France-Congo connection.

Such organisation shall be defined by common agreement by the two Governments ; its main outlines are already indicated in the Annex to the present Convention. It shall be pursued in such a manner as to permit, with the least delay possible, continuous air operation both by day and by night.

The two companies — French and Belgian — may both use such infrastructure under the same conditions, while conforming to the rules as to use prescribed by the Governments.

The fees and charges payable for the use of this infrastructure shall be fixed by common agreement by the Governments of the two countries.

*Article 10.* — Each of the High Contracting Parties undertakes during the continuance of the present Convention, and within the limits of the credits granted, to ensure to the company charged with the operation of the line the financial aid necessary for the regular working of the line.

*Article 11.* — The service of the line in its common part shall be carried out alternately by the French company and the Belgian company, save in circumstances of a character essentially temporary and recognised as such by the two companies and resulting, for example, from the necessity to cope immediately with a sudden influx of traffic.

The frequency of the regular service shall be one journey weekly in each direction ; it will eventually be increased by a decision taken by the two Governments in agreement.

According to traffic necessities, the regular service may be completed by supplementary journeys, limited to a total of ten per year, save by special decision taken by the two Governments in agreement.

*Article 12.* — Each of the two operating companies shall compulsorily ensure the conveyance of postal despatches which are handed to it at any one of the stopping-places of the line.

*Article 13.* — The two companies shall conclude between themselves agreements fixing particularly the details of their technical and commercial collaboration, the conditions under which they may exceptionally replace each other, the apportionment of the common operating expenses, as well as of the traffic, in accordance with a formula which will balance one with the other on the joint portion of the line.

The contemplated operation may not commence until the initial agreement is in force.

*Article 14.* — Each of the High Contracting Parties shall approve prior to their entry into force :

All agreements between the Belgian Company and the French Company ;

Any modification of, or supplement to, such agreements ;

All matters relating to postal surcharges, rates and time-tables.

*Article 15.* — The present Convention is valid for a duration of ten years counting from the first day of the month next following the exchange of ratifications. It will be tacitly renewed for further periods of ten years in the absence of notice duly given two years prior to the expiration of each ten-year period.

*Article 16.* — In case either of the High Contracting Parties should decide for any reason whatsoever to renounce temporarily or permanently the operation of the line, the other High Contracting Party shall retain the right to operate it on the conditions provided for by the present Convention and during its entire continuance in force.

*Article 17.* — In the case of a disagreement as to the interpretation or application of the present Convention, the High Contracting Parties agree to submit the question in dispute to arbitration, or, in default of agreement on the choice of an arbitrator, to the decision of the Permanent Court of International Justice.

*Article 18.* — The present Convention shall be ratified and the ratifications shall be exchanged in Paris. This Convention shall enter into force on the first day of the month next following the exchange of ratifications.

*I. Agreement between the Government of Afghanistan and the Government of Union of Soviet Socialist Republics of November 28th, 1927.*

This agreement differs from all the preceding agreements by reason of the undertaking of the Governments concerned to ensure themselves the operation of the lines.

The chief provisions are as follows :

“ *Article 1.* — The Governments of the U.S.S.R. and of Afghanistan will each place two of their aeroplanes at the disposal of the Kabul-Tachkent air line as well as sufficient aviation personnel for the service in question. The departure of the aeroplanes from Tachkent to Kabul and from Kabul to Tachkent will take place twice a month in accordance with the departure time-table and apart from such time-table if necessary.

“ *Article 2.* — The Afghan Government undertakes to create and to maintain in good condition within its territory the aviation and landing-grounds as well as all apparatus or material necessary for the air line.

“ *Article 3.* — The Government of the U.S.S.R. undertakes to create and to maintain in good condition within its territory the aviation and landing-grounds as well as all apparatus or material necessary for the air line.

“ *Article 4.* — The Government of the U.S.S.R. undertakes to supply to the Afghan aviation authorities, at the U.S.S.R. prices, the quantity of naphtha and fuel or oil necessary for the working of the Kabul-Tachkent air line.

“ *Article 5.* — The payment of the U.S.S.R. personnel employed on the air line is an obligation of the Government of the U.S.S.R. and the payment of the Afghan personnel is an obligation of Afghanistan. The two Governments of Afghanistan and of the U.S.S.R. will communicate to each other in advance the names of the engineers and pilots who will be employed on the air line.

“ *Article 7.* — The accounts and reciprocal payments for each year, in respect of the fuel, oil and any other products, etc., which the aeroplanes of each party have received or consumed in the territory of the other, will be settled in January of the following year between the plenipotentiary representative of the U.S.S.R. at Kabul and the Ministry for Foreign Affairs of the Kingdom of Afghanistan.”

### CHAPTER III. — POOLS.

Several of the conventions, extracts from which have been given above, are designed to establish co-operation between those companies of the two countries concerned which, under the terms of the agreement, are going to operate on a common line. It often happens that a situation similar to what has been described arises without an inter-State convention being concluded, the State over whose territory flights are to be made merely granting to a foreign company the right to operate a particular line provided that it comes to an agreement with the national company.

Such agreements between companies are numerous and of long standing. The number of companies operating the same line (there have sometimes been as many as six), and the competition for the few customers available, have long created difficult operating conditions. The companies have endeavoured to meet them by agreements for restricting competition or for minimising some of its effects. These agreements are known as pooling agreements. They usually imply the sharing of the receipts according to certain rules, but not the sharing of the subsidies which often form the chief part of the income of private companies.

The exact nature of the agreements is not generally published. The companies invoke, in this connection, the necessity for secrecy in matters of business. It is therefore only possible to give here :

1. A list of the pools to which the “ Luft-Hansa ” belongs ;
2. A specimen of a pooling agreement, which is not a copy of any actual agreement, but which indicates the *spirit* in which most of them are drawn up.

#### LIST OF AGREEMENTS ESTABLISHING POOLS.

German Company	Foreign Company	Line
D.L.H.	Farman	Berlin-Cologne-Paris
D.L.H.	Farman	Berlin-Saarbruck-Paris
D.L.H.	Swissair	Zurich-Munich-Salzburg-Vienna ( <i>with Oelag</i> )
D.L.H.	Swissair	Geneva-Berne-Zurich-Stuttgart-Halle/Leipzig-Berlin
D.L.H.	Swissair	Geneva-Berne-Zurich-Munich-Salzburg-Vienna
D.L.H.	Swissair	Geneva-Basle-Mannheim-Frankfort - Cologne - Essen/M. - Amsterdam-Basle-Zurich-Munich-Vienna
D.L.H.	S.A.M.	(Berlin) Munich-Venice-Rome
D.L.H.	A.B.A.	Malmö-Copenhagen-Lubeck
D.L.H.	Det Danske	Hamburg
	Luftfartselskab	
	Farman	
	K.L.M.	
	Sabena	509, 511
		517

German Company	Foreign Company	Line
D.L.H.	D. D. L.	Berlin-Stettin-Copenhagen
D.L.H.	Cechoslow	Berlin-Dresden-Prague-Vienna ( <i>with Oelag</i> )
D.L.H.	Cechoslow	Marienbad-Karlsbad-Chemnitz-Halle/Leipzig
D.L.H.	Oelag	Berlin-Dresden-Prague-Vienna-Budapest. At present not in operation.
D.L.H.	A.L.J.	Berlin-Munich-Milan
D.L.H.	J.A.L.	Cologne-London.

OPERATION AGREEMENT.

BETWEEN

A.....  
hereinafter briefly referred to as .....

AND

X.....  
hereinafter briefly referred to as.....

It has been agreed as follows :

Article 1.

The two companies A..... and X..... shall represent each other in ..... (country) and in ..... (country) on the lines authorised by the Governments and forming the subject of the present Agreement.

Article 2.

During the validity of the present Agreement, A..... undertakes to entrust exclusively to X..... the organisation of the land installation and of the airports on the lines authorised in ..... (country). X..... assumes the same obligations towards A..... in respect of the lines authorised in ..... (country) and operated by A.....

Article 3.

A..... and X..... undertake to represent each other and to assist each other in all negotiations concerning the operation of the lines.

Article 4.

A..... shall maintain in ..... (country) and X..... shall maintain in ..... (country) a principal agency for the operation of their lines. The two companies are entitled to entrust branch agencies in their respective countries to third parties.

The expenditure in connection with travelling agencies, advertisements, etc., arising out of the representation of each company by the other shall be borne by the company established in the country concerned ; placards and any other advertising material shall, however, be supplied in sufficient quantities free of charge by the company which is being represented. Each of the two companies undertakes to make suitable use in its own country of the advertising material. In addition, a special agreement shall be concluded with regard to the passing through the Customs of passengers and goods.

Article 5.

Each of the two contracting companies shall place at the disposal of the other in its own country its administrative and technical organisations on the lines to which the agreement applies.

The organisation services which one company must render to the other shall include correspondence and the keeping of traffic registers, together with the drawing up of statistics to the extent which is customary on the part of the operating company ; the accepting of consignments for aerial transport, the receiving of transport fees, the representation of the foreign company in dealings with the Customs administration, the Police and other authorities, the reimbursement, if necessary, of transport fees received, the maintenance of the service for transporting passengers and their baggage, postal packets and goods to and from the airport, the putting of aeroplanes into service, the garaging of the aeroplanes in the hangars, the bringing of them out before taking off, the exemption from charges in respect of taking off, landing and garaging, the payment of any charges for the services of the Customs staff at the airports, preparations for taking off, including the filling of the water, petrol and oil tanks, the cleaning of the cabins, the greasing and oiling of the landing gear, and the testing of the engines before taking off. The services in the domain of land organisation include the despatch of passengers, postal consignments and goods and of the aeroplanes themselves, the meteorological service for the pilots, including the use of a wireless station, and also the payment of the usual telegraphic and telephonic charges. (No responsibility can be taken for the accuracy and punctuality of the information.) The organisation services must also be rendered for the ordinary traffic when aeroplanes arrive ahead of time or late and also in the case of flights carried out on Sundays ; nevertheless, expenditure occasioned by the services which a company may render in connection with Sunday flights — which must be notified in advance — shall be charged to the other company, with the exception of the expenditure in connection with the Sunday flights provided for in the agreement. The employees and pilots of the other company shall be transported free of charge in so far as places are available.

Further, each company shall place at the disposal of the other on the landing-grounds an office with telephonic installation and, on demand, a warehouse for spare parts.

Correspondence and intimations for the technical service shall be exchanged direct between the offices of the two companies in accordance with supplementary arrangements.

At Berlin, no service shall be organised for transporting passengers and goods to and from the air-port.

Article 6.

The maintenance charges in connection with the aeroplanes in use shall be borne by the company to which the aeroplanes belong, together with all expenditure for repairs, fuel, material, etc. No special charge shall be made for the work falling within the category of services mentioned in Article 5.

The price of the material shall be calculated by the company which supplies it on the basis of the replacement cost borne by the supplying airport, increased by ... per cent in respect of administrative expenses. Each company shall be entitled to replace the material taken over by material of the same nature and quality; such replacement must, however, be effected within a period of ... months after the despatch of the notification that the material has been taken over to the offices of the company to which the material has been supplied.

All work and repairs for the aeroplanes of the foreign company shall, if they do not fall within the provisions of Article 5, be carried out on the basis of the local wage scale, increased by ... per cent in respect of general expenses.

The pilot or mechanic who gives instructions for such work to be done must supply the technical service of the airport concerned with a written order. Work of importance arising out of the partial destruction of aeroplanes shall form the subject of investigation in each case; in such cases the increase in respect of general expenditure may be raised to ... per cent of the local wage scale. Such work may, however, only be executed with the consent of the manager of the company which places the order.

#### Article 7.

The contracting companies shall be entitled to maintain at their own expense in the airports of the foreign company a representative and a staff of their own, to whom the company of the country concerned must grant assistance free of charge. Nevertheless, the staff in question must comply with the general instructions of the traffic manager and with the service regulations in force in the airport. When such staff is not employed on work for their own company, they shall be at the disposal of the other company, at the place where they are stationed, during ordinary working hours.

During the period of operation of the air services A...., shall maintain in the town of..... and X.... shall maintain in the town of..... at their own expense at least one mechanic.

#### Article 8.

Liability towards third parties arising out of the possession and use of an aeroplane shall rest upon the owner of the aeroplane. The garaging and storing of aeroplanes and of material and the execution of the services mentioned in Article 5 shall be at the sole risk of the owner of the aeroplane; nevertheless, the traffic service of the other company shall be responsible for seeing that the wheeling and braking are only carried out by the personnel of the owner of the aeroplane and that the regulation prohibiting the filling of the petrol-tanks in the hangars and prohibiting smoking during this operation is strictly observed; as an exceptional measure, the petrol-tanks may be filled in the hangars by order of the traffic manager if there is no petrol-station in the open air or if the state of the weather justifies such measure. The oil-tanks may always be filled in the hangars.

In the event of a forced landing in the area of one of the companies, the company shall render assistance at the sole risk of the owner of the aeroplane.

#### Article 9.

It is proposed to operate air services as shown in Annex 1.<sup>1</sup> That annex also contains more detailed information with regard to the services which each company shall render to the other in the domain of land organisation and with regard to the expenses in connection therewith; it likewise contains regulations with regard to the functioning of the pool.

The company responsible for the service shall designate in respect of its own part of the traffic operations the air personnel and material to be employed.

#### Article 10.

At the end of each month at latest, A.... and X.... shall transmit to each other in respect of the past month an account of the material, fuel, etc., delivered. The quantities of lubricants and fuel consumed by the two companies shall be set off against each other at the end of the month. The monthly accounts shall only include the surpluses calculated at the price of the day without increase.

The accounts shall be settled within fourteen days after their receipt.

#### Article 11.

The present Agreement shall be applicable during the period of operation indicated in Annex 1,<sup>1</sup> subject to the exceptional provisions contained therein with regard to denunciation. The Agreement may be prolonged at any time by the two parties as soon as special arrangements have been concluded with regard to the points mentioned in Annex 1;<sup>2</sup> if this is not done, the Agreement shall come to an end on the conclusion of the last air navigation service indicated in the Annex 1.<sup>1</sup>

Further, each of the contracting parties shall be entitled to denounce the Agreement by giving four weeks' notice, to take effect at the end of any period.

#### Annex 1

TO THE OPERATION AGREEMENT BETWEEN A.... AND X.... FOR THE PERIOD..... TO .....

1. Provision shall be made for the following traffic:

I. By A...., on working days:

(a) on the route between Y and Z

three times weekly in each direction, with multi engined machines during the period .... to ....

(b) on the route between Q and R

three times weekly in each direction by single engined machines during the period .... to .....

<sup>1</sup> See below.

(c) on the route between S and T (goods transport)  
three times weekly in each direction, by single-engined machines during the period .... to ....

(d) on the line between U and W  
six times weekly in each direction, by multi-engined machines during the period .... to ....

By A...., on Sunday :

(e) on the route between Q and R  
in each direction by multi-engined machines, during the period .... to ....

II. By X.... on working days :

(a) see I(a) ;

(b) see I(b) ;

(c) see I(c).

Traffic on the lines I(a), II(a), I(b), II(b) and I(c), II(c) shall be so organised that A... and X... operate the lines jointly and that the two services supplement each other to constitute a service six times weekly. The two companies shall arrange that a regular service in each direction is ensured on the lines in question. Should the service require to be doubled, or special flights undertaken, the expenses shall be met by the operating company. If one company carries out a flight for the other, it may make the return flight also. The other company shall endeavour to carry out a similar supplementary flight, so that both companies shall, at the end of the month, have executed as nearly as possible half the regular flights.

2. The administrative and land organisation mentioned in Article 5 of the operation agreement shall be set up by A.... at ..... (town) and by X.... at ..... (town).

As regards the personnel, each company shall supply at its own expense during the period of operation :

X... at (town) ....., .....mechanics.

A... at (town) ....., .....mechanics.

3. Expenditure arising out of the land organisation mentioned in Article 5 of the main agreement shall be met by the company making use of such organisation, in the form of lump sums payable on the last day of each month. Such sums shall be calculated from the beginning of the period of operation, and for its duration.

A..... shall pay to X..... :

On line 1	I(a)	for the town of .....	RM .....	per month
" 1	I(b)	" "	RM .....	"
" 1	I(c)	" "	RM .....	"
" 1	I(c)	" "	RM .....	"
" 1	I(d)	" "	RM .....	"
" 1	I(d)	" "	RM .....	"
" 1	I(d)	" "	RM .....	"
" 1	I(e)	" "	RM .....	"
For one Sunday flight in each direction			RM .....	"

The expenditure incurred by X.... at .... (town) on behalf of A.... on lines 1 I(a), (b) and (c) shall be regarded as set-off and settled by the expenditure incurred by A.... at .... (town) on behalf of X.... on lines II(a), (b) and (c).

Special agreements shall be concluded regarding the land organisation services rendered at .... (town).

X.... shall make no charge for the housing of one of A's.... reserve machines at.... (town).

If provision is not made for the operation of the lines for complete months, or if the period of operation is subsequently modified, the monthly lump sum shall be replaced by a daily payment equal to .... of the lump sums specified above ; if, however, the period of operation lasts for half a month, the said payment shall not exceed one half of the lump sums. If the lump sums specified above are not calculated on operations involving six services per week in each direction, the proportional figure of..... shall be increased accordingly.

As regards the carrying out of special flights, a charge of RM..... shall be levied on single-engined machines and of RM..... on multi-engined machines per day and per airport for operation in one direction; the same treatment shall be applied both to airports along the route and to the terminus airport.

4. The pool regulations shall be as follows for lines 1 I(a), II(a), I(b), II(b) and I(c), II(c) : receipts from subsidies of every kind shall remain entirely at the disposal of the companies. Receipts from passenger, goods and mail services (mail transport being calculated at the usual rates) shall be pooled and divided between the companies in proportion to the useful load and number of kilometres flown.

The following factors shall be used in calculating the proportion of the useful load :

Type of machine	(a)	factor	.....
" "	(b)	"	.....
" "	(c)	"	.....
" "	(d)	"	.....

The pool accounts shall be made up monthly on the date prescribed in Article 10 of the operation agreement. Before the pool accounts are made up, a commission of . . . . per cent shall be deducted from the receipts, which commission the two companies shall grant each other in respect of the lines covered by the pool and the transport of passengers and goods. Should a company grant to third parties special commission in excess of the figure mentioned above, it shall nevertheless pay into the pool the full transport rate, less the . . . per cent mentioned above.

If the regular service is supplemented by the employment of special machines on the lines covered by the agreement, the receipts thus obtained shall accrue to the operating company. The pool accounts shall, however, be established as if full use had been made of the useful load of the regular service machine corresponding to the special machine.

*Special Arrangements.*

As regards lines 1 I(a), II(a) : In the event of the use by X..... of machines type..... only, a proportion of..... in favour of A..... and in favour of X..... shall be taken as the useful load instead of the proportion indicated above.

As regards lines 1 I(c), II(c), the receipts shall be divided in the ratio of..... to..... When machines with different useful loads are employed, a weight of freight amounting to..... kg. per machine of each of the contracting parties shall be deemed to be the limit of the useful load. Should a machine actually carry a heavier load, the receipts therefrom shall not be contributed to the pool but shall accrue to the operating company.

5. The provisions regarding the traffic referred to in No. 1 and the other provisions shall apply on condition that the subsidy required by each of the contracting parties be granted in full. Failing this, each of the two contracting parties shall have the right to denounce the agreement at..... days' notice.

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Part 4.

WORK OF THE LEAGUE OF NATIONS IN CONNECTION WITH CO-OPERATION  
BETWEEN CIVIL AVIATIONS AND THE PREVENTION OF THEIR USE IN WAR.

CHAPTER I. — WORK OF THE PREPARATORY DISARMAMENT COMMISSION.

The possible use of civil aviation for military purposes has been in the minds of all those who have directed their attention since the war to the grave problem of the reduction of armaments. Traces of this preoccupation may be found in the work of the Versailles Conference, and again at the Washington Conference (1921-22), the Air Commission of which submitted an important report on the subject.

Three dominant ideas may be noted in this essential document :

1. The possibility of using civil aviation for purposes of war renders the limitation of the latter inoperative if the former is not also limited in respect of numbers and allowable features.

2. The limitation of civil aviation is technically possible, but would have the most regrettable results by hampering progress, and would thus run counter to the end in view, since the development of civil aviation by facilitating communications must, in the long run, help to strengthen peace.

Consideration of these two principles in conjunction with one another led the Commission to the conclusion that :

3. Except in the special case of aircraft lighter than air, it is not practicable effectively to limit in any way the number and features of aircraft, whether commercial or military.

This Washington doctrine was never officially approved on the part of the League, whether by the Assembly or by its Third Committee, or by the Permanent Advisory Commission or the Mixed Temporary Commission which was then studying disarmament. The problem was to be discussed again after the constitution of the Preparatory Commission for the Disarmament Conference.

