

# Airways to peace. An exhibition of geography for the future

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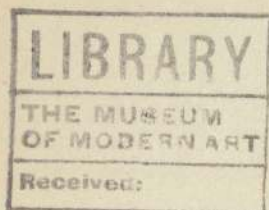
The Museum of Modern Art

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# AIRWAYS TO PEACE

AN EXHIBITION OF GEOGRAPHY FOR THE FUTURE

*The Bulletin of* THE MUSEUM OF MODERN ART

11 WEST 53 STREET, NEW YORK 19, N. Y.

1 VOLUME XI AUGUST 1943

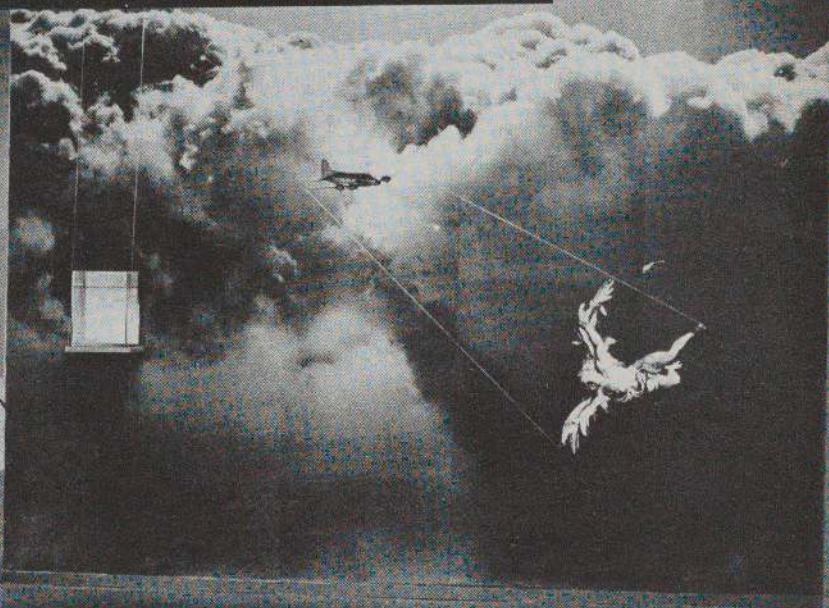
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July 2 - Oct 31, 1943



# AIRWAYS TO PEACE

TEXT BY WENDELL L. WILLKIE



AIRWAYS TO PEACE, an exhibition planned and directed by Monroe Wheeler. Herbert Bayer, designer; Rand Warren, production manager; Richard Edes Harrison, consultant cartographer. The exhibition will be on view through October 31 and will later be sent on a tour of the country.

SPECIAL CONSULTANTS: L. F. V. Drake, John K. Wright, Eric Sloane, Major Lester D. Gardner, William S. Friedman, Walter W. Ristow, George T. Renner.

SPECIAL ADVICE AND ASSISTANCE have been received from S. Whittemore Boggs, William A. M. Burden, Lt. Commander Edward Steichen, Edward H. Dodd, Jr., Juan T. Trippe, Russell W. Davenport, Harry Hopkins, Colonel Arthur R. Christie, Richard C. Walker, Mr. and Mrs. C. S. Hartman, Charles T. Keller, Frank Vitullo, Jean Volkmer,

Mrs. Joseph J. Thorndike, Jr., Allen Porter, Robert H. Pfeiffer, Joseph A. Allegro, Helmuth Bay and Harold E. Group.

LENDERS: The Honorable Franklin Delano Roosevelt, United States Army, United States Navy, Irving Fisher, R. Buckminster Fuller, Norman Bel Geddes, Vilhjalmur Stefansson, Richard Edes Harrison, S. Paul Johnston, The Hispanic Society of America, the Institute of the Aeronautical Sciences, Civil Aeronautics Administration, American Geographical Society, Semitic Museum of Harvard University, Pan American Airways System, United Aircraft Corporation, Consolidated Vultee Aircraft Corporation, Rand McNally and Company, Time, Inc., Duell, Sloan and Pearce, Bronzart Metals Company, and Aviation Magazine.

COVER: Vought Corsair, F 4 U. U. S. Navy Photo. Installation photos by Gottscho-Schleisner, Newspictures, and Sunami.

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# AIRWAYS TO PEACE

BY WENDELL L. WILLKIE\*

We have always known two kinds of geography. Nature drew the oceans, continents, mountains, rivers and plains. Men etched in cities and national boundaries. For our well-being, we have tried to harmonize natural and man-made geography.

But the modern airplane creates a new geographical dimension. A navigable ocean of air blankets the whole surface of the globe. There are no distant places any longer: the world is small and the world is one. The American people must grasp these new realities if they are to play their essential part in winning the war and building a world of peace and freedom. This exhibition tells the story of airways to peace.

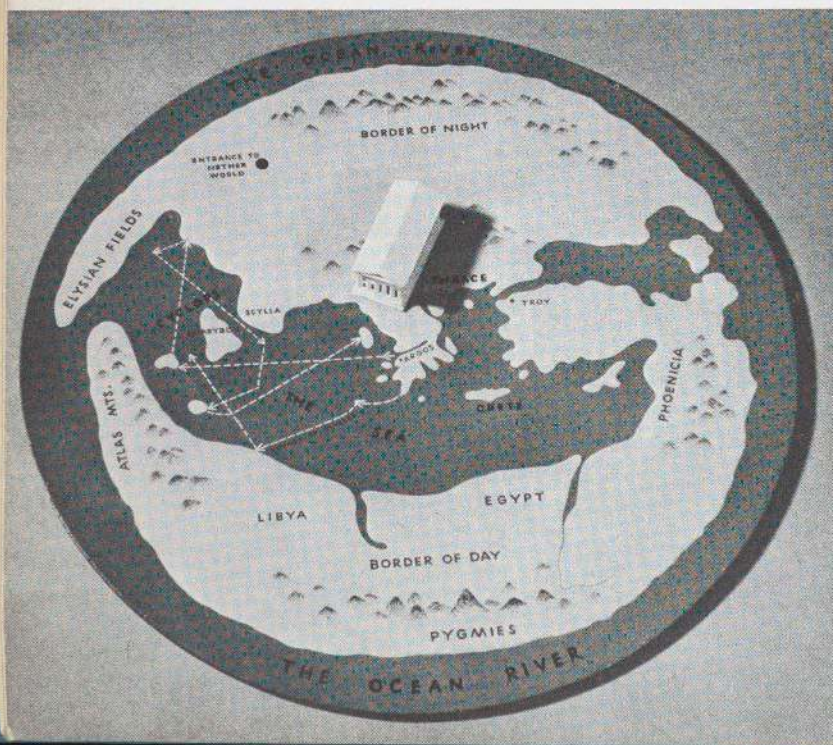
\* Throughout this *Bulletin*, Mr. Willkie's text appears in large bold face type.



