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Book Reviews

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BOOK REVIEWS

A BIBLIOGRAPHY OF AVIATION MEDICINE. By Ebbe Curtis Hoff and John Farquhar Fulton: Charles C. Thomas, Springfield, Illinois and Baltimore, Maryland, 1942. Pp. 237. Prepared for the Committee on Aviation Medicine, Division of Medical Sciences, National Research Council, acting for the Committee on Medical Research, Office of Scientific Research and Development, Washington, D. C.

Our hat is off to the authors and compilers, the publisher, and the sponsors of this remarkable book. An added bow goes to the printer and designer of the volume, respectively, The Collegiate Press of Menasha, Wisconsin, and Reinhold Frederic Gehner.

The preface very aptly begins: "Aviation literature falls sharply into two categories, that dealing with the man and that with the machine. Naturally, the primary emphasis in the past has been placed on technological developments of aircraft. But these have now reached the point where the stresses imposed on flight personnel tend to limit further development of aviation. The performance of modern combat airplanes in range, ceiling and manoeuvrability has so seriously taxed the human element that a new field of study has arisen which, for want of a better term, has been designated Aviation Medicine." The authors could have said this about most types of modern aircraft.

Employing this logical spring-board the book classifies and catalogs 6,029 entries beginning with Robert Boyle's "New Experiments Physico-Mechanicall, Touching the Spring of the Air, and its Effects," first published in 1660, down to current items through May 31, 1942. Only titles having medical, physiological and psychological significance and implications are included, after a painstaking search of aviation literature in general as well as that having an obvious direct connection with aviation medicine. Texts, bibliographies, odd papers, and some eight hundred journal files were examined. This included the foreign literature, with French, German, Hungarian, Japanese, Polish, Portuguese, Rumanian, Russian, Spanish, and Yugoslavian translations involved. The entries resulting from this monumental tracing are classified in the following order under divisions entitled:

History and General Aspects of Aviation Medicine; The special Physiology of Aviation and Conditions Simulating Flight; The special Pharmacology of Aviation and Conditions Simulating Flight; Aeromicrobiology (Bacteriology and Immunology in Aviation and High Altitudes); Diseases and Accidents in Aviation and Conditions Simulating Flight; Selection and Assessment of Efficiency of Flight Personnel; Training, Performance and Fatigue of Flight Personnel; Protection of Flight Personnel. Preventive Medicine and Therapeutics of Aviation; Aviation and Public Health (Sanitary Aviation); Organization of Aviation Medicine; Special Problems; General Studies in Aviation Medicine; and Bibliographies. Then follows divisions giving the key to abbreviations of journals, handbooks, and volumes cited, and indices to authors and subjects. These, as well as the table of contents, are noteworthy for their completeness and ease of use. Finally, each entry has a key number, and the page-range of key numbers is indicated at the top of each page.

This Bibliography of Aviation Medicine must be seen, examined, and used to be fully appreciated. This reviewer, in charge of the preparation of the Civil Air Regulations in 1937 and their adaptation for the new Civil Aeronautics Administration in 1938, would have regarded this volume as an indispensable tool. It should be as highly rated by present and future regulatory agencies, civil and military, by air carriers and other flying enterprises training flight personnel, by aviation lawyers, and of course by practitioners and researchers of aero-medicine. The only adverse criticism is the failure to provide for publication of supplementary bibliography. The present work lends itself perfectly, and the rapidly growing literature justifies it.

Howard C. Knotts.

INTERNATIONAL AIR TRANSPORT AND NATIONAL POLICY, by Oliver J. Lissitzin, (New York Council of Foreign Relations, 1942)

Daily the war is proving the destructive power of aircraft—a promise which a few years ago led some aviation enthusiasts to advocate the further development of aircraft as a guaranty of peace. But, the war is demonstrating also the real potential of the airplane

as a means of transportation and communication. Strategic bases have been won by air-borne troops; critical raw materials are arriving in ever increasing amounts on aircraft returning from carrying food supplies to people otherwise dependent upon surface shipping; military and governmental leaders rely upon air transport for regular and expeditious exchange of confidential communications; and combat forces in distant theaters require it for the delivery of essential personnel and material. The post-war use to which these newly recognized talents of air transport may be devoted and their possible effect upon our future national policy are so profound that no longer is the future of aviation the dream of a barnstorming pilot or a visionary aeronautical engineer, but the concern of our national leaders and of every one interested in our international relationships.