The need for including aviation in any general scheme for the reduction of armaments was vigorously affirmed in the Commission from the first by a large number of speakers. The association of the problem with the problem of the organisation and development of civil aviation was also pointed out. It was the occasion of thorough and prolonged



discussion in Sub-Commission A (on which the military, naval and air technical experts sat), which met during 1926.

Agreement could not be reached on the substance of the question.

The German and United States delegations took the view that civil aviation in itself is not of any considerable value as potential war armament.

All the other delegations, on the other hand, maintained :

That the personnel and material of civil aviation constitute potential war armaments of the utmost value owing to the facility and rapidity with which, generally speaking, they can be utilised for certain military purposes.

On the substance of the question, the delegations of Belgium, Chile, France, Italy, Poland, Roumania, Czechoslovakia and Yugoslavia maintained that any method of limitation must fulfil the following condition :

Any method, to be of practical effect, must make provision for an aggregate limitation of military and civil aviation. Any limitation of military aviation alone would be ineffective, owing to the possibility of its being compensated by a corresponding increase in civil aviation.

The delegations of Germany, the Argentine, Spain, the United States of America and the Netherlands contended that no limitation of civil aviation was possible. In their view, any form of reduction or limitation of air armaments could only relate to military aircraft of the different countries, and should not interfere with the expansion of commercial communications or the construction of civil aircraft.

The delegations of Germany, the Argentine, the British Empire, Spain, the United States of America, Finland, Japan, the Netherlands and Sweden asserted that, even from the technical standpoint of the possible use of civilian aviation for military purposes, Sub-Commission A was not qualified to consider any such limitation in view of the possible economic consequences.

To these assertions the following should be added.

The delegations of the Argentine, Belgium, Chile, Spain, Finland, France, Italy, Japan, the Netherlands, Poland, Roumania, Sweden, Czechoslovakia and Yugoslavia expressed or accepted the view that in the application of any convention for the limitation of armaments, whatever the method or methods chosen in the case of air armaments, the extent and potential development of the civil aviation of the countries concerned should be borne in mind, in accordance with the considerations set out in the replies to question (a) under II (b) and III, and to the question VI, without limiting civil aviation in its development.

The delegations of Germany, the Argentine, the British Empire, Spain, the United States of America, the Netherlands and Sweden, while recognising that a method which does not take civil aviation into account is incomplete, considered that the limitation of military aviation alone has the advantage of simplifying the problem for solution, that it may be regarded as a first step on the road to a reduction of air armaments, and that it is the best practical solution which can be contemplated at the present moment.

The methods of limitation proposed in Sub-Commission A, which, dealing as they do mainly with military aviation, fall outside the subject of this report, will not be gone into here. It will be sufficient to say that the Sub-Commission unanimously adopted the following recommendation :

“ Sub-Commission A desires to bring to the notice of the Preparatory Commission, for its information, that it has had under consideration a further method of limitation, which envisages the limitation of civil as well as of military aircraft.

“ Sub-Commission A was unanimously of opinion that civil aircraft might play a very important part in future warfare, but it considered that, since the primary rôle of civil aviation is economic, it was not qualified to pass an opinion on a question which had grave political and economic consequences.

“ It places on record, however, the fact that it has not discussed this matter in detail, not because it did not consider it a most important one, but on account of its economic and political implications.”

To which a number of delegations added the following conclusion :

“ Sub-Commission A considers it desirable to suggest to the Preparatory Commission that this question might be considered by a Joint Economic and Military Committee.”

This suggestion bore fruit, and Sub-Commission B, on which the economic experts sat, decided on February 7th, 1926, to call a committee of experts in civil aviation at Brussels.

The Committee met from February 7th to 12th, and, in the course of twelve meetings which it held, it made a thorough study of the questions submitted to it. The Committee was called upon :

1. To examine the economic consequences which would be entailed by the system of aggregate limitation of civil and military aeronautics contemplated by Sub-Commission A.

2. Proceeding on more general lines, to submit its observations and suggestions on the economic consequences of any method of limiting air armaments which would enable civil aeronautics to be taken into account.

The Committee began by recognising unanimously the principle that :

“In any limitation of air armaments it is essential to avoid hampering the development of civil aviation.”

The Committee was further unanimous in holding that the aggregate limitation of civil and military aeronautics could not be effectively enforced without hampering the development of civil aviation, and consequently without unfortunate economic consequences.

It was of opinion that the method of limiting military aviation, on the understanding that the obligation assumed would cease to bind the contracting parties in the event of civil aviation developing on such a scale as to exceed anticipations, was open to the same objections.

More generally, the Committee expressed its attitude as a whole in the following form :

“The Committee unanimously considers that the economic consequences of any methods of limiting air armaments which would make it possible to take into account civil aviation cannot be determined *a priori*. They will essentially depend on the manner in which civil aviation is taken into account.

“To sum up, the economic consequences will be less serious if the system adopted involves, on the part of the Governments, fewer undertakings likely to hamper civil aviation.”

To the second question put to it, the Committee replied by the following important statement, which is the foundation of the greater part of subsequent work in this connection :

“The Committee unanimously recognised that civil aviation, when it has reached its full development, will be one of the most important means of bringing the peoples of the world nearer together. Distances will be reduced more and more, so that civil aviation, by enabling the different nations to maintain ever-closer mutual relations, will contribute largely towards the maintenance of good international relations and the preservation of world peace.

“It must further be recognised that hitherto the development of civil aviation in some countries has been closely bound up, as regards both technique and organisation, with the requirements and development of military aviation.

“It would therefore be desirable that every effort should be directed towards differentiating more and more clearly between civil and military aviation ; in this way, civil machines will become capable of a maximum economic return and will become less and less useful for military purposes, and the activities of civil aviation can be developed in full freedom without being subordinated in any way to the military requirements of the different countries.

“The Committee therefore submits the following suggestions as being calculated to afford practical means of attaining the above-mentioned results :

- “1. It is desirable that the development of civil aviation should be directed solely towards economic ends, and should remain outside the sphere of military interests.

- “2. Civil aviation should be organised on autonomous lines, and every effort should be made to keep it separate from military aviation.

- “3. If States intervene in any capacity, whether directly or indirectly, wholly or partially, in civil aviation undertakings, it is desirable that the State organs dealing with the matter should be quite separate from the organs dealing with military aviation. The suggestions made below should apply to all civil aviation undertakings, whether private or State-owned.<sup>1</sup>

- “4. It is desirable that Governments should refrain from prescribing the embodiment of military features in the build of civil aviation material, so that this material may be constructed for purely civil purposes, more particularly with a view to providing the greatest possible measure of security and the most economic return.

“In this connection, and with a view to differentiating still further between the material of civil and that of military aviation, it would be particularly desirable, as far as possible, to avoid using military aviation material for civil aviation undertakings, and in particular for the operation of air transport lines.

- “5. The Committee desires to point out that a note of warning should be sounded against contemplating any restriction of the construction of civil aircraft by the application of present-day aeronautical formulæ, such as horse-power, ratio of loading per horse-power and ratio of wing areas per horse-power, etc., which, in the rapid developments taking place, would unquestionably lead to serious economic consequences.

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<sup>1</sup> It should be noted that the Committee did not mean this proposal to apply to cases where the civil and military aviation services are united under a single Ministry ; in such cases, it is even desirable for each of these two branches to be operated with complete autonomy.

" 6. As regards personnel and, in particular, pilots, it would be desirable that civil aviation undertakings of all kinds should not require such personnel to have received a military training or give preference to those who have received such training.

" It is *a fortiori* desirable that these undertakings should not give their personnel such training as would be of use solely for military purposes.

" It would also be desirable as far as possible to avoid seconding personnel from military to civil aviation for the purposes of the latter.

" 7. The Committee desires to point out the undesirable effects which may result from the direct or indirect encouragement by Governments of civil air transport lines for military rather than for economic or social purposes.

" 8. At the present time, civil aviation in most cases has become national in character. It would seem desirable to encourage the conclusion of economic agreements between civil aviation undertakings in the different countries."

Thus, in the experts' opinion, the solution of the problem should be sought, not by placing further restrictions on civil aviation, but, on the contrary, by removing the many obstacles which at present stand in the way of its development; not by hampering its progress, but, on the contrary, by facilitating it by means of closer co-operation between civil aviation in the different countries in such a way as to make the latter less exclusively national.

Point 8 of this resolution formed the subject of a fresh series of studies under the direction of the Communications and Transit Organisation, with regard to co-operation between civil aviation undertakings. This will be referred to presently. Mention should first be made of the action taken by the Preparatory Commission itself<sup>1</sup> on the Committee's suggestions.

The following proposals were submitted to the Preparatory Commission, at its meeting on April 4th, 1927, by M. de Brouckère, who had presided over the Brussels meetings :

" 1. If the High Contracting Parties intervene in any capacity, whether directly or indirectly, wholly or partially, in civil aviation undertakings, they agree that the State organs dealing with the matter shall be quite separate from the organs dealing with military aviation. The suggestion made below should apply to all civil aviation undertakings. It is agreed that this undertaking does not prevent the union of civil and military aviation under a single Ministry, provided that it contains two completely autonomous and separate branches.

" 2. The High Contracting Parties shall refrain from prescribing the embodiment of military features in the build of civil aviation material, so that this material may be constructed for purely civil purposes, more particularly with a view to providing the greatest possible measure of security and the most economic return.

" 3. The High Contracting Parties undertake not to require of civil aviation undertakings that they should employ only personnel specially trained for military purposes. They undertake to avoid seconding personnel from military to civil aviation.

" 4. The High Contracting Parties undertake not to subsidise civil air transport lines established for strategic and not for economic or social purposes.

" 5. The High Contracting Parties undertake to encourage as far as possible the conclusion of economic agreements between civil aviation undertakings in the different countries."

These proposals were adopted on first reading in an amended form.

They finally appeared in the preliminary draft submitted to the Conference in the following form :

" *Article 28.* — 1. The High Contracting Parties shall refrain from prescribing the embodiment of military features in the construction of civil aviation material, so that this material may be constructed for purely civil purposes, more particularly with a view to providing the greatest possible measure of security and the most economic return. No preparation shall be made in civil aircraft in time of peace for the installation of warlike armaments for the purpose of converting such aircraft into military aircraft.

" 2. The High Contracting Parties undertake not to require civil aviation enterprises to employ personnel specially trained for military purposes. They undertake to authorise only as a provisional and temporary measure the seconding of personnel to, and the employment of military aviation material in, civil aviation undertakings. Any such personnel or military material which may thus be employed in civil aviation of whatever nature shall be included in the limitation applicable to the High Contracting

<sup>1</sup> The Committee's conclusions had been submitted to it in a report of Sub-Commission B.

Party concerned in virtue of Part I, or Articles 25 and 26, of the present Convention, as the case may be.

" 3. The High Contracting Parties undertake not to subsidise, directly or indirectly, air lines principally established for military purposes instead of being established for economic, administrative or social purposes.

" 4. The High Contracting Parties undertake to encourage as far as possible the conclusion of economic agreements between civil aviation undertakings in the different countries and to confer together to this end."

The 1927 Assembly, it should be added, adopted a resolution requesting the Council "to instruct the Advisory and Technical Committee for Communications and Transit to consider practical methods likely to facilitate the conclusion of the agreements between aviation undertakings in the various countries which are referred to in this recommendation".

## CHAPTER II. — WORK OF THE COMMUNICATIONS AND TRANSIT ORGANISATION AND OF THE AIR TRANSPORT CO-OPERATION COMMITTEE.

### A. *Communications and Transit Organisation.*

The League of Nations is required under Article 23e of the Covenant to "make provision to secure and maintain freedom of communications and of transit and equitable treatment for the commerce of all Members of the League".

It undertakes this duty "subject to, and in accordance with, the provisions of international conventions existing or hereafter to be agreed upon".

In pursuance of its mission, the League of Nations set up in 1920 a Communications and Transit Organisation, which holds general and special Conferences, and has at its disposal an Advisory and Technical Committee and a permanent Secretariat provided by the Secretary-General of the League.

In view of the existence of the International Commission for Air Navigation, set up in virtue of a Convention signed before the establishment of the League of Nations itself and placed under its direction, the Transit Organisation, which keeps very closely in touch with aviation, has not created any permanent organ for the latter.

The Organisation has had to deal on various occasions at its Conferences with questions concerning both air communications and land or maritime communications, and also with certain purely aeronautical questions.

### B. *Air Transport Co-operation Committee.*

After the passing by the 1927 Assembly of the resolution quoted textually above, the Committee for Communications and Transit referred the study of the question to an *Air Transport Co-operation Committee*.

Its terms of reference were defined as follows:

"The Committee considers it desirable to entrust to a special committee of enquiry the question of the action to be taken on the resolution of the last Assembly concerning economic co-operation between air navigation undertakings, in conformity with the recommendation unanimously adopted by the Committee of Experts on Civil Aviation of the Preparatory Commission for the Disarmament Conference.

"The composition of this committee will be fixed by the Chairman of the Advisory and Technical Committee, who is empowered to take all the necessary steps to promote co-operation between the Governments concerned.

"The committee of enquiry thus constituted will also have to study the questions of international organisation in air navigation raised at the Third General Conference on Communications and Transit."

The Air Transport Co-operation Committee had before it a series of remarkable reports, prepared for its use at the request of the Chairman of the Advisory Committee, by which it was convened, by:

M. Henri BOUCHÉ, Editor of *Aéronautique*, Paris, on "Present Economic Conditions of Civil Air Navigation".

Brigadier-General P. R. C. GROVES, C.B., C.M.G., D.S.O., R.A.F. (retired), London, on "The Relations between Civil and Military Aviation".

Dr. Hans OPIKOFER, Professor of the Faculty of Law, Director of the Institute of Aerial Law, Königsberg, on "International Commercial Aviation and National Administration".

Dr. Salvatore CACOPARDO, Chief of Section at the Italian Air Ministry, Rome, on "Principles of Public International Law applicable to Air Transports".

These four reports were collected in a single volume, published by the League of Nations (Communications and Transit, document C.339.M.139.1930. VIII, R.R.C.T.3). Its work is summed up in a report from which extracts of some length are given hereunder :

The Committee took cognisance of the enquiries into the economic, administrative and legal situation of international air navigation carried out at the request of the Chairman of the Advisory and Technical Committee for Communications and Transit (see document C.339.M.139.1930.VIII).

It proceeded to an exchange of views on the questions raised in these various enquiries. It considered that, owing to the complexity of the problems before it, its main task at this first session should be to draw up a definite programme of study, in order to be able to reach the greatest possible number of practical conclusions at a later session.

The Committee feels called upon, at the outset of the present report, to record its view that the present situation of civil aviation, despite the progress achieved, is not as satisfactory as the state of technical development should permit, and that it is only by means of increasingly close international co-operation that this situation can be improved.

I. *Relations between Civil and Military Aeronautics.*

The Committee did not feel called upon to discuss the relations between civil and military aeronautics, a question within the province of the Disarmament Commission and the Disarmament Conference. The Committee considered that its duty lay solely in an investigation of the measures to be taken and the progress to be expected from a fuller international co-operation as a result of which civil air transport would be in a position to render to the community the economic services of which it is capable, and thus be freed as far as possible from all other preoccupations.

IV. *Conditions for the Admission of Foreign Undertakings engaged in Regular International Transport.*

The Committee noted that in the present state of public international law on air navigation, taking into account the most recent proposals for modifying existing conventions, the operation of regular lines was subject, as a rule, to the authorisation of the States whose territory is flown over, without any distinction being made in this connection between local traffic (*cabotage*), transport effected with loading or discharging of passengers or freight in the territory in question, transit with landing for supplies, or even transit without stoppage. No distinction is made between air transport involving land flights and air transport merely involving flights over the open sea and territorial waters and the utilisation of hydro-aerodromes.

The Committee accordingly adopted the following resolution :

“ The Committee considers it desirable :

“ 1. That the Governments should request the competent international organisations to find the means of affording greater freedom than is at present enjoyed by regular international air transport.

“ 2. That henceforth :

“ (a) The Governments should examine in the most liberal spirit requests for authorisation to fly over their territories submitted to them for the purpose of regular transport by air ;

“ (b) The Governments should endeavour to conclude among themselves agreements granting the most favourable treatment possible to regular international air transport.

“ The Committee further considered it desirable that air navigation undertakings carrying on services in territories other than the national territory should maintain relations of cordial co-operation with the national air organisations of the countries flown over, with a view to ensuring the greatest possible efficiency of the international service. ”

V. *Progress of International Co-operation in the Operation of Air Lines.*

The Committee adopted the following resolution :

“ Considering that the existing ‘ pools ’ system of co-operation between international aviation undertakings has developed satisfactorily,

“ The Committee :

“ 1. Considers that the present state of legislation, and of economic and political conditions under which civil aeronautics are developing, makes it difficult to reach a more fully developed measure of co-operation ;

“ 2. Recommends the Governments and companies to extend and improve the present system by means of bilateral or multilateral agreements aimed to avoid unnecessary competition, increase the economic efficiency of the international air service and develop among the different undertakings a spirit of friendliness which will prepare the ground for closer co-operation. ”

VI. *Possibility of studying a Special Statute applicable to Certain International Air Connections of General Interest.*

The Committee adopted the following resolution :

“ Considering that in the future certain international air connections will be of general importance and that steps will have to be taken to ensure their existence and permanence, the Committee recommends that the League of Nations should draw the attention of Governments to the special importance which these connections will assume and which might justify the study of a special statute. ”

### VIII. *Practical Improvements in the Working Conditions of Air Lines.*

#### A. *Extensive and Systematic Employment of Combined Transport.*

The Committee requests the Advisory and Technical Committee for Communications and Transit to invite its Committee on Combined Transport to consider what improvements might be obtained by the more extensive and systematic employment of combined transport, air transport already co-operating with all methods of rapid transport.

The Secretariat of the Committee is requested, after making all necessary enquiries, to submit to the next session of the Committee a report on the possibility of publishing a general time-table of rapid transport, every form of transport included.

#### B. *Constitution and Operation of the Main Network of Permanent Air Routes.*

The Committee was of opinion that, in view of the international nature of air transport and of the precarious results hitherto obtained, a definite programme of co-operation should be prepared, at any rate in the European area, until such time as technical conditions allow of its extension. It decided to study the following questions :

1. The choice of permanent air routes to form the main system.
2. An international programme for the equipment of these routes so as to permit of uninterrupted day and night flying.
3. The manner in which this network should be operated—namely :
  - (a) The selection by inter-governmental agreement of qualified enterprises and the specification of traffic conditions ;
  - (b) The granting to all undertakings, engaged in the traffic over this system, of the widest possible facilities for choosing their equipment, from the sole standpoint of efficiency, provided this equipment complies with the international requirements regarding navigability.

A special Sub-Committee, appointed by the Chairman of the Committee, to include, if necessary, persons who are not members of the Committee, was instructed to submit a report on this subject to the next meeting of the Committee, after consulting the competent authorities in the various countries concerned. This Sub-Committee will also consider such problems of international financing as the execution of the above programme may involve, including, if necessary, the constitution of a common fund and the administration of this fund by an appropriate banking institution.

#### C. *Postal Air Transport.*

The Committee considers that the study of the question of European postal air transport should be undertaken immediately, to be extended to other regions when economic and technical conditions allow. The Sub-Committee mentioned in paragraph B was instructed :

1. To prepare a map of the air lines to be established between the capitals of the European countries and the points of importance to postal traffic in these countries. For this purpose, it will get into touch with the competent authorities in the different countries.
2. To indicate the necessary conditions for marking out air routes by night.
3. To propose suitable means for increasing the equipment required for ensuring traffic in foggy weather.
4. To draw up specifications of the performance and special qualities required of one or more types of aircraft to be utilised on these lines, taking into account the estimated freight and local topographical and meteorological conditions.
5. To study the question of the surtax.
6. To discuss with the postal services concerned the best methods for handing over mail to aircraft, the distribution of mail, etc.
7. To consider the form which international co-operation should take in the operation of the postal air service, and to study, if necessary, with the competent authorities of the different countries concerned the sections which might be operated by each.

#### D. *Periodical Study of the Economic Development of Air Transport.*

The Committee thought it would be useful from time to time to supply the authorities concerned in the various countries (and even the general public) with information, which would be as accurate as possible and grouped systematically, regarding the economic development of air transport. The Secretariat of the Committee was requested to submit a report on this subject to the Committee at its next session.

In short, owing to the complexity of the subject, the Committee, being convinced that considerable time would be necessary for the satisfactory completion of such an extensive investigation, devoted itself to two points :

1. Drawing up a programme of work to be undertaken as occasion permitted ;
2. Concentrating its activities on a small number of definite points in regard to which it seemed likely that practical results might be obtained within a short time.

As regards internationalisation, the Committee considered that, in the present state of legislation and of economic and political conditions, it was difficult to reach a more fully developed system of co-operation than the " pool " system, but it recommended the Governments and companies to make the fullest possible use of this system by increasing the number of agreements. It considered that by this means, not only would valuable economic results be obtained, but also that there would be developed " among the different undertakings a spirit of friendliness which will prepare the ground for closer co-operation ".

