

Marvin, Langdon P. Jr.

1747-52

*Norman*

Campobello Island  
New Brunswick, Canada  
July 31, 1947

Dear Lang:

I have written to Averell Harriman, but unfortunately this is Thursday and your letter has only just reached me. I think you will have seen him before my note to him arrives. However, it may be of value as he thinks it over.

I sent him your record to him because I thought if he were going to consider you seriously, he would be glad to have it, and I have asked him to return it to you when he has finished.

I do hope you will get the appointment and I think your ideas for air transportation are extremely important.

Affectionately,

*L. J. McKenna*

Campobello Island  
New Brunswick, Canada  
July 31, 1947

Dear Averell:

I have a letter from Lt. Commander Langdon P. Marvin, junior, the son of Mr. Langdon P. Marvin who was one of Franklin's first law partners and an old friend.

Commander Marvin has an extremely good record which I enclose. I wonder if it would be possible for you to see him and give some consideration to his possible appointment.

I realize there may be many reasons why this can not be done, but as you will see he asked that I write you. I am glad to do so, but I want you to use your own judgment and not to feel in any way swayed in your final decision by me.

I imagine he would like to have his record returned to him.

Very cordially yours,



UNIVERSITY CLUB  
WASHINGTON

1135 - 16th Street, N. W.

*Marvin*  
*Letter of introduction to Mr. Forrester*

August 16, 1947

Mrs. Franklin D. Roosevelt  
Val-Kill Cottages  
Hyde Park, Dutchess Co.  
New York

*W. Forrester*

Dear Mrs. Roosevelt:

Many thanks for your letter of August 9. I saw Secretary Harriman and, more recently, the newly-appointed Assistant Secretary for Aeronautics, Col. Allison. I have a small bit of hope that the project itself (a thorough study of the future of U.S. air transport, with particular emphasis on cargo) may be undertaken even if the appointment which I was hoping for is not feasible.

I have been given another suggestion recently, and that is that because of the military importance of building a "Merchant Marine of the Air" the new National Security Resources Board or some part of the Air Force Department might be interested in backing my project. Of course, things are in a good deal of a flux now since the passage of the Unification Bill, and none of the appointments has as yet been made. I wonder if it might be possible for you to write to Mr. Forrester (or perhaps give me a letter of introduction to him) so that I might talk to him for a few minutes about this "New Sea" international air transport idea. Although I have been in the Navy for six years now, I have never met him. I believe that Marquis Childs (whose column, attached, came as a pleasant surprise on the first day after I had gotten out of the Navy) has had a word with Secretary Forrester, and so may have done a little ground work.

Naturally, I don't want to put you in any kind of an embarrassing position, but if it is feasible to pave the way with Mr. Forrester, I would greatly appreciate it.

Affectionately,

*Langdon Marvin Jr.*

L. P. MARVIN, Jr.  
Lt. Comdr., USNR



UNIVERSITY CLUB  
WASHINGTON

1135 - 16th Street, N. W.

*Marvin*

*copy of your letter to Mr. Forrestal*

August 16, 1947

Mrs. Franklin D. Roosevelt  
Val-Kill Cottages  
Hyde Park, Dutchess Co.  
New York

*W. Childs*

Dear Mrs. Roosevelt:

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Affectionately,

*Louise Marvin Jr.*

L. P. MARVIN, Jr.  
Lt. Comdr., USNR

# Washington Calling

P-56

By Marquis Childs

## Airlines' Missed Opportunity

HOWARD HUGHES looks younger than his 41 years. There's more than a touch of Texas in the way he speaks—the short, terse sentences, the twangy voice. Typecasting by Hollywood would put Gary Cooper or James Stewart in the part.

The contrast with the Senators sitting on the other side of the table could hardly be sharper. For one

thing, it's the contrast between youth and age. That is an important element of the drama which has hung the standing room only sign on the Senate's caucus room.

In the duel before the Senate Investigating Committee, Hughes stands for new ideas, for experiment, adventure. He has repeatedly risked his life in backing his own ideas.

The aviation industry is one place where new ideas should be welcome. In 25 years it has grown up from nothing. Yet there seems to be a strong desire to scale it down to the restricted, monopoly pattern.

Not long ago, another young man appeared before a Senate committee with a new and bold idea. That was Lieut. Comdr. Langdon P. Marvin, jr., who, out of his experience with the Naval Air Transport Service during the war and his researches since then, has become an authority on air cargo. Young Marvin talks about the "new sea" and its vast potentialities for freight.

APPEARING as a private citizen before an aviation subcommittee, he testified that his estimates showed three million pounds of air cargo could be carried on a profit-making basis across the Pacific each year. Marvin estimated that this would bring in \$2,600,000 in revenue for the airline, or airlines, carrying the cargo. He based this on a careful commodity-by-commodity study.

His estimates are in contrast to those which Pan American Airways furnished the Civil Aeronautics Board. In arguing against granting a certificate of operation to another airline, Pan American estimated that only

152,000 pounds of air cargo a year could be transported on the same route.

"I believe," Marvin said, "that if the airlines which have been granted international certificates by the Government devoted as much study, time and effort to cargo as they have done during the past many years to passengers, they would discover for themselves that there is perhaps twice as much business to be had in the international field as they now anticipate."



Childs

AIRLINE thinking, it would seem, is in terms of the past rather than the future. It takes boldness and imagination to project fleets of cargo planes across the new sea. That happened, as Marvin pointed out, during the war. In fact, the war could not have been won without the fleets of Army and Navy cargo planes that brought rare materials from the four corners of the earth. This was particularly true of the vital radar and radio program. The Army Air Transport Command and the Naval Air Transport Service carried millions of pounds of mica, quartz crystals, tantalite, stellite and other strategic raw materials from India and Brazil.

The customary answer is: Well, of course, that was done on a cost-plus basis at Government expense. But the figures that Marvin and others have compiled show that a similar air cargo operation is practicable in peacetime at a profit.

A realistic examination of air cargo rates, both within the country and on the international routes, would probably show that they are too high. They are fixed for scarcity instead of expansion.

We must understand that this counts for more than mere profit and loss. A healthy airplane manufacturing industry is essential to national security. As young Marvin pointed out in his testimony, a fleet of cargo planes for peacetime use could be converted almost overnight to carry wartime cargoes. The same cannot be said for passenger planes.

The young are often brash and foolish. They are given to taking risks that often trip them up, but by taking such risks this country has become great. Monopoly and restriction mean old age and senescence. That should not occur in an industry still in its swaddling clothes.

Lt. Comdr. Langdon P. Marvin, Jr.,  
USNR  
40 East 76 Street, New York, 21, N.Y.  
Butterfield 8-8383  
or  
c/o University Club  
Washington 6, D. C.  
DI-8118 RE-7400, X5103

1. Groton School, Groton, Mass.  
-Grad. 1937, Magna Cum Laude
  
2. Harvard College ('41)  
Major Subject: Government  
Special Field: International Law & Relations  
Other Subjects: English Literature, French, History, Economics  
  
Grades received: 11 1/2 A's; 3 B's  
Phi Beta Kappa  
Magna Cum Laude  
President, Harvard Student Council  
Elected First Marshall, Senior Class (41)  
Varsity Debating Team  
Captain, Varsity Squash Rackets Team  
Owl Club, Signet, Hasty Pudding
  
3. Experience  
-Executive Office of the President-summer 1938 & 1939  
-President, Roosevelt College Clubs of America (a division of the Democratic National Committee) 1940  
-Commissioned Ensign, USNR, July 9, 1941  
-1941-42, Executive Secretary, Interdepartmental Shipping Priorities Committee, OPM, Washington.  
-1942-44, Chairman, Interdepartmental Air Cargo Priorities Committee, WPB, Washington. (Committee composed of representatives of the Army Air Transport Command, Naval Air Transport Service, State Department, WPB, FEA, RFC, Commerce, Agriculture, OSRD, etc., and representatives of governments of U.K., U.S.S.R., and China.)  
Functions: establishing priorities and schedules of shipment of all strategic materials by Army, Navy, foreign, and commercial planes.  
-Temporary duty in China, India, Arabia, Africa, Brazil, Caribbean, N. Atlantic in connection with setting up traffic systems for air cargo.  
-1945: Chief, Air Cargo Priorities Section, Department of State (To administer Executive Order of the President #9492 on revenue air traffic)  
-1946-47: Naval Air Transport Service and Executive Office of the Secretary, Navy Department.  
-Regulations for revenue air traffic on government planes.  
-Research and writing on the future of air transport

4. Author

- "Air Import Potentials"-1946

- "American Neutrality"-1941

- Various magazine articles (mostly on air transportation or foreign trade):

"Harvard Advocate": Sept. '41

"Air Transportation" (Pub. 10 Bridge St., N.Y.C.) Oct. '43,  
Jan. '44; Oct. '46

"Import-Export Bulletin"-Oct. '43; Jan. '44

"American Aviation"-Jan. 15, '44

"Aviation News"-Aug. 28, '44

"Shipmate"-May, '44

Ref. also "Time" Jan. 10, '44 & "Life" May 4, '41 & Feb.  
7, '44

COPY

DEPARTMENT OF STATE  
WASHINGTON

FOR PRESIDENT'S EYES  
Washington, D.C.

April 21, 1945

October 12, 1944

Dear Jim:

I refer to my letter of January 2, 1945 and to your reply of January 12, 1945 thereto regarding the temporary assignment of Lieutenant Langdon P. Marvin, Jr., to the Department of State for the purpose of establishing an air cargo priority unit in the Department in connection with the implementation of Executive Order No. 9492.