## HOW MAN HAS DRAWN HIS WORLD

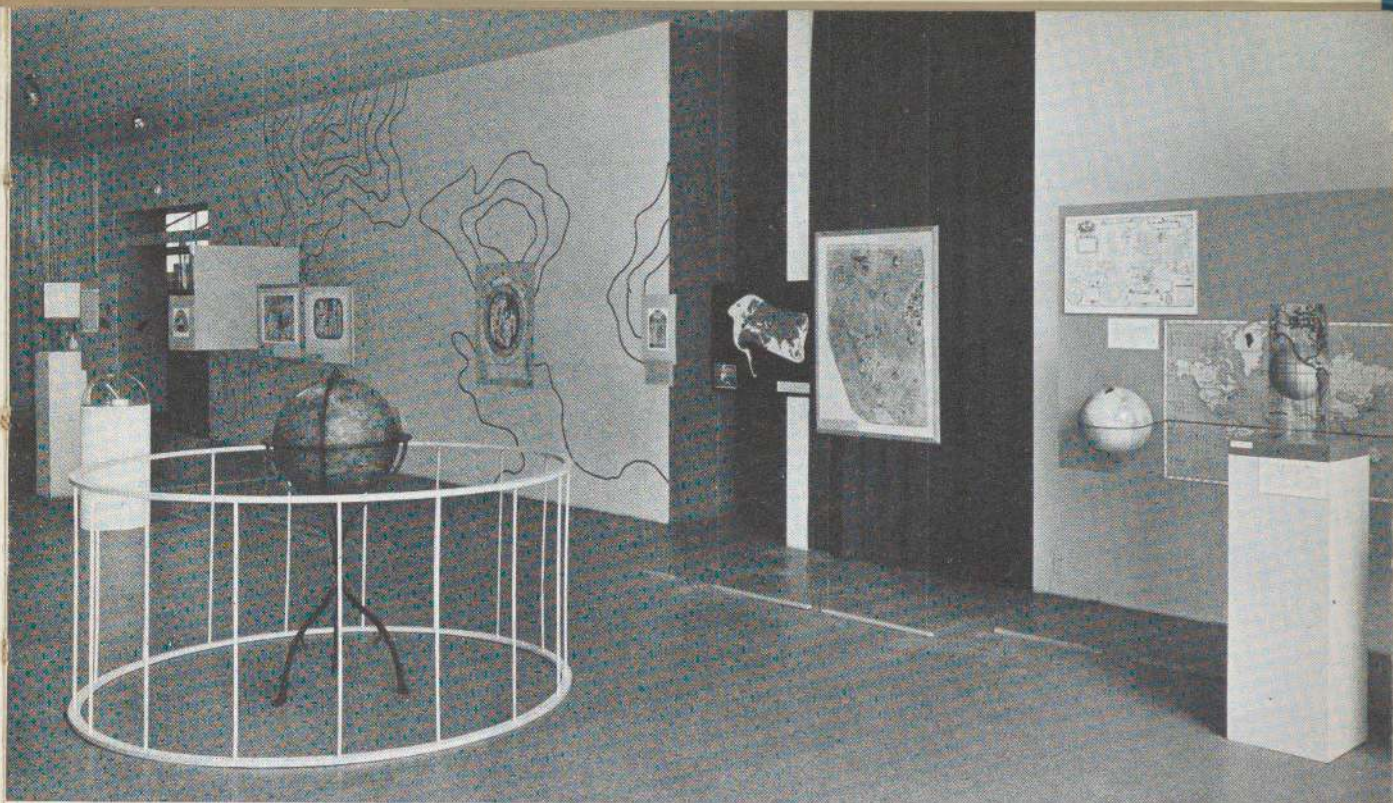
From the beginning of history, man has made maps to match his expanding knowledge of his surroundings. Homer's world, a little flat disk around the Mediterranean, grew slowly into a sphere.

Since the sixteenth century, Mercator's projection has been accepted as a reasonably workable picture of the world. Mariners have used it for hundreds of years. But its conception is dangerously misleading in our air age. The course over the top of the world is now clearly the shortest and the speediest way to friend and enemy alike, a course impassable to ocean ships. But the frozen waters and icy wastes around the North Pole offer no major obstacles to the swift ships of the air. Man must re-draw his world.



*Homer's World, ca. 900 B.C. No maps used by the early Greeks have survived, but from their writings we can reconstruct their conception of the earth they inhabited. Thus to Homer the world was a disk surrounded by the stream of ocean and roofed with the dome of heaven.*



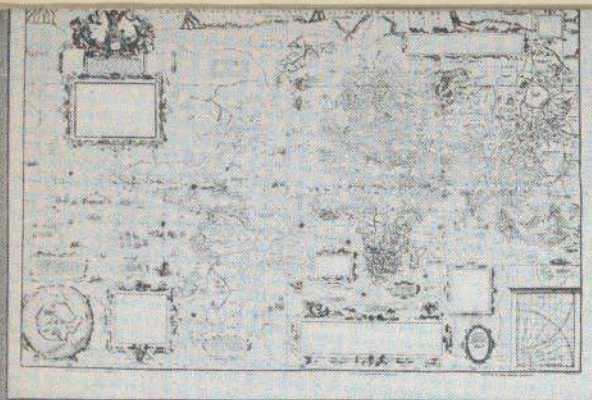


*Partial view of the map section, which shows that the aviator did not have to have new types of maps. Even before Mercator published the projection which has served mariners so well, the most useful projections for the conquest of the air had been discovered. But they had been neglected for some time.*

*Most adults have learned geography from Mercator maps, and it is hard to readjust the eye and the imagination to other maps better suited to the air age.*

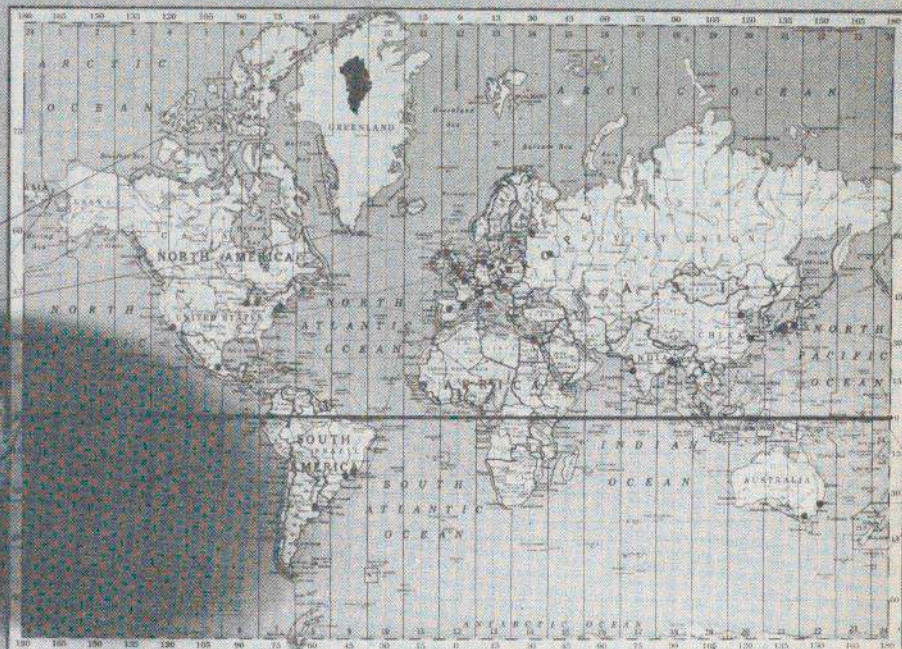
*If we understand the purpose for which each map is made, and remember that no flat map can portray the world accurately, we cannot be misled. When in doubt, look at a globe, not a map.*





This is a reproduction of the first publication of Mercator's famous world map, 1569. Its modern version, shown below, is still found indispensable for surface navigation.

