



# AIR AGE EDUCATION NEWS

EDUCATION IS NOT A DESTINATION...IT IS A JOURNEY...ALWAYS, WE ARE EN ROUTE

VOL II JANUARY, 1945 NO. 3

★

## *In this Issue*

★

Global Air School Urged by Educators

★

School Leaders Enthusiastic About "The Waging of Peace"

★

New Pupil Readers for Intermediate and Upper Grade Levels

★

Illinois Pupils Get "Feel of Earth"

★

There Is A Shangri-La

★

Airline Time-Distance Chart

## AIR AGE, TOO, HAS HISTORY

**T**HE AIR AGE has a history, but what will its future be? Can we envision it by looking to the past?

We cannot be too proud of the history of aviation so far. Technical progress has moved far ahead of our ability to direct it into channels which will be most beneficial to mankind. To date, most of the history of the air age revolves around engineering accomplishments and their use for military purposes. It was the Army that saw potentialities in the use of the airplane and started experimenting with it as a tool of war. The theory of air power for military might was born of aviation experience in World War I. Between World War I and World War II the airplane was used to a great extent as a tool for economic supremacy and political power. During World War II military planes and tactics have been perfected to a high degree.

Continued use of the airplane only for building military and political strength may easily lead to annihilative warfare. There are new uses for air, and new requirements for social and educational thinking to meet these new uses. Flight can open up new areas of natural resources, increase production and raise standards of living all over the world, make possible mutual experience and appreciation of peoples of different countries, different religions, and different customs. It can promote the conditions of security under which peaceful relationships between nations can exist. Education faces a tremendous challenge in trying to prepare youth for participation in a program for the use of air in achieving peace rather than waging war.

# NEWS OF THE AIR WORLD

## WE THANK YOU

The November issue of the NEWS carried a notice asking teachers to send us photographs of their classes and air-age projects. We have received many responses to this request, and we are planning, in succeeding issues, to utilize more and more of the material received in this way.

The first semester has now been completed, and we are sure that the work done during this period has been extremely worthwhile. Won't you send us pictures and stories of these classroom experiences, so that all of our readers may benefit from them?

## STRAWBERRIES IN SOLOMONS

Last month we wrote about spinach. This month it's fresh strawberries. Shipped by air from New Zealand along with other fresh vegetables, they gladden the hearts and stomachs of wounded American boys in the Pacific islands. We shouldn't be surprised if the hospital cooks managed to whip up some delectable short cake every once in a while to go with the airborne deli-

cacy. Here is another example of one of the frontiers opened up by the use of air, limitless in terms of postwar development.

## INSECTS LOSE RIDE ON PLANE

DDT is a symbol that is becoming increasingly familiar to the American reading public as a fabulous little item that will be a curse to household flies after the war. For the present it must remain only a name, and not an aid, to civilians. Reports of its use by the armed services, however, point to ways in which it will be valuable later on.

One story tells of the use of DDT on transport planes headed for one of the Southwest Pacific islands. Two of these insecticide bombs make certain that the interior of the plane is free of insects. On Saipan, planes have sprayed the area so thoroughly that it is hard to find a disease-carrying mosquito there.

Reports such as this augur well for the problem of preventing postwar international aircraft from carrying disease-laden insects from country to country.

## ONE YEAR OF A-AER

Since its inception a little over a year ago, Air-Age Education Research has made remarkable strides. It has achieved recognition by those responsible for the administration of public education and is consulted frequently by the leaders in the field. Since January 1, 1944 it has distributed over 300,000 pieces of educational literature, has prepared and published booklets, maps, globes, and other teaching materials which are sold at nominal, non-profit, prices to schools. It has replied to 30,000 letters from teachers. It has had published in educational magazines many articles designed to acquaint educators with air-age issues.

One of the most outstanding achievements of Air-Age Education Research is this publication, AIR-AGE EDUCATION NEWS, prepared especially for teachers and school administrators to keep them informed of new developments in air transportation and the progress of the air age. To those of you who have pioneered with us in the development of this periodical, it will be of interest to know that this issue will circulate among more than 200,000 teachers. Schools in every state of the United States, every province of Canada, every country in the Western Hemisphere, and India, England, and Australia have been included among its readers by request.

In addition to its publications, Air-Age Education Research is running a series of institutional advertisements in principal professional educational journals. These advertisements are directed at the stimulation of thinking and interest in teaching about air-age problems.

It is an axiom of good teaching that the educational process is not completed until the learner has actually experienced what he has studied. Just how this experience will be developed in air-age education is still indeterminable, but all teachers can look forward to the day when boys and girls will take to the air in the course of their training. Their studies will carry them around the globe and all people will learn to know each other better and to appreciate the differences which exist among them. Thus better human relationships, a goal of education, will be enhanced and expanded through the use of air.



## DIRECTOR

N. L. Engelhardt, Jr.

## ADVISORY BOARD

Ben M. Cherrington

*Chancellor, University of Denver*

Edwin A. Lee

*Dean, School of Education  
University of California  
at Los Angeles*

Alexander J. Stoddard

*Superintendent of Schools  
Philadelphia*

Air-Age Education Research has been established by American Airlines, Inc. for the advancement of understanding and the diffusion of knowledge pertaining to air transportation.

## Next Issue, March 1945

All contributions, including letters, pictures and articles, should be addressed to the News Editor—

Air-Age Education Research  
100 East 42nd Street  
New York 17, New York

## AIR-AGE EDUCATION NEWS

Published by

Air-Age Education Research  
100 East 42nd Street  
New York 17, New York

The NEWS is distributed without charge to teachers and school administrators upon request.

Copyright 1945, by American Airlines, Inc. Printed in U.S.A.

## PURPOSES OF A-AER

- ★ To stimulate a realistic appreciation of the Air Age.
- ★ To help teachers and school administrators plan education for the Air Age.
- ★ To create authoritative materials for classroom use.
- ★ To cooperate with educational institutions in study and research.

Querido Emilito: por el contacto a los  
maestros del curso que está desarrollando  
en esta revista. Es útil y "up-to-date".  
Recuerdos para todos los amigos. Te abraza

Dr. Enrique Noble

Feb. 28, 1945



UNIVERSITY OF THE PACIFIC  
LIBRARY



OFFICIAL PHOTO U. S. AIR FORCES

AIR AGE • AIR AGE • AIR AGE • AIR AGE • AIR AGE • AIR AGE • AIR AGE • AIR AGE

## *There is a Shangri-La!*

**L**OOKING GROUNDWARD, the crew of the C-47 plane saw mountain peaks, higher than our own Rockies, pointing up at them. Beyond the mountains, jungle swamps of New Guinea spread their poison-green brilliance over hundreds of miles. The airmen were pioneering a new air route over New Guinea, which is a huge tropical island just north of Australia, but only 27 air-hours from San Francisco.

This remote part of New Guinea was a wilderness. Maps showed no settlements. But as the plane passed over the mountains, the crew saw something that seemed like a mirage. Walled by steep mountains, lay a valley, freshly green, nestled deep in the mountains. It was a valley full of cultivated fields and villages — and people! Here, in a place shown on maps as a wilderness, was a colony of human beings. As the men flew back and forth across the valley, at a speed of 200 miles per hour and at a height of only 200 feet above the valley floor, they saw many light-skinned natives going about their daily work. These natives were taller and better built than the people of other tribes near by — but completely unknown to

PATRIMONIO  
DOCUMENTAL

AIR AGE • AIR AGE • AIR AGE • AIR AGE • AIR AGE • AIR AGE • AIR AGE • AIR AGE

## AIR-AGE WORLD

is published by  
Air-Age Education Research  
100 East 42nd Street  
New York 17, New York

N. L. Engelhardt, Jr., Director

Air-Age Education Research has been established by American Airlines, Inc. for the advancement of understanding and the diffusion of knowledge pertaining to air transportation.

Handling charge for *Air-Age World*: 10c per pupil for four issues when ordered by the teacher. Order by level: Intermediate or Upper. Published each month during the school year.

Issue No. 1

February, 1945

### UPPER EDITION

#### THERE IS A SHANGRI-LA!

them. The airmen estimated that the colony consisted of 50,000 to 75,000 people.

There were over a hundred villages in this secluded valley, which was about twenty miles long and five miles wide. Around the villages were small, neat fields, irrigated much as were the fields of the early Egyptians and of the Aztecs of Mexico, conquered by Cortés many years before our nation was founded. Not only was the valley floor cultivated, but even the lower parts of the inner mountain walls were covered with terraced gardens. The principal crop grown by the natives appeared from the air to be sweet potatoes. There were no coconut trees, which is odd because coconut trees grow in all other parts of New Guinea. The only animals seen by the flyers were oversized pigs, about the size of squat, heavy ponies.

Probably the only outsiders to have seen these people are American pilots and flight crews, for there is no entrance to, or exit from, the valley, except a deep canyon with a sheer drop of 2000 feet — which is filled by the terrific rush of a wild mountain stream. The mountain

walls appear too steep and sheer to be climbed by even the most expert mountain-climbers, with modern equipment. And outside the cliff-like mountain walls, the colony is surrounded by hundreds of acres of swampland. The swamps had stopped all earlier explorers, for they were not equipped with airplanes.

This new-found valley — remote from all other human beings until the Air Age — seemed to its discoverers like another Shangri-La. Shangri-La, as you may know, is the mythical place which James Hilton wrote about in his novel, *Lost Horizon*. This book told of a community which had almost no contact with the rest of the world until an airplane brought four people from the outer world, under quite extraordinary circumstances.