Lieutenant Marvin reported on this assignment January 22, 1945 and has worked long hours under handicaps over vexatious problems and is to be highly commended for his assistance and accomplishments. However, because of the time factor he has been unable to establish the unit completely, and the Department has been unsuccessful in its endeavors to obtain a qualified civilian to carry on. Under the circumstances, I would greatly appreciate it if you would extend this assignment at least to the end of the San Francisco Conference at which time a replacement will be available. Inasmuch as his present assignment terminates April 22, 1945, the matter is urgent.

With best wishes,

Sincerely yours,

/s/ J. Sincerely yours,

/s/ EA.

EDWARD R. STETTINIUS, JR.

Honorable James V. Forrestal  
Secretary of the Navy

The Honorable  
James V. Forrestal,  
Secretary of the Navy,

COPY

**WAR PRODUCTION BOARD  
Washington, D.C.**

October 12, 1944

My dear Mr. Secretary:

I understand that Lieutenant Langdon P. Marvin, Jr., U.S.N.R. has been detached from his service as Chairman of our Interdepartmental Air Cargo Priorities Committee. The work hereafter will be handled by the Bureau of Stockpiling and Transportation.

I should like to take this occasion to write a letter of commendation on the services of Lieutenant Marvin with the War Production Board since March, 1942. During the period of his service about 75,000,000 pounds of strategic materials valued at over \$200,000,000 have been flown under the priorities and traffic arrangements set up. The speed with which the priorities and traffic were handled and the excellent relations established with importers, with the Naval Air Transport Service and with the Army Transport Command have resulted in breaking a number of bottlenecks and getting needed production out on time.

Sincerely yours,

/s/ J. A. KRUG  
J. A. Krug  
Chairman

Honorable James V. Forrestal  
Secretary of the Navy  
Navy Building  
18th & Constitution Avenue, N.W.  
Washington, D. C.

COPY

ARMY AIR FORCES  
Headquarters, Air Transport Command  
Washington 25, D. C.

24 October 1944

Lieutenant Langdon Marvin, Jr., USNR  
Room 1201 Navy Department  
Washington, D. C.

Dear Lieutenant Marvin:

I have your note of 21 October. I appreciate the nice things you say about the arrangements under which we have worked during the past two and one-half years.

I would like to take this opportunity of expressing to you my thanks for your cooperation in carrying on the important work of moving strategic raw materials by air. In my opinion, you did an outstanding job during a very trying period and I am sorry that presumably we will no longer be working with you as closely as we have in the past.

Your enthusiastic interest and persistent efforts to secure air transportation for those materials which were so badly needed in war production has I am sure contributed greatly to the war effort.

I hope you will stop in to see us whenever your new job brings you into this vicinity.

Sincerely,

/s/ R. W. Ireland

Colonel, G. S. C.  
Assistant Chief of Staff  
Priorities and Traffic

C O P Y

**NAVY DEPARTMENT**  
**Office of the Chief of Naval Operations**  
**Washington**

7 November 1944

Dear Lieutenant Marvin:

It is understood that your duties as Chairman, Interdepartmental Air Cargo Priorities Committee, War Production Board have been completed and that you are about to be reassigned to other Naval duties. I wish to take this opportunity to commend you for the very excellent manner in which you have accomplished the difficult tasks which confronted the Air Cargo Priorities Committee, particularly during the early stages of this war.

Largely through your personal efforts the liaison and coordination between the Naval Air Transport Service and the Air Cargo Priorities Committee of the War Production Board have been highly gratifying, and the results thereof, particularly with respect to the movement of strategic materials, has been a very definite contribution to our overall war effort.

I wish you good luck in your new assignment and hope that it will be in a capacity wherein Naval Air Transport Service operations may continue to benefit from your very thorough efforts.

Sincerely,

s/D. F. Smith  
D. F. Smith.  
Captain, U. S. Navy  
Director, Naval Air Transport Service

Lieutenant Langdon P. Marvin, Jr., USNR.  
Chairman, Interdepartmental Air Cargo  
Priorities Committee,  
War Production Board,  
Room 1201  
Navy Department,  
Washington, D. C.

C O P Y

WAR DEPARTMENT  
Washington

August 6, 1943

My dear Mr. Nelson:

I was very much interested to see, upon my return to Washington from my recent trip, the copy of Lieutenant Marvin's report which you had very kindly sent me. It bears testimony to the great work being done under the direction of the War Production Board in gathering strategic materials from the far quarters of the globe.

It is interesting to see the work being done by our Air Transport Command in bringing these materials to this country, and I want you to know that we appreciate very much the credit you have given them for their efforts.

I had many opportunities on my trip to see the varied operations of the Air Transport Command, and I was always struck with the quiet efficiency and orderly dispatch with which their planes and personnel manage the tremendous job of spanning the earth's great distances.

Again thanking you for your kindness in sending me the report, I am

Very sincerely yours,

/s/ Henry L. Stinson  
Secretary of War

Mr. Donald M. Nelson,  
Chairman, War Production Board,  
Washington, D. C.

**CONFIDENTIAL**

July 30, 1943

My dear Mr. Stimson:

I am transmitting a copy of the report made by Lt. Marvin, Chief of the Air Priorities Section of our Stockpiling and Transportation Division, on his mission to Brazil, Africa, India and China in connection with imports of strategic materials by air.

I wish to express my gratitude for the cooperation of your Air Transport Command in assuring the necessary imports by air for the war production program schedules. Imports by air have been met or exceeded since April by the Air Transport Command and the Naval Air Transport Service. Without the speed in the import of some of the raw materials, particularly mica and tantalite which have gone into the making of radio and radar equipment, we might have had very serious delays in these programs.

The enclosure of Lt. Marvin's report struck me as being worth a glance from you if only because of the light that it throws on some of the far flung operations of the various agencies that are concerned with imports for war production. The pictures are, I think, sufficiently interesting to speak for themselves.

Sincerely yours,

Donald M. Nelson  
Chairman

The Honorable  
The Secretary of War  
Washington, D. C.

June 2, 1947

Statement of  
Lt. Comdr. Langdon P. Marvin, Jr., USNR  
before the  
Special Aviation Subcommittee  
of the  
Committee on Interstate and Foreign Commerce  
of the  
United States Senate  
with reference to S. 987 and the "consolidated carrier."

N.B. The opinion or assertions contained herein are the private ones of the writer, and are not to be construed as official or necessarily reflecting the views of the Navy Department or the naval service at large.

\* \* \* \* \*

Mr. Chairman, Senators--

My name is Lt. Comdr. Langdon P. Marvin, Jr., U.S. Naval Reserve, from 40 East 76 Street, New York City and Hallowell, Maine. I am most grateful for the opportunity of appearing as a private citizen and presenting to you certain data and ideas about international air transport on which I have been doing research for quite a while, and which I do not think have been covered in other testimony. I think I can lay claim to an impartial point of view in that I have never been financially involved in any commercial aviation interest.

After studying international law and relations at Harvard, I was assigned by the Navy for several years as Chairman of the Interdepartmental Air Cargo Priorities Committee, and subsequently as Chief of the Air Cargo Priorities Section in the State Department. Over a number of years I was thus in charge for the government of scheduling some 200,000,000 lbs. of international air cargo on Army, Navy, and commercial planes, which is quite a lot of cargo as airplanes go. Since the end of hostilities, I have spent considerable time and effort in research--which incidentally has been done almost entirely at my own expense--about the possibilities for international air cargo on a commercial basis.

Last year I completed a study--"Air Import Potentials"-- and am currently doing research which I hope will result in a book of more general scope about the future of international air traffic--to be entitled "The New Sea."

These prolegomena are merely to sketch for you the experience on which I am drawing in this testimony.

I Traffic

One of the main assumptions at the heart of the argument for consolidating the international airlines of the United States is the supposed shortage of future traffic. This assumption is incorrect. Almost entirely overlooked by the civil airlines, by government aviation activities, etc. has been the large potential in international air cargo. This is a very sizeable source of business, as yet hardly tapped by the passenger-minded airlines--a potential which not only gives new opportunity for the commercial interests but which can also

nourish the creation of a sizeable reserve of long-range cargo aircraft - just the types which would be needed by the armed services in time of war. While my studies are not completed, they indicate so far the likelihood of an air cargo traffic potential from imports and exports at least as big as the passenger prospects. If this point can be proven, then American airlines operating abroad can look forward to twice as much business as they currently appear to expect.

For a specific example, I refer to my "Air Import Potentials," which, by very careful and conservative commodity-by-commodity study showed an air cargo potential inbound from China to the United States - the limiting direction in a trans-Pacific traffic pattern - of 3,000,000 pounds a year, bringing in \$2,600,000 a year of airline revenues, whereas one of the principal applicants, Pan American Airlines, in their exhibit to the government indicated an expectation of only 152,000 pounds a year of air cargo on the same route, at approximately the same rates and argued against the certification of another airline. (The choice of air carrier for this 3,000,000 lb.-a-year cargo potential would be largely in the hands of American importers, so that if the U. S. flag airlines are alert, they will get the great bulk of the business!) Nearly all the other airlines involved in that particular Pacific case, heard before the CAB, also largely forgot about cargo and concentrated their study on passengers. I mention this point in detail because the significance of achieving 3,000,000 pounds of air cargo, at the not-very-futuristic rates of 20 to 23 cents a ton mile, is that the cargo potentials of 3,000,000 lbs. a year are = 13,333 air passengers, which is more than the total passenger prospects worked out by the various airlines on that same route.

I believe that if the airlines which have been granted international certificates by the government devoted as much study, time, and effort to cargo as they have done during the past many years to passengers, they would discover for themselves that there is perhaps twice as much business to be had in the international field as they now anticipate.

If that is true, then it seems to me that we should be much less concerned about the hair-splitting percentages of passenger traffic which foreign carriers may take away from United States flag carriers. Instead of worrying about losing some passengers to foreign airlines, airline executives could be more helpful to the U. S. by developing in a big way a whole lot of new business-cargo which would much more than compensate them for any passengers they might lose to foreign lines! This new cargo business would make consolidating the existing airlines through S. 987 unnecessary.