The Committee further considered that a special regime applicable to certain international air connections of general concern might forthwith be envisaged.

The Committee pointed out various cases in which closer co-operation and a better co-ordination of effort seemed specially necessary, and also comparatively easy of accomplishment, whilst not involving any far-reaching change in legislation or in international relations, and appointed a Sub-Committee to examine the precise steps by which the object in view might be attained.

C. *Work of the Special Sub-Committee on the Constitution and Operation of a Main Network of Permanent Air Routes.*

The Sub-Committee is composed as follows:

M. Willy FISCH, Geheimer Regierungsrat at the German Ministry of Communications (*Chairman*).

M. Emile ALLARD, Professor at Brussels and Liège Universities.

M. T. K. ÅNGSTRÖM, Civil Engineer, Member of the Swedish Civil Air Department.

Lieut.-Colonel C. FLIPOWICZ, Chief of the Civil Aeronautics Section of the Polish Ministry of Communications.

M. Emmanuel CHAUMIÉ, Director of Mercantile Aviation at the French Air Ministry.

M. M. MOLFESE, Chief of Civil Aviation at the Air Ministry of the Kingdom of Italy.

Lieut.-Colonel F. C. SHELMERDINE, Director of Civil Aviation at the Air Ministry of Great Britain.

M. E. Th. DE VEER, Director of the Netherlands Air Service.

M. HENRI BOUCHÉ, expert.

The Sub-Committee has worked actively and considered its scheme in great detail; but, as the latter is still highly confidential, no analysis of it can be given here.

CHAPTER III. — PUBLICITY OF CIVIL AVIATION.

At its meeting on May 22nd, 1931, the Council of the League adopted the following resolution:

“ The Council,

“ Considering that the Preparatory Disarmament Commission in its report drew the Disarmament Conference's attention to the fact that, although the majority of this Commission adopted Article 37 of the draft Convention governing the publication of information in regard to civil aviation, certain delegations questioned whether the stipulation contained in this article would not be more in place in an international convention other than that on disarmament;

“ Recognising that it is for the Disarmament Conference to take a decision on this subject;

“ Being anxious to facilitate the Conference's task;

“ Requests the Secretary-General:

“ 1. To arrange for the Communications and Transit Organisation to proceed to an enquiry among all the Governments invited to the Disarmament Conference and to a methodical study of the present situation concerning the publication of information on civil aviation, whether as regards national regulations, multilateral conventions or special obligations.

“ 2. To prepare on this basis for the use of the Conference a collection of all the provisions in force relating to the exchange or publication of information regarding non-military aviation.

“ With a view to enabling the Secretariat of the Communications and Transit Organisation to proceed with the methodical study for which the above resolution provides, the Secretary-General of the League requests the . . . . Government to be good enough, before December 1st next:

“ 1. To communicate to him the text of the national provisions or rules, multilateral conventions or special obligations relating to publicity of civil aviation in force in so far as the . . . . Government is concerned; and

“ 2. To inform him whether, in the light of the provisions in force, the . . . . Government would be in a position, if necessary, regularly to supply the whole or part of the information contained in the annexes to the present circular.”

As a result of the above resolution, the Transit Organisation, on the basis largely of replies from the various Governments to a questionnaire which it had addressed to them, prepared an important study which appeared on January 16th of the current year, document C.95.M.47.1932.VIII (Conf.D.53) and *Addenda*.

This publication being very recent and complete, it will be sufficient to refer the reader to it.

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*List of Proposals made by the Various Delegations in the Course of the General Discussion on the Subject of the Internationalisation or Supervision of Civil Aviation.*

The proposals referred to in No. 1 of the resolution adopted by the Air Commission on March 17th are the following :

1. Internationalisation of civil air transport under a regime to be organised by the League. (France, document Conf.D.99, page 23, section 1.)  
Memorandum relating to the French delegation's proposals on the internationalisation of civil air transport. (France, document Conf.D.115.)

2. Internationalisation of civil aviation. (Belgium, document Conf.D.99, page 14 ; Spain, document Conf.D.99, page 16.)

3. Internationalisation or rigorous international supervision of civil aviation. (Denmark, document Conf.D.99, page 51, section 2b, and document Conf.D.112, page 3 ; Sweden, document Conf.D.99, page 48, section 3b.)

Memorandum on the Swedish delegation's proposals regarding the internationalisation of civil aviation. (Sweden, document Conf.D./C.A.10.)

4. Greatest possible publicity and technical and administrative supervision of civil aviation.

Obligation not to vary materially the proportional ratios to be fixed. (Italy, document Conf.D.106.)

5. Civil aviation to be under international control. (Switzerland, document Conf.D.99, page 50, section 4.)

6. All arming of civil aircraft and all fittings enabling them to be so armed or to be utilised for war to be prohibited. (Germany, document Conf.D.99, page 31, section 19 ; U.S.S.R., document Conf.D.99, page 45, Article 25.)

7. The dropping of bombs or any other objects or materials serving military purposes from aircraft, as well as all preparations to this effect, to be forbidden without any exception. (Germany, document Conf.D.99, page 31, III.)

8. Any instruction and training of any person in aviation having a military character or any military purpose to be prohibited. Any instruction or activity of the members of the army or navy in civil aviation to be prohibited. (Germany, document Conf.D.99, page 31, section 19.)

9. The construction, maintenance, importation or putting into commission of aircraft which is in any way armoured or protected or supplied with devices for the reception of warlike armaments of any kind such as guns, machine-guns, torpedoes, bombs, or which are supplied with gun-sights or devices for the dropping of bombs, to be prohibited. (Germany, document Conf.D.99, page 31, section 19.)

10. Limitation of every expenditure, subsidy or loan included in the budget and intended for the purchase and upkeep of civil aviation material. (Sweden, document Conf.D.110.)

11. Publicity with regard to non-military aviation.<sup>1</sup> (U.S.S.R., document Conf.D.99, page 47, Article 45.)

12. The maintenance of any relations between the military or naval administration and civil aviation for any military purpose to be prohibited. (Germany, document Conf.D.99, page 32, section 19.)

<sup>1</sup> See in this connection document C.95.M.47.1932.VII. (Conf.D.53) and *Addenda*.



Conf.D./C.A.10.

Geneva, April 25th, 1932.

## MEMORANDUM BY THE SWEDISH DELEGATION ON THE INTERNATIONALISATION OF CIVIL AVIATION.

In conformity with the speech made to the Conference by its first delegate, the Swedish delegation, in its memorandum of February 19th, summarised as follows its proposals relating to air forces :

“Total prohibition of military aviation, and manufacture, preparation and training in connection therewith ;

“Internationalisation or strict international control of civil aviation.”

On March 17th, the Air Commission recommended the delegations to transmit to the Bureau of the Commission concrete proposals and explanatory statements relating to the internationalisation of civil aviation and any other measure calculated to prevent the signatory States from utilising this aviation for military purposes. In accordance with this resolution, the Swedish delegation ventures to submit to the Commission the following suggestions which might be taken into consideration in the course of its work :

The essential problem appears to be that of subjecting aviation to effective control without at the same time hampering the free evolution of air transport towards its economic ends. The global limitation of civil and military aviation has already been discussed by the Committee of Experts on Civil Aviation of Sub-Commission B, which unanimously agreed that global limitation “could not be effectively applied . . . without hampering the development of civil aviation and therefore without involving undesirable economic consequences”. Such a method would merely bind national aviation more closely to the State, whereas civil aviation by its very nature tends to assume more and more international forms.

What is required is to find a method of controlling civil aviation by a study of its characteristic tendencies. Military aviation has hitherto developed purely on national lines, whereas civil aviation is more and more assuming international forms. It is this consideration which more than anything else has given rise to the idea of the “internationalisation” of civil aviation.

The Committee of Experts of Sub-Commission B emphasised the desirability of establishing a line of demarcation between civil and military aviation. “In this way”, they said, “civil machines will become capable of a maximum economic return and will become less and less useful for military purposes, and the activities of civil aviation can be developed in full freedom without being subordinated in any way to the military requirements of the different countries.” The work of the Organisation for Communications and Transit has clearly demonstrated that it is by tightening the bonds between the aviation of the different countries that air transport may be given a new impetus. The work accomplished with a view to the creation of a postal service system is of particular interest in this connection.

The internationalisation of civil aviation might involve either the amalgamation of undertakings for commercial aviation or the establishment of a closer collaboration between such undertakings, which would still retain a certain economic independence. But no internationalisation of civil aviation, whether radical or the reverse, could give a complete guarantee against the seizure and utilisation by a national Government of aircraft in its territory at any moment when it intended to break its contractual obligations in regard to the organisation of peace. Internationalisation could thus only form the basis of a control designed to prevent the signatory States from utilising civil aviation for military purposes. Such a control should, it would seem, give the international authority to be set up by the Disarmament Convention the means of discovering as soon as possible all systematic or other efforts to transform civil aeroplanes into military aeroplanes.

Naturally, such control, if it is to give all possible security, should be of the strictest nature. Possibly, indeed, to conceive of a control of this kind may be going too far, in the view of certain States who were opposed during the preparatory work to measures of strict supervision. The point at issue here, however, is the control of civil activity, not of military institutions, for which very strict supervision might involve a risk of the discovery of legitimate military secrets. Nevertheless, it seems desirable to make this control as flexible as possible by carrying it out in such a way as to be exercised not so much over the Governments of the various States as within an international organisation for civil aviation to which the national commercial air services would be affiliated.

The following measures might be considered to constitute the minimum of internationalisation capable of promoting effective control :

In the Convention to be concluded by the Governments with a view to preventing the use of civil aviation for military purposes, provision would be made for the creation of an international organisation to which the air transport undertakings of all States would be affiliated. This affiliation of undertakings would be a condition required by the Governments before granting concessions or subsidies. By means of this international organisation, and subject to the controlling authority to be set up by the Disarmament Convention, as methodical and permanent a supervision of civil aviation as possible would be exercised. It would notify the above-mentioned authority in the event of the discovery of a breach of State obligations in regard to civil aviation.

The national undertakings would entrust to this international organisation the administration of the air ports and ground organisation of the whole system of civil aviation. This organisation would have to arrange for an interchange of employees of different nationalities, particularly between the more important air ports.

The supervision of aircraft and of their utilisation would also be exercised by the pilots and other navigating staff, who would, for purposes of supervision, be placed entirely under the authority of the said international organisation. This organisation would arrange, wherever possible, for an inter-State exchange of pilots and other employees, including the clerical staff. The pilots would thus be distributed over the whole system in such a way as to place supervision at all times in the hands of an international organisation. Possibly an international status might be established for the professional corps of pilots.

The costs of carrying out this system would be met by contributions from the contracting States. These contributions might be fixed at a certain percentage of the grants which the States allow each year to aviation undertakings or, where no such grants are made, they might be calculated according to a scale to be drawn up for the purpose.

Obviously, control of the kind contemplated above would become more and more practicable as civil aviation, obeying the law of its being, assumes more and more international forms.

Further, the proposed international organisation, when it has come into being, would certainly — apart from its supervisory functions — demonstrate its usefulness by promoting the rationalisation of the international air transport service, which, generally speaking, does not at present appear to be organised so as to provide maximum efficiency either from the economic standpoint or in regard to transport facilities.

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Conf.D./C.A.11.

Geneva, April 27th, 1932.

### RESOLUTION PROPOSED BY THE GERMAN DELEGATION REGARDING THE EXAMINATION OF THE CHARACTER OF ARMAMENTS

(Document Conf.D./C.G.28(2)).

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The Air Commission, in accordance with the instructions received by the General Commission, has examined the air arm in the light of the following three criteria :

- (1) What weapons are of a specifically offensive character ?
- (2) What weapons are most efficacious against national defence ? or
- (3) What weapons are most threatening to civilians ?

It considers that the whole of military aviation and, in particular, the launching of means of warfare of any kind from the air come within the above-mentioned three categories.

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Conf.D./C.A.12.

Geneva, April 27th, 1932.

### NOTE BY THE PRESIDENT.

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The President of the Air Commission requests the delegations who so desire to be so kind as to forward to the Secretariat *before 1 p.m. to-morrow, April 28th*, a statement showing the air weapons which they wish to see embodied in the list of armaments :

- (a) Whose character is the most specifically offensive ;
  - (b) Being the most efficacious against national defence ;
  - (c) Being most threatening to civilians.
-

Conf.D./C.A.13.

Geneva, April 28th, 1932.

**REPLIES TO THE NOTE BY THE PRESIDENT OF THE COMMISSION ASKING THE DELEGATIONS FOR A LIST OF THE ARMAMENTS OF THE CHARACTER DESCRIBED IN THE GENERAL COMMISSION'S RESOLUTION (Document Conf. D./C.G.28(2)) OF APRIL 22ND, 1932.**

**Afghan Delegation.**

The Afghan delegation regards all bombing-machines and aircraft used for dropping bombs, materials and preparations (as shown in point 3, document Conf.D.116) which may be used in achieving a military purpose to be the weapons whose character is the most specifically offensive, which are most efficacious against the national defence and which are most threatening to the civil population.

**German Delegation.**

The German delegation submitted the following proposal (document Conf.D./C.A.11) on April 27th with regard to the examination of the character of armaments (document Conf.D./C.G.28(2)):

“The Air Commission, in accordance with the instructions received by the General Commission, has examined the air arm in the light of the following three criteria:

- “ (1) What weapons are of a specifically offensive character ?
- “ (2) What weapons are most efficacious against national defence ? or
- “ (3) What weapons are the most threatening to civilians ?

“It considers that the whole of military aviation and, in particular, the launching of means of warfare of any kind from the air come within the above-mentioned three categories.”

With a view to defining for the purpose in question air-armament material, the German delegation, bearing in mind the arguments put forward in the course of the discussion, desires to complete the above resolution as follows:

“Military aircraft shall be understood to mean any aircraft (for example, aeroplanes, dirigibles and free or captive balloons):

- “ (1) Which can be identified by identification marks as military aircraft ; or
- “ (2) Which possess military characteristics — viz., installations for carrying weapons of any kind, such as guns, machine-guns, torpedoes or bombs, or instruments for aiming or launching such weapons ; or
- “ (3) Which are manufactured for the armed forces of any country ; or
- “ (4) Which are manned by a military pilot or a military crew specially employed for the purpose ; or
- “ (5) Which form part of the equipment of any armed force or are requisitioned by such force.”

**Argentine Delegation.**

The Argentine delegation considers that chemical warfare and bacteriological warfare ought to be included in the list of weapons which are of a specifically offensive character, which are most efficacious against national defence and which are most threatening to civilians.

The delegation would like to take this opportunity of pointing out that the proposal which figures on page 11 of the co-ordinating table is not really a definite proposal. It is merely a statement which the head of the delegation made on the occasion of the general discussion in the following terms: “The Argentine delegation will, of course, be pleased if the Conference adopts an agreement which makes it possible to abolish all weapons employed by land, naval and air forces which are of a naturally offensive character, etc.”

In making this declaration, the Argentine delegation did not intend to refer to any particular weapons, but to inform the Conference that it was prepared to co-operate in the work of defining the weapons in question and thus to contribute towards the success of the Conference.

#### Austrian Delegation.

The Austrian delegation desires that there should be included in the list of air weapons :

- (a) Which are of a specifically offensive character ;
- (b) Which are most efficacious against national defence ;
- (c) Which are most threatening to civilians ;

military aircraft of all kinds, and, in particular, the launching of means of warfare of any kind from the air.

#### Chinese Delegation.

The Chinese delegation considers that all military aircraft and all dirigibles are essentially offensive weapons.

Nevertheless, the Chinese delegation desires that there should only be included in the list of weapons :

- (a) Which are of a specifically offensive character ;
- (b) Which are most efficacious against national defence ; or
- (c) Which are most threatening to civilians ;

the following categories of air weapons :

- (1) Bombing aeroplanes ;
- (2) Torpedoes and incendiary bombs ;
- (3) Poisonous gases and epidemic-spreading bacteria ;
- (4) Chasing or scouting aeroplanes carrying light guns.

#### Costa Rica Delegation.

In the opinion of the Costa Rica delegation, the whole of military aviation ought to be regarded as being directly or indirectly of an offensive character, and ought therefore to be included in the list of weapons of such character.

#### Danish Delegation.

The Danish delegation confirms the statements made at the end of page 2 of its memorandum of April 13th (document Conf.D.112).

#### Spanish Delegation.

The Spanish delegation, in accordance with its proposal for the total abolition of military aviation, is of opinion that all the weapons belonging to air forces should be regarded as weapons which are of a specifically offensive character, which are most efficacious against national defence, and which are most threatening to civilians.

It nevertheless considers that a classification by degree might be made in respect of each of the three criteria established in the resolution adopted by the General Commission on April 22nd, 1932.

This classification might be as follows :

#### I.

- A. Essentially offensive :
  - (1) Bombing aeroplanes ;
  - (2) Large dirigibles (exceeding 70,000 cubic metres).
- B. Offensive against attacking weapons :
  - (3) Fighting aeroplanes ;
  - (4) Chasing aeroplanes.
- C. Useful for offensive but also for defensive purposes :
  - (5) Scouting and liaison aeroplanes ;
  - (6) Small dirigibles (less than 70,000 cubic metres) ;
  - (7) Captive balloons.

#### II.

- A. Of great efficacy :
  - (1) Bombing aeroplanes ;
  - (2) Fighting aeroplanes.
- B. Of average efficacy :
  - (3) Large dirigibles ;
  - (4) Chasing aeroplanes.

- C. Of limited efficacy :
  - (5) Scouting and liaison aeroplanes ;
  - (6) Medical aeroplanes ;
  - (7) Small dirigibles.
- D. Of no efficacy :
  - (8) Captive balloons.

### III.

- A. Threatening to civilians :
  - (1) Large dirigibles ;
  - (2) Bombing aeroplanes.
- B. Difficult to employ against civilians :
  - (3) Fighting aeroplanes ;
  - (4) Chasing aeroplanes ;
  - (5) Scouting and liaison aeroplanes.
- C. Almost impossible to employ against civilians :
  - (6) Medical aeroplanes ;
  - (7) Small dirigibles.
- D. Impossible to employ against civilians :
  - (8) Captive balloons.

The Spanish delegation is also of opinion that, in the event of a decision subsequently being taken in favour of the abolition of military aviation, civilian aircraft capable of being effectively used for war purposes (*i.e.*, of more than 200 horse-power and exceeding 800 kg.) should be regarded as air material susceptible of classification in accordance with the resolution of the General Commission of April 22nd, 1932.

### French Delegation.

I. Just as any weapon can be used offensively, so any aircraft can be used for the same purpose.

Consequently, all aircraft, civil or military, may be classed as offensive weapons.

While it is true, however, that all aircraft can be used offensively, all can likewise be used defensively ; hence, the offensive character of aircraft depends entirely upon the use made of them.

Moreover, in the resolution submitted to the technical commissions, the General Commission did not ask them to define all the air armaments that could be used offensively, but those whose character was " the most specifically offensive ".

Now an aircraft as a mere means of transport has obviously no military value and, *a fortiori*, no offensive value except through the weapons or projectiles that it may carry.

*We may therefore say that the offensive possibilities offered by aircraft are a function of the useful load they can carry.*

Defining the " most specifically offensive " air armaments thus amounts to determining — if possible — beyond what useful tonnage carried an aircraft is more useful in attack than in defence.

It is obvious that aircraft capable of carrying out a strategic air offensive on a large scale are particularly useful to an aggressor in preventing or delaying the bringing into operation of the air, land or naval defensive forces.<sup>1</sup>

As regards aircraft whose smaller radius of action and smaller tonnage does not allow them to intervene directly in distant actions, they are extremely valuable tactically in repelling attack, whereas they have but little effect against modern defensive organisations and particularly permanent defensive organisations.

Similarly, scouting aircraft give the defence particularly important help, the loss of which would be infinitely more serious to the defence than to the attack.

Whereas an aggressor, knowing where he is going to attack, can make his preparations long beforehand and use every possible means of investigation, the defence, frequently surprised and always forestalled, is obliged to obtain information quickly in order to bring its weapons into operation ; in this connection, therefore, aircraft furnished it with an extremely important — indeed, almost indispensable — means of investigation.

To sum up, those aircraft which may be regarded as the most " specifically offensive " are aircraft with a large tonnage and a wide radius of action when employed for direct intervention.

<sup>1</sup> It is to be observed, however, that these aircraft are also very useful to defence in replying to the offensive of the opposing forces, and particularly of the air forces. It is for this reason, indeed, that great countries are now maintaining a so-called " bombardment " air force.

II. In order to be effective against the national defence, if by that is understood offensive organisations, the aircraft must be able to bomb them with very powerful projectiles in sufficient density and with sufficient accuracy. This result can only be secured by a large number of aeroplanes of very heavy tonnage; no bombardment air force at present has this character. Only dirigibles of large volume are capable of effective action against such organisations.