It is not known where the people in the New Guinea valley came from, or how many generations have lived there, never to travel beyond their small, secluded valley. It may be that a wandering tribe entered this mountain paradise hundreds of years ago. After they settled here, some earthquake, or other tremendous upheaval, may have cast up mountain barriers which trapped the people in the valley. And the colony then lay undiscovered for hundreds of years — until the airplane brought American flyers there to see it.

This Shangri-La would make an ideal landing field for planes traveling over the large island of New Guinea. But even the most daring paratrooper might well think twice before landing there; for in most parts of New Guinea, the natives were once head-hunters or cannibals! The Shangri-La of New Guinea calls for more exploration in the future. It is but one of the many exciting examples of new worlds opened to us by the Air Age.

This story has been adapted from an article written by Harry E. Patterson and printed in the *Douglas Airview*.

#### A 2400-MILE LAUNDRY ROUTE

"The Air Age is a wonderful thing," say a group of ATC men stationed on a mid-Atlantic base. Getting their laundry done on the base was a problem. But Richard O'Connor, a young airline representative in North Africa, arranged to have their laundry picked up by plane on Mondays. The clothing was flown to North Africa, about 2400 miles away, where O'Connor took it to a local laundry. On Friday morning a returning plane delivered the laundry to the Atlantic base, with not a tie, sock, or shirt missing. Many people who live in large cities wait three or four weeks for laundry to be delivered from only a few blocks away. They might well turn green with envy at the speed of O'Connor's service.

#### DO YOU KNOW WHERE TASMANIA IS?

1. Is Tasmania along the coast of Africa, a South Sea Island, near French Indo-China, or an island of Australia?
2. Over what Atlantic coast city would you fly on a great-circle route from Kansas City to Casablanca?
3. What direction is Havana from Miami?
4. Is Tahiti, Samoa, Guadalcanal, or Singapore closest to the Equator?

1. An island off Australia
2. St. Johns, Newfoundland
3. Southwest
4. Singapore

#### THERE'S A PLACE FOR YOU IN AIR TRANSPORTATION

All kinds of jobs are open to young people in aviation. *Opportunities for Youth in Air Transportation* tells about them. This booklet can be obtained for 25c from Air-Age Education Research, 100 East 42nd Street, New York 17, New York.

#### A RADIO PROGRAM FOR YOUNG AIRMEN

"Ceiling Unlimited" will be the subject of a radio program about aeronautics on February 5, 1945. This is one of a series of radio broadcasts written especially for air-minded boys and girls. It will be listed in the radio department of your newspaper as "American School of the Air," and can be heard over CBS stations.

#### ISLAND IN THE SKY

The story of a search for an airplane downed by ice and snow in the uncharted wastes of upper Canada is told in the novel *Island in the Sky*. It was written by Ernest K. Gann, a veteran airline pilot now flying for the Air Transport Command. The novel offers the thrill, keenness, detachment, and beauty of actual flight. It also tells of the controls used, the computations needed, and the decisions made in piloting the plane.





UNDERWOOD & UN

## THE WORLD IS ONE PLACE

These two young men are examining the new Air Globe, which shows only places where people live. Every person on earth lives on the one street of the air.

## WE ALL LIVE ON THE SAME STREET

**A** LITTLE CABIN on the plains of Texas may be a long way from a paved road. Whole countries — such as Switzerland — may be landlocked, with no outlet to the sea. But every house, every village, every country in the world is on the highway of the air.

Before the Air Age, people had to reckon with land and water when they wanted to go from one place to another. Maps and globes showed these surface boundaries. But surface boundaries do not matter to us in the Air Age. Ships will not carry you over land; trains and automobiles will not carry you over oceans. But in an airplane you can fly over both land and sea. This single fact means that we must change some of our ideas about the world. We must realize that air, which we cannot see, is a highway. It is as real as a paved road, as real as the ocean waterways.

To help us understand new ideas of the Air Age, a new Air Globe has been made. In the picture above, the two young men are looking at one. Mountains, oceans, jungles, deserts, and arctic ice are not shown on the Air Globe. These surface barriers have for centuries kept people apart. But the Air Age has changed that.

Nothing on earth really matters except in terms of people. The new Air Globe shows the world of *all* people, because the lives of all people are touched by the air. There is not space on a globe of this size to show the names of each person living on the earth; therefore, the names of places where people live are shown. All of these places are on the one highway of the air. Whether we live in Burma or Tasmania or Peru, we all live on the same vast street of the air.

PATRIMONIO  
DOCUMENTAL

# THIS REQUEST FORM FOR YOUR CONVENIENCE IN ORDERING MATERIALS

Mail to:  
AIR-AGE EDUCATION RESEARCH  
100 East 42nd Street, New York 17, N. Y.

Enclosed please find \$ \_\_\_\_\_ for which send the following items to:

NAME \_\_\_\_\_ Date \_\_\_\_\_

STREET and NO. \_\_\_\_\_

CITY or POST OFFICE \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

| Number | Item   | Unit Price             | Amount Enclosed |
|--------|--|------------------------|-----------------|
|        | <b>AIR-AGE WORLD</b>   |                        |                 |
|        | INTERMEDIATE Edition — Class Order for Four Issues   | 10c per pupil          |                 |
|        | UPPER Edition — Class Order for Four Issues  | 10c per pupil          |                 |
|        | <b>TEACHER'S COLLECTIONS</b>   |                        |                 |
|        | Teacher's Collection No. 1   | \$2.00                 |                 |
|        | Teacher's Collection No. 2   | \$1.00                 |                 |
|        | <b>BOOKLETS</b>  |                        |                 |
|        | "Into the Air Age"   | 25c                    |                 |
|        | "Opportunities for Youth in Air Transportation"  | 25c                    |                 |
|        | "Aviation Maintenance"   | 10c                    |                 |
|        | "Make Friends With Mexico"   | 10c                    |                 |
|        | <b>AIR-AGE PICTURE CHARTS</b><br>(Add 10 cents mailing fee to each order for charts)         |                        |                 |
|        | COMPLETE SET OF SIX CHARTS with Explanatory Pamphlets  | 50c                    |                 |
|        | SEPARATE CHARTS (Same Titles as Set):  |                        |                 |
|        | "The Air Ocean" Chart with Explanatory Pamphlet  | 10c                    |                 |
|        | "Meteorology" Chart with Explanatory Pamphlet  | 10c                    |                 |
|        | "Aerodynamics" Chart with Explanatory Pamphlet   | 10c                    |                 |
|        | "Airline Operation" Chart with Explanatory Pamphlet  | 10c                    |                 |
|        | "Air Communication" Chart with Explanatory Pamphlet  | 10c                    |                 |
|        | "Air Navigation" Chart with Explanatory Pamphlet   | 10c                    |                 |
|        | <b>FULL-COLOR LITHOGRAPH PRINTS</b><br>(Order by Number, Circling Numbers of Prints Desired) |                        |                 |
|        | <b>SMALL-SIZE PRINTS</b><br>1 2 3 5 9 11 12 14 15 22 23 24 26 27 28 30 32 33 34 35 36        | 1 for 10c<br>3 for 25c |                 |
|        | <b>LARGE-SIZE PRINTS</b><br>100 101 102 103 105 106 107 108 109 110 111 113 114 115 116      | 1 for 25c<br>3 for 50c |                 |
|        | <b>OTHER MATERIALS</b>   |                        |                 |
|        | WORLD AIR ROUTES — Wall Map (Will be shipped about February 15, 1945)                        | \$1.00                 |                 |
|        |  |                        |                 |
|        |  |                        |                 |
|        |  |                        |                 |

Each order for free materials should be accompanied by 10 cents to help defray cost of mailing. Thank you.

(See other side)

**HERE IS YOUR OPPORTUNITY TO TELL US WHAT YOU THINK  
ABOUT AIR-AGE EDUCATION**

What grade and subjects do you teach?

Have you been teaching anything about the Air Age in your classes? (Tell us about it)

What would you like to know about flying or the Air Age to help you in your teaching?

What kind of classroom materials or teaching aids, about the Air Age, do you need most in connection with your work?

What suggestions can you offer as to how we in Air-Age Education Research can be of greatest help to you and your colleagues?

What would you like to see included in AIR-AGE EDUCATION NEWS?

**AIR-AGE WORKSHOP**

You are invited to describe below your experiences and classroom projects about which you would like to have other teachers read in the WORKSHOP. If you have pictures, please send them along.