The future development of long-range freight planes is very important to the military, because - judging by World War II - military air cargo outweighs military air passengers (whereas at present our international airlines are 85% passenger carriers.) That is why I think the armed services have a big interest in urging the development of export-import air cargo in peace as a means of building up a reserve of suitable freight planes.

If in the future it appears that the existing airlines are not going to develop this new cargo business, and are going to continue to concentrate almost both eyes on passengers, then the government might well find it necessary to admit now U. S. airlines into the international field with a more cargo-minded point of view.

Such a move could not be done in the future, however, if the government now ties its hands with the passage of S. 987, establishing only a single air carrier for business outside the continental United States.

It should be remembered that domestic air cargo has enjoyed a recent growth in good part from the competition of non-scheduled and Veterans' lines which came into the industry with a new point of view and began to develop new business.

It is my contention that it is more in the interest of the United States to concentrate on developing new cargo business in the international sphere than to try to legislate "consolidated carrier" on the basis of only passenger information. If cargo is considered, as well as passengers and mail, I think a much larger future for American aviation abroad will be opened up--one in which there will be room for a good many different airlines.

## II Sales Agency Agreements

While paragraph (12) of Section 1203 of S. 987 is not necessarily exclusive in its wording, I think it is doubtful if the government should require American international air carriers to hitch themselves to the sales agencies of "water carriers." One of the weaknesses of the present commercial airline system abroad is their failure to build up a sizeable and competent ground handling and trade-development organization of their own, and I do not think that "water carriers" will likely develop the air cargo business for them. Furthermore, even if in the future the airlines decide that it is too expensive to have their own ground handling cargo organization, then this paragraph would discriminate against the formation of a new or independent group of international air freight forwarders who could do the invaluable work of promoting import and export trade by air and provide a "back country" link between the airports and the foreign producers or consignees. I think that such a group would develop air cargo a lot better than "water carriers" who naturally would favor the sea, and who often are not located at interior points where airlines operate. In any case, I do not think the "water carriers" should be specifically favored in legislation over other existing or potential air-cargo handling agencies.

## III Competition

With the possibility of considerable new business for United States airlines from international cargo, the spectre of foreign inroads in the passenger business appears much less serious.

Competition between our own private companies is like democracy--it is a standard of living which a strong nation can enjoy.

It is also a source of strength and progress. I can think of no way better inclined to hold back the development by America of new ideas, methods, and inventions--an essential in the dynamic world of aviation--than single ownership. If we fear foreign competition, that is the surest way to allow foreigners to pass us.

Take seaplanes for example. While Pan American has given them up, and the newly certificated United States international carriers, A.O. and TWA, have not adopted them, it is understood that foreign nations are developing large size seaplanes which may have a very good commercial future as well as military use. I naturally am in no position to settle the old argument of seaplanes versus land planes, but I do feel that the seaplane is a very important type of aircraft and that its use and development is extremely important both for the business which it would bring to this country and for our national security. If present United States international air carrier continue to

ignore the seaplane, it may be advisable at some future date for this government to give an international certificate to some organization to operate seaplanes. Such a move by this government would be rendered largely impossible with the passage of S. 987, and would leave the government only the alternative of developing seaplanes through government operation - which would naturally be entirely at the taxpayers' expense instead of being a revenue-producing commercial operation.

Since the American Export Case in 1940, the CAB has been more or less pursuing a policy of healthy competition and, as you know, has certified 15 U.S. carriers for operation outside the continental U. S., and 14 foreign flag carriers (many of the latter being large for prestige.) It is a little early to change policy.

It seems to me more important to explore fully the potentialities for all U. S. air transport before deciding on any change. At present, airlines are only inching into the foreign field, and if we want them for security and other reasons to take a big leap, one piece of encouragement will be to show them, as well as the government, in black and white and in detail, about the potentials for international traffic, especially cargo.

As far as I have studied, these potentials are fairly large, and I hope to have some concrete figures before many months are past. It seems to me that "consolidated carrier" is the type of organization more suited for a business which is on the skids than for a business with a good future.

Some healthy competition among U. S. flag airlines abroad may be just what we need. The present high rates and small size of our international operators are slightly reminiscent of the automobile industry before Henry Ford came along.

#### IV Governmental Organization

It is my personal feeling that aviation is as Balkanized a government activity as rubber used to be before Mr. Jeffers came to Washington.

While the Policy Committee envisaged in S. 987 does bring together the principal aviation agencies in the government, setting it up over and in addition to the CAB produces a triple-decker arrangement: Policy Committee - CAB - Consolidated Carrier, which appears to have at least one supervisory layer too many. It reminds me of the sorrowful way in which the purchase of strategic raw materials abroad used to be organized: with W.P.B. telling F.E.A. to tell R.F.C. what to do. Such an organization of government affairs has within it inevitable friction - which was, in my personal opinion, at least one reason for the Jones-Wallace feud in '43.

S. 987 does not confer direct operating powers on the Policy Committee, nor does it give high policy authority to the CAB. The distinction between these two supervisory bodies is blurred by the word "advice" (Sec. 1210 (b) and elsewhere, or "recommendation" (Sec. 1203 (9)).

Furthermore, it should be noted that the Policy Committee does not bring together all the government agencies interested in air transport (for example, the Post Office Department - which is now a member of the Air Coordinating Committee - is omitted) and those agencies which are brought together in the Policy Committee are not knit very closely (only required to meet once in 3 months, for example - Sec. 1205 (d)).

There is nothing in S. 987 to prevent the management of the "consolidated carrier" from dealing with every government agency in Washington (in fact Sec. 1205 of S. 987 would permit the chief executive of the carrier to report, verbally at least, to the Policy Committee as well as to the CAB; Sec. 1207 (a) has the "consolidated carrier" submitting service plans to the Postmaster General as well as to CAB; while Sec. 11 (a) of S. 197 (although a different bill) specifically opens every door in Washington to the "consolidated carrier" and requires all agencies - except State - to give assistance).

Conversely, there is nothing in S. 987 to prevent every government agency from vying with each other in seeking special favors or service from the "consolidated carrier" -- and, having been in air priorities for quite some time, I know whereof I speak.

In other words, it would be very difficult for the government effectively to govern this "consolidated carrier", because S. 987 leaves the latter pretty free to play one government agency off against another until it gets what it wants.

It is my personal opinion that the Congress should be very careful not to consolidate the international commercial air carriers while leaving a state of free competition among the government air agencies!

#### V. Military Use.

I was very much interested to hear Mr. Glen Martin say on May 16th to your Committee, Mr. Chairman, that "the enemy won't come by ship."

I think it is also quite possible that in the event of another overseas war, the key striking power of our own armed forces would also travel by air -- that is, unless our preparation for a big "Merchant Marine of the Air" is inadequate.

I personally am not nearly so disturbed by the spectre of foreign competition in peace-time commerce as I am over our ability to meet foreign "competition" in time of national emergency.

We are all familiar with many of the war-time achievements of the Army Air Transport Command and the Naval Air Transport Service. Of their many achievements, I want to mention but two:

1. China

Twenty years ago the Alleghenies used to be called "the graveyard of planes", and TAT (one of TWA's predecessors) used to run its cross-country traffic through the mountains by train. Consider by comparison the magnitude of supplying China by air over the 20,000 ft. Himalayas. Yet it was done by ATC and CNAC for over three years. In fact, by 1943 the air tonnage had beaten the old truck records over the Burma Road, later hitting a peak of 70,000 tons a month. All of General Chennault's gasoline and bombs, all of China's lend lease, the bulk of all military supplies for both the Chinese and U.S. Military forces were flown in. (v. wall chart)

2. The Radio & Radar Industry.

On the less publicized inbound traffic, consider that our radio and radar factories--the production curves of which resembled a silhouetted outline of one side of the Empire State Building--were supplied throughout the war largely by air imports via ATC and NATS of millions of pounds of mica, quartz crystals, tantalite, steatite, and other strategic raw materials from India and Brazil.

ATC and NATS were the two biggest airlines in world history. Their international air lift in 1945 was 1,500,000,000 ton miles a year greater than the international lift of U.S. commercial planes in 1946.

In other words, our international carriers are at present much too small to be much help in time of national emergency--they are less than 1/10th the size necessary to replace the wartime international lift of ATC and NATS.

While we must keep ATC and NATS alive for security reasons, consideration of the taxpayers' pocketbook requires that a good deal of the expansion of our "merchant marine of the air" be done by revenue-producing operations, which probably means by commercial airlines.

If the government is to assist the building up of commercial airlines operating abroad, the government should be very careful at the same time to provide adequate means for military use of this international commercial air capacity in time of national emergency.

In my personal opinion, S. 987 is inadequate in that respect. Section 1203 (13) provides that "in time of war, the United States, acting by such agency or agencies as the President may determine may take over the possession or may direct the operation of the properties of the consolidated carrier during such emergency, under such terms and conditions as will afford just compensation to the consolidated carrier." (S. 987, p. 13 lines 3-8, underlining is mine.)

It is my personal opinion that the above provision is inadequate for national security in the following respects:

(1) Armed Services. S. 987 does not specifically provide that the "consolidated carrier" would become an integral part of the armed forces of the U. S. in time of war. Naturally in war the chief use of air transport would be military--the carriage of paratroops, marines, and other ground, surface or air forces; carriage of cargo; evacuation, mail and courier transport, etc. Air transport will provide the most important supply line of our armed forces. The above-cited paragraph of S. 987 would permit the President in time of war either to leave the "consolidated carrier" intact as a commercial company, or would allow him to appoint any agency, such as CAB for example, to seize the airline's planes. Much of the military value of the speed of air transport would be lost if the Armed Services in time of war have to bargain with an independent privately-owned airline for services, or appeal to a civilian agency for transport airplanes every time they have a need. For merchant ships in World War II, the Army and Navy usually had to go to a civilian agency, the War Shipping Administration, for allocations, and the loss of time which such a procedure inevitably entails would in my personal opinion, not be satisfactory when supply lines are moving at 400 miles an hour instead of 16 knots.