As regards the action that the aggressor can take against communications and military centres of production behind the lines, these can be carried out by machines with a very heavy tonnage and a wide radius of action.

III. As regards the threat which an air force represents to civilians, the French delegation considers that, if its proposals of February 5th were adopted, that threat would almost completely disappear. If, however, the matter is regarded solely from the standpoint of the threatening character of the air force to civilians, and irrespective of any regulation, it is beyond doubt that only aircraft of great power and having a wide radius of action are capable of carrying out at large urban centres behind the lines bombardments producing sufficient material effects to shake the moral of the whole country.

\* \* \*

In conclusion, the French delegation considers that those aircraft which may be regarded as "the most specifically offensive", as being "the most efficacious against national defence" or as being "most threatening to civilians" are *aircraft of heavy tonnage and having a wide radius of action*. As regards efficacy against national defence, however, only dirigibles of large volume are capable of serious action.

From the technical standpoint, since the tonnage and radius of action of aircraft are essentially variable according to the flying conditions, the French delegation proposes that the basis taken for comparison should be the characteristics that determine these factors — namely, tare tonnage in the case of aeroplanes and seaplanes and volume in the case of dirigibles.

Since France possesses neither the aeroplanes of the heaviest tonnage nor the dirigibles of the greatest volume, the French delegation wishes to reserve all proposals as to the limits to be fixed in order to enable the countries which possess those aircraft to state their views on the subject.

#### Hungarian Delegation.

In the view of Hungary, who is disarmed as far as the air is concerned, and excessively vulnerable to aerial attack, military aircraft are:

The most offensive weapon of all;

The weapon which crushes easily her national defence, which is too weak, and,

The weapon which exposes:

(a) To certain death her civilian population, which has no air defence;

(b) To complete destruction her capital and her industries, which are situated a few kilometres from the frontier; and

(c) To a sudden stoppage all movement on her system of communications.

#### Italian Delegation.

The Italian delegation considers that, among the air weapons which may be at the disposal of military air forces, the following must be regarded as being the most specifically offensive in character, the most efficacious against national defence and the most threatening to civilians:

(1) Dirigibles, irrespective of volume;

(2) Aeroplanes with two or more seats, except two-seater aeroplanes used in schools, provided that their tare weight does not exceed 400 kg., that their power does not exceed 100 h.p., and that the ratio between h.p. and wing area is not less than 4 h.p. : sq.m.

(3) Seaplanes with two or more seats, except two-seater seaplanes used in schools, provided their tare weight does not exceed 450 kg., that their power does not exceed 100 h.p. and that the ratio between power and wing area is not less than 4 h.p. : sq.m.

(4) Aeroplanes, although single-seaters, having a tare weight exceeding 650 kg., a power exceeding 200 h.p. and a ratio between power and wing area than 16 h.p. : sq.m.

(5) Single-seater seaplanes having a tare weight less than 650 kg. which, although having a power between 200 and 100 h.p., have a ratio between power and wing area less than that obtained by linear interpolation:

Between 16 h.p. : sq.m. and 12 h.p. : sq.m. for powers between 200 and 150 h.p.

Between 12 h.p. : sq.m. and 5 h.p. : sq.m. for powers between 150 and 100 h.p.

(6) Seaplanes which, although single-seaters, have a tare weight exceeding 700 kg., a power exceeding 200 h.p. and a ratio between power and wing area less than 16 h.p. : sq.m.

(7) Single-seater seaplanes having a tare weight less than 700 kg. which, although having a power between 200 and 100 h.p., have a ratio between power and wing area less than that laid down in paragraph 5.

*Note.* — The tare weight of aeroplanes and seaplanes is that obtained by deducting from the weight of the fully loaded machine the following weights :

- (1) The pilot with equipment and parachute ;
- (2) The passenger with equipment and parachute ;
- (3) Fuel and oil ;
- (4) Weapons and installations ;
- (5) Extinguishers ;
- (6) Cameras ;
- (7) Wireless apparatus ;
- (8) Navigating instrument ;
- (9) Lighting installations.

### Japanese Delegation.

The Japanese delegation regards as a weapon which is of a specifically offensive character, which is the most efficacious against national defence, and which is also the most threatening to civilians, the aeroplane carried on board an aircraft-carrier or a warship equipped with a landing-platform (or deck).

#### I. *The Specifically Offensive Character of such Aeroplanes.*

1. The offensive character may vary according to the degree of mobility that can be given to one and the same weapon. Thus, the radius of action of an aeroplane which is in service at a land base is restricted and local, whereas the aeroplane carried by a warship has its radius of action increased by the mere fact of the extremely mobile character of the warship that carries it.

It would not be an exaggeration to say, therefore, that aeroplanes in this condition may have a radius of action covering all the continents of the world. For that reason, the Japanese delegation regards aeroplanes of this kind as having the most offensive character. It is also convinced that the possession and use of this weapon make the organisation of the national defence of the various countries extremely complicated, and it will prove a serious obstacle to attempts to limit armaments.

2. The aeroplane in general may be, according to the use which is made of it, a weapon purely defensive in character and indispensable. The aeroplane carried on board ship, on the other hand, is more specifically designed to fly very long distances owing to the extreme mobility of the warship that carries it, in order to attack the enemy soil rather than to defend its own territory.

It will therefore be superfluous to deny the superiority, considered solely from the standpoint of national defence, of aeroplanes in service at land bases over aeroplanes carried on warships, especially when we come to consider the enormous cost of upkeep entailed by the latter.

#### II. *Their Efficacy against National Defence.*

3. As will be seen from the foregoing, an aeroplane of this kind can easily go beyond the radius of action of an air force based on land and can exert its destructive power far into the interior of the enemy country. Hence the effect of bombarding the enemy coast by gunfire would be insignificant compared with the terrible effect that can be produced by the aeroplane carried on board ship. It is for this reason that this weapon should be regarded as the most efficacious against national defence.

4. The prohibition of this aggressive weapon will undoubtedly have the advantage of making offensive operations very difficult and at the same time of making national defence easier.

#### III. *Their Threatening Character to Civilians.*

5. Unlike aeroplanes in general, aeroplanes carried on board ship represent, for the reason set out in paragraph 1, a considerable threat to the civil populations of several nations at once. Hence the construction and maintenance of numerous means of defence against air attack, not only on the coast, but far into the interior of the country, and, as an inevitable consequence, a terrifying increase in expenditure on armaments.

6. The fact that aeroplanes carried on board warships can make surprise attacks in all directions reduces to an incalculable extent the sense of security of civil populations in general, whereas the latter can more easily anticipate the direction from which they are particularly exposed to attack by aeroplanes in service at land bases.

#### Persian Delegation.

The Persian delegation regards as air arms having the characteristics given in the note C.A.12, or capable of being converted into air arms having those characteristics, all aeroplanes, dirigibles or other military or civil aircraft carrying heavy or medium loads and having a radius of action greater than 500 kilometres.

Any poisonous, incendiary or bacteriological bombs that might be dropped by such aircraft also fall into this class of air arms.

#### Polish Delegation.

The Polish delegation is of opinion that the list of armaments (a), (b) and (c) should include bombing aircraft, this term to embrace all aircraft which, owing to their heavy tonnage, can carry projectiles of large calibre in great quantities and, owing to their wide radius of action, allow of surprise aggressive action and enable areas well outside the zone of the armies to be attacked. This latter consideration proves that bombing aircraft represent a special threat to the civil population.

#### Roumanian Delegation.

The Roumanian delegation considers that the air armaments whose character is the most specifically offensive, which are the most efficacious against national defence and which are at the same time the most threatening to civilians are all aircraft (military or other) capable of carrying out air bombardments — that is to say, those which either are or can be equipped for that purpose.

Tonnage and radius of action are the characteristics determining the capacity of an aircraft to be used for air bombardment.

#### Czechoslovak Delegation.

In the opinion of the Czechoslovak delegation, the air weapon to be regarded as the most specifically offensive in character, the most efficacious against national defence and, at the same time, the most threatening to civilians is *bombing aircraft of every kind — that is to say, every sort of aircraft that can be used for air bombardment*. In judging of the capacity of any particular aircraft to be used for this purpose, tonnage and radius of action should, in particular, be taken into consideration.

On the other hand, the Czechoslovak delegation holds that the three criteria referred to are not applicable to other branches of the military air forces, especially fighting aeroplanes which are regarded by the Czechoslovak delegation as a defensive weapon.

The Czechoslovak delegation therefore considers that the Air Commission should proceed in due course to discuss this problem and fix a maximum tonnage and a maximum radius of action below which any aircraft would be deemed to be useless for effective bombardment from the air, corresponding to the three criteria laid down by the General Commission.

#### The Union of Soviet Socialist Republics Delegation.

The Soviet delegation is inclined to regard all military aircraft as a system of armaments:

- (a) Whose character is most specifically offensive;
- (b) Being the most efficacious against national defence;
- (c) Being the most threatening to civilians.

Series of League of Nations Publications :  
VIII. Transit. 1932. VIII. 3.

Official No. : C.467.M.237.1932.VIII.  
[Conf. D./C.A.15.]

Geneva, May 12th, 1932.

### REPORT OF THE AIR TRANSPORT CO-OPERATION COMMITTEE ON ITS SECOND SESSION.

(Held at Geneva, May 9th to 12th, 1932.)

The Bureau of the Air Commission of the Conference for the Reduction and Limitation of Armaments having thought it desirable, for the study of questions relating to the internationalisation of civil aviation and any other measure calculated to prevent the



signatory States from utilising civil aviation for military purposes, to be informed as to the position of the work of the Air Transport Co-operation Committee, the Committee was summoned, and met from May 9th to 12th, 1932.

The Committee was composed as follows :

Professor L. DE BROUCKÈRE, Senator of the Kingdom of Belgium (*Chairman*) ;  
M. Emile ALLARD, Professor at Brussels and Liège Universities, Director of the Belgian Technical Air Service ;  
M. Tord Knutsson ÅNGSTRÖM, Member of the Swedish Central Air Department ;  
Colonel J. BEAURAIN, Officer Commanding 1st Polish Air Brigade ;  
M. Emmanuel CHAUMIÉ, Director of Mercantile Aviation at the French Air Ministry ;  
Lieut.-Col. C. FILIPOWICZ, Chief of the Civil Aeronautics Section of the Polish Ministry of Communications ;  
M. W. FISCH, Geheimer Regierungsrat at the German Ministry of Communications ;  
M. Louis HIRSCHAUER, Chief Engineer in the French Air Service, Head of Private Aviation in the French Ministry of Public Works ;  
Mr. John Jay IDE, Technical Assistant in Europe, National Advisory Committee for Aeronautics, United States of America ;  
Colonel Arnold ISLER, Director of the Swiss Federal Air Office ;  
M. Manlio MOLFESE, Chief of Civil Aviation at the Air Ministry of the Kingdom of Italy ;  
M. S. OKAZAKI, Secretary at the Japanese Ministry of Communications ;  
M. Ed. L. PITTARD, Legal Adviser to the Swiss Federal Air Office ;  
M. R. RUIZ FERRY, former Vice-President of the International Aeronautical Federation (Spain) ;  
Lt.-Col. F. C. SHELMERDINE, Director of Civil Aviation at the Air Ministry of the United Kingdom ;  
M. Tadya SONDERMAYER, Director-General of the Yugoslav Air Navigation Company "Aeropout", Vice-President of the Yugoslav Royal Aero Club ;  
General H. TANI, Brigadier-General, Japanese representative on the International Commission for Air Navigation ;  
M. Emile Th. DE VEER, Director of the Netherlands Air Service ;  
M. A. WEGERDT, Ministerialrat at the German Ministry of Communications.

The following took part in the work of the Committee as Rapporteurs :

M. H. BOUCHÉ, Manager and chief editor of the review *Aéronautique* ;  
M. S. CACOPARDO, Chief of Section at the Italian Air Ministry ;  
M. H. OPIKOFER, Professor at the University of Königsberg.

There also took part in the work of the Committee in an expert capacity :

M. A. PLESMAN, Director of the K.L.M., accompanied by Dr. L. H. SLOTEMAKER, Secretary of the K.L.M.

Also attended :

M. A. ROPEL, Secretary-General of the International Commission for Air Navigation.

*Secretariat :*

Mr. L. C. TOMBS  
Mlle. E. KEY-RASMUSSEN } Members of the Communications and Transit Section.

The Committee having been summoned urgently for the reasons stated above, its agenda was arranged with a view to the possibility that the examination of certain questions studied by the Committee might interest the Air Commission of the Conference for the Reduction and Limitation of Armaments. Accordingly, the second session of the Committee was devoted to the examination of Chapters IV, V and VI of the report on the first session of the Committee, and to a part of Chapters VII and VIII (Section I of Chapter VII and paragraphs A, B and D of Chapter VIII). The Committee took note of the studies made by M. Cacopardo, M. Oppikofer and M. Pittard on the regulations for the registration of aircraft, the administrative formalities to be complied with and the conditions laid down regarding the nationality of aircraft crews.

The Committee considered the report submitted by the Special Sub-Committee for the Study of the Question of the Constitution and Operation of a Main Network of Permanent Air Routes, which sat at Geneva on May 6th and 7th, 1932. The report was adopted in the following form :

**STUDY OF AN INTERNATIONAL AIR NETWORK OF ESSENTIAL CONNECTIONS, BOTH EXISTING AND DESIRABLE.**

The Committee examined the map relating to the scheme of connections regarded as essential within the scope of European activities, which the Sub-Committee submitted for its

consideration. The examination gave rise to several observations on points of detail, to which the Committee calls the Sub-Committee's attention, while requesting it to continue its work on the basis of the map after any revision the latter may undergo.

This scheme in no way prejudices the conditions and modes of operation which may be adopted; the latter may be influenced by technical progress and by the desire to connect distant points without intermediate stopping-places.

#### EXAMINATION OF GROUND ORGANISATION.

The Committee recommends :

(1) A technical uniformity of equipment which should in the first instance be sought within the framework of the International Air Conferences (C.A.I.), care being taken to make the decisions adopted readily accessible to the countries not represented at these Conferences ;

(2) A general organisation in relation to the scheme of connections submitted by the Sub-Committee, subject to any revisions of detail that the scheme may undergo in the course of the Sub-Committee's subsequent proceedings ;

(3) Examination of the principle that the expense of signals, liaisons, guidance and meteorological protection should be borne — even if only partially — by the beneficiaries of the services rendered.

#### OPERATION OF A MAIN NETWORK.

The Committee recommends :

(1) Special treatment for postal services, to the extent required by the exigencies of this type of freight ;

(2) Greater frequency of air services on certain routes ;

(3) Permanence of air services ;

(4) Endeavour to secure greater commercial speed ;

(5) Co-operation between national companies concerned as the best method of operating international services ;

(6) Constant endeavour to make the best use of the possibilities of combined transport.

The Committee proposes to examine on the above lines M. Plesman's observation with regard to the importance of establishing a better connection than heretofore between the different air systems existing in various parts of the globe.

#### DETERMINATION OF CERTAIN EXPERIMENTAL LINES.

As regards the question of experimental lines and their financing, the Committee did not receive in time sufficient information to be able to take any decision. Nevertheless, while reserving the right to pursue its studies to a conclusion, it recommends that the attention of the International Air Conferences should be drawn to this question in order that they may examine what practical effect may be given to the suggestions made.

\* \* \*

The Committee made a thorough examination of the various questions on its agenda. It was unable to reach unanimity in its resolutions on all these questions.

A. The following resolutions were adopted unanimously :

#### 1. CONDITIONS FOR THE ADMISSION OF FOREIGN UNDERTAKINGS ENGAGED IN REGULAR INTERNATIONAL TRANSPORT.

"The experience of the past twelve years has shown that Governments, who are now all shareholders in, and in fact financial guarantors of, their own air undertakings, exercise their sovereign rights over the atmosphere the more strictly where they have to do with foreign undertakings which are as exclusively national as their own, are also subsidised by their Governments and compete more directly with their own undertakings.

"It would appear, therefore, that any progress towards a less rigorous exercise of these sovereign rights and towards greater international co-operation depends largely on (1) a modification in the strictly national character of aircraft, and (2) a decrease in the practice of subsidising undertakings which in consequence of such Government action assume a political character."

#### 2. PROGRESS OF INTERNATIONAL CO-OPERATION IN THE OPERATION OF AIR LINES.

"In order to provide a less precarious legal basis than is at present available for the exploitation of air services, the Committee is of opinion that it would be desirable under present circumstances to conclude bilateral and multilateral agreements with regard to exploitation between the countries concerned, in the hope that these agreements will constitute the basis of increasingly extensive collaboration."

3. STUDY OF CERTAIN LEGAL AND ADMINISTRATIVE QUESTIONS AFFECTING THE DEVELOPMENT OF INTERNATIONAL CO-OPERATION IN AIR TRANSPORT.

"The Committee notes that the last ratifications of the Protocol of June 1929 will shortly confer on the States parties to the 1919 Convention the freedom which other States not parties to this Convention already possess to settle each for itself the conditions under which aircraft are to be registered. It considers it desirable that, in national laws, the registration of aircraft, should not depend solely on the owner's nationality; it should be possible also to register aircraft, the owners of which are foreigners settled in the territory.

"It also expresses a hope that the rule based on the effective domicile of the owner, subject to any rules laid down by the national law concerning duration, will be uniformly adopted for this registration. It being admitted that each aircraft must be registered in one country and in one country only, these uniform rules should allow the possibility of registering aircraft belonging to national companies having some foreign capital or directors."

B. The following proposals were made; they gave rise to the declarations inserted after their texts:

1. CONDITIONS FOR THE ADMISSION OF FOREIGN UNDERTAKINGS ENGAGED IN REGULAR INTERNATIONAL TRANSPORT.

*Proposal by M. Plesman.*

"The Committee,

"Considering that the greatest possible freedom of inoffensive passage constitutes a necessary element for the regular services of international air navigation, since such freedom:

"(1) Gives a permanent and stable basis for private capital and public funds which are or may in future be invested in air navigation undertakings;

"(2) Promotes co-operation on a commercial basis;

"(3) Increases profits and hence reduces subsidies;

"(4) Will enhance the benefits derived by the whole world from air transport;

"Recommends that such freedom should be granted.

"The Committee further considers it desirable that air navigation undertakings operating services in territories other than the national territory, should maintain with the national air services of the countries flown over such friendly relations as may be conducive to the efficiency and smooth working of the international service."

*Declarations:*

(a) The following accepted this proposal:

M. ÅNGSTRÖM,  
M. FISCH,  
Mr. IDE,

M. ISLER,  
M. OPIKOFER,  
Mr. SHELMERDINE,

M. DE VEER,  
M. WEGERDT.

(b) "We could accept M. Plesman's proposal if, in the last paragraph, which implicitly deals with the rights of the country flown over, a more extensive guarantee for such rights were definitely referred to.

(Signed) ALLARD,  
CACOPARDO,  
MOLFESE."

(c) "In our opinion many countries will be unable to give entire freedom of passage to foreign air lines — i.e., permit such lines to enjoy the right to free use of their air space without in return obtaining sufficient guarantees as to the participation of their national undertakings, to a just and reasonable extent, in the common working of the respective air lines.

"For this reason, we are unable to support any proposal for the granting of unilateral privileges in regard to freedom of the air and of flight, exclusively in favour of foreign companies.

(Signed) BEAUBAIN,  
FILIPOWICZ."

(d) "Whereas the increase of the freedom of use by a foreign company of the air space under the sovereignty of a State appears justifiable only on the understanding that national air undertakings of the State flown over shall be entitled to work with the foreign company and thus participate in the undertaking, we unhappily are obliged to refuse to accept any

proposal recommending greater liberality in the interpretation of Article 15 of the Convention on the Regulation of Air Navigation of 1919, so long as the rights of air undertakings of States flown over are theoretically and practically neglected, and so long as their wishes on this subject are opposed by certain European States.

(Signed) BOUCHÉ, HIRSCHAUER,  
CHAUMIÉ, SONDERMAYER. ”

*Proposal by M. Sondermayer.*

“ There are two requisites for the operation of an international air transport undertaking — the financial, administrative and technical bodies and the air space which is under the sovereignty of the various States.

“ In these circumstances, it is right that qualified national commercial representatives of the various States should participate in international undertakings of this kind, in order that all the above-mentioned requisites may be forthcoming.

“ In the light of these principles the creation of international companies operating over vast regions which have common interests (Europe, Mediterranean basin, West Africa, Southern Asia, etc.) would seem to be a most desirable formula for the future, and a logical outcome of the evolution of international co-operation in civil aviation, which is at present characterised by the existing system of pools. ”

*Declarations :*

(a) The following accepted this proposal :

M. ALLARD,	M. FILIPOWICZ,
M. BEAUBAIN,	M. HIRSCHAUER.
M. BOUCHÉ,	M. RUIZ FERRY,
M. CHAUMIÉ,	M. TANI (subject to the reservation that the proposal should for the moment be confined to Europe).