PATRIMONIO  
DOCUMENTAL

*Name and address space and Materials Request Form on other side.*



# GLOBAL AIR SCHOOL URGED BY EDUCATORS

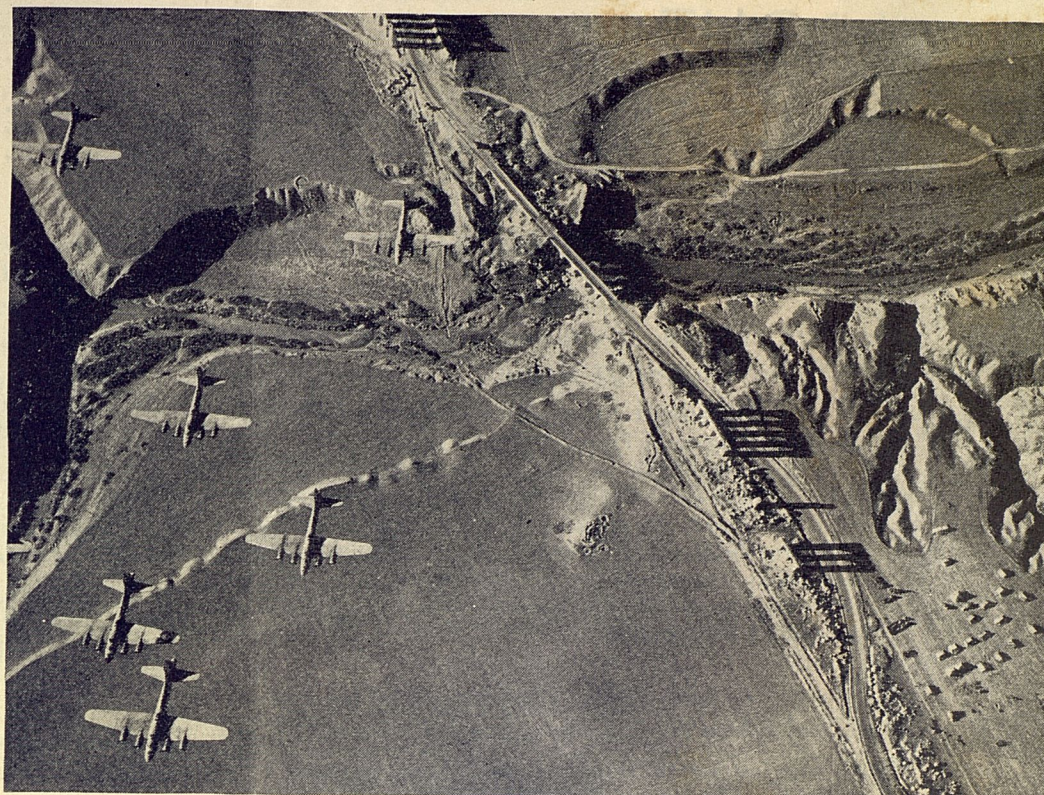
By Stanton Leggett  
Supervising Principal  
Elmont, New York

A race is now on. The race is between the development of more efficient means of destroying civilization and the fumbling uncertain steps of humanity to free itself from the shadow of future war.

The contribution of the use of air to the cause of peace up to the present time has remained, for all practical purposes, in the realm of theory. Yet it is here that great promise for the future can be found. The airplane has made it possible for Dr. Engelhardt, Jr., to say that "the only barriers that exist today are found in the minds of men." The airplane has given man controlled access to the universal ocean of air. It remains now for mankind to invent ways to use the airplane for peace instead of for war.

It is to this task of social invention that the Air-Age Education Committee of the American Association of School Administrators has addressed itself in preparing the pamphlet "The Waging of Peace." It is the thesis of the committee that the airplane is a potent instrument for society in advancing world understanding. The committee states as follows in summarizing its position:

... the primary purpose of this program would be to promote the improvement of human relationships, appreciation of cultures, understanding among people and discussions leading to perpetual interest in the maintenance of peace. A plan of education and training would be developed which would recognize the world as *one place*. The program would knit together all regional and local teaching and offer the student and teacher an opportunity to grasp the significance of the air age. Youths would be trained in the use and development of the resources of the world. They would become socially-minded individuals competent in all places and with all people. They would become familiar with real life situations throughout the world. They would obtain knowl-



*Ancient Roman Aqueduct from the Air.*

edge of cultural, industrial, agricultural, political and geographic characteristics of every region.

In order to carry out this program, every youth should spend one year in world-wide civil service. This year should consist of intensive physical, mental, and moral training. A major portion of the program should be devoted to intensive study of people, cultures, languages, races, religions, industries, and economies of the world. A part of the program should be devoted to world-wide explorations by air giving every youth an opportunity to meet with youths from other regions of the earth.

The document discusses in some detail the meaning of the air age and its implications in everyday life. Considerable attention is given to the development of the airplane as an instrument of force, but one with no intrinsic morals. The report includes suggestions for classroom programs from kindergarten through college, teacher education, and a series of experiences culminating in regional and world explorations. The program is necessarily general in nature in view of the brevity of the report. The committee states its intention of issuing more detailed sug-

gestions to implement the proposed generalized program.

It is the opinion of the Committee, after careful research and consultation with a large number of experts in the field, that the schools of this and other countries have a compelling obligation to develop in the minds of young people and adults a comprehension of the revolution that air transportation is causing in all aspects of modern living. That the problems involved in the use of air are not theoretical can be judged from the discussions carried on at the recent conference held at Chicago dealing with international air transportation. Unless people throughout the world can deal intelligently with the issues created by extensive use of air transportation, war will follow war and the cause of peace will have been thwarted again. Schools must move quickly so that the foundations may be strengthened for constructive social thinking on the problems arising from the air age.

THE WAGING OF PEACE may be obtained from the American Association of School Administrators, 1201 Sixteenth Street, N. W., Washington 6, D. C., at 25c a copy.

# SCHOOL LEADERS ENTHUSIASTIC ABOUT "THE WAGING OF PEACE"

Following are some of the reactions of leading educators to "The Waging of Peace":

*Dr. Ben D. Wood, Director, Bureau of Collegiate Educational Research, Columbia University*

"I have just received a copy of the excellent booklet entitled 'The Waging of Peace,' and wish to thank you . . . who may be responsible for this historic statement. This is one of the most significant and one of the best written educational documents that has ever come to my attention. You deserve the hearty congratulations of every educator and every citizen of every country, not only for the great vision that is here represented but for the clarity and eloquence with which it is delineated."

*Dr. George Willard Frasier, President, Colorado State College of Education*

"I have just completed reading 'The Waging of Peace.' It is a wonderfully fine piece of work. It is thoughtful, well-written, and forward-looking. Much of the material written in the field of aviation education is uninspiring and too narrow, but this report sees in aviation a great world force that should be harnessed and used for the advancement of civilization. This report should point the way to sane and valuable education in the field of aviation."

*Dr. Edwin A. Lee, Dean, School of Education, University of California at Los Angeles*

"'The Waging of Peace' has been written by a group of educators who are completely enthralled by the vision of the airplane as an instrument of good will and peace. In their enthrallment they are nevertheless realistic. They know that the airplane will only become an instrument of peace when enough people everywhere will that it shall so become. And they know, too, that the surest way to create the will for a wise and a defensible peace is through education."

*Dr. John K. Norton, Director, Division of the Organization and Administration of Education, Teachers College, Columbia University*

"This pamphlet deals with a matter of first-rate importance which should receive the considered attention of every curriculum revision committee in the country.

"I am glad that this material is having wide circulation . . ."

*Dr. George D. Stoddard, Commissioner of Education, State Education Department, State of New York*

"This is a fine piece of work. It is well documented, and it moves along. It will be a useful and timely addition to the literature especially in view of its emphasis on cultural and social implications."

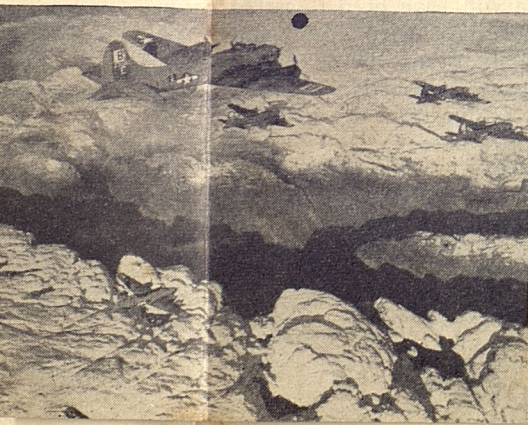
*Dr. Julius E. Warren, Commissioner of Education, Massachusetts*

"Government, business and science are now making plans for the 'waging of peace' in an Air Age. It is well that education should likewise be preparing its plans for the future in a world whose greatest need is a continuing peace. I urge all those charged with responsibility for education to a careful and even prayerful study of every fact, argument and proposal presented by the Air-Age Education Committee in its report 'The Waging of Peace.' The report is thorough, carefully presented, and of splendid vision."

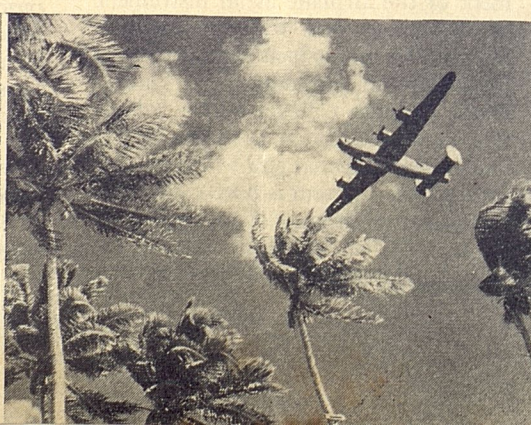
*Dr. Clyde B. Moore, School of Education, Cornell University - to the Air-Age Education Committee*

"I have just read 'The Waging of Peace' as brought out by you and your committee and want to extend my hearty congratulations upon your doing an important task so well. The central ideas are clear and well developed and the presentation is attractive. It is a fine contribution."

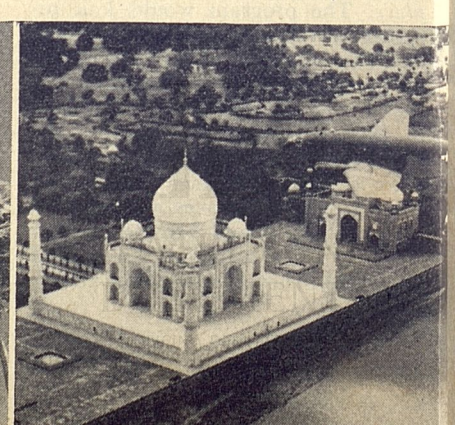
*Over Norwegian Fjords*



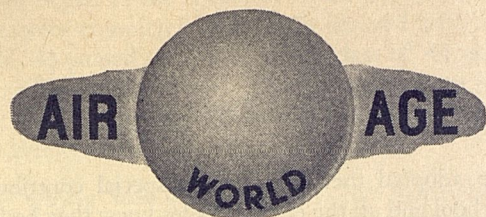
*B-24 Above Makin Island*



*C-46 Views the Taj Mahal*



# REVIEWS



## NEW PUPIL READERS FOR INTERMEDIATE AND UPPER GRADE LEVELS

AIR-AGE WORLD is the title of the pupil reader which will supplement the NEWS. The WORLD is available in two editions, the Intermediate for 3rd, 4th, and 5th graders and the Upper for 6th to 9th graders. It has been published to meet demands for air-age information written at levels which can be read by pupils.