(2) National Emergency The above-cited paragraph of S. 987 limits government requisitioning to "time of war". It is my personal opinion that the military should be able to call the international air carriers to service, if necessary, in time of national emergency. The military need for air transport may begin well in advance of a declaration of war. I have already mentioned the big war-time use of ATC and NATS in flying strategic and critical materials from foreign sources of production to the U.S. for our radio and radar plants. Two of our biggest air import items were Brazilian quartz crystals, and mica. On a trip to Brazil, I was interested to find records of how Italy prior to Pearl Harbor had used the LATI airline to stock up on Brazilian quartz, mica, and industrial diamonds--had used her aerial pipeline for her national security well in advance of going to war. We might have to do the same.

(3) Personnel. Such requisitioning power as is given to the government by S. 987 is limited to the "properties" of the "consolidated carrier." What good are properties without persons? While a substantial number of the pilots, and some of the ground organization, and even some of the executives of the airline might be in the Army, Naval, Marine, or Coast Guard Reserve, not all would likely be, nor are they required to be by the bill. It seems to me that provision for the personnel of our international airlines to be in the reserve of our armed forces and to serve in the latter in time of national emergency, and, conversely, provision for the international airlines to employ in peacetime members of the armed services who have been engaged in war-time air transport, is a subject worthy at least of consideration. It is very important that the employment plans of international carriers(1) and the reserve plans of the Armed Services be closely integrated so that the U. S. air transport teams which are developed will be most useful both in peace and in war.

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(1) (Sec. 1203 (e) of S. 987 merely gives the equivalent of Selective Service Act benefits to veterans previously employed in commercial international air transport, and does not go nearly as far as Section 4 (7) of Senator McCarran's bill--S. 197--in providing commercial employment of ATC and NATS talent.)

We have been accustomed to thinking in terms of "reserve" as "persons" only; just as requisitioning generally applies only to "property". I wonder if some formula, consistent with the Bill of Rights and the Constitution, could not be worked out to combine the two, so that our international air carriers--persons and property--could be a reserve of the armed forces, ready for military service in time of national emergency, and ready for business in time of peace.

4. Requisitioning.

Of the alternatives envisaged by Sec. 1203 (3) of S. 987, I doubt if private ownership of international airlines would work in time of war. The connection with military tactics would be too indirect. The armed forces might with virtually no notice want to dispatch, for example, 50 big air transports full of amphibious troops and freight to some remote part of the globe--and could not afford the time to work through a separate layer of executives of a privately-owned airline. And incidentally, these executives might not even want suddenly to strip 50 planes away from their regular operations, and might even find some other government agency to support an argument that only 25 planes would be enough for this particular military operation. Follow many letters, wires, committee meetings, etc.... Nor, if the airline remained in private hands, could the military very well order the airline to perform unusually dangerous missions.

While the technique of government seizure (the second alternative provided by S. 987) might be satisfactory, some legal delays might be entailed in settling such matters as "just compensation" for the carrier, while a legal provision, made in advance, for automatic transfer of the international carriers to the armed services in time of national emergency might work more smoothly and with less ill-will than government seizure when war is actually upon us.

There are many different alternatives for tying a military string onto U. S. commercial international air transport:

(a) Priorities. You are all familiar, I am sure, with the trials and tribulations of the war-time air priority system. Four-footed animals aside, it worked fairly well. But it was most effective on the military planes--ATC and NATS--because the government could control where those planes flew, and, owning the planes, could make its own priorities stick. It would be only partly effective as a means of taking over a large commercial airline, (a) since generally priorities can only take over space on a commercial plane operating between two fixed commercial points--and usually can't tell the airplane where to fly to--(b) since the government inevitably encounters resistance on the part of the airline, which dislikes interruptions in its normal commercial business and in its regular contacts with its customers (c) because, unless specific provision is made in legislation, (which is not done in S. 987) the government generally wouldn't be able to apply priorities until its war powers became effective, whereas the government might need that plane space for security reasons prior to war. Of course, priorities would be a useful alternative to seizure

or contracts in a situation where the government needed only part of an airline space and desired to leave the rest to normal commerce, and legislation might well provide for issuance by the government of priorities on international commercial aircraft in time of national emergency, or even under less stringent circumstances.

(b) Contracts were used by both ATC and NATS (mostly by the former) in putting airlines to work during World War II, and they were not an unsuccessful method, although in retrospect some contracts appear to have been fairly expensive.

(c) Direct Government Operation. The biggest expansion in air transport history came with direct Army and Navy operation of transport planes. I read a proud airline advertisement the other week "Every Day is Departure Day for Europe", and recalled that 3 years ago the U.S. government was operating to Europe not a plane a day but a plane an hour. Furthermore, while absolutely complete figures are not available, it even appears that the Naval Air Transport Service operated, and still does, more cheaply than the current rates charged by our international airlines. And both ATC and NATS have brought in to the government a good many million dollars of revenue from flying non-military traffic in their extra space when commercial air space was not available. I am not advocating it--because I believe in a system of regulated competition of privately-owned U.S. international air carriers to handle commercial traffic--but it is at least worth having in the back of our minds that if the foreign competition were to get as fierce as some pessimists seem to think, and if we only have a sparse air traffic market to look forward to (which I do not believe), then perhaps the government by direct operation could do at least as well as a privately-owned "consolidated carrier", and of course the government's own airlines would be much more readily available for military use in time of war. If foreign competition gets so bad that we can't afford regulated private competition, can we afford private ownership at all?

(d) Charter Plans Another alternative for government use of international air transport might be for the government to assist in the construction of long-range transport planes and perhaps to work out some sort of charter or lease whereby operators could use these planes for commercial purposes in time of peace and whereby they would go to military service in time of war. There are a lot of variations to this method which I have not yet adequately explored.

I mention the above merely to show that S. 987 is but one of many alternatives for government-commercial relationship in international air transport. I personally am now embarking on a broad research project concerning the future of international air transport, which will include a detailed study of all these and other alternatives. While these studies are far from complete, I do feel that, both from the commercial and the military point of view, S. 987 is certainly not the best method to handle U. S. international air transport.

I hope that some better way will be found for sound commercial and military air transport development, and for a real partnership between commercial and military, a partnership of those who have and who are growing up together in a new enterprise, a partnership in the development of "the new sea."

SUMMARY  
of

Statement of  
Lt. Comdr. Langdon P. Marvin, Jr., USNR  
before the  
Special Aviation Subcommittee

of the  
Committee on Interstate and Foreign Commerce  
of the  
United States Senate  
with reference to S. 987 and the "consolidated carrier."

N. B. The opinion or assertions contained herein are the private ones of the writer, and are not to be construed as official or necessarily reflecting the views of the Navy Department or the naval service at large.

I. TRAFFIC

-A basic assumption at heart of argument for consolidating U.S. International airlines into one monopoly is the supposed shortage of future traffic. This assumption is incorrect because:

-there is a large potential in international air cargo which has hardly been tapped by the passenger-minded airlines, and which indicates that there is much more business to be had than the airlines seem to expect.

Example: In "Air Import Potentials," by a careful commodity-by-commodity study, a potential from China to U.S.A. of 3,000,000 lbs. a year of air cargo was arrived at (bringing in \$2,600,000 yr. in airline revenues); whereas PAA estimated to the government that only 152,000 lbs. yr. would be available on the same route at the same rates, and argued against certifying another carrier.

It is noteworthy that the 3,000,000 lbs. of air cargo = 13,333 air passengers, more than the total future passenger estimates made by the airlines on that same route.

While my studies are not yet complete, it does appear that in international air traffic the cargo potentials are at least as big as the passenger prospects, and that if the airlines develop them they will get twice as much total business as they now expect.

Conclusions: (1) The new business open to existing U.S. airlines from cargo would much more than offset any losses of passengers to foreign airlines, and would thus make consolidating our international airlines (by S.987) unnecessary.

(2) If existing airlines don't develop the cargo business, CAB should be able to certify some new airlines which will - but such a move would be impossible if S. 987 passes.

## II. Sales Agency Agreements

- "Water carriers" should not be favored over other existing or potential air cargo forwarding groups, as is done by Sec. 1203 (12) of S. 987.

## III. COMPETITION.

- Monopoly would hold back the development of new ideas, methods, planes, business etc., and is the only way foreign competition would likely pass us.

Example: Seaplanes are currently ignored by our commercial lines; it might be necessary in the future for the government to give a permit to some group to operate international seaplanes so the U.S. could keep up with foreign developments in seaplanes - but that would be largely impossible if S. 987 is passed.

## IV. GOVERNMENTAL ORGANIZATION.

- The Policy Committee in S. 987 is too loose, and omits important agencies like Post Office Dept. It also overlaps with CAB.

- S. 987 makes it too easy for the "consolidated carrier" to play one government agency against another to get what it wants; it could not easily be governed by the government.

## V. ARMED SERVICES INTEREST.

- International commercial airlines of U. S. are now too small to be much help in war; are only 1/10 size of ATC and NATS in '45.

- Air transport is vital to military operations, and if government is to help build up our international air carriers, government at the same time must provide means for military use of these airlines in time of national emergency.

- S. 987 is incomplete in that:

(1) government seizure is limited to "war," whereas "national emergency" might occur well in advance of war.

(2) there is no specific provision that international airlines and their personnel should be part of the armed services' reserve.

- Other alternatives:

- priorities
- contracts
- direct government operation
- charter plan

- Conclusion: "Consolidated carrier" is certainly not the best method for developing either commercial or military air transport, nor for forming an adequate partnership between military and commercial in developing "The New Sea."