UNUSUS DISTORTION PRINCIPLES  
 All flat maps are distorted, and the greater the extent of the surface of the earth included on them, the worse the distortion. Furthermore, their inaccuracy is not evenly distributed. Here is a Mercator map, the length of which along the Equator is the same as that of the adjacent globe. The Equator is its center of accuracy. As the eye travels away from that center, the inaccuracy increases. This display compares Greenland on the globe with Greenland on the map.

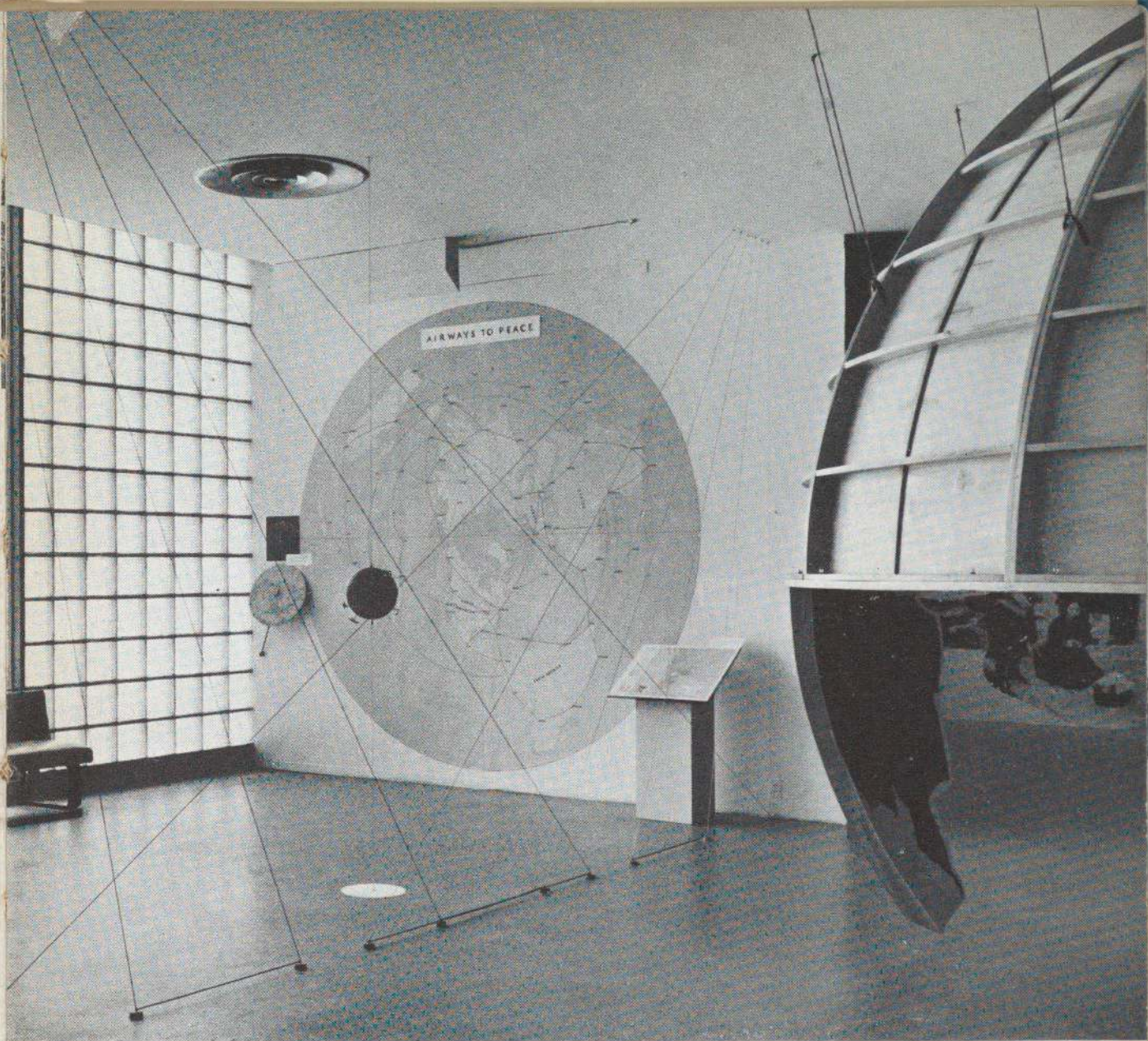


## HOW MUCH DOES MERCATOR DISTORT?

*All flat maps are distorted, and the greater the extent of the surface of the earth included on them, the worse the distortion. Furthermore, their inaccuracy is not evenly distributed. Here is a Mercator map, the length of which along the Equator is the same as that of the adjacent globe. The Equator is its center of accuracy. As the eye travels away from that center, the inaccuracy increases. This display compares Greenland on the globe with Greenland on the map.*

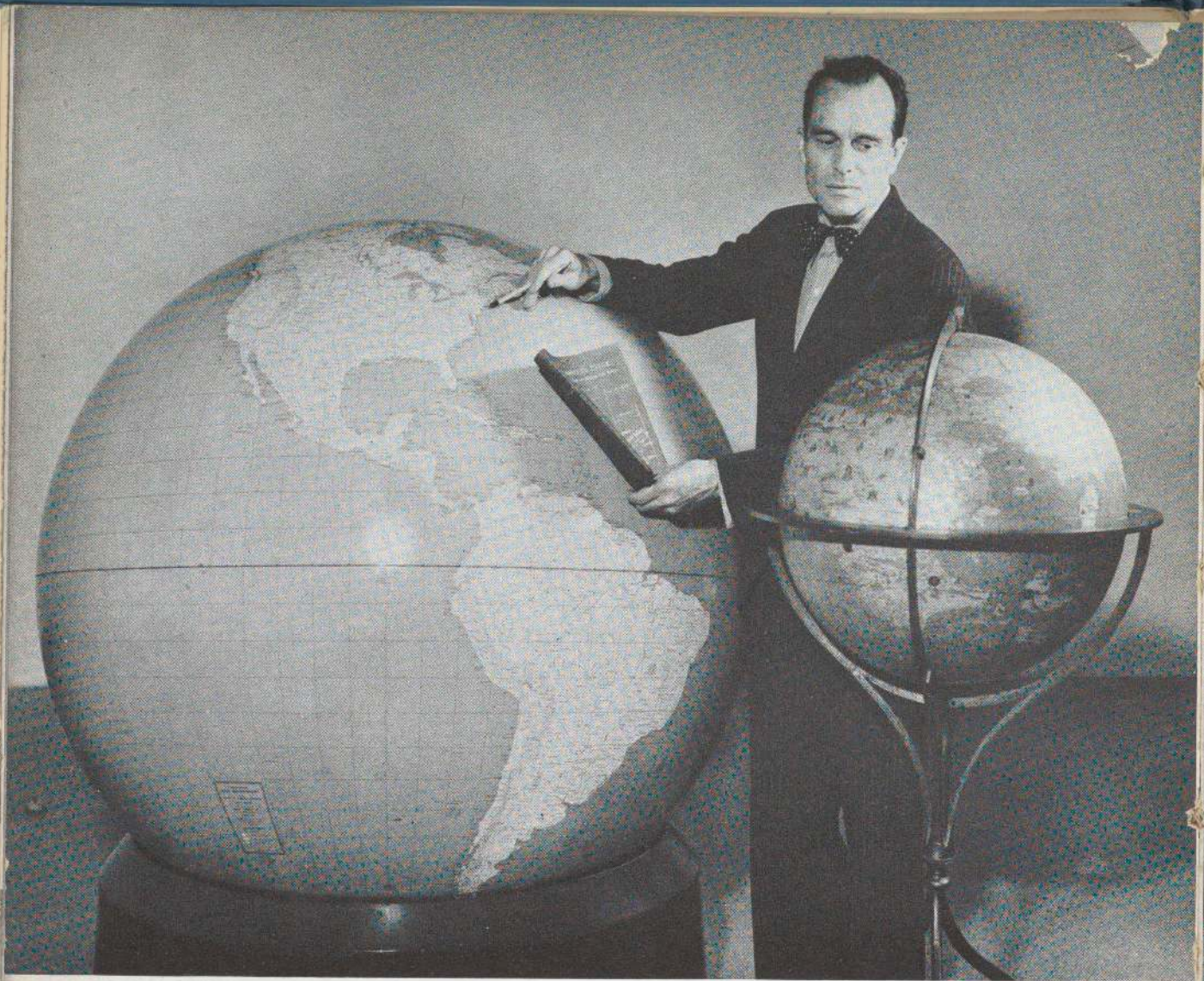
*In the upper lefthand corner may be seen a reproduction of the first publication of Mercator's famous world map, 1569. Its modern version, shown below, is still found indispensable for surface navigation.*