AIR-AGE WORLD is designed to meet the interest, reading ability, and comprehension of elementary and junior high school pupils. Content of the WORLD will be confined to the social and economic phases of aviation. In many cases information will be correlated with articles in the NEWS, so that the teacher will have a guide for enlargement of the ideas presented to pupils in the WORLD. This reader will give boys and girls engrossing stories with social implications emphasized, air-age facts of importance, quizzes that are fun, and serious ideas presented with the motivation of an aviation background. Each of your pupils will want his copy of the WORLD.

A sample copy of the Upper edition of AIR-AGE WORLD is included with this copy of the NEWS. The WORLD will be issued every month. It is necessary to make a handling charge of 10 cents per pupil for four issues. Requests should be made by the teacher. Class group orders will be mailed to the teacher with a copy of Air-Age Education News.

### CALIFORNIA ISSUES GUIDE BOOKLET

The California State Department of Education has recently issued a comprehensive report of the experiences of the California schools from 1942 to 1944 in aviation education. The report includes recommendations for programs of air-age education from elementary school through junior college. It is excellent for those who are interested in curriculum revision to suit the air age.

AVIATION EDUCATION IN CALIFORNIA PUBLIC SCHOOLS, Bulletin of the California State Department of Education, Vol. XIII, No. 5, September, 1944. 56 pp. 25c per copy from Calif. State Dept. of Educ., Sacramento, Calif.

*Geography Around the World*, McConnell, W. R., Chicago, Rand McNally, 1945, 244 pp., \$1.32.

A recent textbook prepared for fourth-grade study. Takes the pupil on a trip around the world, traveling by airplane extensively. Stresses children, homes, normal life of various countries. Global maps, actual pictures of the globe, are stressed throughout. The end of the text explains to the pupil the meaning of the use of color in maps and develops an understanding of the relief maps which they will use in the fifth grade.

Format is 8" x 10", profusely illustrated, and interestingly laid out.

*Geography of the Americas*, McConnell, W. R., Chicago, Rand McNally, 1945, 410 pp., \$1.76.

In this fifth-grade textbook, the understanding and use of maps is again stressed. Ways of living and working and environmental factors of the different sections of the United States are discussed at length, as are the other greatly diverse parts of North, Central, and South America. A stimulating *Geography Workshop* is included at the end of each section.

Format is 8" x 10", profusely illustrated, and interestingly laid out.

*Civil Aviation and Peace*, Van Zandt, J. Parker, Washington, Brookings Institution, 1944, 157 pp., \$1.00

The second in the Brookings Institution series "America Faces the Air Age," *Civil Aviation and Peace* offers a valuable contribution to the teacher's understanding of civil aviation. A knowledge of the relationship of civil aviation to air power and of its potential contributions to economic stability helps one to evaluate the various proposals for control. Mr. Van Zandt concludes that the maximum use of civil aviation, nationally and internationally, will be a positive contribution to peace.

A voluminous appendix contains documents relating to air disarmament and notes on civil aviation, and includes many tables on transatlantic travel via surface and air routes.

The book is easy to read and is an excellent addition to a library on air transportation. *Civil Aviation and Peace* will be valuable to teachers.

*Winged Peace*, Bishop, Air Marshal William A., New York, Viking Press, 1944, 175 pp., \$2.75.

A hard-hitting discussion of the meaning to civilization of the development of the use of air and its relationship to peace. Takes the point of view that a world air organization is needed to control the use of air and offer to each country equal access to international trade for peaceful purposes.

*Anything a Horse Can Do*, Gregory, Colonel H. F., New York, Reynal & Hitchcock, 1944, 243 pp., \$3.00.

The story of the helicopter — its history, modern development, and probable future — discussed by an Army Colonel who has taken active part in recent experiments with helicopters.

# ILLINOIS PUPILS GET "FEEL OF EARTH"

By JOHN STERNIG  
Director of Science  
Central School  
Glencoe, Illinois

The eighth graders of the Public Schools of Glencoe, Illinois, are engaged in a project in their science classes which should make "world" news, for they are doing no less than making a world: a globe of the earth 5 feet in diameter. It is an undertaking which is now in its third school year. That may seem a long time, but the work goes on in special activity periods with representatives from all the eighth grades. Hence it takes longer than if it were done in daily classes. However, the time element has worked to good advantage since it has given more children a chance to participate.

It all began with an increasing awareness on the part of our Superintendent and faculty of the significance of a global approach to the study of the earth. The first step was to make more and better use of globes to give concepts which flat maps are unable to do. But two large facts soon became evident: (1) A small 10 or 12 inch globe, even though it does show the earth as a sphere, is not entirely adequate to give a complete concept and real *feeling* for the *size* of the earth since it is smaller than the person looking at it. (2) *Study* of maps and globes was no substitute for *making* them as a means of learning about the earth which they represent.

In planning to do something about these two points the idea of actually constructing a really large globe evolved. The children took to it enthusiastically and teacher-pupil planning began. As this went on it soon became evident to us that many more educational values were developing than those concerned only with the globe.

1. First there was a purposeful need to integrate the efforts of several counselors whom the children realized they needed. The science department sponsored the project with the science counselor in charge of actual construction. The crafts counselor, the art counselor, and several other staff members who had special knowledge were all called upon for help.
2. The mathematics needed in planning the globe and in every phase of its construction was no textbook exercise, but genuine application of knowledge.
3. The science tools of observation, measurement, experimentation and good thinking were used to the utmost, for this was a new idea and we had no books to help us in many of our problems.
4. The social studies program felt the influence of the new idea at once and contributed its emphasis in helping.
5. A fine socializing effect became evident as the

group adopted the idea as their special contribution to the school and all the eighth grades knew they had a hand in it. A number of individuals have found in the globe an outlet for abilities and energies that had been used in unprofitable ways before.

6. A new student-custodian relationship was developed when the School Engineer supplied the pipe for the axis, threaded, and bent it for us and took a friendly interest in every step of the work.
7. Excellent motivation was secured for a study of cartography in order to get information about maps and globes needed in carrying on the project.

The plans as they finally developed were these:

1. The globe would be 5 feet in diameter.
2. It would be made in two parts so it could be taken apart and moved from place to place.
3. Its foundation was to be a wood frame with a hollow wooden axle through which a pipe could be passed and fastened into the base. Flexible wood strips were to be bent from pole to equator and covered with  $\frac{1}{4}$ -inch mesh wire.
4. The wire cage was to be covered with some durable plastic material. Just what kind was left for future experimentation to decide.
5. The completed halves were to be placed on the axle pipe which was bent at  $23\frac{1}{2}$  degrees and threaded into a secure base.
6. Lines of latitude and longitude would then be put on at ten degree intervals.
7. Oceans and land forms would be drawn on. Whether to do them in relief or simply to paint them was left undecided.

(Continued on next page)



# Preview

## WORLD AIR ROUTES MAP

Work began in the spring of 1943. By June the wooden frames were completed and partly covered with wire. The class of '43 passed the job on to the class of '44, which took it up in September of 1943 determined to carry it to completion by the time they graduated. But they reckoned without disaster.

The wiring was completed and the hemispheres were covered with one coat of papier mache composed of torn-up newspapers made into a rough pulp and mixed with wheat paste. The globe was assembled on its axle and the continents roughly sketched on for a special exhibit. Tragedy struck that week-end. The globe was heavy, the threads on the pipe had been cut too deep, and the combination was too much. The pipe snapped at the weak thread, the globe toppled over and half the earth was crushed, not to mention the hopes of the children when they saw it on Monday.

Gone were their hopes of a finished globe by June, but they set to work on repairs. By June of 1944 repairs were completed and the globe given two coats of a special mixture. The mixture was developed as a result of much experimentation. Ordinary papier maché was too rough and would not give a hard smooth finish. We finally used asbestos powder, sawdust, and wheat paste mixed together to give a sort of plastic wood which dried hard and tough and could be sanded down as smooth as wood. The globe was on a new stand and resplendent in a coat of white paint, ready for the final steps, when the class of '44 said good-bye.

Last September the third class took over and were determined to finish it. The first job was to make flexible wooden markers with which to put on the lines of latitude and longitude. That involved considerable measuring, work with circumference, and determination of size of degrees. Latitude and longitude lines are now on and have been grooved into the surface with a special inlay tool supplied by the crafts counselor. The ocean and land masses are to be put on by the system of transfer by squares from maps and globes. We have decided to do the continents in relief and are seeking aid from as many sources as possible in getting accurate relief maps and photographs. How far we will get this year remains to be seen.

We are convinced that in an air age, when aviation has made ship-age maps obsolete, we must keep up with the times and give our children an opportunity to make and use a globe that really gives the feeling of our earth ball. Last year, when the globe was first assembled and the continents roughly put on, we were amazed at how different a feeling it gave us when compared with a small globe. It made the Pacific stand out in all its vastness and impressed us greatly. One of the children said, "It's like looking at the world from out in space and seeing it above you."