Statement of  
Lt. Comdr. Langdon P. Marvin, Jr., USNR  
before the  
NATIONAL RESOURCES ECONOMIC SUBCOMMITTEE  
of the  
UNITED STATES SENATE

Mr. Chairman, Senators:

My name is Lt. Comdr. Langdon P. Marvin, Jr., USNR of 40 East 76th Street, New York City. I was highly honored to be invited by Senator Malone to appear before the gentlemen of this Committee and describe my experiences in connection with importing strategic materials by air during the war. I was Chairman of the Interdepartmental Air Cargo Priorities Committee and, under the War Production Board, was in charge of flying over 75,000,000 pounds of strategic materials from foreign sources to the United States.

If it is agreeable with you, Mr. Chairman, I will frankly and briefly describe the story as it actually happened, and I think it may well be relevant to your Committee's study of our national resources.

Early in 1942, after studying international law and relations at Harvard, I was an Ensign serving as Executive Secretary of the Interdepartmental Shipping Priorities Committee of which Dr. W. Y. Elliott at W.P.B. was the Chairman. That Committee was scheduling the import by ocean vessel of all minerals, agricultural products, etc. required by the United States, and was concentrating on getting in here important commodities like bauxite, chrome, manganese, etc. without which a war cannot be fought.

One of the most critical items was block mica (the principal source of which is in India), and the radio and radar people and the aircraft magneto manufacturers were in desperate need of it for condensers. (I think we figured once that, for example, there were 15 pounds of finished mica in each four-engined bomber.) There was so little mica in stockpile, and the new radio and radar and aircraft production schedules were so enormous, that there developed a real pinch on the raw material. Elaborate arrangements were made by our Shipping Committee to put several boats into India, and only load small amounts on each vessel (for the sake of safety), but the delays were too great that way (one load was almost a year en route, due to frequent re-routings of ships) and on top of everything else one or two vessels were sunk. So the mica picture was desperate.

Dr. Elliott and I had a brainstorm at that point and went to the Air Ferry Command which had been a lend lease outfit (delivering

planes to the Middle East) and was a few months later to become the Army A.T.C. (on which several of you gentlemen have doubtless ridden) and we persuaded them to put some planes down to Karachi for this mica. The air pipeline worked, and the factories did not shut down.

So early in 1942 this air import program began, growing out of a very real emergency. An Interdepartmental Air Cargo Priorities Committee was developed to bring Army, Navy, State, WPB, FEA, RFC, Commerce, Agriculture and other agencies together on this air cargo problem, and simply because I was there first I was designated Chairman.

Pretty soon a similar emergency developed with quartz crystals. The whole Army-Navy communications system was built around crystal oscillators, but the raw material came 98% from Brazil. On a trip to Brazil, I was interested to find that for several years prior to Pearl Harbor, the Japanese, Germans, and Italians had been the biggest buyers of Brazilian quartz crystals, and had even used, well before war began, the LATI airline to fly quartz, mica, and industrial diamonds back home to build up their stockpiles. Unfortunately, the United States had been less forehanded; our stocks in 1942 were low; the radio and radar production requirements were enormous; the ships were too slow and too many of them were being sunk by enemy submarines, especially on that very route from the bulge of Brazil through the Caribbean to the States.

So again air transport was the answer. Meeting with little success in being able to use the American commercial planes for this purpose, we got the Naval Air Transport Service to establish in 1942 two freight planes a day out of Rio to connect with the Army's service from Natal to the States, and thus provide an air pipeline, out of reach of the submarines, for quartz all the way from Brazil to the States.

Tin and tungsten became another problem. The United States was cut off from its biggest normal sources of supply in the Far East, and it was felt that our stocks certainly would not last forever. We took advantage of the Army's "over-the-hump" service, which was started when the Burma Road was cut off in 1942, and loaded up the planes with return cargoes of Chinese tin, tungsten and other materials vital for American, British, or Russian war factories, materials which could be obtained only by air -- there being just no other way.

Still another emergency occurred in our supplies of tantalite. As you know, tantalum is a very important element; the metal is invaluable as a "getter" in radio and radar tubes, and it has other important war uses; in the production of synthetic rubber (as a catalyst); in especially hard cutting tools; in aerial photographic lenses; and in surgery (where its acid-resistance and low coefficient of expansion make it excellent for use in nerve surgery, as plates for injured skulls, etc.)

But, as in the case of these other materials, domestic production was negligible and the stocks in this country were pathetically

small. (I understand that the chief pre-war use for tantalite was in making long-playing victrola needles, for which limited supplies had been needed.)

In '42 and early '43, the requirements for tantalum were expanding, the stocks were down to a very few weeks' supply; recent imports had turned out to be of lower quality than expected; and the chief processing plant in Chicago was thus faced with a shutdown which would naturally tie up the manufacturers of the end products which I have mentioned.

Chief source of supply of tantalite is in the state of Paraiba, inland from the bulge of Brazil. (Photographs). The Foreign Economic Administration pursued an aggressive buying and development program (it is well that they did, because tantalite had been forgotten in the list of strategic materials included in Brazilian-United States agreement in 1941, and hence the Brazilian producers were free to sell it to anyone), and we jacked up the air priority and made arrangements to fly it in Army and Navy planes on a regular basis from Natal to the States as soon as it arrived off the erratic wood-burning train from the interior. Additional supplies became available in the Belgian Congo, Nigeria, and Australia — and were similarly collected by air and rushed to the factory, which was thus supplied with high grade ore, from all over the world, regularly by air throughout the three most critical war years.

(Show photo of bag of tantalite coming off Navy seaplane "Mars" on her maiden flight from Natal. Her cargo consisted of 35,000 pounds of tantalite and mica — several days' supplies for our factories — which materials, said Secretary Knox, "ride ahead of Admirals.")

A complete list of the materials imported by air under our program is attached — and, at your pleasure, can be made part of the record. I would be glad to answer any questions which your Committee might have about these materials, and if some of the names sound odd to you I will certainly understand because I had never even heard of 1/3 of them before I got involved in the business of flying them.

As Chairman of this Interdepartmental Air Cargo Priorities Committee, I would get all sorts of requests to fly materials in here, and it was a liberal education in how dependent our war factories were on materials from all over the world. I had to look carefully into the background of each of these items before giving them air priority, and I would like for a moment to comment on some of the factors that made air transport an integral part of our strategic materials program.

1. Speed is the most obvious reason for using planes. Cargo vessels are slow enough normally compared to planes, but when they have to go through convoy assembly and procedure, and cope with crowded port conditions, etc. they are even slower. We figured that air cargoes,

port to port, were at least six times faster than ocean cargoes. Take that Brazilian tantalite for example: There was about one ship a month scheduled into Natal en route to the States, and sometimes none, and a several weeks' voyage from there on. If we had been dependent on ocean transport, the Chicago plant would have closed down early in the war. In general, the production schedules for lots of items (take radar, for example -- we produced almost none before the war, but by 1944 we were producing \$5,000,000,000 worth a year) rose so fast in the war that only air transport of key materials could keep up.

2. Safety. Reading about commercial air crashes now might incline you to think surface transport is safer than air. But it certainly was not. During the critical war years, we figured that our import cargoes were 20 times as safe on ATC or MATS as they were on merchant ships. This safety factor is especially important with strategic materials the world's supply of which is limited: There was only, for instance, so much high grade tantalite being mined in the whole world, so that if a boat load (say, a month's Brazilian production on that monthly boat) were torpedoed, our whole end-product production would be set back a month. The high-grade ore just could not be replaced; only a strictly limited amount was coming out of the world's mines. The same situation applied to the top grades of quartz, mica, beryl, etc.

To roll all our air-ship comparisons into one sentence, I can say that during the critical war years our air imports were about 1300 times smaller, 20 times safer, and 6 times faster than our ocean imports.

3. Cost. I have not studied it carefully, but I do know that, war considerations apart, -- air was a lot cheaper than water in many ways, especially for the high-valued items which were faced with very high war-risk insurance rates on the boats. That saving particularly applies to the industrial diamonds, jewel bearings, platinum, and other items on the list. Also the breakage was much less by air; there were substantial economies in using a lighter packaging; and, not to be forgotten, is that a lot of inventory cost was saved when cut-backs came in those industries which had been fed by air, where the air pipelines could be quickly turned off after the cut-back was announced, and where the industry or the government did not have a lot of costly stocks of raw materials left over nor a couple of months' supplies still afloat.

4. Lack of Foresight. Sometimes I used to think our air imports program was half based on lack of foresight. But, then, it is very hard to say what should have been foreseeable and what could not reasonably have been foreseen. Take, for example, those fine spun cotton yarns from the U. K. I understand that a stock was on hand in the United States early in the war, or even before, but no war orders seemed to come along, so somehow or other the yarns found their way into the hosiery business for ladies' fine stockings. Some time later it developed that this type of yarn was just what was needed for insulation windings in the coils of

fractional horse-power motors of submarine torpedoes, airborne radar, etc., but the stock was gone. Apparently no mill in the United States produced such fine long-staple yarns as these, so they had to be flown from the U. K. to here. Lack of foresight - both the reasonable and unreasonable varieties - is one of those things that must be foreseen in any plan for strategic materials.

5. New Materials. Of course during the war many new inventions came along using new materials, or at least requiring experiments with new materials. For example, one firm was working with the government on a substitute for quinine. They came to us having heard of some new drugs in China which might be just the thing. A week later we delivered their new drugs in Chicago. Or take calcite. Several firms were experimenting with new uses in photography, in gun sights for naval aircraft, etc. and the most expeditious way to help them was to gather sample crystals by air from South Africa, Mexico, Brazil, etc. and thus speed up the experimental project. Relatively new drugs such as emetine from Brazil (used to cure amoebic dysentery) and hyoscine hydrobromide from Australia (for sea sickness and cardiac ailments) were also imported regularly by air. I read in the newspapers recently that the Russians are supposed to be importing new supplies of uranium ore from Saxony by airplane. We must have an air transport system capable of getting new types of materials for ourselves.