(b) M. PLESAN stated that he could not accept the proposal, chiefly on account of the second paragraph.

(c) The following stated that they could not accept the proposal, chiefly on account of the second and third paragraphs :

M. ÅNGSTRÖM,	M. OPPIKOFER,
M. CACOPARDO,	Mr. SHELMERDINE,
M. FISCH,	M. DE VEER,
M. MOLFESE,	M. WEGERDT.

(d) Mr. IDE stated that he could not accept the proposal.

(e) M. ÅNGSTRÖM and M. ISLER considered that :

“ The study of the ideas contained in paragraphs 2 and 3 of this proposal not being sufficiently far advanced for it to be possible to form a final opinion, we think that the Committee is not at the present time in a position to pronounce an opinion on the subject. ”

## 2. PROGRESS OF INTERNATIONAL CO-OPERATION IN THE OPERATION OF AIR LINES.

*Proposal by M. Fisch.*

“ Whereas the recent development of international commercial aviation confirms the principles which the Committee accepted in 1930,

“ And whereas improvements in international communications have been chiefly effected by the conclusion of bilateral agreements concerning the establishment of international lines,

“ And whereas the difficulties which still remain can to a great extent be surmounted by relying on international conventions and on the system of national operation of international air lines :

“ The Committee,

“ Recommends that Governments should continue and intensify the existing co-operation, particularly by prolonging the duration of international agreements. ”

*Declarations :*

(a) The following accepted this proposal :

M. ÅNGSTRÖM,	M. MOLFESE,	Mr. SHELMERDINE,
M. CACOPARDO,	M. OPPIKOFER,	M. DE VEER,
M. ISLER,	M. PLESAN,	M. WEGERDT.

(b) Mr. IDE accepted M. Fisch's proposal.

(c) "We cannot adhere to this proposal because we consider that there is only one method by which international air navigation will be able to develop on rational lines. By this method, the problem of civil aviation co-operation would be regarded as a whole — *i.e.*, freedom of flight combined with the rights of the countries flown over by the system of operation by international companies.

(Signed) ALLARD, HIRSCHAUER,  
BOUCHÉ, RUIZ FERRY."  
CHAUMIÉ,

(d) M. SONDERMAYER regretted that he could not accept this proposal, being of the opinion :

"(1) That the instability of the pool system could never provide a fair and lasting solution for the two fundamental problems of international commercial air traffic — *viz.* (a) freedom to fly over foreign territory, and (b) the rights of States flown over to exercise control over such flights ;

"(2) That only by (i) the internationalisation of certain commercial lines and (ii) the internationalisation of all services connected with such lines—with the participation on an equitable basis of the various countries concerned — can the difficulties which at present hinder the development of international aviation be overcome."

(e) "The difficulty referred to in this proposal is mainly due to the fact that in practice it has often proved impossible to conclude conventions between the air services of different countries.

"The difficulties are not in any way removed by the measures recommended in the proposal.

"Consequently we are unable to support this proposal.

(Signed) BEURAIN,  
FILIPOWICZ."

*Proposal by M. Bouché.*

"The Committee, taking into consideration certain of the indications contained in M. Bouché's statement, notes :

"(1) That technical progress alone is not likely to bring air transport soon enough into a position of financial independence ;

"(2) That this progress is still retarded by the action of political factors which are totally foreign to the economic sphere in question ;

"(3) That this progress can, on the other hand, be accelerated by general measures of reorganisation agreed upon between States, particularly in the sphere of European activities ;

"(4) That failing the freedom of the air and pending its establishment, a system of international operation is highly desirable on a basis adapted to the different divisions, *viz.*: Europe, main inter-continental communications, inter-colonial routes and services."

*Declarations :*

(a) The following members accepted this proposal :

M. ALLARD,	M. HIRSCHAUER,
M. BEURAIN,	M. RUIZ FERRY,
M. CHAUMIÉ,	M. SONDERMAYER.
M. FILIPOWICZ,	

(b) M. PLESMAN did not accept paragraphs 3 and 4 of the proposal, considering it desirable that these two paragraphs should be replaced by resolution A. 2.

(c) "The undersigned, considering that M. Bouché's proposal introduces, although in other terms, the idea of 'international companies' against which they have many times expressed objections of principle, declare that they are unable to accept this proposal.

(Signed) ÅNGSTRÖM, MOLFESE, DE VEER,  
CACOPARDO, OPPIKOFER, WEGERDT."  
FISCH, SHELMEKDINE,

(d) M. ÅNGSTRÖM and M. ISLER made the following observation :

"A Committee of Experts can scarcely declare — and in vague terms — in a report intended for publication and after hearing a single statement followed by a cursory discussion, that 'general measures of reorganisation can accelerate progress' and that 'a system of international operation is desirable'. It seems to us that the Committee should not pronounce an opinion on these questions without having studied them in detail."

(e) Mr. IDE refrained from expressing an opinion on this proposal.

3. STUDY OF A SPECIAL STATUTE APPLICABLE TO CERTAIN INTERNATIONAL AIR CONNECTIONS OF GENERAL INTEREST.

*Proposal by M. Pittard.*

"Whereas the creation and operation of big international air lines answers to modern economic requirements and to the main purpose of civil aviation ;

"Whereas these lines in the present state of national and international legislation can only be established by means of separate undertakings — *i.e.*, national companies, afterwards grouped in the form of pools .

"Whereas it is in keeping with the development of civil aviation to consolidate these private agreements and even to supplement them by means of international companies with several headquarters :

"Recommends that, in the near future, the elaboration of a legal status permitting the existence of international companies should be taken in hand."

*Declarations :*

(a) M. ALLARD and M. ISLER accepted this proposal.

(b) In accepting M. PITTARD'S proposal, the undersigned made the following reservation :

"Subject to the reservation that we cannot pronounce in advance as to the form of the proposed international company, which might be considered otherwise than with several headquarters.

(Signed) BEURAIN, HIRSCHAUER,  
BOUCHÉ, RUIZ FERRY,  
CHAUMIÉ, SONDERMAYER."  
FLIPOWICZ,

(c) The following declaration was made by the undersigned who did not accept the proposal :

"Whereas the present state of development of commercial aviation is not yet such as to enable the most suitable form for the operation of international air lines to be determined ;

"Whereas the form of an international public law company has never yet been realised for any commercial undertakings or even for land or sea transport undertakings although they have been in existence for centuries ;

"Whereas numerous countries refuse on principle to create an aviation company with an international legal status for fear that international co-operation might suffer ;

"The undersigned, regarding it as inadvisable either to pursue the proposed study or to consider the creation of an international company, are unable to accept M. Pittard's proposal.

(Signed) ÅNGSTRÖM, MOLFESE, DE VEER,  
CACOPARDO, OPPIKOFER, WEGERTD."  
FISCH, SHELMEKDINE,

(d) Mr. IDE and M. PLESMAN also stated that they were unable to accept the proposal.

\* \* \*

*Declaration of M. Pittard.*

M. PITTARD regretted the insertion of different observations following proposals which had been made but which did not meet with unanimous acceptance. He explained thus his abstention with regard to all these proposals.

*Observation.*

Certain of those who took part in the work of the Committee declared that because of their wish for brevity they limited themselves to mentioning their approval of or dissent from the proposals made, without finding it necessary that their reasons for such decisions should figure in the report.

Geneva, May 31st, 1932.

## DRAFT RESOLUTION SUBMITTED BY THE FRENCH DELEGATION

The offensive character of air armaments cannot be determined arbitrarily and must depend on the examination of the conditions which they must fulfil in order to be effective against the objectives which it is desired to attain and on the defence requirements which they meet.

Moreover, the General Commission will not be in a position to take decisions relating to the qualitative limitation of air armaments until the technical factors, which are indispensable to enable it to form a reasoned opinion, have been brought to its notice.

The Air Commission accordingly submits the following considerations and findings which seem to it to meet the intentions of the General Commission :

### I. GENERAL CONSIDERATIONS.

1. If the efficacy of air armaments against the different objectives which it is desired to attain depends on the vulnerability of those objectives and the useful military load which the aircraft can carry, on the other hand the radius of action needed for their direct intervention and for scouting operations, particularly for scouting operations at sea and colonial and inter-colonial communications, depends essentially on the geographical situation and special conditions of each country.

2. The efficacy of armaments against national defence depends on the possibility, in the event of an unforeseen attack and independently of the air defence, of their destroying the obstacles which prevent the advance of the aggressor — that is to say, fortifications ; it is, therefore, from this standpoint that the offensive capacity of air armaments should be defined.

However, it appears to be necessary to examine the effectiveness of these armaments against air or naval bases and against the objectives of the battlefield in order to decide whether their offensive possibilities are greater than the requirements of defence.

Lastly, it appeared that, owing to the fact that military objectives situated outside the battlefield are scattered amidst the civil population, the action of air armaments against them constitutes a danger to civilians and should be examined from this angle.

### II. SPECIAL POINTS.

For information purposes, it should be noted that the useful load of the most powerful aircraft at the present time is 27,000 kg. for civil aircraft and 15,000 kg. for military aircraft.

#### (a) *Observations relating to the General Conditions of Use.*

1. Aircraft intended for direct action on the battlefield or the attack of permanent fortifications must have a crew varying from three to five, together with the arms and ammunition necessary for their own defence.

2. The radius of action — that is to say, the total distance which can be flown — should take into account, not only the absolute distance of the objective, but also the additional distance which may have to be covered for tactical reasons or owing to atmospheric conditions.

3. Under the normal conditions of inaccuracy of aerial aim at an objective of small dimensions, results cannot be obtained by the launching of a single projectile, however powerful. A single aircraft cannot therefore hope to obtain an impact except by firing a volley, the number of projectiles varying from five to twenty according to the power of each, the objective to be attained, and the altitude.

#### (b) *Action against Permanent Fortifications.*

1. Aircraft which are really effective against national defence are those which are capable of carrying, in sufficient number to enable them normally to attain an objective, projectiles capable of destroying permanent fortifications of some strength — that is to say :

(a) In the case of permanent fortifications of great strength a large number of very powerful projectiles — i.e., with a unit weight of between 400 and 500 kg. ;

(b) In the case of permanent fortifications of average strength, a large number of less powerful projectiles — *i.e.*, of a unit weight of at least 250 kg.

*Note.* — The dimensions of the fortifications determine the total number of projectiles needed for their destruction.

Since the distance from their base makes it necessary for them to have a radius of action of at least 500 km. for attacking fortifications situated on land frontiers, and as a rule an even greater radius for attacking maritime fortifications, the aircraft which are really effective against national defence are those which are capable of carrying a useful load<sup>1</sup> of 5,000 to 6,000 kg.

2. Aircraft which can only carry projectiles of a unit weight between 200 and 250 kg. — *i.e.*, a useful load of between 3 and 5 tons — are capable of less effective action against permanent fortifications.

These findings show that any aircraft which is incapable of carrying under general conditions of use a sufficient number of projectiles of a unit weight exceeding 100 kg. is ineffective against permanent fortifications.

#### (c) *Use in Battle.*

The use of aircraft in battle does not give them a specifically offensive character. Some are indispensable to the defence for the purpose of obtaining information as to the dispositions of attack, in regard to which the assailant has the initiative, and others are needed for rapid intervention by direct action in order to delay the progress of attacking columns advancing on open ground or to prevent the offensive action of fleets.

##### 1. *Direct Action.*

Aircraft which can be effectively employed against objectives of the battlefield that are unprotected or only slightly protected, particularly against columns of troops in the open or against convoys, should be capable of carrying forty to fifty bombs of 10 kg. or twenty to thirty bombs of 50 kg. and have a radius of action of at least 500 km. Their useful load should amount to between 2,000 and 3,000 kg.

To be effective against naval forces, aircraft must carry either a torpedo varying from 800 to 1,000 kg. or a load of bombs of at least 1,250 kg. for attacking surface vessels (*i.e.*, three bombs of 450 kg. for attacking capital ships or five bombs of 250 kg. for attacking light vessels) and 600 kg. (four bombs of 150 kg.) for attacking submarines.

Their radius of action depends essentially on the geographical situation of each country. The minimum radius of action enabling them to take part in defensive operations of the fleet against coastal attack is about 1,500 km.

Such aircraft, with their crew of five, maritime equipment and military defence armament (machine-guns), have a useful load of at least 3,500 to 4,000 kg.

##### 2. *Scouting Operations.*

Aircraft used for scouting purposes should be capable of carrying a crew of at least five persons<sup>2</sup> and their own defensive armaments and should have a radius of action making it possible for them to travel at least 500 km. from their bases over the land and at least 1,000 km. over the sea — that is to say, taking the wind into account, a radius of action between 1,200 and 2,500 km.; the useful load which such aircraft should be able to carry is from 3,000 to 4,500 kg.

#### (d) *Action against Air and Naval Bases.*

Aircraft whose action can be effective against military air bases are those that are able to carry from twenty to forty bombs of 50 to 100 kg.; consequently, since the distance of the air bases of a belligerent from their own bases will make it necessary for them to have a radius of action of from 1,200 to 1,500 km., they must carry a useful load of at least 3 tons.

Aircraft whose action can be effective against naval bases are those whose useful load is sufficient to enable them effectively to attack the fortifications of those bases or the warships stationed therein.

#### (e) *Action of Pursuit (Chaser) Aeroplanes.*

Pursuit (Chaser) aeroplanes possess an offensive character when they are used to facilitate aggression by bombing aeroplanes, but the latter, like chaser aeroplanes, meet defence requirements when they are used against the aggressor.

<sup>1</sup> By useful load is meant everything that the aircraft can carry in addition to its "unladen weight" as defined in the Air Commission's report.

<sup>2</sup> Pilot, observer, wireless operator and two machine-gunners.



(f) *Miscellaneous Uses.*

Certain aircraft needed for colonial and inter-colonial communications must have a radius of action of at least 2,000 km., must carry a crew of not less than five, which, with the equipment necessary for the safety of the machine and the crew, means a useful load of from 4 to 5 tons.

Aircraft for the transport of troops, which are particularly useful for the maintenance of order in peace-time in the colonies, should also have a useful load of 3 to 6 tons.

(g) *Threat represented by Air Armaments to Civilians.*

All aircraft, without alterations of any kind and whatever their tonnage, may constitute a danger to civilians if they are used by an army to attack civilians and provided their radius of action is sufficient to attain their objectives.

This threat is due chiefly to the fact that aircraft can launch an attack in the interior of a country in zones beyond the radius of action of land and naval armaments. They can act against a much larger part of the population; but, on the other hand, there is no doubt that the material damage which they are capable of producing is far smaller than that caused by land and naval armaments.

Actually, the extent of the danger depends essentially on the nature of the projectiles used. Projectiles containing harmful gases, bacteria and incendiary projectiles weighing very little may be highly effective and produce a considerable moral effect. Explosive projectiles may produce a more or less considerable moral effect, but they are not capable of causing serious material damage unless they are used in large quantities.

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Conf.D./C.A.30.

Geneva, June 3rd, 1932.

**REPORT BY THE SUB-COMMITTEE ON THE DRAFT RESOLUTION  
SUBMITTED BY THE FRENCH DELEGATION**

(Document Conf. D./C.A.28).

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The Sub-Committee drew up the following text (the declarations and reservations made in regard to this text are annexed):

The offensive character of air armaments cannot be determined arbitrarily and must depend on the examination of the conditions they must fulfil in order to be effective against whatever objectives may be assigned to them and on the defence requirements which they meet.

Moreover, the General Commission will not be in a position to take decisions relating to the qualitative limitation of air armaments until the technical factors which are indispensable to enable it to form a reasoned opinion have been brought to its notice.

The Air Commission accordingly submits the following considerations and findings which seem to it to meet the intentions of the General Commission:

**I. GENERAL CONSIDERATIONS.**

1. If the efficacy of air armaments against the different objectives which may be assigned to them depends on the vulnerability of those objectives and the useful load<sup>1</sup> which the aircraft can carry, on the other hand the radius of action needed for such direct intervention and for scouting operations, particularly at sea, and communications with and between overseas territories, depends essentially on the geographical situation and special conditions of each country.

In particular, the effects of using air armaments cannot be the same in countries with a small area, with their vulnerable points near the frontier, and immediately surrounded by neighbours, as in countries separated from other States by a more or less wide expanse of water.

2. The efficacy of air armaments against national defence depends on the possibilities, in the event of an act of aggression and independently of aerial means of defence, of their destroying the obstacles to the advance of the aggressor, attacking lines of communication, centres of military production and supply depots, air and naval bases, etc.

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<sup>1</sup> By useful load is meant all that an aircraft can carry in addition to its "unladen weight", as defined in the Air Commission's report.

It is also necessary to examine the conditions governing the use of air armaments against mobile forces and other objectives of the land and naval battlefield in order to decide whether their offensive possibilities are greater than the requirements of defence.

3. The discussions of the Sub-Committee revealed the fact that for many countries the effectiveness of air armaments against national defence was due principally to the circumstance that aircraft could attack the vital centres of the country (towns, centres of population, etc.) and weaken the internal resistance. Setting aside considerations regarding international engagements, it was thought desirable to examine the conditions governing their effectiveness.

## II. SPECIAL POINTS.

For information purposes, it should be noted that the useful load of the heaviest aircraft at the present time is about 27,000 kg. for civil aircraft and 15,000 kg. for military aircraft.

### *Observations relating to the General Conditions of Use.*

1. At present, military aircraft must have a crew varying from one to five, together with the arms and ammunition necessary for their own defence. Nevertheless, only aircraft seating more than one and with a crew of at least three men to ensure their defence and an adequate radius of action are capable of flying long distances over other countries and may, in certain cases, offer a more offensive character than others.

2. The radius of action — that is to say, the total distance which can be flown — should take into account, not only the absolute distance of the objective, but also the additional distance which may have to be covered for tactical reasons or owing to atmospheric conditions.

In general, the radius of action necessary for air armaments depends on the special situation of the countries concerned.

In particular, against countries of small area and great density of population, or against countries whose vulnerable points are situated near their frontiers, air armaments might be very effective with a small radius of action, especially if they were employed against the vital centres of these countries.

3. Under the normal conditions of inaccuracy of aerial aim at an objective of small dimensions, results cannot be obtained by the launching of a single projectile, however powerful.

A single aircraft cannot hope to obtain appreciable results from its action, except by launching a salvo containing enough bombs to obtain at least an impact capable of causing serious damage. The dimensions, the nature and resistance of the objective, the altitude of the aircraft and the nature of the defence and the atmospheric conditions influence the precision of the bombardment and determine the characteristics and number of the bombs which must be carried in one and the same load.

If, however, the objective attacked is very extensive, in particular when air armaments take the towns of a country as their objective, precision of aim becomes less necessary and even aircraft of low power, but in large numbers, may prove very effective owing to the moral, if not the material, results which they can obtain.

4. The effectiveness of attack by air against an objective increases with the number of aircraft employed, provided that these aircraft taken individually are effective against that objective.

## III. EFFECTIVENESS AGAINST NATIONAL DEFENCE.<sup>1</sup>

### A. *Action against Permanent Fortifications.*

As the greater part of air armaments are at present ineffective against permanent fortifications, it would be unreasonable to use a single military aeroplane in an attempt to destroy such objectives.

It is pointed out, however :

(1) That aircraft capable of carrying a useful load of 5,000 to 6,000 kg. would be capable of producing serious results against permanent fortifications ;

(2) That aircraft capable of transporting a useful load of from 3,000 to 5,000 kg. would be capable of producing appreciable results, in particular, against dug-outs, but without decisive consequences.

### B. *Action against Vital Centres.*

If, regardless of international engagements, air armaments are employed against vital centres of population of a country, they may, both by the moral and material effects

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<sup>1</sup> The various figures given in the remainder of the report are merely supplied as an indication and are not to be regarded as final.

which they are capable of producing, exercise at times very important indirect action against its national defence.

In general, this action may be all the greater, the smaller the country attacked and the denser its population, if the vital centres are situated near the frontier. It may even be of capital importance if it is directed against the works which, in certain cases, assure the life and existence of a country against a permanent natural menace.

As, however, the centres of population form extensive objectives, particularly vulnerable to the action of gas and especially incendiary bombs, and as the latter may cause very great damage even with a small tonnage, all aircraft having a sufficient radius of action and capable of transporting any useful load in addition to its pilot may, if such projectiles are employed, be effective against the vital centres of a country.

#### C. *Action against Lines of Communication.*

In addition to direct action against convoys and troops upon the battlefield, which will be examined below, aircraft will also be used against troops in centres of mobilisation and against railway junctions and bridges. Where such objectives are in centres of population, aircraft attacking them constitutes a menace to the civilian population in their immediate proximity.

To be effective against troops in centres of mobilisation, aircraft must have a tonnage at least as great as that which can be used against columns on the march and must be equipped with bombs each weighing from 50 to 100 kg.

To be effective against railway junctions and bridges, aircraft must carry the greatest possible number of bombs of from 100 to 500 kg. each.