When completed, this globe will show what the earth really looks like. It will help in gaining an understanding of geographical relationships and in bringing into graphic being the new ideas of our air age. We plan to make it a tool globe which will continue to be of value to all the classes yet to come.

After the war American planes will be flying all over the world, and we Americans will be on them. So too, planes of other countries will be flying globally, and their citizens will be coming here to visit us on business or pleasure. In order that you may see the global air routes suggested by the Civil Aeronautics Board for United States flag lines, we have prepared a large wall map showing these routes. It is based on an azimuthal equidistant polar projection centered on the United States. Over 600 cities and important places are shown. A chronology of the progress of aviation from Leonardo da Vinci through World War II is included. An Airline Time-Distance Chart gives distance in miles and flying time between seventeen important world cities. Prepared in five colors, this map of WORLD AIR ROUTES is a striking visual aid.

WORLD AIR ROUTES will be ready about February 15th. Watch the NEWS for announcement of its availability, or order now for future delivery. Five colors, approximate size 40" x 48", \$1.00 prepaid, paper sheet.

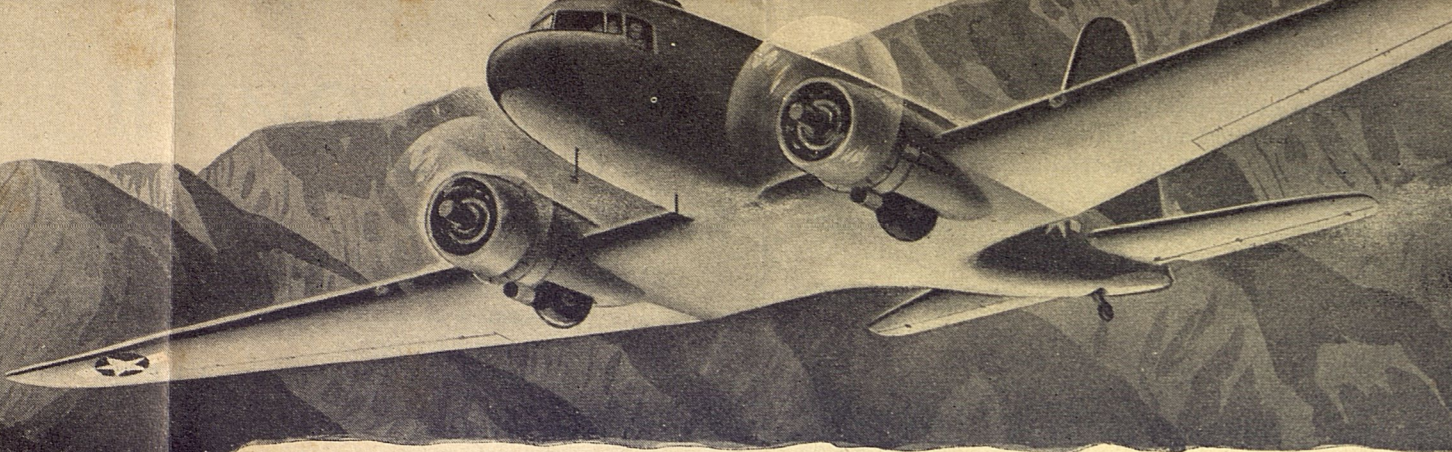
## GEOGRAPHY QUIZ

1. If you were to dig a hole through the center of the earth from some point in the United States, would you come out in China?
2. Where is the antipode of the approximate geographical center of the United States?
3. On a Mercator projection the . . . . . of land areas are correct, but the . . . . . and . . . . . are distorted.
4. When flying a great-circle route from New York to Chungking, do you cross the International Date Line, and if so, where?

Following are the answers:

1. No. You would not touch any part of China.
2. The Indian Ocean below the Tropic of Capricorn.
3. On a Mercator projection the shapes of land are correct, but the sizes and distances are distorted.
4. Since your route would carry you slightly to the right of the North Pole, you would not cross the International Date Line, but your day would be only a few minutes in length.

UNIVERSITY OF MICHIGAN  
DOCUMENTAL  
CENTRE FOR HISTORICAL  
RESEARCH



# There Is A Shangri-La

By HARRY E. PATTERSON  
Illustration by Clyde Provonsha

The crew of a C-47 plane, pioneering a new transport air route in New Guinea, has discovered a hidden valley surrounded by 15,000-foot mountains in which a lost colony of perhaps 75,000 natives are believed to have lived for centuries cut off from all contact with the outside world.

The Shangri-La of New Guinea is like nothing else on the huge tropical island. The natives are lighter-skinned than the regular islanders. The vegetation in the hidden valley is different from the vegetation in the rest of New Guinea. Unlike the primitive natives in other parts of the area, the residents of this lost land seemed to have developed a high degree of civilization. Their villages are large and surrounded by walls; the land is all intensively cultivated and irrigated.

Even today, weeks after the discovery which has set the whole South Pacific buzzing with speculation, no white man and probably no regular native of New Guinea has set foot in the lost valley. The only outsiders to see it have been American pilots and flight crews.

The valley itself is 5,500 feet above sea-level completely walled by unsurmountable peaks for one small canyon aperture through which a mountain stream leaves the valley floor in a steep 2,000-foot leap.

This sheer canyon furnishes the only possible entrance or exit from the hidden valley. It was discovered by accident. The plane and its crew were dispatched to the area under orders of Major Ray T. Elsmore, director of air transportation for the New Guinea Directorate of Air Transport. George C. Kenny, to carry out some air explorations.

The plane was piloted by Maj. Myron J. Grimes, with Lt. Erick J. Wyman co-pilot, Major A. C. Reade air engineer, Capt. H. L. Stuggs, meteorologist, and Lt. W. H. These jungle quagmires would be impassable to men and penetrable by natives only with extraordinary difficulty.

How long the lost colony of natives has lived in it is about five miles wide and twenty miles long. We are not sure of its remote fastness or from whence they came are not known. The settlement does not show up on maps and there is no record even of its existence.

The C-47 crew probably were the first white men to be turned out to be a veritable Garden of Eden," never in that vicinity. The deepest previous penetration of exploration parties and missionaries into the valley was in a high state of cultivation. Most of the plots were irrigated with ditches fed from

(Continued on page 11)

of New Guinea were halted by the swamp hundreds of miles short of this genuine Shangri-La.

The valley would make an ideal emergency landing field for the network of airlines now operated in this theater by the Directorate of Air Transport. But the idea is not entertained very seriously and even the most intrepid paratrooper hesitated at the thought of landing there to make the initial contact. It is pretty well known in this part of the world that the New Guinea savages were either cannibals or cannibal hunters.

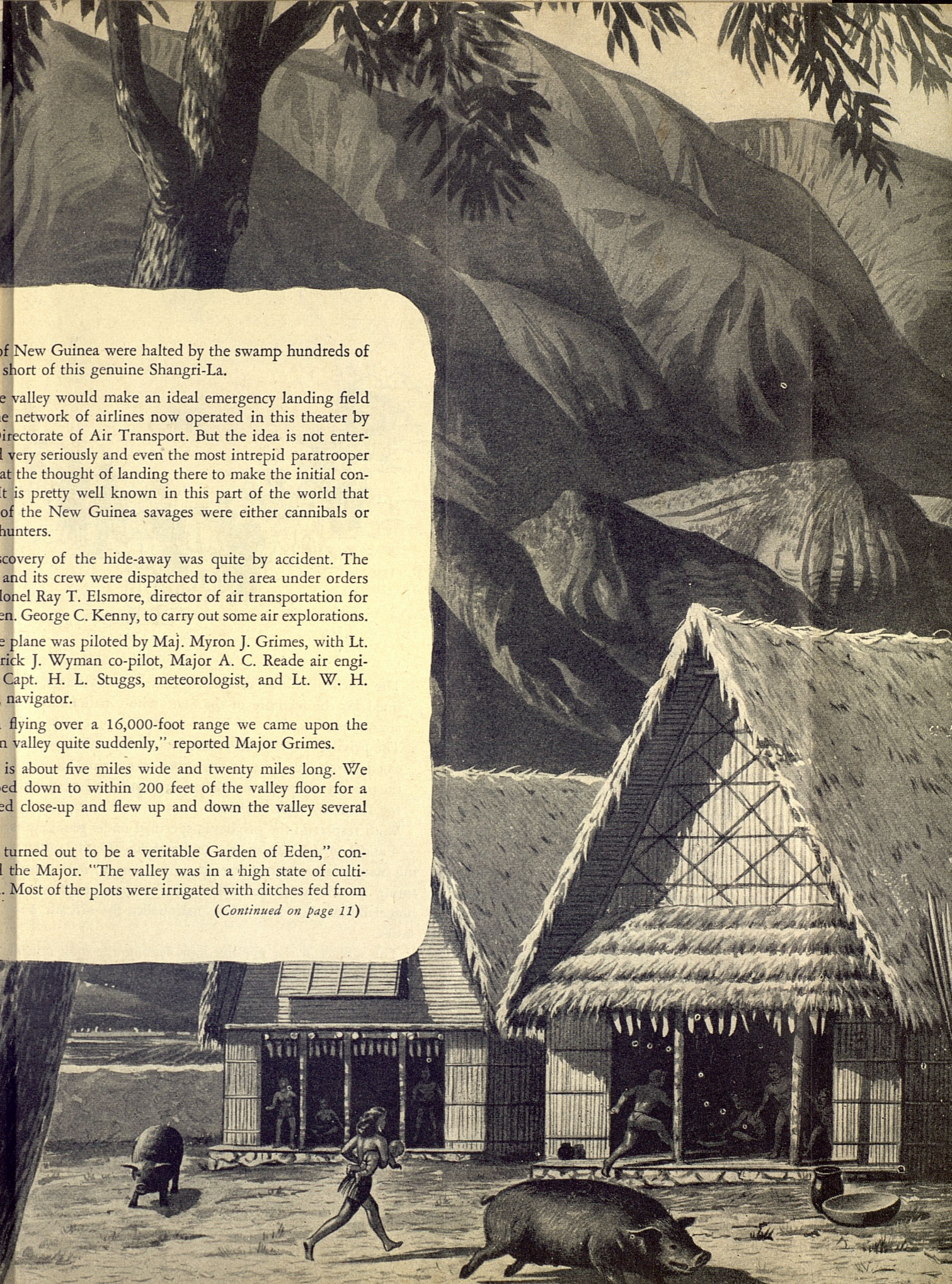
discovery of the hide-away was quite by accident. The plane and its crew were dispatched to the area under orders of Major Ray T. Elsmore, director of air transportation for the New Guinea Directorate of Air Transport. George C. Kenny, to carry out some air explorations.