In his letter of invitation, Senator Malone asked what conclusions I had drawn from the experience of importing all these materials by air. Of course I drew a lot of little conclusions - some of them quite unprintable, but I would say that the two big conclusions to be drawn were as follows:

1. The interdependence of world economy. You have before you a list of the materials flown in here during the war, the high priority items on which list were so important that the war could not have been fought nearly as effectively without them. The situation might have been something like Benjamin Franklin's old ditty which, as you remember, winds up: "For want of a nail....., a kingdom was lost." Fortunately, by combing the world for "nails" and by flying them in here, the production war was not lost, and in three years of air importing only one factory shutdown was caused by our not being able to deliver the imported materials on time.

The stubborn fact remains that the domestic production of many of these strategic materials is negligible in quantity and low in quality. Therefore, our factories depend on foreign production of these materials. I have given the example in detail of tantalite - "black gold" as it deserved to be called during the war. I do not believe any adequate substitute now exists; in fact it is quite possible that additional uses for the metal may develop. Furthermore, there is as yet not much room for believing that we could rely on domestic production instead of imports.

As the Bureau of Mines' Yearbook shows, domestic production has been very small in the past, and the great publication of the Industrial West Foundation, of which Senator Malone was the Executive Director, (a volume which in itself is a real mine of information about our potential resources) does not indicate a great increase in domestic production of high grade tantalite. So we must get tantalite from abroad.

A stockpile of tantalite, and of other materials (assuming the Stockpiling Act of 1946 is implemented sufficiently) will certainly help us in a future emergency, but it is unlikely that the stockpiles would last for a long war or for a war in which new uses were discovered for tantalite (or other minerals). Therefore, we must continue to encourage foreign production of strategic materials and keep our channels of access open to these foreign sources.

I think you would find that in the event of another war, any priorities list for imports would include a great many of the same materials that were on the list for World War II. Of course, substitutes may be developed for some materials, but it certainly was my experience in connection with the airborne items that many of the synthetics or substitutes (like pro-mika) were able principally to replace only the lower qualities of the imported materials (which, in the case of mica, were not in very short supply anyway) and were not able to replace the top qualities (like FS and Cl and SS mica) of which there was a desperate shortage and which we were flying. While on subject of ersatz, I would just like to say a word about the dangers of premature optimism and publicity about substitutes. In the case of mica, as I have told you, we were making every effort to get as much as we could from Brazil, British East Africa, India, and other sources. I made a special trip in 1943 for Mr. Donald Nelson to get our air imports moving on schedule (they had been falling badly behind) and in Brazil I cooperated very closely with Dr. Baruch of FEA and Major Namm of the U. S. Purchasing Commission who had engineers and buyers all over the place trying to get hold of enough high grade mica to meet our air import schedules. Well, we found a lot of doubt among the Brazilian miners and merchants about our pleas for them to open up new mines and expand production, because they had read in the Air Express edition of one of the Yankees' best known news magazines that a synthetic substitute known as pro-mika had been developed in the States, and naturally the Brazilians did not want to be left holding the bag of natural mica. Furthermore, I found over in Africa a lot of cases of Indian mica lying around in warehouses (instead of being flown to the States) — the explanation of the people in charge being that they had read how a substitute had been developed, and thought they were no longer supposed to fly the Indian mica! I tried to explain all around that the high grades of mica (which were the only types we were flying) had not been substituted for and were more urgent than ever because of the increased use in radio and radar, but you can see how our program was impeded by this little bit of exaggeration about one important item.

I do not say that substitutes, synthetics, stockpiles, or domestic production will not cut down our dependence on imports of some critical materials, but I do feel that we should not count our chickens before they are hatched.

In a future war, as in the stages or preparation for such a war, we would need many new materials from foreign sources which we are not even thinking about now, or, of materials which we do know about, we would need higher qualities or greater quantities than we now figure on.

In other words, our industrial potential for war does and will depend a great deal on the raw material supplies of foreign nations. We cannot get on without the rest of the world. We must not discourage foreign production nor close the channels through which supplies of raw materials from abroad can and will flow to us.

We have learned painfully that foreign trade makes the difference between prosperity and depression; we must realize also that it makes the difference between victory and defeat.

2. The importance of air transportation. My second conclusion, Mr. Chairman, is that air transport is a very integral part of any strategic materials program.

I am sure that the distinguished Senator from Arizona, Mr. McFarland, will particularly appreciate the connection between the two, since he is a member not only of this National Resources Economic Subcommittee but also of the Special Aviation Subcommittee of the Senate.

The fact that our future war production will depend in good part on strategic raw materials available only from foreign countries accents the importance of our having an air transport system capable of reaching out to these sources and bringing the materials to us.

One of the vital (and relatively unpublicized) needs for air transport in the last war, as I have shown you, was to provide a speedy, regular pipeline, out of reach of the submarines, for imports of strategic materials — without which our production of radio, radar, aircraft parts, and medicines would have been very badly held up.

The more that warfare speeds up, the more must the industrial supply methods speed up. We cannot fight a 500-mile-an-hour war if we are dependent on 16-knot supply lines for our imported raw materials.

It is true that it will be a long time before the bulk materials like chrome, manganese, bauxite, etc. can be imported by plane. But if our air transport system grows sufficiently, it will be able to carry the

most urgent items in much greater quantities than in the last war.

I have been doing a lot of research into how big our international air cargo system can grow. Last year I completed a study called "Air Import Potentials" which was a first attempt to find out how many peace-time import items can afford the likely air rates. I am starting right now to try to find out how many of all our exports and imports can afford to travel by air -- the total of which will give us some idea of how big our air transport system will likely get. Some of the ideas I evolved I stated to the Senate Aviation Subcommittee on June 2, 1947. The results of all this work I hope to write up into a book called "The New Sea", but, naturally, there is a lot of research which I must do first.

I do feel that a large air transport system can be nourished by our normal peace-time foreign trade, and that it will prove an invaluable auxiliary to industry in time of war.

Air transport itself is a national resource.

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"APPENDIX II"

EXHIBITS TO BE PRESENTED ALONG WITH PREPARED STATEMENT

to the

SENATE NATIONAL RESOURCES ECONOMIC SUBCOMMITTEE

1. Tantalite from Brazil being unloaded from Navy's giant seaplane "Mars". 1943 (Navy Photograph)
2. Ingots of tin at Chinese airport awaiting air shipment "over the hump". 1943 (Marvin Photograph)
3. Loading Chinese tin into CNAC plane. 1943 (Marvin Photograph)
4. Chinese tungsten and mercury in Army plane. 1943 (AAF Photograph)
5. Pyrethrum seeds going aboard ATC plane in Nairobi, Kenya. 1943 (FEA Photograph)
6. Special fine cotton yarns from U. K. arriving via ATC. 1944 (AAF Photograph)
7. Tantalite (production, Brazilian rail transport, loading into planes). (OCIAA Photograph)
8. Mica and quartz crystals -- album showing mining in Brazil, plane transport, etc. 1943 (Marvin Photograph)
9. Traffic maps of Imports by Air Program. 1944 (Marvin)
10. Box of strategic mineral samples and some of their end products. (Marvin)

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"AIR IMPORT POTENTIALS; CHINA TO U.S.A."

SUMMARY and TABLE OF CONTENTS

	<u>Page</u>
Chapter I - <u>THE CHINA TRADE</u> . . . . .	2
<ul style="list-style-type: none"> <li>-Pre-war imports into U.S. from China only 3% of total U.S. imports (\$80,000,000).</li> <li>-<u>During war</u>, normal China-US trade was knocked out, but ATC &amp; CNAC flew 82,000,000 lbs of non-military Chinese commodities out of China.</li> <li>-<u>Post war trade</u> China-US will pick up gradually.</li> <li>-Impediments to trade: Civil war, devastation, inflation, bad internal transportation, high labor, government controls.</li> <li>-Both US and Chinese govts. are interested in stimulating trade.</li> <li>-Assuming above impediments get no worse &amp; reasonable political stability is attained, China trade to U.S. will be \$73,000,000, 2% US imports from world, <u>for next 12 mos.</u></li> <li>-Exports to China will be larger but the import trade is richer per pound. Air imports esp. important to US airlines which must feed on <u>two-way traffic</u>. Because imports are the weakest spot in international plane traffic, they should be the most cultivated.</li> </ul>	
Chapter II - <u>AIR TRANSPORTATION AND CHINA</u> . . . . .	7
<ul style="list-style-type: none"> <li>-Comes naturally to China topographically.</li> <li>-Hump operation accustomed Chinese to importing and exporting by air in big volume.</li> <li>-Importance of living up to the American flag.</li> </ul>	
Chapter III - <u>FACTORS INFLUENCING AIR CARRIAGE OF GOODS</u> . . . . .	9
<ul style="list-style-type: none"> <li>-Speed: emergencies and economies (stocks &amp; pipeline, overordering and price fluctuations, safety, money tied up, intermediary delays)</li> <li>-Perishability</li> <li>-Value per pound</li> </ul>	
Chapter IV - <u>COMMODITIES AVAILABLE FROM CHINA</u> . . . . .	16
<ul style="list-style-type: none"> <li>-Value over \$20 lb. : small volume</li> <li>" " 10 lb. : fair volume (esp. furs)</li> <li>" " 5 lb. : good volume (handkerchiefs, hats, menthol, wearing apparel and esp. <u>silk</u>)</li> <li>" " 2 lb. : bristles only big item.</li> </ul>	
Chapter V - <u>PERCENT OF COMMODITY VALUE SPENT ON TRANSPORTATION</u> . . . . .	20
<ul style="list-style-type: none"> <li>-Assumption: importers will spend up to 17 1/2% of the value of their cargoes on air transport. Alternate rates figured at 15% and 10%.</li> </ul>	
Chapter VI - <u>RATES</u> . . . . .	24
<ul style="list-style-type: none"> <li>Calculations based on N.Pac. route (shortest) to NYC (import centre)</li> <li>Special bulk commodity rates Necessary.</li> <li>Different methods of expressing rates: weight, value, stowage.</li> <li>Emphasis on ad valorem charge as part of rate.</li> </ul>	
<u>CONCLUSIONS</u> . . . . .	33
<ul style="list-style-type: none"> <li><u>Expectation (A) Immediate Future:</u> <u>450,000 lbs. yr.</u> potential air imports from China to U.S.A., at rates of 40-45¢ a ton-mile.</li> <li><u>Expectation (B) Near Future:</u> <u>3,000,000 lbs. yr.</u> potential air imports from China to U.S.A., at rates of 20-23¢ a ton-mile.</li> <li>Significance: 3,000,000 lbs. air cargo = 13,333 air passengers</li> <li><u>Potential airline revenue: \$2,600,000 yr.</u></li> <li>Other comparisons.</li> </ul>	