This study by Mr. Lissitzyn is particularly timely. He was one of the Council's Research Fellows, and served as the secretary-rapporteur of the Council's Study Group on this subject in 1939-1940. The book reveals an exhaustive analysis of the factors which have led to the development of the principal airlines of the world; at the same time focusing attention on the problems to be encountered in the future development of international air transport and provoking consideration of the effects of expanded international air transport operations. One well might ask with respect to the future, "Is international air transport the cause or the effect of national policy?"

Mr. Lissitzyn emphasizes the fact that the development of air transport may influence our international relationships by contributing to the formation of a few highly centralized states of semi-continental or continental size and by eliminating or minimizing the effect of national boundaries. International tension between such great empires will increase the military aspects of transportation and intensify its governmental control. Under such conditions, there is little stimulus to a principle of "freedom of the air." The concepts of the Atlantic Charter would be completely displaced in the effort to maintain a balance of power, and the military and political aspects of air transport would be in the ascendancy. Until, in effect, there is a world order where boundaries are retained chiefly for taxing or policing purposes, it seems unlikely that the concept of "freedom of the air" will be accepted.

Mr. Lissitzyn early asserts that "a sound national air transport policy must be contained within the framework of the general poli-

cies of the nation. National interest in the narrowly commercial aspects of aviation is overshadowed by the importance of air transport as an instrument of national policy—economic, diplomatic and military. . . . The frank admission of military and political motives in national air transport policies in the last few years will serve to clarify public thinking on that subject.” Proof of this national interest lies in the policies of the governments with respect to subsidies, and the operation of existing international routes. National prestige, colonial possessions, national propaganda, cultural influences and diplomatic and military competition, have more often dictated decisions with respect to international air transport than have the commercial results which might be derived from their operation. As a consequence, the author believes that the *policy* of state participation (“station”) has been to subject air transport to more rigid governmental controls than any other form of communication or transportation. This national interest, which has dictated the *policy* of governmental control, when coupled with the financial obligations assumed by Governments in the establishment and maintenance of international air services, has naturally led to an *extension and development* of the direct participation of the Government (“statization”) in the ownership and management of those air transport enterprises.

After summarizing the arguments which have caused direct Government participation in most of the large airlines of the world, Mr. Lissitzyn points out that American-flag companies have remained in the hands of private owners, and concludes, “Their continued purely private character would seem to depend, aside from the fate of the United States in general, upon their readiness to cooperate with the Government of the United States in carrying out certain policies, upon their prospects for eventual self-support, and upon their preserving, in spite of dependence upon governmental assistance, the spirit of initiative and progress for which American aviation has always been noted.” No one acquainted with the facts would suggest a contrary conclusion.

Proponents of monopoly in American-flag international air transport will receive little comfort from Mr. Lissitzyn’s writing, except as its advocates may be willing to accept direct government participation in ownership and management with the resultant increased governmental control. Competition from foreign operators provides little incentive, and its benefits are not available to the United States; neither competition from other forms of transportation nor government regulations will give standards of comparison, competitive

incentive to aircraft manufacturers, or benefits of a military and political character. There would seem to be no alternative, then, to American flag competition, in any one of a number of forms—direct paralleling of services, services on alternate routes between the same traffic centers, or “regional” monopoly.

In developing his thesis of the national interest—economic, political, military, and diplomatic—in international air transport, Mr. Lissitzyn accurately and concisely traces the history of the world’s principal airlines. It is at once the most complete and best documented record of international air transport yet to be presented in a single volume. Statistical tables and maps need little explanation from the text, and they are taken from reliable source materials, though one might question the pertinency of a few of his comparisons. Finally, he has included an excellent bibliography of source reference-materials which is a valuable asset to anyone working in this field. There has been a paucity of research upon this subject in the past. Some of those who have attempted it have become dismayed. Mr. Lissitzyn’s study fills a real need; his results constitute a valuable addition to any library of aviation, transportation, or international relationships.

SAMUEL E. GATES.