#### D. *Action against Munition Factories and Supply Depots.*

Munition factories and supply depots which would become important objectives in the case of prolonged warfare are not likely to be attacked by aircraft at the beginning of hostilities. At that stage of the war, the principal military objectives of the aggressor are the destruction of the defence forces and the occupation of centres or lines of communication and of territory.

The aircraft best adapted for bombarding munition factories, etc., are similar to those required for attacking lines of communication.

#### E. *Action against Air and Naval Bases.*

To be effective against military air bases, aircraft must be able to carry from twenty to forty bombs of from 50 to 100 kg.; consequently, since the distance of a belligerent's air base from their own base will make it necessary to have a radius of action of from 1,200 to 1,500 km., they must carry a useful load of at least 3 tons.

To be effective against naval bases, aircraft must be able to carry from three to ten bombs of about 450 kg. each. Their radius of action depends essentially on the geographical situation of each country.

#### F. *Use in Battle.*

The use of aircraft in battle does not give them a specifically offensive character. They are useful to the aggressor both to prepare his attack and to facilitate its development; but they are indispensable to the defence, whether for the purpose of obtaining information as to the dispositions of attack, in regard to which the assailant has the initiative, or for rapid intervention by direct action to delay the progress of attacking columns advancing on open ground or to prevent the offensive action of fleets.

##### 1. *Direct Action.*

(a) Aircraft which can be effectively employed against objectives of the land battlefield that are unprotected or only slightly protected, particularly against columns of troops in the open or against convoys and means of transport and food supply, must be capable of carrying forty to fifty bombs of 10 kg. or twenty to thirty bombs of 50 kg. and must have a radius of action of at least 500 km. Their useful load must amount to between 1,200 and 3,000 kg., according to circumstances.

(b) To be effective against naval forces, aircraft must carry either a torpedo of 800 to 1,000 kg., or a load of bombs of at least 1,250 kg. for attacking surface vessels (*i.e.*, three bombs of 450 kg. for attacking capital ships or five bombs of 250 kg. for attacking light vessels), and 600 (four bombs of 150 kg.) for attacking submarines.

Their radius of action depends essentially on the geographical situation of each country. The minimum radius of action enabling aircraft of coast or land bases to take part in defensive operations of the fleet against coastal attack may be taken as about 1,500 km.

Such aircraft, with their crew of five, maritime equipment and military defence armament (machine-guns), have a useful load of at least 4,500 to 5,000 kg.

## 2. *Scouting Operations.*

Certain aircraft used for scouting purposes must be capable of carrying a crew of at least five persons and their own defensive armaments and should have a radius of action enabling them to travel at least 500 km. from their bases over the land and at least 1,000 km. over the sea — that is to say, taking the wind into account, a radius of action of 1,200 to 2,500 km. ; the useful load which such aircraft must be able to carry is 3,000 to 6,500 kg.

## G. *Action of Pursuit (Chaser) Aeroplanes.*

Pursuit (chaser) aeroplanes possess an offensive character when used to facilitate aggression by bombing aeroplanes, but both meet defence requirements when used against an aggressor.

## H. *Miscellaneous Uses.*

Certain aircraft needed for communications with and between overseas territories must have a radius of action of at least 2,000 km., must carry a crew of not less than five, which, with the reserves necessary for the safety of the machine and the crew, means a useful load of about 4 or 5 tons.

Aircraft for the transport of troops, which are particularly useful for the maintenance of order in peace-time in the colonies, must also have a useful load of 3 to 6 tons.

## IV. MENACE OF AIR ARMAMENTS TO CIVILIANS.

All aircraft, without alterations of any kind and whatever their tonnage, may constitute a danger to civilians if used directly to attack civilians as well as against military objectives situated in densely populated areas.

This threat is due chiefly to the fact that aircraft can make their action felt in the interior of a country in zones beyond the radius of action of land and naval armaments. They can act against a much larger part of the population ; but, on the other hand, there is no doubt that the material effects they are capable of producing on the battlefield are far less than those caused by land or naval armaments.

Actually, the extent of the danger depends essentially on the nature of the projectiles used. Projectiles containing harmful gases or bacteria, and incendiary projectiles weighing very little, may be highly effective and produce a considerable moral effect. Explosive projectiles may produce a more or less considerable moral effect, but they are not capable of causing serious material damage unless used in large quantities.

[*Translation.*]

## Annex.

### 1. DECLARATION BY THE GERMAN DELEGATION.

At the plenary meeting of the Air Commission, the German delegation stated that it was not in favour of the proposal to examine the General Commission's three questions in detail by means of a discussion of the French questionnaire, a procedure which would take much time, owing to the need to clear up these problems from the point of view of the science of warfare. It did not consider that this study was necessary for the purpose of giving a clear and adequate reply to the General Commission's questions. The Air Commission having decided, however, to discuss the French questionnaire in a Sub-Committee and the French delegation having itself submitted a draft reply to this questionnaire, the German delegation, with the object of co-operating, endeavoured to amend the draft reply so that it would also take account of the position of countries possessing no military aviation and no means of anti-aircraft defence.

As the reply to the French questionnaire, which was the outcome of the somewhat brief discussions of the Sub-Committee, does not take the situation of these countries into account, the German delegation is unable to accept it. In this connection, the German delegation draws attention to its general reservation with regard to the "findings" set out in the Air Commission's report to the General Commission.

### 2. DECLARATIONS BY THE AUSTRIAN, BULGARIAN AND HUNGARIAN DELEGATIONS.

The Austrian, Bulgarian and Hungarian delegations support the German delegation's declaration, and call attention to their general reservations in the Air Commission.

### 3. DECLARATION BY THE BELGIAN DELEGATION.

The Belgian delegation, while stating that it is not in a position to give an opinion based on all the figures supplied by the Sub-Committee, declares that it had the honour previously to submit a proposal fixing the maximum unladen weight of aeroplanes at 1,500 kg. It is therefore able to support the conclusions resulting from the Sub-Committee's document only in so far as they are compatible with the value the Belgian delegation itself proposed for the criterion, unladen weight.

### 4. DECLARATION BY THE ITALIAN DELEGATION.

The Italian delegation would have been glad here, as always, to co-operate. In examining the first and second draft replies to the French delegation's questionnaire, however, it felt, possibly mistakenly, that in view of the principles laid down in these replies and the necessity of taking into consideration, first, fortifications and then obstacles, it felt, I repeat, possibly mistakenly, that the general effect was to justify the retention of heavy tonnages, to cause existing air armaments to be considered as not possessing or possessing only to a small extent the characteristics of aggressiveness and of not being threatening to civilians, and that these principles were clearly at variance with the task entrusted to us by the General Commission and the principles of the Disarmament Conference.

The Italian delegation, which has already on various occasions, and especially in its proposal of April 28th, clearly stated its point of view, is of opinion that the latter is too far removed from the conceptions which are here taken into consideration, and that its intervention in the discussion would not be very likely to assist in arriving at any solution whatsoever, particularly when the rapidity with which the Sub-Committee would have to proceed is remembered.

The Italian delegation consequently asks the Sub-Committee to allow it to refrain from taking part in this discussion, reserving its right to make known its point of view on this question in the full Committee when the Sub-Committee's report is discussed.

### 5. DECLARATIONS OF THE SPANISH AND SWEDISH DELEGATIONS.

The Spanish and Swedish delegations consider that this document is very useful for the information of the Air Commission. They desire, however, to make every reservation as to the figures contained therein, which they are able to accept only in so far as they are compatible with the limiting figures contained in the proposal they will have had the honour to submit together with other delegations.

### 6. RESERVATION OF THE NETHERLANDS DELEGATION.

To divide the load of bombs required for effective action against a certain objective among as large a number of aeroplanes as possible would result in lower tonnage figures for aircraft than those given in the Sub-Committee's report. These figures would be still further decreased if the radius of action of aircraft were reduced.

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*Series of League of Nations Publications :*  
IX. Disarmament. 1932.IX.48.

*Official No. : Conf. D.123.*  
[Conf.D./C.A.34(1).]

Geneva, June 8th, 1932.

## REPORT TO THE GENERAL COMMISSION CALLED FOR BY THAT COMMISSION'S RESOLUTION DATED APRIL 22ND, 1932

(Document Conf. D./C.G.28(2)).

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*Rapporteur : M. BOHEMAN (Sweden).*

The questions put to the Air Commission by the General Commission's resolution of April 22nd, 1932, were the following :

What are the air armaments :

- (a) Whose character is the most specifically offensive ;
- (b) Which are the most efficacious against national defence ;
- (c) Which are the most threatening to civilians ?

Although it was made clear in the discussions in the Air Commission that the offensiveness of the air armaments, their efficacy against national defence, and the threat that they represent to civilians vary considerably on account of the wide differences in the geographical position of different countries, the location of their vital centres, and the state of their anti-aircraft defences, and that any qualitative question in connection with air armaments is closely bound up with quantitative considerations, the Commission found it possible to set down certain general conclusions, which form Part I of this report. The Commission also undertook a technical study of the efficacy and the use of air armaments. The results of this study form Part II of the present report. Part III contains several comments in regard to Parts I and II, and Part IV contains statements by various delegations, with an introduction.

## PART I.

These conclusions are as follows :

I (a) All air armaments can be used to some extent for offensive purposes, without prejudice to the question of their defensive uses.

If used in time of peace for a sudden and unprovoked attack, air armaments assume a particularly offensive character. In effect, before the State victim of the aggression can take the defensive measures demanded by the situation, or before the League of Nations or States not involved in the conflict could undertake preventive or mediatory action, the aggressor State might in certain cases be able rapidly to obtain military or psychological results, such as would render difficult either the cessation of hostilities or the re-establishment of peace.

(b) Civil aircraft, to the extent that they might be incorporated into the armed forces of a State, could in varying degrees subserve military ends.

(c) Independently of the offensive character which air armaments may derive from their use, their capacity for offensive action depends on certain of their constructional characteristics.

(d) The possibilities of offensive action of aeroplanes carried by aircraft-carriers or warships equipped with landing-platforms (or landing-decks) must be regarded as being increased by the mobility of the vessels which carry them.

(e) The capacity for offensive action of air armaments resulting from such constructional characteristics should first be considered from the point of view of the efficacy of such armaments against national defence, and secondly from the point of view of the threat offered thereby to the civilian population.

### EFFICACY AGAINST NATIONAL DEFENCE.

II (a) The aircraft forming a part of the air armaments of a country that may be regarded as most efficacious against national defence are those which are capable of the most effective direct action by the dropping or launching of means of warfare of any kind.

(b) The efficacy against national defence of an aircraft forming part of such armaments, and considered individually, depends upon its useful load and its capability of arriving at its objective.

(c) The efficacy against national defence of means of warfare of every kind launched from the air depends upon the material effect which they are capable of producing.

### THREAT TO CIVIL POPULATION.

III (a) The aircraft forming part of the air armaments of a country which can be regarded as the most threatening to the civil population are those which are capable of the most effective direct action by the dropping or launching of means of warfare of any kind ; this efficacy depends primarily upon the nature of the means of warfare employed and the manner in which they are employed.

(b) The degree of threat to the civil population represented by an aircraft forming part of those armaments, and considered individually, is in proportion to its useful load and its capability of arriving at its objective.

(c) The means of warfare, intended to be dropped from the air, which are the most threatening to the civil population are those which, considered individually, produce the most extended action, the greatest moral or material effect ; that is to say, those which are the most capable of killing, wounding and immobilising the inhabitants of centres of civil population or of demoralising them, so far as concerns immediate consequences, and so far as concerns future consequences, of impairing the vitality of human beings. Among these means the Commission specially mentions poisonous gases, bacteria and incendiary and explosive appliances.

IV. The useful load of aircraft and their capability of arriving at their objective are determined by a large number of variable factors. Where useful load is concerned, the Air Commission has noted among these variable factors, for purposes of examination, the unladen weight, the horse-power and the wing area for aeroplanes, the volume and the horse-power for dirigibles.<sup>1</sup>

## PART II.

The offensive character of air armaments cannot be determined arbitrarily and must depend on the examination of the conditions they must fulfil in order to be effective against whatever objectives may be assigned to them, and on the defence requirements which they meet.

Moreover, the General Commission will not be in a position to take decisions relating to the qualitative limitation of air armaments until the technical factors which are indispensable to enable it to form a reasoned opinion have been brought to its notice.

The Air Commission accordingly submits the following considerations which seem to it to meet the intentions of the General Commission. It would, however, emphasise that the figures given in Section III below are purely for purposes of indication; they are not absolute, and in no way bind the delegations in the matter of any proposals for qualitative limitation which they may submit elsewhere.

### I. GENERAL CONSIDERATIONS.

1. While the efficacy of air armaments against the different objectives which may be assigned to them depends on the vulnerability of those objectives and the useful load<sup>2</sup> which the aircraft can carry, on the other hand, the radius of action needed for such direct intervention and for scouting operations, particularly at sea, and communications with and between overseas territories depends essentially on the geographical situation and the special conditions of each country.

In particular, the effects of using air armaments cannot be the same for all countries; for example, those with a small area, with their vulnerable points near the frontiers of other States, and those surrounded by a wide expanse of water.

2. The efficacy of air armaments against national defence depends on the possibility, in the event of an act of aggression, and independently of aerial means of defence, of their destroying the obstacles to the advance of the aggressor, attacking lines of communication, centres of military production and supply depôts, air and naval bases, etc.

It is also necessary to examine the conditions governing the use of air armaments against mobile forces and other objectives of the land and naval battlefield in order to decide whether their offensive possibilities are greater than the requirements of defence.

3. The discussions of the Air Commission revealed the fact that for many countries the effectiveness of air armaments against national defence was due principally to the circumstance that aircraft could attack the vital centres of a State (towns, centres of population, etc.) and weaken the internal resistance. Leaving aside considerations regarding international engagements, it was thought desirable to examine the conditions governing their effectiveness.

### II. SPECIAL POINTS.

For information purposes it should be noted that the useful load of the heaviest aircraft at the present time is about 27,000 kg. for civil aircraft and 15,000 kg for military aircraft.

#### *Observations relating to the General Conditions of Use.*

1. At present, military aircraft must have a crew varying from 1 to 5, together with the arms and ammunition necessary for their own defence. Nevertheless, only aircraft seating more than one and with a crew of at least three men to ensure their defence and an adequate radius of action are capable of flying long distances over other countries and may, in certain cases, offer a more offensive character than others.

2. The radius of action — that is to say, the total distance which can be flown — should take into account not only the absolute distance of the objective but also the additional distance which may have to be covered for tactical reasons or owing to atmospheric conditions.

In general, the radius of action necessary for air armaments depends on the special situation of the countries concerned.

In particular, against countries of small area and great density of population, or against countries whose vulnerable points are situated near their frontiers, air armaments

<sup>1</sup> For the result of this examination see page 6.

<sup>2</sup> By "useful load" is meant all that an aircraft can carry in addition to its "unladen weight", as defined in Annex I of this report.

might be effective with a small radius of action, especially if they were employed against the vital centres of these countries.

3. Under the normal conditions of inaccuracy of aerial aim at an objective of small dimensions, results cannot be obtained by the launching of a single projectile, however powerful.

A single aircraft cannot hope to obtain appreciable results from its action except by launching a salvo containing enough bombs to obtain at least one impact capable of causing serious damage. The dimensions, the nature and resistance of the objective, the altitude of the aircraft, the nature of the defence and the atmospheric conditions influence the precision of the bombardment and determine the characteristics and number of the bombs which must be carried in one and the same load.

If, however, the objective attacked is very extensive — in particular, when air armaments take the centres of population of a country as their objective — precision of aim becomes less necessary, and even aircraft of low power but in large numbers may prove very effective owing to the moral, if not the material, results which they can obtain.

4. The effectiveness of attack by air against an objective increases with the number of aircraft employed, provided that these aircraft taken individually are effective against that objective.

### III. EFFECTIVENESS AGAINST NATIONAL DEFENCE.

#### A. *Action against Permanent Fortifications.*

As the greater part of air armaments are at present ineffective against permanent fortifications, it would be unreasonable to use a single military aeroplane in an attempt to destroy such objectives.

It is pointed out, however :

(1) That aircraft capable of carrying a useful load of 5,000-6,000 kg. would be capable of producing serious results against permanent fortifications.

(2) That aircraft capable of transporting a useful load of from 3,000-5,000 kg. would be capable of producing appreciable results, in particular against dug-outs, but without decisive consequences.

#### B. *Action against Vital Centres.*

If, regardless of international engagements, air armaments are employed against vital centres of population of a country, they may, both by the moral and material effects which they are capable of producing, exercise very important indirect action against its national defence.

In general, this action may be all the greater, the smaller the country attacked and the denser its population, or if the vital centres are situated near the frontier. It may even be of capital importance if it is directed against the works which, in certain cases, assure the life and existence of a country against a permanent natural menace.

As, however, the centres of population form extensive objectives, particularly vulnerable to the action of gas and especially incendiary bombs, and as the latter may cause very great damage even with a small tonnage, all aircraft having a sufficient radius of action and capable of transporting any useful load in addition to its pilot may, if such projectiles are employed, be effective against the vital centres of a country.

#### C. *Action against Lines of Communication.*

In addition to direct action against convoys and troops upon the battlefield, which will be examined below, aircraft may also be used against troops in centres of mobilisation and against railway junctions and bridges. Where such objectives are in centres of population, aircraft attacking them constitute a menace to the civilian population in the immediate vicinity.

To be effective against troops in centres of mobilisation, aircraft must have a tonnage at least as great as those which can be used against columns on the march, and must be equipped with bombs each weighing from 50 to 100 kg.

To be effective against railway junctions and bridges, aircraft must carry the greatest possible number of bombs of from 100 to 500 kg. each.

#### D. *Action against Munition Factories and Supply Depôts.*

Munition factories and supply depôts which would become important objectives in the case of prolonged warfare are not likely to be attacked by aircraft at the beginning of hostilities. At that stage of the war the principal military objectives of the aggressor are the destruction of the defence forces and the occupation of centres or lines of communication and of territory.



The aircraft best adapted for bombarding munition factories, etc., are similar to those required for attacking lines of communication.

#### E. *Action against Air and Naval Bases.*

To be effective against military air bases, aircraft must be able to carry from 20 to 40 bombs of from 50 to 100 kg. Consequently, since the distance of one belligerent's air base from that of another belligerent will make it necessary for them to have a radius of action of from 1,200 to 1,500 km., they must carry a useful load of at least three tons.

To be effective against naval bases, aircraft must be able to carry from three to ten bombs of about 450 kg. each. Their radius of action depends essentially on the geographical situation of each country.

#### F. *Use in Battle.*

The use of aircraft in battle does not give them a specifically offensive character. They are useful to the aggressor both to prepare his attack and to facilitate its development; but they are indispensable to the defence, whether for the purpose of obtaining information as to the disposition of attack, in regard to which the assailant has the initiative, or for rapid intervention by direct action to delay the progress of attacking columns advancing on open ground or to prevent the offensive action of fleets.

##### 1. *Direct Action.*

(a) Aircraft which can be effectively employed against objectives of the land battlefield that are unprotected or only slightly protected, particularly against columns of troops in the open or against convoys and means of transport and food-supply, must be capable of carrying 40 to 50 bombs of 10 kg. or 20 to 30 bombs of 50 kg., and must have a radius of action of at least 500 km. Their useful load must amount to between 1,200 to 3,000 kg. according to circumstances.

(b) To be effective against naval forces, aircraft must carry either a torpedo of 800-1,000 kg. or a load of bombs of at least 1,250 kg. for attacking surface vessels (i.e., 3 bombs of 450 kg. for attacking capital ships, or 5 bombs of 250 kg. for attacking light vessels), and 600 kg. (4 bombs of 150 kg.) for attacking submarines.

Their radius of action depends essentially on the geographical situation of each country. The minimum radius of action enabling aircraft of coast or land bases to take part in defensive operations of the fleet against coastal attack may be taken as about 1,500 km.

Such aircraft, with their crew of five, maritime equipment and military defence armament (machine-guns), have a useful load of at least 4,500 to 5,000 kg.

##### 2. *Scouting Operations.*

Certain aircraft used for scouting purposes must be capable of carrying a crew of at least five persons and their own defensive armament, and should have a radius of action enabling them to travel at least 500 km. from their bases over the land and at least 1,000 km. over the sea — that is to say, taking the wind into account, a radius of action of 1,200 to 2,500 km.; the useful load which such aircraft must be able to carry is 3,000 to 6,500 kg.

#### G. *Action of Pursuit (Chaser) Aeroplanes.*

Pursuit (chaser) aeroplanes possess an offensive character when used to facilitate aggression by bombing aeroplanes, but both meet defence requirements when used against an aggressor.

#### H. *Miscellaneous Uses.*

Certain aircraft needed for communication with and between overseas territories must have a radius of action of at least 2,000 km. and must carry a crew of not less than 5, which, with the reserves necessary for the safety of the machine and the crew, means a useful load of about four or five tons.