Summary and Table of Contents (Cont'd)

	<u>Page</u>
Chapter VII - WHAT OTHERS THINK . . . . .	38
- Critique of exhibits made before the Civil Aeronautics Board, in connection with the Pacific Decision, Docket No. 547 et. al., by:	
Pan American	
Northwest	
TWA	
PCA	
UN Airships	
CAB	
- Criticism of neglect of international cargo potentials by established airlines and by CAB.	
- Emphasis on size of international air cargo, relative to passenger traffic.	
- Emphasis on cargo potentials as opening a larger future for American aviation abroad.	

APPENDICES

APPENDIX I	Graph of U.S. Imports from World and from China, historical and projected.
"	II Graph of Air Shipments of non-military Chinese Commodities 1942-1946, and projected Air Imports China-US
"	III Commodity List of Potential Air Imports. (57 Commodities listed with detailed discussion of prices, availability, and trade conditions.)
"	IV Rate Table (Volume of air imports attainable at varying rates-scaled from US \$.10 to US \$1.20 per ton mile.)
"	V Distribution of Burden of Air Cargo Rates on Principal Commodities of Expectation (A)
"	VI Distribution of Burden of Air Cargo Rates on Principal Commodities of Expectation (B).
"	VII Pyramid
"	VIII Maps of Trans-Pacific Air Routes: Commercial, NATS, ATC, "Hump".

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Sketch of Book for Navy  
3/23/47

"THE NEW SEA"

"And I saw a new heaven and a new earth: for the first heaven and the first earth were passed away; and there was no more sea". -  
"Revelation" 21, 1.

Introduction

Optimists versus pessimists. Quotes. Truth in between - aurea mediocritas.

This is not a book about the past, but a book about the future.

Chapter I

"Commercial Air Transport"

"For I dipt into the future, far as human eye could see,  
Saw the vision of the world, and all the wonder that would be,  
Saw the heavens fill with commerce, argosies of magic sails,  
Pilots of the purple twilight dropping down with costly bales."

- Tennyson "Locksley Hall"

We must think more in terms of traffic. It is these "costly bales" of Tennyson that will keep planes in the air, just as the "cargo of cheap tin trays" was the real fuel of Masefield's famous ship. Our productive capability has greatly outgrown our capability to fill planes. We must study the future, and plan carefully if we are to avoid losing U. S. world air transport supremacy, to avoid another "air depression."

(a) Domestic. Its traffic future is fairly well chartered:

(Notes on sources, assumptions, etc.)

	1945	Ton Miles 1946	1955
<u>Mail</u> (the original air traffic, began in 1918 with government operation; gradually transferred to private hands after 1926. Future predict on assumes no surcharge.	65,000,000	33,000,000	90,000,000

	Ton Miles		
<u>Passengers</u> (Growth began with government aid in 1928, now greatly surpasses mail.) (Future prediction assumes 3¢ mile)	365,000,000	608,000,000	1,150,000,000
<u>Cargo</u> (First experimental shipment 1923, still minor source of revenue; veterans and non-scheduled operators now causing big surprise. Prediction is @ 20¢ t.m.; - way low. Discuss. Alternate prediction.)	13,000,000	39,000,000	120,000,000
Total Domestic Commercial Air Traffic	443,000,000 1945	680,000,000 1946	1,360,000,000 1955

Therefore at least a doubling of domestic air traffic. Extra expansion most likely in cargo. Unfortunately, compared to the international, domestic air cargo growth is less useful for national security (most adaptable domestic cargo planes - like Packet - have too short range - could jump to Pearl, for example, only with greatly reduced loads, figures.) International trade offers much better prospects - not only for inventive genius in plane development; U. S. prestige in world, and national security, but also for business; greater savings in time (figures and example) and in money (figures and example.) Intl. bal. of payments and trade.

(b) International Where will the big expansion be?

	1945	Ton Miles 1946	1955
<u>Mail?</u> -Not enough:	4,800,000	8,000,000	20,000,000
<u>Passengers?</u> Not enough:	45,000,000	113,000,000	200,000,000

The trouble is that the bigger international air transport gets, the more it will run out of passengers. (Passport statistics.) Even if one takes the optimistic views of Van Zandt, or the so-called "Warner Formula", the prospective air passengers just won't be many enough to build up a really big air system abroad.

What's wanted is something really big to grow on.

Cargo. Mail gave air transport its start; passengers nourished its first real expansion; now cargo can build it to maturity. Problem of commercial air transport expansion abroad largely boils down to exports and imports -- a \$20,000,000,000 business.

Tap the brain of an Englishman, Dutchman, Frenchman, South American, etc. and you will find a wealth of information on commodities going to and from all parts of the world; tap the brain of an American, and you will find a wealth of information on engines, wing flow, speeds, stresses and strains. We have the cockpit view, the engineer's view, the Mechanic's view; we don't have the trader's view. "The oldest of the arts and the newest of the professions." Mention likely air trade items to an American airline executive, and you will largely draw a blank look: kolinsky, musk, ocelot, cmetine, hyoscine hydrobromide, capacitors, avocados, polymer styrene, amigen, etc.— yet they have filled up planes in the past and will fill many more in the future. While these names may sound dull or odd to us, or even laughable, remember they are considered pounds, guilders, francs, cruzeiros by other people, -- and they must come to spell dollars and airplanes to us. If we are to succeed in this international air business, we must combine trade science with our marvelously-developed aviation science.

Our aviation experts can tell us roughly what it will cost to operate an airplane (Discuss: 5-6½ t.m. through present 50¢ t.m. Lower costs of cargo over passenger operations. Additional costs of international operations over domestic: landing fees, permits, staff, long range, etc. In general the limiting factor--fuel.)

Now, how "costly" do Mr. Tenryson's bales have to be to be able to afford to fly in these airplanes?

$$X = \frac{\text{t.m. rate}}{.15}$$

(Discuss, drawing from "Air Import Potentials" - Marvin).

We are not talking about that rush shipment of spare parts to a broken-down factory, nor about that plane load of \_\_\_\_\_ flown large for advertising purposes. We are talking about regular, recurrent trade. We figure the foreign trader will pay around 15% ad valorem for air transportation, and that it will be an economy to him because of: (Discuss each).

1. Lower overhead in stocks and pipeline.
2. Fewer losses from over-ordering and price fluctuations.
3. Greater safety.
4. Lower packaging costs and fewer losses from damages.
5. Less money tied up and lower interest charges.
6. Fewer "intermediary" costs; the streamlining of importing-exporting.

Example of silk, and/or furs, with cost comparisons from producer to consumers - air vs. surface. The conveyor belt.

The above analysis relates to commodity value as the key factors in deciding what will move by air. In addition, of course, are other factors which will put wings on particular commodities:

1. Emergency - "advance schedule" or "unpredictable." Approximate % of traffic.
2. Advertising - of decreasing importance.
3. Perishability - taken either literally or in style or news value.

Must get down to commodities in each trade between the United States and foreign countries.

Working out our formula in studying the import trade, China to USA, and going over the commodities individually, we evolved an air cargo potential of 3,000,000 lbs. a year, yielding an annual potential airline revenue of \$2,600,000 in one direction (—the limiting one.) This load, plus a n equivalent volume of exports, would keep around six large transport airplanes in the air. That, in itself is no mean achievement, particularly on strategically important routes, such as the North Pacific, where the psychological factor may hold down the passenger prospects.

It is not tremendously large; it is only the equivalent of one merchant ship load in each direction, but it is a contribution to national security, and an opportunity for business expansion hitherto overlooked by the airlines and the government. (Reference one or two private and government books, reports, plans, or exhibits.)

Taking this formula and a pplying it to normal American trade throughout the world, and assuming our imports as the limiting traffic factor, except on routes where the balance is clearly the other way, we find:

Approximate Ton-Miles Per Year of Foreign Trade:

Area	Air	Sea
		(figures from work sheet #3) Correlate with " " #2.
Totals.		

These expectations for foreign trade by air are conservative, especially in that they do not include emergency, advertising, perishable, or newly-created air cargo.

Yet they point to an untapped traffic revenue of \$ \_\_\_\_\_ per year, to greater sales and opportunity for development of new plane models by inventors and manufacturers, and to an operating reserve of \_\_\_\_\_ long range cargo planes, constantly available to national defense.