*On the wall in the background may be seen an eleven-foot polar projection (azimuthal equidistant) upon which are shown the major air routes of the future. At the right is the suspended "outside-in" globe (page 9).*





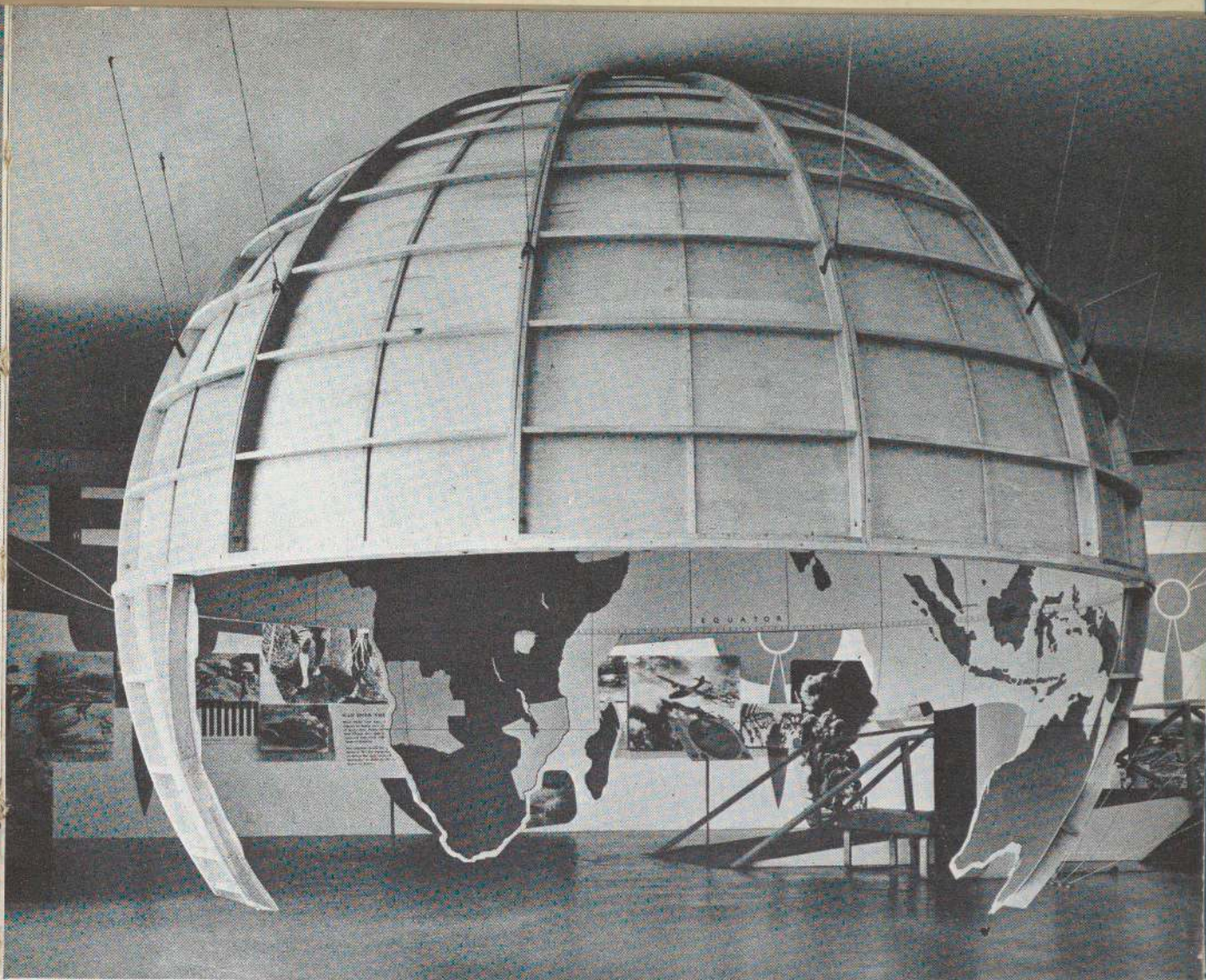
### MOST ANCIENT AND MOST MODERN GLOBES

*Monroe Wheeler, director of the exhibition, compares the Behaim globe of 1492, oldest extant terrestrial globe, with President Roosevelt's Fifty-Inch Globe, the largest and most modern in existence, which he has graciously lent to the exhibition. The globe ordinarily stands behind the President's desk in the White House. The scale of the globe is one ten-millionth of the size of the earth, and it contains over 17,000 place names. It is mounted upon universal rubber bearings, permitting easy rotation, so that any part of the surface may be measured and examined freely. It was given to the President by the Army at Christmas, 1942.*

*Behaim had only one ocean on his globe—the Atlantic, bounded by Europe and Africa on the east and by China and India on the west. No North or South America was then known to exist.*

*Replica of Behaim globe lent by the American Geographical Society.*





### OUTSIDE-IN GLOBE

*This fifteen-foot globe is an innovation especially designed for the exhibition. Less than half of the conventional globe can be seen at one time; and, as we have seen, all flat maps must distort. But when the land areas are shown on the inside of a sphere, one can more readily see all the continents in their true relationship at one glance.*

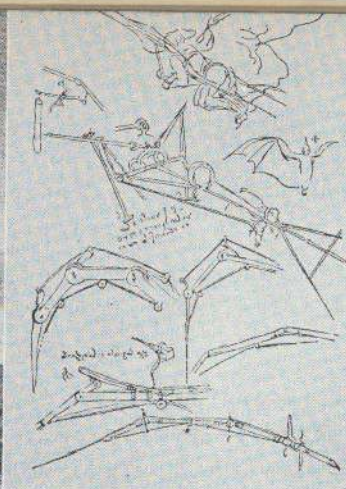
*This "outside-in" globe also emphasizes a fact of paramount importance in the strategy of war and the vision of peace: the most populous nations of the world are clustered about the North Pole, within easy flying distance of one another.*