Aircraft for the transport of troops, which are particularly useful for the maintenance of order in peace-time in overseas territories, must also have a useful load of three to six tons.

### IV. MENACE OF AIR ARMAMENTS TO CIVILIANS.

All aircraft, without alterations of any kind and whatever their tonnage, may constitute a danger to civilians, whether used directly to attack civilians or against military objectives situated in densely-populated areas.

This threat is due chiefly to the fact that aircraft can make their action felt in the interior of a country in zones beyond the radius of action of land and naval armaments. They can act against a much larger part of the population ; but, on the other hand, there is no doubt that the material effects they are capable of producing in the zone of the battlefield are far less than those caused by land or naval armaments.

Actually, the extent of the danger depends essentially on the nature of the projectiles used. Projectiles containing harmful gases or bacteria, and incendiary projectiles, though of small tonnage, may be highly efficient and produce a considerable moral effect. Explosive projectiles may produce a more or less considerable moral effect, but they are not capable of causing serious material damage unless used in large quantities.

### PART III.

The conclusions in Part I of this report give rise to the following comments :

In the first place, the German delegation submitted an amendment referring to all the foregoing conclusions, as follows :

“ All military aviation, and especially the dropping of means of warfare of every kind from the air, come into the three categories.”

In order to specify the material of air armaments for this purpose, the German delegation, on the basis of the arguments advanced during the discussion, desired to supplement the above amendment as follows :

“ By military aircraft are to be understood all aircraft (e.g., aeroplanes, dirigibles, free and captive balloons) :

- “ (1) Which are identified by identity-marks as military aircraft, or
- “ (2) Which have military specifications : that is to say, installations to receive means of warfare of every kind such as guns, machine-guns, torpedoes, bombs, or instruments for aiming or launching such means of warfare, or
- “ (3) Which are manufactured for the armed forces of a country, or
- “ (4) Which are manned by a military pilot or a military crew having orders to that effect, or
- “ (5) Which form part of the equipment of an armed force or are requisitioned by such force.”

The primary reasons given by the German delegation for this amendment was that for a country which has no means of anti-aircraft defence, either in the air or on the ground, all air armaments without any distinction must be regarded as answering to the three questions put by the General Commission's resolution.

A number of delegations which opposed the German proposal pointed out that only certain air armaments could be regarded as answering to these questions, while other delegations, which also could not see their way to accept the German proposal, expressed the view that in any case different forms of air armaments answered to these characteristics in different degrees.

The German amendment was rejected by 22 votes to 7—those of Austria, Bulgaria, China, Germany, Hungary, Turkey and the Union of Soviet Socialist Republics. In consequence of this vote, the Austrian and German delegations, though taking part in the discussion, abstained from voting on points I (a), (b), (c), (d), (e), II (a), (b) and (c), and III (a), (b) and (c).

In connection with the conclusion numbered I (a), first paragraph, the Italian delegation proposed the omission of the words : “ without prejudice to the question of their defensive uses ”. As, however, this amendment was rejected by 18 votes to 12, the Italian, Turkish and Soviet delegations made an explicit reservation against the retention of these words, on the ground that the question of the use of air armaments for defensive purposes was outside the terms of the General Commission's resolution.

After a discussion in some detail, the Commission, not wishing to go at present into the question of the internationalisation or control of civil aviation, adopted conclusion I (b), with the two abstentions already mentioned. The Hungarian delegation made a declaration maintaining that the civil aircraft of a country which has no military aircraft cannot be incorporated in its armed forces. The Soviet delegation made a declaration to the effect that it held that all military aircraft were specifically offensive in character, whether they were built specially for military purposes or were subsequently converted to such purposes ; and that it saw no need to mention civil aircraft in the report, as they could not be regarded as a weapon.

Conclusion I (d) was adopted by 16 votes to 2 (United States of America and Portugal). In consequence of this vote, the United States delegation made the following declaration :

“ The delegation of the United States considers that the statement in Paragraph I (d) as to the increased possibility of offensive action of ship-based aircraft is inappropriate for inclusion in a report which deals with aircraft generally and which does not otherwise discuss specific types of aircraft or the influence of the base of action upon their offensive capabilities.

“ One of the tests already contained in the report is that of capability of arriving at an objective. Thus the mobility feature of ship-based aircraft if already taken into account and any further reference in the report which might give the impression that individual ship-based aircraft are more specifically offensive than individual aircraft taking off from bases close to land frontiers is misleading.”

The Portuguese delegation associated itself with this declaration, and the United Kingdom delegation stated that it shared the views therein expressed.

As regards the *efficacy of air armaments against national defence*, the following delegations : South Africa, Argentine Republic, Australia, Bolivia, Brazil, United Kingdom, Canada, Chile, Czechoslovakia, France, Greece, India, Japan, New Zealand, Poland, Portugal, Roumania, United States of America and Yugoslavia, voted for the inclusion in the text of the following statement :

“ The air armaments most efficacious against national defence may also in certain circumstances be the most efficacious for their own national defence.”

Twenty-two other delegations—Afghanistan, Austria, Belgium, Bulgaria, China, Denmark, Estonia, Finland, Germany, Hungary, Italy, Latvia, Lithuania, Mexico, the Netherlands, Norway, Persia, Siam, Spain, Sweden, Turkey and the Union of Soviet Socialist Republics—though they did not deny the truth of this statement, considered that it was unnecessary to insert it in the reply to the General Commission.

In its consideration of the question of the *threat to civilians* constituted by air armaments, the Commission constantly bore in mind the existence of certain international undertakings for the protection of civilians in time of war. It considered, however, that its reply to the questions asked by the General Commission must be prepared solely from the point of view of technical possibilities, and apart from any legal or political considerations.

During the discussion on the question as to *which criterion or criteria* should be adopted among those considered by the Commission and set out under IV of Part I — namely, unladen weight, horse-power and wing area for aeroplanes, volume and horse-power for dirigibles — a profound difference of opinion was manifested in the Commission. It was generally felt that there were great difficulties in the way of establishing formulæ which, in view of the constant progress made in technique, were subject to modification. It was nevertheless agreed that unladen weight was an essential criterion for aeroplanes and volume for dirigibles and must be adopted.

A provisional definition of unladen weight was unanimously accepted by the Commission, and figures as Annex I to the present report.

Eighteen delegations — South Africa, Australia, United Kingdom, Canada, Czechoslovakia, Estonia, France, India, Japan, Latvia, Lithuania, the Netherlands, Poland, Portugal, Roumania, Siam, the United States of America, Yugoslavia — considered that for purposes of practical comparison unladen weight alone was an adequate criterion. They held that the addition of two other criteria for aeroplanes would considerably complicate the question owing to the facility with which wing area and especially horse-power could be modified. They added that they thought it impossible to obtain a satisfactory definition of horse-power and to form a practical estimate of its value and of the value of wing area, and, further, that the adoption of these two criteria might hinder the sound development of technique.

Twenty-one delegations — Afghanistan, Argentine, Austria, Belgium, Bolivia, Brazil, Bulgaria, Chile, China, Denmark, Finland, Germany, Greece, Hungary, Italy, Mexico, Spain, Sweden, Switzerland, Turkey and the Union of Soviet Socialist Republics — held that unladen weight alone was inadequate, and that horse-power and wing area should also be adopted. Certain of the delegations mentioned above considered that in dividing aeroplanes into categories it was necessary to take into consideration, not only the unladen weight, but also the horse-power and the ratio between horse-power and wing area, as criteria of equal value. They pointed out that unladen weight as the sole criterion could not give satisfactory results, since, even were the unladen weight constant, the useful load could vary considerably if there were a more powerful engine or a different wing area.

As regards the definitions of horse-power and wing area, the Commission's discussions have shown that sufficient light has not yet been thrown on the technical aspect of these questions to enable a number of the delegations in favour of the three criteria to express an opinion on the definitions to be established for the two criteria mentioned above.

As regards horse-power, certain of those delegations referred to the conclusions of the report of the Committee of Experts to fix rules for the adoption of a standard horse-power measurement for aeroplane and dirigible engines (document C.259.M.115.1931), while the Italian delegation submitted a slightly different definition, which is annexed (Annex III) to the present report.

As regards wing area, proposed definitions have been furnished by the Spanish and Italian delegations and figure as Annexes II and III to the present report.

Certain delegations who declared themselves in favour of the three criteria added that they considered that both horse-power and wing area could be computed with sufficient accuracy (though less accurately than unladen weight) to enable them to be effectively used in the comparative measurement of the useful load of aircraft, and that three criteria, however imperfect, would be more reliable than one.

Other delegations among the group favouring the three criteria considered that the question whether a single criterion should be adopted or whether the two others should be added as auxiliary criteria could not be finally settled until the Commission had come to a definite decision as to the figures to which those criteria would apply.

\* \* \*

The technical study of which Part II consists was undertaken as the outcome of a questionnaire and draft reply thereto submitted by the French delegation.

The result of this study was not included in the report until a vote had been taken by the Air Commission, 23 delegations (South Africa, the Argentine, Australia, Belgium, Brazil, United Kingdom, Czechoslovakia, Estonia, Finland, France, India, Japan, Latvia, Netherlands, Norway, Poland, Portugal, Roumania, Siam, Spain, Sweden, United States of America, Yugoslavia) voting in favour of its inclusion and 12 against (Afghanistan, Austria, Bolivia, Bulgaria, China, Germany, Hungary, Italy, Lithuania, Mexico, Turkey, Union of Soviet Socialist Republics). The reasons which led the minority to vote against it are clearly shown by the general reservations of the Austria, Bulgarian, German, Hungarian, Italian and Soviet delegations.

Among the delegations which voted in favour of the inclusion of the study in question in the report or who abstained, the delegations of Belgium, Brazil, Denmark, Estonia, Mexico, Netherlands, Norway, Portugal, Spain, Sweden and Switzerland made reservations in regard to the figures given in this part of the report, and also stated that they entirely reserved their opinions as to the conclusions to be drawn from the findings contained therein.

#### PART IV.

Although certain delegations maintained that in view of the General Commission's three questions it was impossible to draw a distinction between the different kinds of air armaments,<sup>1</sup> it will nevertheless be seen from its deliberations that the Commission was unanimously of opinion that air bombardment is a grave threat to civilians.

In this connection, certain delegations which were in favour of the absolute prohibition of air bombardment contemplated the possibility of designating bombing aeroplanes as the most specifically offensive air arms, the most efficacious against national defence, and the most threatening to civilians. The Commission was unable to accept this solution, however, for the following reasons: The technical explanations given in different quarters have shown that bombing aeroplanes cannot simply be designated by name, as the same aeroplanes may be used for entirely different purposes. Thus, in several important countries, exactly the same aeroplanes form part of bombing and scouting units.

After considering the aeroplanes at present in service in the air armaments of different countries, however, certain delegations thought it would be possible to fix a limit based on technical data, above which the majority of aeroplanes were, in the opinion of these delegations, specially suitable for air bombardment.<sup>2</sup>

It should be noted that one delegation put forward definite proposals suggesting a very low limit, based on technical data, above which it considered that all military aviation answered to the General Commission's three criteria.<sup>3</sup>

Finally, it should be noted that one delegation proposed to classify among arms which are the most offensive, the most efficacious against national defence, and the most threatening to civilians, all kinds of air bombs and all appliances for the aiming and launching of such bombs.<sup>4</sup>

<sup>1</sup> Declarations by the delegations of Austria, Bulgaria, Germany and Hungary (see pages 307-308) and of Persia (see page 310).

<sup>2</sup> Declaration of Belgium, Mexico, Netherlands, Portugal, Spain, Sweden and Switzerland (see page 308).

<sup>3</sup> Italian declaration (see page 308).

<sup>4</sup> Netherlands declaration (see page 310).

DECLARATION BY THE GERMAN DELEGATION.

I. *Reservation relating to the Findings contained in Part I of the Report.*

The German delegation was not in a position to accept the "findings" of the Air Commission's report. The Air Commission, in accordance with the General Commission's decisions, should have considered what are the arms which, in view of their specific character, are most likely to lead rapidly to success, assuming that a State adopts a policy of armed aggression.

The German delegation considers that military aviation as a whole should be regarded as aggressive from this point of view. This consideration applies in particular to a country which possesses no military air force, or which has already abolished it by disarmament, and which has also no means of defence against aircraft either in the air or on the ground. In view of the situation of such a country, the German delegation considers that it is not possible to draw a distinction between the different categories of air arms according to their more or less offensive character, or their greater or lesser efficacy against national defence, or their greater or lesser threat to civilians. In the case of such a country, the air arm as a whole, without any distinction, comes, for purely technical reasons, under the three heads into which the question raised by the General Commission is divided. Germany, who was disarmed under the Treaty of Versailles, also bases her conception on the technical disarmament clauses which form part of that treaty.

The German delegation also wishes to point out that, in compiling its report, the majority of the Air Commission considered that the offensive character of air arms could only be determined after an examination of the degree of their efficacy against national defence and the extent of the threat constituted by them to civilians. However, after carrying out this examination, the Air Commission failed to reply to the first and most important of the questions asked by the General Commission, and did not reach any definite decision as to the arms which have a specifically offensive character.

Lastly, the German delegation considers that means of warfare of every kind capable of being launched from the air should be regarded in general as specifically offensive, particularly efficacious against national defence, and specially threatening to civilians. This applies *a fortiori* to a country without any anti-aircraft defence.

II. *Reservations concerning Part II of the Report.*

With reference to the foregoing reservation, the German delegation states that :

At the plenary meeting of the Air Commission, the German delegation stated that it was opposed to the proposal to submit the General Commission's three questions to a thorough examination by a discussion of the French questionnaire — a procedure which would take a good deal of time in view of the necessity of clearing up these problems from the point of view of the science of warfare. It considered that this study was unnecessary in order to give a clear and adequate reply to the questions put by the General Commission. However, the Air Commission having decided that the French questionnaire should be discussed by a sub-committee, and the French delegation having itself submitted a draft reply to that questionnaire, the German delegation endeavoured, with a view to co-operating in this examination, to amend the draft reply in order to take into account the position of countries which do not possess any military air force, and have no means of defence against aircraft.

Since the second point of this report as it results from the somewhat brief discussions in the Sub-Committee does not take into account the position of those countries, the German delegation does not consider it possible to accept this point.

DECLARATION BY THE AUSTRIAN DELEGATION.

In the course of the discussion in the Air Commission, the Austrian delegation demonstrated that in certain conditions the capacity of an aircraft to attain its objective is decisively increased. In Austria's case, this increased capacity results from the present geographical and military circumstances of the country. These circumstances confer an offensive character even on aircraft which would be completely unfitted to act against the national defence or the civil population of another country.

Consequently it is impossible to make a *general* classification of aircraft corresponding to the three questions put by the General Commission.

The Austrian delegation urges that it is absolutely essential to take into account the present circumstances of each individual country, if any accurate definition of the offensiveness of aircraft is to be arrived at.

The Austrian delegation therefore associates itself with the reservation made by the German delegation.

DECLARATION BY THE BULGARIAN DELEGATION.

The Bulgarian delegation considers that the answers to the three questions put by the General Commission present a different aspect in the case of countries which have no military air force and no anti-aircraft defence, thus :

1. For countries which have no anti-aircraft defence, all military aircraft are covered by the three criteria laid down by the General Commission.
2. For countries which have no military air force, it is very difficult, if not impossible, to make use of civil aircraft, owing to the absence of personnel trained for the purpose.

DECLARATION BY THE HUNGARIAN DELEGATION.

From the beginning of the proceedings in the Air Commission, the Hungarian delegation has felt that the Commission was working on lines that could not lead to a satisfactory result. Instead of enquiring into the fighting force represented by the air arms as a whole and the destruction which, as a whole, it is capable of causing, the Commission has devoted chief attention to highly complicated technical details which have, no doubt, great scientific value, but whose relation to the problem set is exceedingly vague.

The essential object of the Disarmament Conference should be to bring under international regulation all such arms as are calculated to favour sudden and unexpected attacks. Now it is not unreasonable to ask whether there is any arm possessing more properties calculated to favour such attacks than the air arm as a whole. Convinced that this was so, the Hungarian delegation associated itself with the German proposal, and deeply regrets that that proposal was not accepted by the majority of the Commission.

The Hungarian delegation has continued none the less to take part in the proceedings of the Air Commission, in the hope that its collaboration might induce the Commission to decide upon an acceptable text.

Unhappily, the proposals that the Hungarian delegation had the honour to put forward during the discussion were not accepted by the Commission. The latter decided to submit to the General Commission a reply which, in the Hungarian delegation's view, cannot result in a radical reduction of air armaments. The Hungarian delegation therefore sincerely regrets that it was unable to accept the texts established by the Commission and was forced to vote both against the conclusions in Part I of the report and against the inclusion of Part II in the report.

The Hungarian delegation must therefore again state that :

" For Hungary, who is disarmed in the air and excessively vulnerable to air attacks, aircraft as a whole constitute :

" The most offensive of all weapons ;

" A weapon that could easily crush her too feeble national defence, and that would expose :

" (a) Her civil population, deprived of anti-aircraft defence, to certain death ;

" (b) Her capital and her industrial areas, situated only a few kilometres from the frontier, to complete destruction ; and

" (c) All movement on her system of communications to an abrupt stoppage."

DECLARATION BY THE DELEGATIONS OF BELGIUM, MEXICO, THE NETHERLANDS, PORTUGAL, SPAIN, SWEDEN AND SWITZERLAND.

The delegations of Belgium, Mexico, the Netherlands, Portugal, Spain,<sup>1</sup> Sweden<sup>1</sup> and Switzerland<sup>2</sup> :

Having examined a large number of aeroplanes at present in use in various countries with a view to finding numerical criteria to determine what aeroplanes come under the three categories indicated by the General Commission — namely :

The most specifically offensive,  
The most efficacious against national defence,  
The most threatening to civilians,

have come to the following conclusions :

(1) *There is a limit, based on technical data, above which almost all aeroplanes possess the three characteristics mentioned above ;*

(2) *There is a limit below which no aeroplane can be deemed to possess these three characteristics ;*

(3) *For aeroplanes the characteristics of which lie between the two limits, it is impossible to lay down a simple rule enabling those possessing the three above-mentioned characteristics to be distinguished with certainty.*

<sup>1</sup> The Spanish and Swedish delegations state that their participation in the attempts to find as precise as possible a technical reply to the questions asked by the General Commission does not prejudice their attitude regarding the total abolition of military aviation, accompanied by the internationalisation or strict control of civil aviation.

<sup>2</sup> The Swiss delegation had in mind a lower figure for the limit proposed under (1) — namely, 1,200 kg.

The limit under (1) might be fixed at an unladen weight of 1,500 to 1,600 kg. (with the addition of 300 to 400 kg. for seaplanes).

The limit under (2) might be fixed, in general, at an unladen weight of 600 kg., a horse-power of 200, and a wing area of 25 sq.m., on the understanding that any aeroplane exceeding any one of these three limits would come under the category of (3) above.

#### RESERVATION BY THE ITALIAN DELEGATION.

The Italian delegation took no part in the discussion and drafting of the second part of the report.

It considers that the statements and figures given in this part do not correspond to the present situation of mobilisable military aviation, and that, by leading the General Commission astray, they render more difficult the decisions which it will be called upon to take.

The Italian delegation considers that, among the means of aerial warfare at the disposal of military aviation, the following should be regarded as being the most specifically offensive, the most efficacious against national defence, and the most threatening to civilians :

- (1) Dirigibles of any volume whatsoever.
- (2) Aeroplanes seating two persons and over; always excepting two-seater aeroplanes used in schools, provided that their unladen weight does not exceed 400 kg. and the horse-power 100, and that the ratio between horse-power and wing area is not less than 4 to the square metre.
- (3) Seaplanes seating two persons and over, always excepting two-seater seaplanes used in schools, provided that their unladen weight does not exceed 450 kg. and their horse-power 100, and that the ratio between horse-power and wing area is not less than 4 to the square metre.
- (4) Aeroplanes which, although single-seaters, are of over 650 kg. unladen weight, over 200 h.p. and with a ratio between horse-power and wing area of less than 16 to the square metre.
- (5) Single-seater aeroplanes of unladen weight less than 650 kg., which although of horse-power between 200 and 100, have a ratio between horse-power and wing area less than that obtained by linear interpolation :  
Between 16 and 12 h.p. to the square metre for machines of horse-power between 200 and 150.  
Between 12 and 5 h.p. to the square metre for machines of horse-power between 150 and 100.
- (6) Seaplanes which, although single-seaters, are of over 700 kg. unladen weight, over 200 h.p. and with ratio between horse-power and wing area less than 16 to the square metre.
- (7) Single-seater seaplanes of unladen weight less than 700 kg., which, although of horse-power between 200 and 100, have a ratio between horse-power and wing area less than that laid down in paragraph 5.