So far, the American-flag airlines operating abroad have largely ignored these business possibilities. They have tended to cling with nostalgia to the familiar domestic business, and only inch into the foreign field. And they are particularly passenger-minded, as if they were going to be the exception to transportation development. (In 1944, NATS delivered a \$500,000 cargo of essential materials from mid-Europe to 90 American imports in 44 hours; now these importers consider themselves lucky to get much smaller lots in 14 days.) These

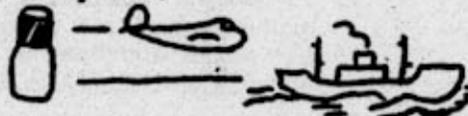
cargo potentials are at least as big as the international passenger potentials planned for by the airlines, and the reader may well wonder if the currently deteriorated position of our commercial airlines might not be improved if their traffic were put on a sounder basis -- with cargo composing something more like 50%, rather than the old 15% which still governs a lot of future planning.

While on the one hand foreign trade offers air something it had overlooked, on the other hand it does not rob sea power of its basic role.

"It is not believed that aircraft will cut, to any appreciable extent, into the movement of freight." The post-war planners of the Maritime Commission are more right in tonnage than in value. Airplanes will carry the cream of foreign trade--and it is a fairly thick top to the bottle. (Of future tonnage of our foreign trade: only 5% by air, but of \$ value 20%.)

If the shipping lines can adopt themselves to the skimmed milk, and exist profitably on bulk freight rates from which most of the revenue from valuation charges has been taken away, they will have no financial problem. Certainly planes are not adapted to carrying the bulk of our foreign trade: cotton, wheat, bauxite, manganese, chrome, coal, coffee, sugar, tobacco, petroleum, corn--and our other bulk exports and imports will still travel by sea.

(Milk bottle sketch of our foreign trade.  
Plane and ship sketch to scale.)



Our foreign trade is sufficiently great to support both a large merchant marine and a sizeable commercial air transport system for a long time. When the basic fuel operating costs change drastically, we shall then have to recalculate the air-sea division of trade. Until then, this is a reasonable prophecy. *W* new sea is created and the first one remains.

In the future air trade will continue to grow gradually, working down from value to bulk as have other forms of transportation.

Here is the cargo of the "Rising Sun" into Providence out of Canton in 1793:

"Fresh Bohea tea of the first quality, in Chests, China, a great variety, Sattins, Lutestrings, Persians, Taffetas, of different qualities, a variety of fashionable silks for Gentlemen's summer wear, Cinammons, Black Pepper, etc."

It is interesting to consider that America already has in operation planes bigger than those sailing ships which crossed the Pacific at the close of the 18th Century, began the real growth of our merchant marine, and wrote such a stirring page in American history.

(Photo, or silhouette to scale, comparing either 80 ton JRM flying boats, or Navy's new 92 ton "Constitution", with the 70 ton sailing ship--tonnages in captions.)

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### "Military Air Transport"

#### Chapter II

$$E = \frac{MV^2}{2g}$$

Nearly everyone has coped with this formula in high school physics, and its implications of the greater importance of speed over Mass. While inexact outside its own realm, it brings certain immediate thoughts to mind:

An armed force 1/10 its previous size (say, 1 million instead of 10) but with 10 times its previous speed (say 300 m.p.h. - a conservative speed for future planes - instead of 30 m.p.h. - a generous figure for present ships) will produce an impact 10 times as great as before.

Ex: Dunkirk: Almost 1000 naval and civilian vessels evacuated a British Army of 335,000 - over a 9 day period. The same job could have been done in one day with 186 of our Navy's JRM seaplanes - and that is an old design. The same principle would hold true in the reverse, or attacking, direction with the ratio favoring the airplanes as they grow in size and speed. (Check with Morrison an alternate ex.)

In the previous chapter, we have discussed commercial air transport as a security reserve - as the merchant marine has been the reserve transport system of our armed forces in the past. The problem is size.

A proud airline advertisement reads "Every Day is Departure Day to Europe." To the average citizen, that may seem like progress - until it is remembered that 3 years ago ATC and NATS were running not a plane a day but a plane an hour.

Let us see how nearly the airlines are developing a capacity as great as that required in World War II:

	1946 Commercial	1945 ATC & NATS
<u>Domestic:</u>		
Passengers (incl. non-rev.)	606,710,857	(102,101,663
Excess Baggage	2,229,064	(
Express & Freight	38,608,901	( 84,622,094
Mail	32,956,030	(
	<u>684,504,852</u> Ton Miles	<u>186,723,757</u>
<u>International:</u>		
Passengers (inc. non-rev.)	113,296,007	( 529,347,670
Excess Baggage	3,529,001	(
Express & Freight	15,041,879	(1,078,243,588
Mail (U.S. & Foreign)	8,078,693	(
	<u>139,945,580</u> Ton Miles	<u>1,607,591,258</u>
DOMESTIC & INTERNATIONAL GRAND TOTALS	824,450,432 (Only 2.7% is inter- national cargo & Mail)	1,794,315,015 (60% is inter- national cargo & Mail)

The most obvious weakness appears in total capacity. At present, the commercial airlines have an unusual carrying capacity of 1-1/2 billion ton-miles less than the total U. S. airlift in 1945, or one billion less than ATC and NATS alone.

Something must plug the deficit--for in another national emergency we would certainly need no less air transport than in World War II, and probably a lot more.

The next most obvious weakness in the current pattern of commercial air development is in international cargo--in itself a shortage of one billion ton-miles. While ATC and NATS devoted 60% of their space to international cargo, the airlines last year provided only 2.7%. If the current passenger-minded policy of the airlines changes, we have estimated in the previous chapter an additional growth over the next few years of \_\_\_\_\_ ton-miles through foreign air trade.

There is still a total shortage of \_\_\_\_\_ to be met.

The conclusion is obvious that during the next few years when commercial aviation is attaining that growth, and afterwards, the government must remain in the airline business in a big way.

The government has two airlines-ATC and NATS.

Most people are familiar with many of their achievements: flying Presidents Roosevelt and Truman to important conferences (ATC); evacuation of 10,000 wounded from Okinawa, delivering many soldiers and sailors to the base hospital in Guam within 10 hours after they were hit (NATS); blood plasma (both); a 2-ton propeller to the broken down "New York" (NATS). *etc*

Of these many achievements, I want to mention but two:

1. China

Twenty years ago the Alleghenies used to be called "the graveyard of planes", and TAT (one of TWA's predecessors) used to run its cross-country traffic through the mountains by train. Consider by comparison the magnitude of supplying China by air over the 20,000 ft. Himalayas. Yet it was done by ATC and CNAC for over three years. In fact, in 1943 and 1944 the air tonnage beat the old truck records over the Burma Road by a mile, hitting a peak of 50,000 tons a month. All of General Chennault's gasoline and bombs, all of China's lend lease, the bulk of all military supplies for both the Chinese and U. S. Military forces were flown in.

2. The Radio & Radar Industry

On the less publicized inbound traffic, consider that our radio and radar factories--the production curves of which resembled a silhouetted outline of one side of the Empire State Building--were supplied throughout the war largely by air imports via ATC and NATS of millions of pounds of mica, quartz crystals, tantalite, steatite, and other strategic raw materials from India and Brazil.

These two military and industrial examples are selected to show regularity of supply by air--where airplanes were not just emergency auxiliaries to a surface supply system, but where airplanes did practically the whole job.

As in the case of our foreign trade, only a negligible per cent of our military traffic in World War II was carried by air. Merchant ship and Troop ship tonnage of \_\_\_\_\_ makes the air traffic seem small.

If a future war resembles the last war, air will be of only here-and-there importance for spot emergencies; but we must face the problem of quick war, the main blows of which may be over in a few weeks, long before mass movements of men and cargo could be completed. We can not put our reliance on a 16 knot transportation system in a 400-mile an hour age.

-Peace-time government traffic:

- (a) Example of economies in personnel movements.  
(True of whole government--figures)
- (b) Example of greater economies of air over surface in regular pipeline of certain types of cargo.  
(Ex. cost comparison for airplane spares)

-ATC:

- size
- general government mission
- Executive Order 9492 - its transition implications

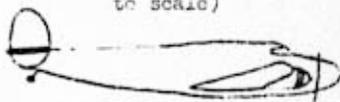
-MAG:

- special Navy routes (photo-Midway). The air-sea coordination.
- Navy--"connoisseurs of transportation"--the safety record. (Figures)
- the special importance of seaplane development (neglected by Army and commercial--cost examples: Martin Mars.)
- LTA
- importance of avoiding dismal experience of NTS between World War I and II.
- Development of new models-service leadership (advantage of not being covered by Black-McKellar Act.)
- Research (operational and traffic service leadership.)
- Pilot training.
- Control of commercial air transport in event of war.
  - reserve plan (services) and employment plan (industry)
  - priorities (discuss from experience)
  - contract " " " and the A.R.A. experiment).
  - government seizure (examples of petroleum and coal)
  - Charter plan
- Emphasis on having grown up together, on partnership between commercial and military in development of the new sea.

U. S. AIR TRANSPORT

Total Traffic Capacity  
(Plane model sketches to scale)

Maps of Actually Operating Routes



WAR



CURRENT COMMERCIAL



End.

## Winged Freighters

Pessimism is back of the move to consolidate all American overseas air lines into one "chosen instrument" to compete against subsidized foreign government air services. But it is unwarranted pessimism.

To the arguments reviewed here recently against the chosen-instrument bills in Congress, the young Lieutenant Commander Langdon P. Marvin, Jr., has added another. Marvin, who as chief of the air cargo priorities section of the State Department scheduled 200,000,000 pounds of international freight during the war, contends that ocean air cargoes are remunerative as passenger prospects are potentially available to American air lines. In other words, we have underestimated by half the possible profits.

At the same time, James M. Landis, chairman of the Civil Aeronautics Board, testifies that Russian air services are infinitely inferior to ours and that neither the Russians nor the British threaten this country's supremacy.

So the need to abandon our American principles of regulated competition does not exist, at least for the foreseeable future.

As for the cargo prospects so alluringly projected by Commander Marvin, Boston, nearest air center to Europe, should take notice of this a new commercial potential we should be building up?