The plane was piloted by Maj. Myron J. Grimes, with Lt. Erick J. Wyman co-pilot, Major A. C. Reade air engineer, Capt. H. L. Stuggs, meteorologist, and Lt. W. H. These jungle quagmires would be impassable to men and penetrable by natives only with extraordinary difficulty.

While flying over a 16,000-foot range we came upon the hidden valley quite suddenly," reported Major Grimes.

How long the lost colony of natives has lived in it is about five miles wide and twenty miles long. We are not sure of its remote fastness or from whence they came are not known. The settlement does not show up on maps and there is no record even of its existence.

The C-47 crew probably were the first white men to be turned out to be a veritable Garden of Eden," never in that vicinity. The deepest previous penetration of exploration parties and missionaries into the valley was in a high state of cultivation. Most of the plots were irrigated with ditches fed from



# "FREEDOM OF THE AIR" ISSUE OF CHICAGO AIR CONFERENCE

FREEDOM OF THE AIR once was a phrase used by many, but capable of definition by very few. And it was a subject in which it was felt that too few teachers and civilian adults were interested. Last month's International Civil Aviation Conference in Chicago changed all this. For practical purposes "freedom of the air" was defined, a certain degree of agreement was reached on the matter, and the reading public is now aware of the importance of the issue involved.

The delegates of fifty-two participating countries arrived at the convention with three major proposals. Australia and New Zealand desired to have one common international company own all international air facilities. Britain came to the conference with a plan for an international air authority possessing wide powers. These powers would include the allocation of routes, frequencies, rates, etc., as a means for assuring each country of its fair share of international traffic. The United States proposal carried provision for an international air organization in the technical field, but stated that it didn't believe the world was ready yet for one in the economic and political fields except in a consultative capacity. Instead, the United States and Canada proposed the "five freedoms." Delegates of the other countries took sides for or against these major proposals, meanwhile suggesting changes wherever they thought them necessary.

Heretofore a discussion of "freedom of the air" has had to include consideration of concepts ranging from the "closed sky," with all rights reserved to the individual nations and no reciprocal agreements, to a completely "open sky" with no restrictions on flight or the type of business to be done by airlines within any country. Acceptance by all nations of the five freedoms listed at Chicago by the United States would have constituted, for practical purposes, a state of freedom of the air. These were the five freedoms to be granted to and by each signatory country:

1. The privilege to fly across its territory without landing;
2. The privilege to land for non-traffic purposes;
3. The privilege to put down passengers, mails and cargo taken on in the territory of the State whose nationality the aircraft possesses;



4. The privilege to take on passengers, mails and cargo destined for the territory of the State whose nationality the aircraft possesses;
5. The privilege to take on passengers, mails and cargo destined for the territory of any other contracting State and the privilege to put down passengers, mails and cargo coming from any such territory.

With respect to the privileges specified under paragraphs 3, 4 and 5 of this Section, the undertaking of each contracting State relates only to through services on a route constituting a reasonably direct line out from and back to the homeland of the State whose nationality the aircraft possesses.

The subject of the five freedoms became the most crucial issue of the discussion at the conference, for agreement was quickly reached on setting up a permanent international organization for determining technical standards and improvements. The first two freedoms were considered to be political, and circumvented the old concept of "closed sky" and need for individual bargaining between two countries who might have grossly unequal bargaining power because of the accidents of size, location, or resources. They granted to all nations the rights to fly over or land on any territory for non-commercial and non-military purposes. The last three freedoms were considered economic and were intended to

*(Continued on next page)*

guarantee the full expansion of international commercial aviation under conditions of free competition. Although at one point in the negotiations it looked as if all countries would sign a document containing the first four freedoms and a very much modified fifth freedom, the close of the conference found a divergence of opinion between acceptance of the "political" freedoms alone and acceptance of both the "political" and "economic" freedoms. At the time of the present writing, 30 of the participating countries have signed the two-freedom document, and 19 have signed the five-freedom document. The opinion of many well-informed sources is that all 52 nations will have signed the two-freedom document within a very short time. When Great Britain signed the two-freedom document, she stated that she was not including Newfoundland for the time being. This means that even when all 52 nations have signed the two-freedom document, complete freedom of the air between them will not yet exist, although a big step will have been made in that direction.

The conference in Chicago did not accomplish all that had been hoped for in terms of achieving agreement between all the nations, but it is generally felt that a good beginning was made there. Since both the 1919 air conference in Paris and the 1928 air conference in Havana did not succeed in establishing the freedom for civil planes of all nations to fly designated routes over all countries without special permission and to land for non-commercial purposes, the virtual establishment of that principle at this conference has constituted a big step forward.

In the signing of the Convention on International Civil Aviation which resulted from this conference and in the formation of the International Civil Aviation Organization, many gains in international cooperation have been made. Traffic regulations and uniform technical standards resulting from the organization will both increase the efficiency and safety of international flight, and will further the cause of international cooperation leading, as Adolph A. Berle has indicated, to further areas of cooperation later on. The establishment of an interim council to function until the permanent convention is ratified and to consider the controversial issues which have prevented complete agreement also is a good sign. A fact of major importance is that the result of the conference has been to make all peoples and countries aware of the varied and serious questions raised by the use of air. With this awareness may come understanding and a determination to solve the problems speedily and peacefully.

#### PHOTOGRAPH CREDITS

Illustrations on Pages 1, 3, and 4 are  
*Official Photos U. S. Air Forces*

#### THERE IS A SHANGRI-LA (Cont.)

the stream. They were lush with vegetation. Other areas were green with short grass and many of the gardens were terraced up the mountain sides.

"On our first flight into the valley we counted more than a hundred villages. We estimated the population at between fifty and seventy-five thousand."

Major Grimes and his crew were so excited by their discovery they radioed headquarters and Colonel Elsmore flew up in his own ship to join them in several more inspection runs.

Colonel Elsmore's report stated that each native village was surrounded by high wide walls that at first were mistaken for stockades or some other sort of fortification.

"But after more flights we concluded they were retainer walls to keep the pigs enclosed," Colonel Elsmore said later.

In New Guinea pigs are sacred and a man's social status is determined by the number he owns, rather than by the plurality of his wives, the Colonel explained.

"They're so sacred, in fact," he added, "that native women suckle little pigs along with their own young."

Those spotted by the aerial explorers were enormous. Crewmen estimated they must be all of four feet high and weigh at least 1,000 pounds.

"They looked like ponies," the Colonel said.

No other animals were spotted in the valley and the planesmen thought it likely that the natives had never seen any.

Sweet potatoes seemed to be the principle food crop, so far as the aviators could make out from 200 feet altitude and 200 m.p.h. flying speed. They counted hundreds of such patches but not a single cocconut tree. This was considered most unusual, for the genus abounds in every other section of New Guinea and, in fact, constitutes a principal food staple.

"The natives themselves appeared to be taller, more finely built and lighter-skinned than the usual New Guinea fuzziwuzzies," the Colonel related, adding, "They looked to me more Polynesian than Melanesian."

The Colonel now has an idea that these tribesmen migrated to New Guinea hundreds or thousands of years ago. He thinks that after settling in this mountain paradise an earthquake or some tremendous upheaval trapped them in the valley.

On a subsequent trip the airmen dropped a parcel containing beads, cocoanuts, mirrors, cloth and other trade goods. The package lay where it landed for several days, then disappeared.

Although consumed with curiosity about the valley and its inhabitants, the sky snoopers are not yet ready to risk a descent. The war has now rolled past this area and it is unlikely that further explorations will be made. And there for the moment the story of this real Shangri-La must end.