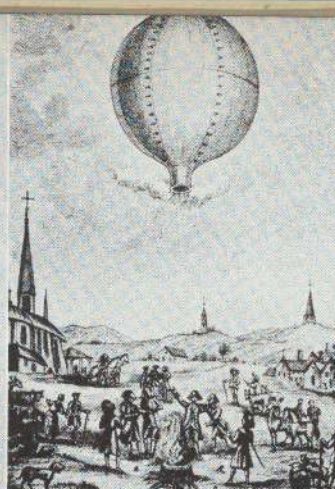




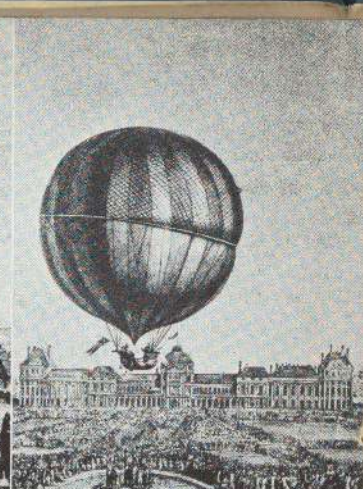
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## THE PROGRESS OF FLIGHT

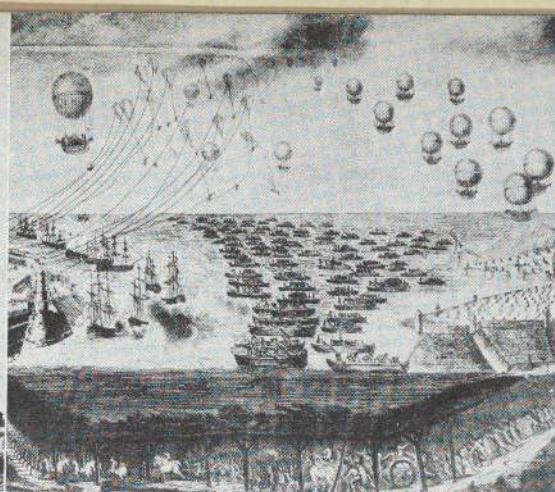
Men's imaginations have been excited by the soaring of birds since before the dawn of history. Among our most cherished legends is the daring tale of Icarus with his wax-fastened wings. Leonardo, in that great awakening of minds, the Renaissance, dreamed of flight. Whenever there was intellectual ferment in the world, men wrestled with the problem. With Montgolfier's balloon the ancient dream began to come true. It was on a memorable December seventeenth in 1903 that Orville Wright first rose from the ground in a power-propelled machine, Wilbur standing on the ground to steady the slight wings as his brother took off from a monorail. Man had begun his conquest of the air. In the years since, intrepid adventurous spirits, often at the cost of life itself, have triumphed again and again. Today, so vast is the vision that the giant planes which fill our skies seem mere experiments for the accomplishments of tomorrow.

Americans have been pacemakers in the new science of the air which has revolutionized geography. And our inventive and industrial genius will play a leading role in re-shaping the world through the progress of that science.





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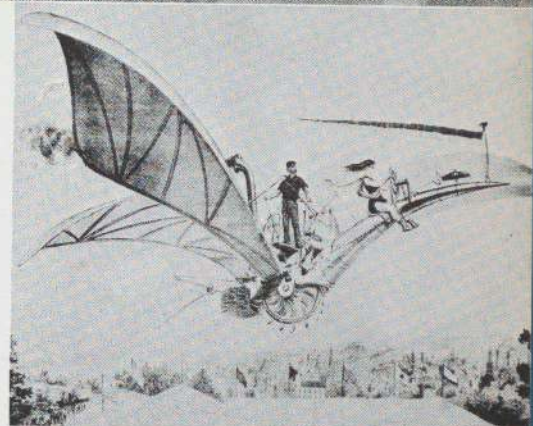
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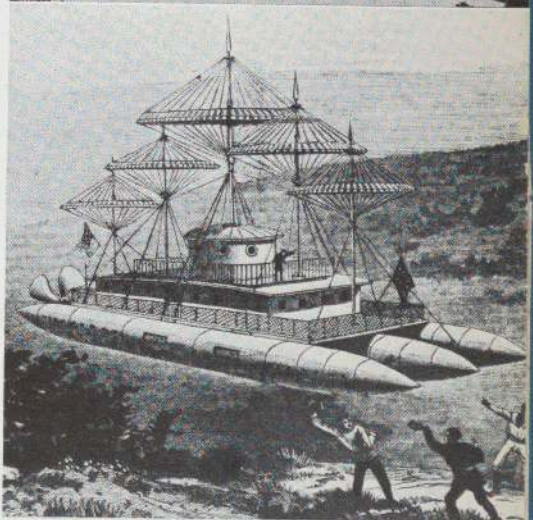
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On these pages are shown a few of the sixty photo enlargements in the exhibition, indicating the development of flight.

- 1 The fall of Icarus. Flying on wings of wax and feathers which his father, Daedalus, had made, Icarus was the first air casualty.
- 2 Da Vinci filled a volume with notes on bird-flight mechanics. He designed a hand-operated ornithopter, a helicopter and a parachute.
- 3 300,000 saw the first balloon rise, when the Montgolfier brothers sent up a hot-air balloon of linen-lined paper at Annonay, France, on June 5, 1783.
- 4 J. A. C. Charles and M. Robert in the first human ascent in a balloon; Paris, Dec. 1, 1783. The first use of gas, barometer, ballast and valve.
- 5 Dr. John Jeffries of Boston and M. J. P. Blanchard, the first to cross the English Channel by air (Jan. 7, 1785). Dr. Jeffries paid a fare of £100.
- 6 Napoleon's plan for an invasion of England included air-borne troops (right). The defending balloon barrage (left) has its counterpart in World War II.
- 7 In 1798 Pierre Testu-Brissy rode a horse into the sky. The animal had been trained to stand quietly on the platform beneath the balloon.
- 8 Professor Harriman's Flying Machine. 19th Century Circus Poster. Lithograph by E. P. Roe.
- 9 Frank Reade, Jr's, Catamaran of the Air. (From a Frank Reade dime novel, actually 5¢.) 1894.
- 10 Jacob Degen, Vienna clockmaker, built a balloon-ornithopter with taffeta wings. Upon its failure, Degen was beaten and ridiculed.