#### DECLARATION BY THE BOLIVIAN DELEGATION.

In accordance with the declaration made by the Bolivian delegation at a plenary session of the Air Commission, it makes a reservation regarding the whole idea of figures; this reservation is due to Bolivia's special geographical situation, and in particular to its altitude (averaging 4,000 metres). The delegation would merely point out that the fixing of figures would have a negative value where aircraft beginning to operate at that altitude were concerned.

#### DECLARATION BY THE CHINESE DELEGATION.

The Chinese delegation, in view of the fact that the Air Commission is to submit its report to the General Commission without achieving a unanimous decision, wishes to place on record the following declaration :

The Chinese delegation maintains its original standpoint that all military aircraft are by nature offensive armaments, while bombing aeroplanes are armaments whose character is most specifically offensive, most efficacious against national defence, and most threatening to civilians, thus combining all the three characteristics mentioned in the General Commission's resolution of April 22nd, 1932.

The Chinese delegation considers that the proposal of the Belgian, Mexican, Netherlands, Portuguese, Spanish, Swedish and Swiss delegations (see page 308), which provides for the division of all military aeroplanes into three categories, is acceptable. It is, however, of the opinion that the limit fixed in the said proposal is somewhat high. The Chinese delegation is, in this connection, inclined to support the suggestion of the Swiss delegation that the limit set for unladen weight should be 1,200 kg. instead of 1,500 to 1,600 kg., in the interest of those countries whose air defence is still inadequate and whose undefended towns and cities are in consequence exposed to the dangers of aerial bombardment.

The Chinese delegation would further reiterate its proposal that all aerial bombardment as a means of carrying on civilised warfare should be abolished (see document Conf.D.88).

DECLARATION BY THE FRENCH DELEGATION.

The French delegation considers that the statements of fact contained in the second part of the Commission's report show how impossible it is from the technical point of view to draw a clear dividing line between defensive aircraft and those more specifically offensive in character. Even if it is possible to fix a limit above which aircraft cannot be considered purely defensive, there is on the other hand a whole zone covering both specifically machines threatening to the civil population and machines indispensable for national defence.

The French delegation would state that these were the considerations which led it to submit its proposals of February 5th last, and to fix for the capacity of aircraft two series of limits which it has reserved the right to define later: the first — the higher — above which no machine may be retained in a national air force; the second — the lower — below which the use of military aircraft shall be subject only to those restrictions arising out of the quantitative limitation provided for in the convention to be drawn up and already laid down in the Preparatory Commission's draft.

All the aircraft included between these two limits, whether their predominant character be offensive or defensive, may only be retained by national air forces subject to a preliminary undertaking to place such machines at the disposal of the League of Nations in the event of the application of Article 16 of the Covenant.

DECLARATION BY THE NETHERLANDS DELEGATION.

*On Part I.*

The Netherlands delegation considers that bombing aircraft, all types of aerial bombs, and all instruments for aiming or launching such bombs, should be designated as weapons most specifically offensive, most efficacious against national defence, and most threatening to civilians.

*On Part II.*

The Netherlands delegation states that the division of the load of bombs required for effective action against a certain objective among as large a number of aeroplanes as possible would result in lower tonnage figures for aircraft than those given in the report. These figures would be still further decreased if the radius of action of aircraft were reduced.

DECLARATION BY THE PERSIAN DELEGATION.

Since the Persian delegation has, since the outset of the Commission's work, made it clear that it is in favour of the abolition of military aviation provided civil aviation be regulated by international statute, it is impossible for it to express an opinion on the aggressive character of military aviation alone, since the General Commission has as yet taken no decision regarding civil aviation. For this reason, the Persian delegation abstained from voting on Part II of the report.

DECLARATION BY THE DELEGATION OF THE UNION OF SOVIET SOCIALIST REPUBLICS.

As the moment has come to draw conclusions from the Air Commission's work carried out in response to the three questions asked by the General Commission, the Soviet delegation feels bound to make the following declaration:

"(1) The Air Commission has not found it possible to recognise the soundness of the statements of certain delegations — among them the Soviet — that all military aviation comes under the head of the General Commission's questionnaire. Nevertheless, the Air Commission has not indicated the limits above which military aeroplanes acquire the properties which bring them into the category of armaments envisaged in the General Commission's questionnaire.

"(2) The drafting of certain articles, as well as certain statements in the report, which, moreover, exactly correspond to the declarations made by the different delegations, show that the majority of the Commission considers that air armaments are only offensive and threatening to national defence and the civil population when used for purposes of aggression or attack on specified localities. The Soviet delegation is firmly opposed to this point of view, considering that it is the technical characteristics of aircraft which determine the offensive properties of military aviation, and that the very existence of military aircraft, as well as of aerial bombs and other means of warfare intended to be dropped or launched from the air, are a danger to national defence and constitute a threat to the civil population.

"(3) For the above reasons, the Soviet delegation is unable to support the view that the offensive character of military aviation can only be determined after a review of the possibilities of its employment for defensive purposes. The Soviet delegation feels that it is the Air Commission's duty to determine the aggressive characteristics of air armaments, and not to defend such armaments by mere reference to the various possibilities of their defensive use.



" (4) The references to be found in the report to the necessity for taking into account the geographical situation and special circumstances of each country, as well as atmospheric conditions and other factors, seem to the Soviet delegation to be an attempt to divert the questions asked by the General Commission into a discussion very far removed from the concrete task assigned to the Air Commission.

" (5) Without raising any objection to the view of the majority of the Commission that aeroplanes become more aggressive and dangerous to national defence and the civil population with any increase in their useful load (provided they be considered singly), the Soviet delegation, basing its view on a technical study of the properties of military aircraft, once more declares that all military aircraft clearly come within the three categories referred to by the General Commission. The Soviet delegation is thus the less able to support the view that only large bombing aircraft should be considered offensive, even if the figures contained in the report are only given for purposes of indication. It feels that such a classification is far removed from reality, and can but prejudice qualitative disarmament.

" In view of the foregoing, the Soviet delegation desires to state that the Air Commission, in confining itself to general statements, has failed to reply to the three questions asked by the General Commission. The Soviet delegation is therefore obliged to continue, in the General Commission, to defend its view as expressed in the present declaration as well as in earlier discussions."

## Annex I.

### DEFINITION OF UNLADEN WEIGHT.

The unladen weight of an aeroplane is the weight of the aeroplane complete with all the elements necessary for flying but without crew, fuel, oil, cooling liquids, or military equipment.

The unladen weight of an aeroplane comprises exclusively the weights of the following parts :

Complete aeroplane without engine (wings, movable or fixed, without safety slots, fuselage or hull, undercarriage or floats) ;

Power plant or plants complete ; empty motor or motors, <sup>1</sup> propeller or propellers with all the necessary accessories <sup>2</sup> required for their immediate operation and control ;

Empty tanks, with release or drainage appliances (if any), but excluding supplementary tanks.

Permanent fixtures required for mounting instruments and equipment of all kinds.

## Annex II.

### DEFINITIONS OF WING AREA PROPOSED BY THE SPANISH DELEGATION.

#### *First Definition.*

The wing area is that of the lifting areas contained in the wing unit, wing flaps included, in its maximum extension.

<sup>1</sup> The empty motor comprises the motor proper with all the accessories necessary for its immediate operation, which form an integral part of it — that is to say :

Carburettor, with controls, feed pipes, ignition and connections, cooling liquid and oil pumps with piping on the motor, charging or supercharging gear forming part of the motor, various attachments for revolution counters and auxiliaries forming part of the motor, reduction gear and propeller hub.

<sup>2</sup> Accessories to power plant :

(a) Motor controls complete.  
(b) Fixed self-starters and accessories, starting magneto, claws and handles, and tanks.  
(c) Fuel supply system ; pumps not forming part of the motor, piping accessories, intermediate tanks, and various indicators.  
(d) Lubrication system ; pipes not forming part of the motor, radiators, shutters and controls.  
(e) Cooling system ; piping not forming part of the motor, radiators, shutters and controls, ventilators and ventilator shutters in the case of air-cooled motors, and their controls.  
(f) Transmissions of propellers.  
(g) Accessories ; various instruments, revolution counters, and fixed extinguishers.

*Second Definition.*

The wing area is the geometrical area of the projection of each lifting area contained in the wing unit, wing flaps included, on the plane of their greatest extension.

**Annex III.**

**DEFINITION OF HORSE-POWER AND WING AREA PROPOSED BY THE ITALIAN DELEGATION.**

*Horse-Power.*

The power index of an engine given by the experts' formula in document C.259.M.115. 1931 might be adopted as a first approximate criterion for qualitative disarmament purposes.

This formula is  $W_f = \sqrt{K \cdot U \cdot P_f}$

The Italian delegation considers, however, that it would be desirable to improve the method by adopting for the constant K different values according to the basic types of engines and to take into account in measuring the weight the material used in the fixed parts.

It therefore proposes the constants  $K_1$  and  $K_2$  for liquid-cooled engines with and without reduction gear respectively;  $K_3$  and  $K_4$  for air-cooled engines with and without reduction gear respectively;  $K_5$  and  $K_6$  for Diesel engines, liquid and air-cooled respectively.

For surcharged engines, these values will have to be multiplied by a coefficient depending on the supercharging system and the degree of compression produced by the supercharger.

**NOTES.**

<sup>1</sup> Liquid-cooled engines are distinguished from air-cooled engines because, in measuring the weight, due allowance cannot be made for the radiators.

<sup>2</sup> The values  $K_1$ ,  $K_2$ ,  $K_3$ , etc., and the supercharging coefficient cannot be fixed until the maximum value of the horse-power has been determined, and in fixing these values technical and statistical considerations will be taken as bases.

It is also desirable to establish the equivalence between aluminium alloys and magnesium alloys used in the fixed parts (about 1.4), in order that a change from one of these materials to the other may not unfairly affect the measurement of the horse-power.

<sup>3</sup> The Diesel engine will no longer be handicapped if it is considered separately.

*Wing Area.*

(1) The supporting surface of a wing mounted on an aeroplane is the normal projection of its perimeter on a plane passing through the chord traversing the span centrally and perpendicular to the longitudinal plane of symmetry of the aeroplane.

(2) The wing area of an aeroplane is the sum of the supporting surfaces in its wing unit.

**NOTES.**

I. The surface of the ailerons in the rest position is included in the wing area.

II. In the case of wings having a safety beak, the projection of the wing itself must be taken with the safety beak in the rest position.

III. In the total, the surfaces must be calculated in excess per square metre. Wings which are partly or wholly cut away to allow for the fuselage or nacelles, etc., are regarded as continuous.

IV. In the case of a wing with a variable area, the area must be calculated at its maximum extension.

V. Horizontal tail units and any other supporting surfaces included in the air frame are excluded, provided that their total surface, calculated in the same way as that of the wings, does not exceed x% of the wing area of the wing unit.

VI. The wing profile chord mentioned in the definition is that established by the C.I.N.A. at its sixth meeting (March 1924) and communicated to the Council of the League of Nations.

Geneva, July 21st, 1932.

POSITION OF THE SUB-COMMITTEE'S WORK  
AFTER THE MEETING ON JULY 18TH, 1932.

(Revised English Text).

The Sub-Committee set up on June 24th with instructions to prepare the report for which the General Commission asked the Air Commission by its resolution of March 15th, 1932, completed the first part of its work with its meeting of July 18th.

In accordance with the decisions of the Sub-Committee, this first part is reproduced below; it concerns the rules for civil aviation as drafted, together with the reservations made by certain delegations.

PART I. — DRAFT RULES FOR CIVIL AVIATION.

I. RULES CONCERNING MATERIAL.

*Article 1.*

The High Contracting Parties shall refrain from prescribing military characteristics in the construction of civil aeronautic material, in order that such material may be constructed for purely civil purposes.

The High Contracting Parties also undertake to prohibit :

(1) The construction of civil aircraft with a view to their possible utilisation for military purposes ;

(2) The provision of the apparatus constructed with characteristics intended to facilitate its employment for war purposes or to facilitate transformations or installations of a military nature, such as armour, armaments, appliances intended to facilitate armament, military appliances of any kind ;

(3) The arming of civil aircraft and their preparation for the installation of armaments or for their utilisation in warfare ;

(4) The manufacture and stocking of spare parts and reserve engines for the purpose of converting civil into military aircraft.

*Article 2.*

The High Contracting Parties undertake not to require or to encourage, either by subsidies or otherwise, the construction or maintenance of commercial aircraft exceeding the normal requirements of civil aviation enterprises.

*Article 3.*

The High Contracting Parties undertake to prohibit the use of air material belonging to the armed forces in air traffic undertakings and in schools of civil aviation, except in case of *force majeure* and exceptional circumstances. In such cases, military material shall not be used except by the personnel of the military air force.

II. RULES CONCERNING PERSONNEL.

*Article 4.*

The High Contracting Parties undertake to refrain from requiring that civil aviation enterprises shall employ personnel specially trained with a view to their employment for military purposes.

*Article 5.*

The High Contracting Parties undertake to prohibit all supplementary instruction or special training calculated to facilitate the employment in military aviation :

(a) Of any person employed in civil aviation who is not subject, either voluntarily or by compulsion, to military service ;

(b) Of any person employed in civil aviation subject either voluntarily or by compulsion to military service outside the periods provided for by law.

Nothing in this article shall interfere with the right of persons employed in civil aviation to volunteer for service in regular, territorial or auxiliary formations and to receive corresponding military training

*Article 6.*

The High Contracting Parties undertake not to prescribe and not to encourage the instruction or activity in civil aviation of persons in the armed forces serving with the colours, save in the case of *force majeure* or in exceptional cases. This undertaking shall not apply in the case of tests or investigations.

III. RULE CONCERNING SUBSIDIES.

*Article 7.*

The High Contracting Parties undertake not to subsidise civil aviation either directly or indirectly, save for economic, administrative or social purposes.

IV. RULE CONCERNING THE INFORMATION TO BE SUPPLIED TO THE INTERNATIONAL ORGANISATION TO BE DETERMINED.

*Article 8.*

The High Contracting Parties undertake to supply the international organisation to be determined, within a period of  $x$  months after the end of each calendar year, with the following particulars :

- (a) The total number of civil aircraft registered and not registered ;
- (b) The number of civil aeroplanes registered and not registered, having an unladen weight of over  $x$  kg.,  $y$  kg., and  $z$  kg. ; in the case of dirigibles, the number and volume ;
- (c) The amount of and conditions governing all subsidies granted to civil aviation.

In the case of civil aircraft whose unladen weight exceeds  $x$  kg., they undertake :

- (1) To inform the international organisation to be determined immediately upon the issue of the flying-licence ;
- (2) To forward to the international organisation to be determined a certificate attesting that the aircraft has not infringed the provisions regarding material ;
- (3) To inform the international organisation to be determined of the object for which the aircraft is to be used, the line upon which it will normally be employed, its unladen weight and its authorised maximum total weight.

ARGENTINE REPUBLIC.

The delegation of the Argentine Republic makes reservations regarding Articles 3 and 6, because, in its opinion, their provisions may hamper the development of civil aviation in its country.

UNITED STATES OF AMERICA.

The delegation of the United States of America, noting that Article 1 contains the words "The High Contracting Parties undertake to prohibit" certain specific actions by their nationals, and that Article 8 requires the submission of information concerning both registered and non-registered aircraft, is able to accept these engagements only in so far as the scope of their execution lies within the powers of the Federal Government granted under the Constitution.

FRANCE.

The French delegation has followed with great attention and interest the examination of the rules for civil aviation drawn up by the Sub-Committee.

This examination has confirmed its opinion that no rules can fulfil the purpose in view—namely, "to prevent the employment of civil aviation for military purposes".

The measures proposed at present are so vague that they cannot constitute a real hindrance to the possible employment of civil aviation for military purposes.

It may be tempting to frame these measures in a general form, but the French delegation considers it absolutely impossible to define them in detail.

In particular, it considers it impossible to define the characteristics facilitating the employment of aeroplanes for military purposes, which would have to be prohibited for civil aircraft. Similarly, it considers it impossible to demonstrate that an air line is not fulfilling purely civil purposes and that the material in use is excessive. The State will always be able to give reasons on such shades of opinion, to produce pretexts for opposing any reasonable conclusion.

In order to be certain that States will not develop their civil aviation for military purposes, it is necessary to delegate to an international organisation, not a mere right of inspection, which is always difficult to exercise, but a *right of decision and supervision over* public air-transport undertakings, and those which utilise aircraft which have characteristics going beyond certain limits to be laid down over and above the measures of general regulation and publicity to which the whole of civil aviation will have to be subjected.

#### HUNGARY.

The Hungarian delegation, as it has already had the honour to declare to the Sub-Committee, is of opinion that the value of civil aviation depends on the existence or non-existence of air forces.

It can therefore only accept rules for civil aviation if they form part of a plan for the abolition of military aviation.

Since no solution has as yet been found for the latter problem, the Hungarian delegation is unable, to its great regret, to take up a definite position in regard to the draft rules which we have just finished discussing, although they contain very interesting provisions.

Consequently, the Hungarian delegation accepts this text only subject to a decision in favour of the complete abolition of military aviation.

#### POLAND.

At the meeting of July 18th, the Sub-Committee rejected a draft questionnaire submitted by the Polish delegation for the purpose of obtaining the most exhaustive information in all domains of civil aviation.

The Polish delegation has always affirmed the necessity for very extensive publicity.

For this reason, it cannot accept as adequate the publicity proposed in Article 8, and has the honour to request that its draft questionnaire (document Conf.D./C.A.59) be annexed to the Sub-Committee's report.

At the meeting of July 4th, 1932, the Polish delegation made a declaration in which it expressed the opinion that the rules did not supply an adequate means of preventing the employment of civil aviation for military purposes.

The discussions which have taken place in the Sub-Committee have merely strengthened the opinion of the Polish delegation. The Polish delegation therefore agrees entirely with the view expressed in the French delegation's declaration of July 18th and associates itself with that declaration.

#### SWEDEN.

The General Commission, in its reply (document Conf.D./C.G.8) to the question asked by the Air Commission, requested the latter to undertake a study of the internationalisation of civil aviation "and to submit to the General Commission any conclusion as regards details or as regards the question as a whole which it might think likely to assist the General Commission in forming an opinion either with regard to the internationalisation of civil aviation or with regard to any other measure calculated to prevent signatory Powers from using this aviation for military purposes".

The results obtained in this connection in the course of the work hitherto done by the Air Commission and by its Sub-Committee appointed on June 24th are merely aimed, however, at various measures involving certain "rules" and a certain "supervision" in regard to civil aviation, and these measures cannot be regarded as very severe.

The Swedish delegation has frequently had occasion to define its attitude towards the problems arising before the said Sub-Committee; it has also proposed measures going much further than the proposals adopted up to the present by the Committee. In point of fact, the delegation has voted for these proposals only subject to the express reservation that it is without prejudice to the attitude to be adopted subsequently in regard to definite plans for an internationalisation of civil aviation.

It now desires to declare once more that the provisions adopted by the Sub-Committee with a view to providing rules and a form of supervision for civil aviation — however reasonable and even necessary they may be in themselves — would not be considered as adequate for the purpose aimed at. Such measures could certainly not create all the required guarantees against the employment of civil aviation for military purposes. It might, indeed, be asked whether it would be possible to base on these provisions a total abolition, or even any limitation of real value for general disarmament. The Swedish delegation considers that, for this purpose, the provisions adopted up to the present must be supplemented by measures for the internationalisation of civil aviation.

In the opinion of the delegation, provisions for internationalisation dictated by the requirements of disarmament should be such as to give to civil aviation, in so far as its services are developed as means of transport between the countries, a status corresponding to its intrinsic interests without hampering its free evolution towards its economic and social ends.

In that connection, proposals have been submitted by the delegations of Belgium, France, Spain and Switzerland.

The realisation of plans affecting problems so complex obviously demands a thorough study, on the part of the Governments concerned, in regard to the detailed application of such plans, and, in particular, in regard to the safeguarding of commercial interests and the equality of the interests of national undertakings. The Swedish delegation desires, however, to point out that, in its opinion, the Belgian proposal for a *partial and moderate internationalisation* has the first claim to consideration.

In this connection, the delegation also desires to recall the suggestions concerning the measures to be taken in regard to civil aviation contained in document Conf.D./C.A.10, which lay special stress on the part to be played by the personnel of commercial aviation. The delegation believes that the idea of the co-operation of the personnel for the benefit of an international regime should form the subject of a thorough discussion in the course of the subsequent work of the Air Commission.

#### UNION OF SOVIET SOCIALIST REPUBLICS.

The delegation of the Union of Soviet Socialist Republics considers that the effects of the rules contemplated for civil aviation will depend on the decisions taken in regard to military aviation — *i.e.*, whether the latter will be completely abolished, adequately disarmed, qualitatively and quantitatively, or merely limited.

Consequently, the Union of Soviet Socialist Republics delegation makes a general reservation concerning the set of rules drawn up by the Sub-Committee, and reserves the right to return to this matter at a future date.

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