Reprinted from DOUGLAS AIRVIEW, August, 1944 by  
courtesy of Douglas Aircraft Co., Inc.



|               | TOKYO         | SAN FRANCISCO | ROME         | PARIS        | NOME          | NEW YORK     | MOSCOW       | MANILA       | LOS ANGELES  | LONDON       | ISTANBUL     | HONOLULU     | DARWIN       | CHICAGO      | CAPETOWN    | CALCUTTA     |
|---------------|---------------|---------------|--------------|--------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|
| BERLIN        | 5,538<br>22   | 5,657<br>22½  | 734<br>3     | 542<br>2     | 4,338<br>17½  | 3,961<br>16  | 996<br>4     | 6,128<br>24½ | 5,782<br>23  | 574<br>2     | 1,075<br>4½  | 7,305<br>29  | 8,036<br>32  | 4,402<br>17½ | 5,977<br>24 | 4,376<br>17½ |
| BUENOS AIRES  | 11,400<br>45½ | 6,474<br>26   | 6,929<br>27½ | 6,877<br>27½ | 8,848<br>35½  | 5,297<br>21  | 8,375<br>33½ | 11,042<br>44 | 6,118<br>24½ | 6,918<br>27½ | 7,568<br>30  | 7,558<br>30  | 9,127<br>36½ | 5,596<br>22  | 4,270<br>17 | 10,242<br>41 |
| CALCUTTA      | 3,186<br>12½  | 7,809<br>31   | 4,496<br>18  | 4,889<br>19½ | 5,271<br>21   | 7,921<br>31½ | 3,447<br>14  | 2,189<br>9   | 8,148<br>32½ | 4,954<br>20  | 3,646<br>14½ | 7,037<br>28  | 3,744<br>15  | 7,981<br>32  | 6,026<br>24 |              |
| CAPETOWN      | 9,071<br>36½  | 10,241<br>41  | 5,249<br>21  | 5,841<br>23½ | 10,107<br>40½ | 7,801<br>31  | 6,294<br>25  | 7,525<br>30  | 9,969<br>40  | 6,005<br>24  | 5,219<br>21  | 11,532<br>46 | 6,947<br>28  | 8,449<br>34  |             |              |
| CHICAGO       | 6,303<br>25   | 1,855<br>7½   | 4,808<br>19  | 4,133<br>16½ | 3,314<br>13½  | 711<br>3     | 4,984<br>20  | 8,128<br>32½ | 1,741<br>7   | 3,950<br>16  | 5,476<br>22  | 4,244<br>17  | 9,346<br>37½ |              |             |              |
| DARWIN        | 3,367<br>13½  | 7,637<br>30½  | 8,190<br>33  | 8,575<br>34½ | 6,235<br>25   | 9,959<br>40  | 7,046<br>28  | 1,979<br>8   | 7,835<br>31½ | 8,598<br>34½ | 7,390<br>29½ | 5,355<br>21½ |              |              |             |              |
| HONOLULU      | 3,850<br>15½  | 2,392<br>9½   | 8,022<br>32  | 7,434<br>29½ | 3,004<br>12   | 4,959<br>20  | 7,033<br>28  | 5,296<br>21  | 2,557<br>10  | 7,226<br>29  | 8,104<br>32½ |              |              |              |             |              |
| ISTANBUL      | 5,556<br>22   | 6,700<br>27   | 854<br>3½    | 1,401<br>5½  | 5,101<br>20½  | 5,009<br>20  | 1,088<br>4½  | 5,659<br>22½ | 6,843<br>27½ | 1,551<br>6   |              |              |              |              |             |              |
| LONDON        | 5,938<br>24   | 5,355<br>21½  | 887<br>3½    | 213<br>1     | 4,381<br>17½  | 3,459<br>14  | 1,549<br>6   | 6,667<br>26½ | 5,439<br>22  |              |              |              |              |              |             |              |
| LOS ANGELES   | 5,470<br>22   | 345<br>1½     | 6,326<br>25½ | 5,601<br>22½ | 2,876<br>11½  | 2,446<br>10  | 6,068<br>24½ | 7,269<br>29  |              |              |              |              |              |              |             |              |
| MANILA        | 1,863<br>7½   | 6,963<br>28   | 6,457<br>26  | 6,673<br>26½ | 4,817<br>19½  | 8,423<br>33½ | 5,130<br>20½ |              |              |              |              |              |              |              |             |              |
| MOSCOW        | 4,650<br>18½  | 5,868<br>23½  | 1,474<br>6   | 1,541<br>6   | 4,036<br>16   | 4,662<br>18½ |              |              |              |              |              |              |              |              |             |              |
| NEW YORK      | 6,735<br>27   | 2,568<br>10½  | 4,273<br>17  | 3,622<br>14½ | 3,769<br>15   |              |              |              |              |              |              |              |              |              |             |              |
| NOME          | 2,983<br>12   | 2,547<br>10   | 5,082<br>20½ | 4,574<br>18½ |               |              |              |              |              |              |              |              |              |              |             |              |
| PARIS         | 6,033<br>24   | 5,441<br>22   | 682<br>2½    |              |               |              |              |              |              |              |              |              |              |              |             |              |
| ROME          | 6,124<br>24½  | 6,240<br>25   |              |              |               |              |              |              |              |              |              |              |              |              |             |              |
| SAN FRANCISCO | 5,131<br>20½  |               |              |              |               |              |              |              |              |              |              |              |              |              |             |              |

## Airline Time-Distance Chart

Upper figures indicate distance in miles.

Lower figures show flying time calculated to the closest half hour at a speed of 250 miles per hour.

# FULL-COLOR PRINTS

Air-Age Education Research has available a large selection of beautiful, colored lithograph prints suitable for classroom, corridor and library displays. You may wish to decorate your classroom and corridor with these unusual air pictures.

## NEW SUBJECTS

- 33 CHILD IN FIELD OF TEXAS BLUE-BONNETS.
- 34 FATHER AND SON WITH MODEL PLANE GAZE UP AT AN AIRPLANE IN FLIGHT.
- 35 OPERATOR IN INTERIOR OF CONTROL TOWER.
- 36 MEXICAN OXCART AND DRIVER BESIDE A DC-3.
- 116 FLAGSHIP DC-4, POSTWAR CIVILIAN TRANSPORT IN FLIGHT.

### SMALL SIZE PRINTS 10" x 14½"

1 print — 10c . . . 3 prints — 25c

Order No.

- 1 Flight personnel at weather maps.
- 2 DC-3 being loaded with air cargo.
- 3 Mechanics working on motor of a Flagship.
- 5 Workmen gazing at the sky above the oil fields.
- 9 Army and civilian personnel outside a Flagship.
- 11 Converted DC-3's and men on snowy northern field.
- 12 Plane taking off at sunrise from field of snow.
- 14 Silhouette of DC-3 against a rising sun.
- 15 A DC-3 flying high among the clouds.
- 22 Head and torch of the Statue of Liberty.
- 23 Cloud picture over wing of a Flagship.
- 24 Two Canadian Mounties in their red uniforms.
- 26 Colorful picture of a Mexican boy and girl.
- 27 White adobe church in Mexico.
- 28 Mexican girl with basket of produce on her head.
- 30 Cowboys and cattle in the great western grazing country.
- 32 New England fishing boat with coastal background.
- 33 Child in field of Texas blue-bonnets.
- 34 Father and son with model plane gaze up at an airplane in flight.
- 35 Operator in interior of control tower.
- 36 Mexican oxcart and driver beside a DC-3.

### LARGE SIZE PRINTS 18½" x 26½"

1 print — 25c . . . 3 prints — 50c

Order No.

- 100 Mechanics working on motor of a Flagship.
- 101 Converted DC-3's and men on snowy northern field.
- 102 DC-3 being loaded with air cargo.
- 103 Army and civilian personnel outside a Flagship.

- 105 Flagship in flight passing an airway beacon.
- 106 Cloud scene from the window of an airliner.
- 107 Aerial view of lower Manhattan.
- 108 Aerial view of Flagship over Niagara Falls.
- 109 DC-3 in air with a flying boat on the water.
- 110 Statue of Liberty with Flagship passing it.
- 111 Head and torch of the Statue of Liberty.
- 113 Nine different scenes of DC-3 in flight.
- 114 Cloud picture over wing of a Flagship.
- 115 Plane taking off at sunrise from field of snow.
- 116 Flagship DC-4, postwar civilian transport in flight.

## BEGINNERS GLOBAL MAPS

The six global maps of this series were prepared from actual photographs of a globe, so that the perspective a pupil would see in looking at the globe itself is their only distortion. By centering the six pictures on different areas of the earth, the effect of this perspective distortion is overcome.

A symbol chart explaining simple map symbols, and an interrupted homolographic world map showing the child what happens when a globe cover is spread over a plane surface complete this series.

Prepared in black and white, these maps are especially recommended for the 4th grade. They are planned for use with a globe now in preparation.

The set of eight maps and symbol chart, 40" x 40", on heavy map paper with edges strengthened by cloth tape, are bound together in a steel charthead mounted on a sturdy, adjustable tripod. Price F.O.B. from Rand McNally, Chicago or New York, \$18.50.



# MAPS, CHARTS AND BOOKLETS

All materials listed may be obtained by writing to Air-Age Education Research, 100 East 42nd Street, New York 17, N. Y.

## INTO THE AIR AGE

A two-color, 32-page booklet 8½" x 11", profusely illustrated. A concise, authoritative explanation of the physical and social concepts of the air age with educational implications. The contributions of flight to civilization, and its impacts on communities, technology, and the arts are discussed. Written for teachers, supervisors, and educational administrators, it offers a basic knowledge of aviation and gives valuable suggestions for air-age education programs. This booklet may serve as a reference guide for teachers in the classroom and as a basis for consideration of curriculum revision. Published by Air-Age Education Research, 1944. Price: 25¢ per copy. (Quantity discounts for 25 or more copies.)



## OPPORTUNITIES FOR YOUTH IN AIR TRANSPORTATION

A two-color, 32-page booklet, 8½" x 11", profusely illustrated with actual photographs of each subject. Gives a good picture of the workings of a large airline, describes the positions available, lists requirements, and suggests the kind of background and experience which would be useful for each job. The text has been au-

thenticated by air transportation executives of each department described. Prepared for young people who are considering air transportation as an occupation. The booklet will be invaluable to vocational counselors, teachers, and administrators in high schools and colleges. Published by Air-Age Education Research, 1944. Price: 25¢ per copy. (Quantity discounts for 25 or more copies.)