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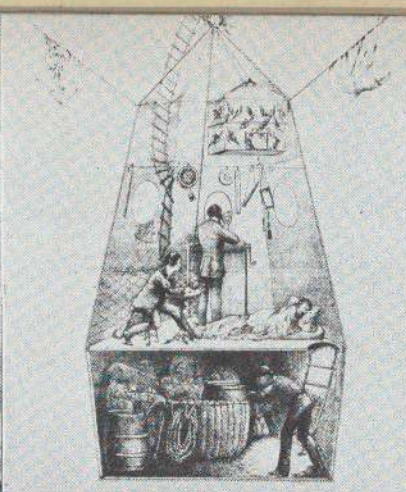


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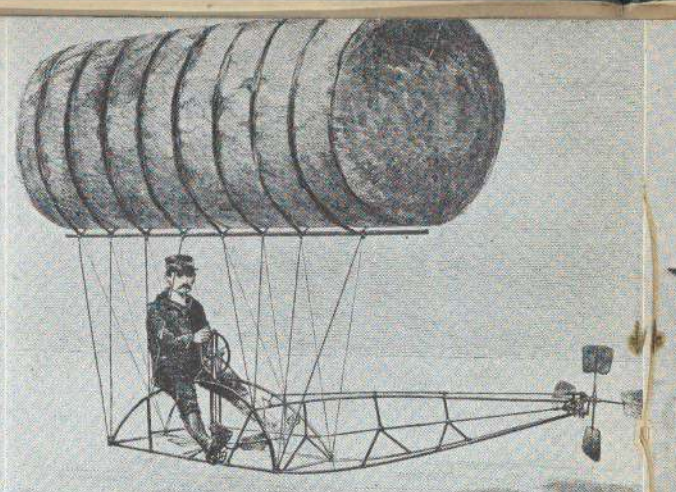




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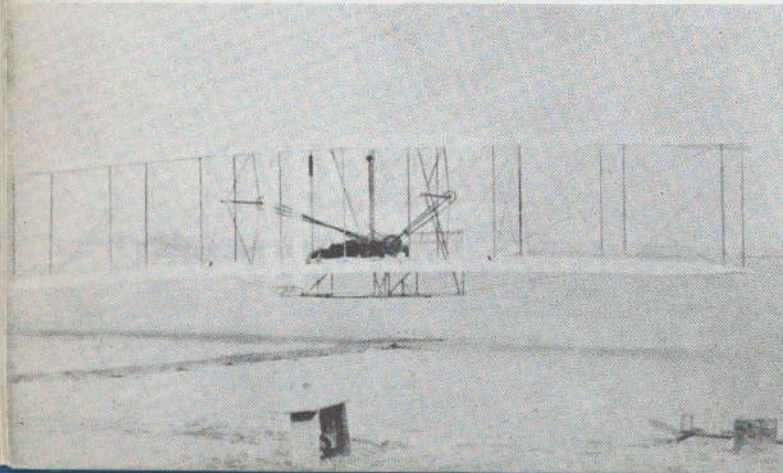
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### THE PROGRESS OF FLIGHT (continued)

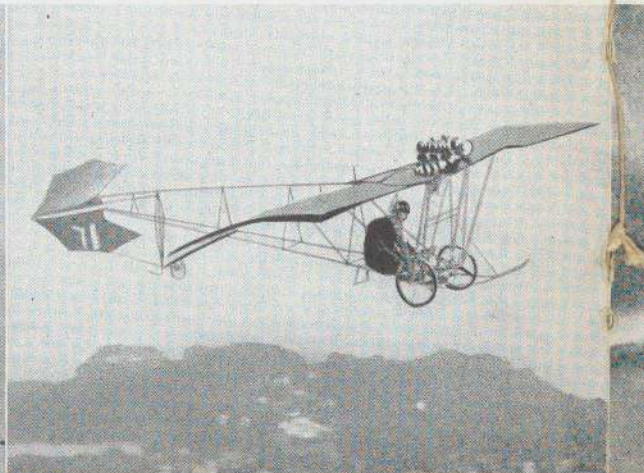
*Benjamin Franklin saw the first balloon rise over Annonay, France, on June 5, 1783. Five months later, after witnessing the first human ascent, he wrote to his friend, Jan Ingenhaus, the court physician in Vienna:*

*"It appears to be a discovery of great importance and what may possibly give a new turn to human affairs. Convincing sovereigns of the folly of wars, may perhaps, be one effect of it, since it will be impracticable for the most potent of them to guard his dominions. Five thousand balloons, capable of raising two men each, could not cost more than five ships of the line; and where is the prince who can afford so to cover his country with troops for its defense, so that ten thousand men descending from the clouds might not, in many places, do an infinite deal of mischief before a force could be brought together to repel them?"*

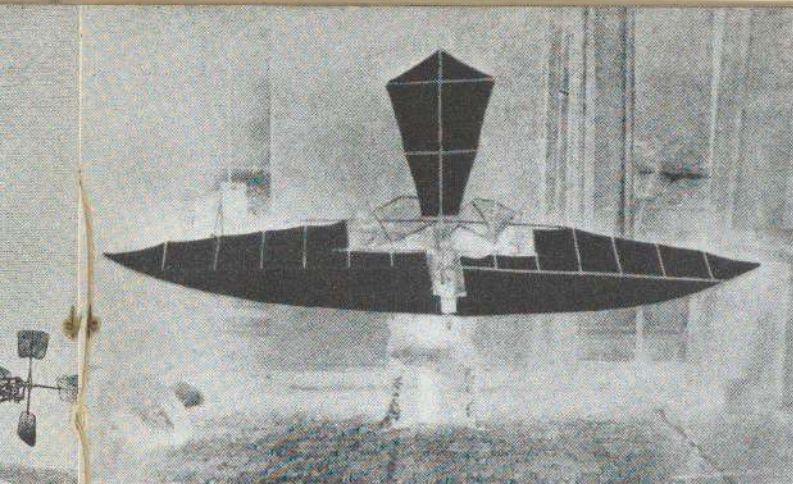
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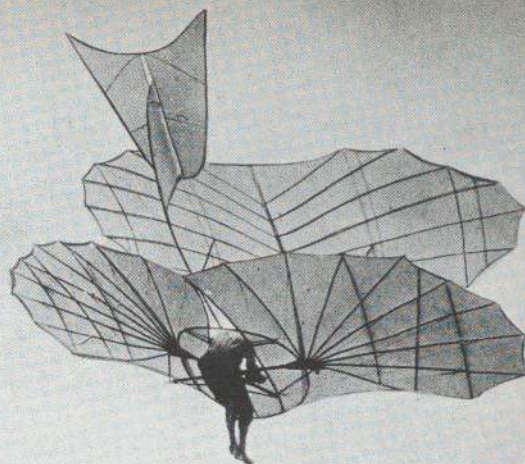
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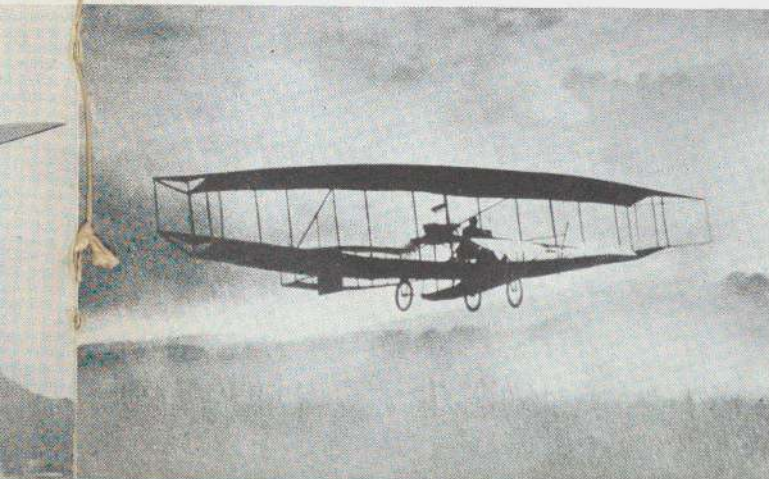
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- 1 *Different Systems of Sailing in the Air.* Harper's Weekly, Jan. 2, 1864.
- 2 John Wise's Daily Graphic balloon, with 600,000 cu. ft. gas capacity, 1873. On its New York-London test trip it came down in the Catskills.
- 3 Professor Ritchell of Hartford constructed a foot-power dirigible. It rose 200 feet on June 12, 1878, remaining aloft an hour.
- 4 John Stringfellow first flew an airplane under its own power, at Chard, England, 1848. In 1866 he built a triplane, but it never flew.
- 5 Otto Lilienthal, after many ornithopter experiments (1860-91), built a machine with an engine. In a glider test it fell; Lilienthal died (1896) a martyr.
- 6 Orville and Wilbur Wright did with the airplane what Montgolfier had done with the balloon and Zeppelin with the airship. Orville made the world's first flight in a heavier-than-air machine at Kitty Hawk, Dec. 17, 1903: 120 feet in 12 seconds. Later that day Wilbur flew 852 feet in 59 seconds.
- 7 The Brazilian Santos-Dumont was the first to build, control and steer airships for long flights. In 1909 he flew the Demoiselle (59 lbs.) at 55 miles an hour.
- 8 Glenn H. Curtiss, great American aviation pioneer, in the June Bug, July 4, 1908.
- 9 Charles A. Lindbergh's Spirit of St. Louis, May 20, 1927.

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## WAR OVER THE WORLD

Over Sicily and Attu, over Panama and Guadalcanal, America's flying men are mobilized against the enemies of democracy. From Africa and Australia, from England and China, they patrol the air. All over the globe, in concord with their Allies, they are smashing at the bastions of tyranny.

The airplane holds the power of life or death over civilization. We are using this mighty weapon to the utmost to defeat the aggressors. When that job is done, we must determine to dedicate the wings of the world to the purposes of peace.

1 *Curtiss C-46 Troop Carrier. Official Photograph, U. S. Army Air Forces.*

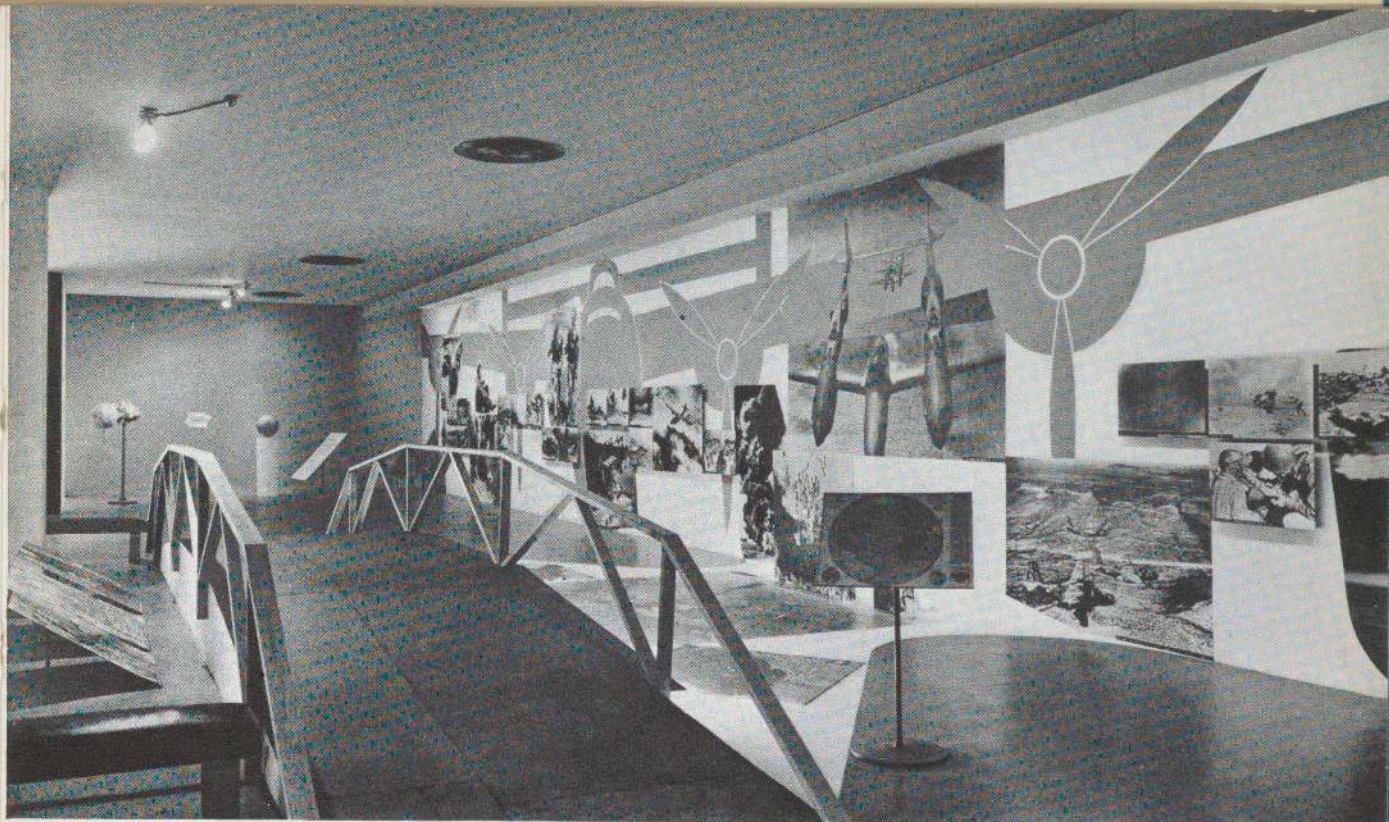
2 *The Army, the Navy and the Marines planning the runway ramps for seaplanes on a South Pacific island. U. S. Navy Photo.*

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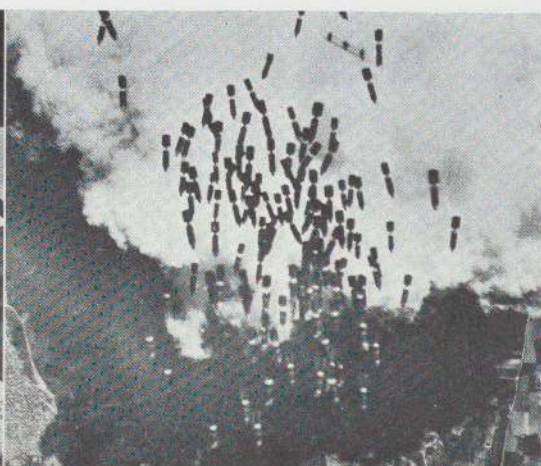
*A ninety-foot photographic mural of war around the planet, seen against the outline of a full-size Liberator bomber. From both sides of the ramp the visitor looks down upon aerial photographs.*

- 3 *P-40. Army Warhawks, with Navy Catalina in foreground, at Amchitka, Aleutians. U. S. Navy Photo.*
- 4 *This picture, made from a Flying Fortress, shows bombs falling on the Monserrato airfield near Cagliari in Sardinia. U. S. Army Air Forces Photo.*
- 5 *Catalina Navy Patrol Bomber cruising over the Alaskan peninsula. U. S. Navy Photo.*

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## GLOBAL STRATEGY

The Axis plan of world conquest was founded on geopolitics. This doctrine has backfired on its sponsors.

Germany has failed to subjugate Russia. The Mediterranean lies open to the ships of all the Allies. Those steppingstones to the Americas, Iceland and Greenland, Dakar and Natal, are in the hands of the United Nations. The plan has failed.