## AIR-AGE PICTURE CHARTS

Set of six charts, printed in three colors, size 22½" x 35", valuable for classroom, corridor and library displays. Each chart is devoted to an explanation of one phase of aviation, including The Air Ocean, Meteorology, Aerodynamics, Air-line Operation, Air Communications and Air Navigation. An explanatory pamphlet accompanies each chart. Useful in upper elementary, junior and senior high schools.

Set of six charts, 50¢. Separate charts, 10¢ each. (Add 10¢ mailing fee to each chart order.) (Quantity discounts on 25 or more sets.)

## AIR-AGE MAPS

### Air Map

North Pole-centered projection. Shows names of important places, no continental outlines. Pupil Map 9½". Teacher Map 15". Free.

### U. S. Air Transport System Map

4-color map of principal air routes. Illustrated. 23" x 31". Free.

### Air World Map

U. S.-centered projection. Air distances from U. S. indicated by planes 250 miles apart. 36 colored sketches. 22" x 34". Free.

### World Air Routes — Wall Map

Airline Time-Distance Chart and Chronological History of Aviation included. To be available about February 15th. 5 colors. 40" x 48". \$1.00.

## READER FOR PUPILS

AIR-AGE WORLD, a two-color, 4-page pamphlet issued 4 times a semester. Available at two reading levels, intermediate and upper elementary. Handling charge 10 cents per pupil for 4 issues when ordered by teacher. Order by level: Intermediate or Upper. Published by Air-Age Education Research.

## ADDITIONAL BOOKLETS

### Make Friends With Mexico

Published by American Airlines, Inc., 10¢.

### Aviation Maintenance

Published by Air-Age Education Research, 10¢.

### Airfreight

Published by American Airlines, Inc., Free.

### Vision Unlimited

Published by Air Express Division, Railway Express Agency, Free.

EACH ORDER FOR FREE MATERIALS SHOULD BE ACCOMPANIED BY 10c TO HELP DEFRAY COST OF MAILING.

# TEACHER'S COLLECTION NO. 1

## AIR-AGE VISUAL AIDS AND SUPPLEMENTARY READING MATERIALS

\*

*An Aviation Library for \$2.00*

\*

This collection of booklets, maps, charts, and lithograph prints has been developed in response to demands of teachers. We have selected materials which have been found to be most useful in the classroom.

Order from Air-Age Education Research, and merely state that you want the TEACHER'S COLLECTION NO. 1. You do not have to list the materials.

Each Teacher's Collection No. 1 includes the following materials:

72 Maps and Pictures for Pupils.

1. 36 Air World Maps (22" x 34").
2. 36 Duo-Tone Photographs (9 1/2" x 12").  
12 Pictures of a transport cockpit.  
12 Pictures of the C-54A Army Transport.  
12 Pictures of a DC-3 in flight.

6 Air-Age Picture Charts, each with explanatory pamphlet (22 1/2" x 35").

1. The Air Ocean.
2. Meteorology.
3. Aerodynamics.
4. Airline Operation.
5. Air Communication.
6. Air Navigation.

4 Large-Size, Full-Color Lithograph Prints (18 1/2" x 26 1/2").

2 Large Maps for Teachers.

1. United States Air Transport System Map (23" x 31").
2. Air Map of the World (15" x 15").

8 Booklets.

1. Into the Air Age.
2. Opportunities for Youth in Air Transportation.
3. Make Friends With Mexico.
4. Aviation Maintenance.
5. Little Known Facts About the Scheduled Air Transport Industry.
6. The Airplane — An American Heritage.
7. Vision Unlimited.
8. The Airlines of the United States at War.

# TEACHER'S COLLECTION NO. 2

## BASIC BOOKLETS, MAPS AND CHARTS

\*

*Price for Collection No. 2—\$1.00*

\*

The maps, charts, booklets, and lithograph prints included in this collection have been carefully selected and include essential materials for beginning air-age education. Included are an Air World Map for each pupil, six wall-size picture charts, and a basic booklet of teacher information.

Order from Air-Age Education Research, and merely state that you want the TEACHER'S COLLECTION NO. 2. You do not have to list the materials.

Each Teacher's Collection No. 2 includes the following materials:

36 Air World Maps for Pupils.

6 Air-Age Picture Charts, each with explanatory pamphlet (22 1/2" x 35").

1. The Air Ocean.
2. Meteorology.
3. Aerodynamics.
4. Airline Operation.
5. Air Communication.
6. Air Navigation.

3 Small-Size, Full-Color Lithograph Prints (10" x 14 1/2").

4 Booklets.

1. Into the Air Age.
2. Make Friends With Mexico.
3. Little Known Facts About the Scheduled Air Transport Industry.
4. The Airlines of the United States at War.



"Why complain, Madam? The ORIGINAL isn't in very good shape, either!"

# AIR-AGE WORKSHOP

## UNITED NATIONS STUDY KIT

Published by the United Nations Information Office at 610 Fifth Avenue, New York City 20, this kit is a valuable offering for high school and teacher education groups. Fifteen copies each of "The United Nations: Today and Tomorrow" and "The United Nations: Peoples and Countries" are included in the kit. It also contains 23 large poster-charts, and a discussion guide which will enable groups to use the kit in the most effective way. The price is \$3.50. This United Nations Study Kit is a valuable contribution not only to knowing our allies in this war, but to the furthering of air-age understanding.

## YOUTH GLIDES

From the Aviation Center at the University of Denver comes this partial description of some of the work it has been doing during the last couple of years in connection with gliders and youth air education. E. M. A. writes:

The students may enter the course at the age of thirteen and help construct a non-flying ground trainer which when finished is towed behind an automobile to familiarize the students with its controls. Incidentally, these controls are identical to the airplane controls. After several months of familiarization, a second set of wings, which in the meantime has been built by the students, is then attached to the fuselage and actual flight training starts. Students may receive a student permit to learn to fly gliders at the age of fourteen. Students welcome this opportunity which tends to keep them busy in mind and body.

After one year of training, during which time they have learned all simple maneuvers and flight technique, the student may, while still flying the glider, remodel the fuselage to give a streamline appearance and better performance. Other improvements can be made, one every year, with very little additional cost and a minimum change on the original design. This design as well as the changes, are C.A.A. approved.

It is remarkable how the youngsters respond to theory when taught in conjunction with practice.

Further on in his letter, E. M. A. mentions that "since the adoption of this program about 467 students made 4,467 flights. . . ."

## QUESTION DEPARTMENT

G. C. C. of Brooklyn, N. Y., has asked for information on "planning an airport." We wonder whether she has seen "What Your Town Needs for the Coming Air Age," published by the Piper Aircraft Corporation in Lock Haven, Pennsylvania, 1944. It's a useful little booklet. In 1943 the Macmillan Company published "The Airport," by Charles K. Arey, at a price of 40¢. This would probably be of help to G. C. C.

E. M. of Hebron, Nebraska, wrote that "I have been hunting for a good text with the monosphere emphasis for the 11th and 12th grades." Suggested for this is "The Air We Live In," by George T. Renner and Hubert A. Bauer, published in 1942 by The Macmillan Company, at 36¢ a copy.

"Riding the Air," by Dorothy Judd Sickels, has been suggested by R. C. of Salem, Mass., as being very helpful to teachers on an intermediate level.

## STUDENT READERS

Many of our correspondents have asked us for air-age student papers of one sort or another. To give you a few of the requests, S. H. D. from Washington, D. C., asks for "a monthly publication for grade school children." B. M. W. of Philadelphia, Pennsylvania, wants "literature for all levels of reading ability in the elementary schools." And from Glendale, California, L. C. D. says that "I would like to see a weekly magazine on aviation for the 5th and 6th grades. . . ." Until now we haven't had any source to which to refer these teachers. But now we can tell you to look on Page 5 and see the student readers entitled *Air-Age World*, issued monthly. A sample copy of the reader for the upper elementary and junior high school levels is included with this issue of the NEWS, but another edition of *Air-Age World* is available for 3rd to 5th grades. Each reader is specially written to fit the interest, reading ability, and comprehension of the grade level for which it is intended.

## EXPERIENCES

From Oklahoma City, J. P., who teaches in the 3rd, 4th, 5th, and 6th grades, says that "We are making indi-

vidual copies of the rules and pictures in 'I've Got Wings' on the hectograph. The pupils color these and learn the rules. They are enthusiastic over this work." M. V. H. of Ann Arbor, Michigan, writes that,

"We find that, at all levels, the children love and profit by musical experiences suited to their age levels which bring in the air-age idea. These experiences include rhythmic activity, songs about air experiences, songs from countries touched by air travel, dances, and listening to records of music from our air neighbors. We use pictures and stories from these countries to link with our musical experiences. We also give definite attention in music to the thought of flying and related experiences.

S. B. W. of Clinton, Washington, describes the way in which he has correlated science and geography by building a unit of work on meteorology. "We made a barometer with a rubber diaphragm over a milk bottle, glued a long straw from center to edge, and used a millibar scale vertically. By comparing with an aneroid barometer, the length of straw can be adjusted to have the proper amount of change. It must be kept at room temperature after rubber is glued. Otherwise bulging or depressing of cap would not be due to change of air pressure."

The Air-Age Workshop is a regular department of *Air-Age Education News*. Here is an opportunity for teachers to tell their colleagues about their classroom adventures in Air-Age education. Any questions will be answered as fully and as accurately as possible, backed by the knowledge of men technically concerned with airlines and aviation. The Air-Age Workshop is ready and waiting to help you, as well as eager to hear of your experiences, experiments, or projects. Address letters to News Editor, Air-Age Education Research, 100 East 42nd Street, New York 17, N. Y.