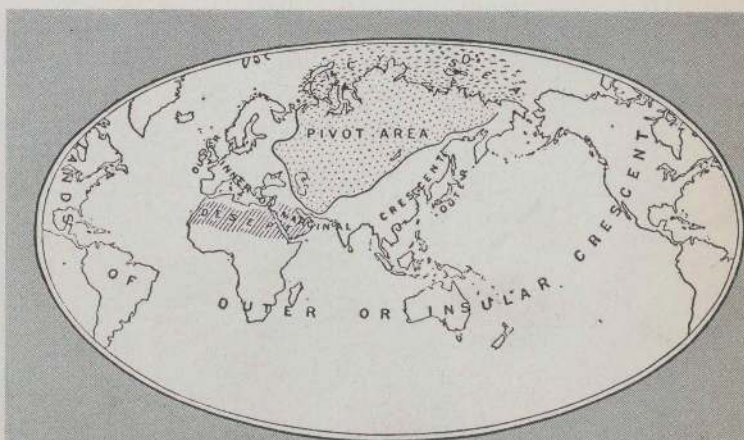
The United States, Russia, the British Commonwealth and China, and all the United Nations, working together, have strategic advantages of geography and resources which the enemy can never hope to match.

It is true that the supply lines from the Allied arsenal to the fighting fronts are long; that planes and ships can be destroyed. But the air and water on which they move are indestructible. The Axis network of railroad and highway transportation is shorter, but bombers can cripple it beyond repair.

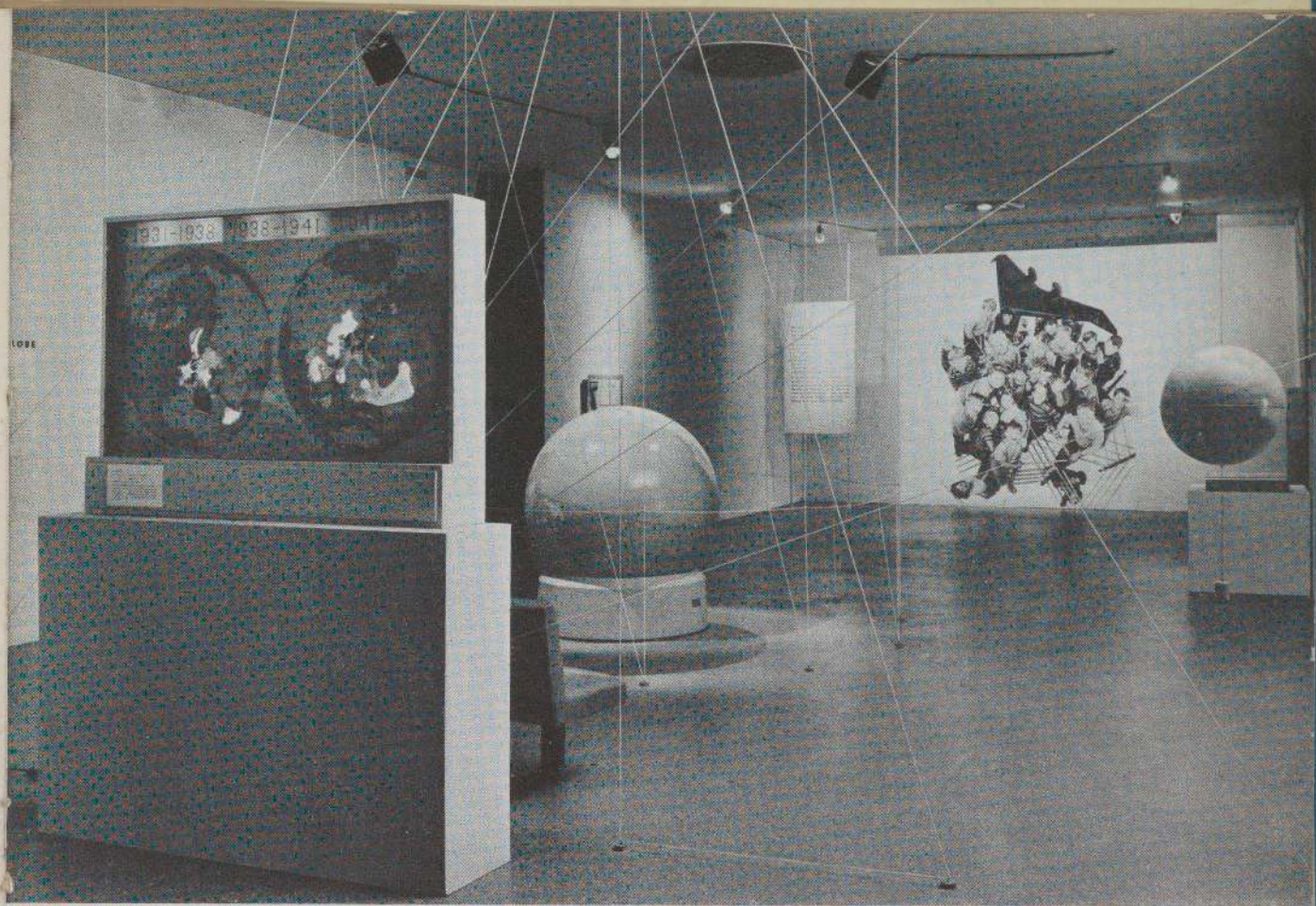
### MACKINDER'S FAMOUS MAP

*Although made by an Englishman in 1904, this is the most important map of German geopolitics. It demonstrated that Eurasia and its Heartland were all-important in their scheme of world domination, and speciously proved to them that North America was not important.*

*In spite of its oval frame, this map is on a Mercator projection, with North America relegated to the "outer crescent."*







ABOVE. At the left may be seen the electrically animated map showing Axis aggression from 1931 to 1943, and in the background the final mural, by Eliot Elisofon, of children below a Northrop Flying Wing.

BELOW. Herbert Bayer's series of meteorological panels illustrating the nature of the atmosphere and its changing conditions.







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## AIRWAYS, AIRPORTS, AIR TRAINING AND AIR TRANSPORT

*The planning, educational and traffic control functions of the Civil Aeronautics Administration, and the prodigious wartime attainments of the Army Air Transport Command and Air Service Command give us a vision of the future of American civilian aviation. The illustrations on this and the facing page are from a section of the exhibition depicting the scope of these activities.*

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## PROJECTED FLIGHT SCHEDULES AND FARES

FROM NEW YORK TO	EXPRESS		One Way	Round Trip
	Flights Daily	Hours In Flight		
BERMUDA .....	10	2:40	\$20.70	\$37.26
MEXICO, D. F. (Mexico) .....	10	8:12	61.50	110.70
BALBOA (Canal Zone) .....	10	9:12	69.00	124.20
FAIRBANKS (Alaska) .....	2	13:00	97.50	175.50
LONDON (England) .....	5	13:48	103.50	186.30
LIMA (Peru) .....	10	14:48	111.00	199.80
PARIS (France) .....	5	15:00	112.50	202.50
BERLIN (Germany) .....	5	16:00	120.00	216.00
RIO DE JANEIRO (Brazil) .....	10	19:00	142.50	256.50
MOSCOW (Russia) .....	5	19:12	144.00	259.20
HONOLULU (Hawaii) .....	4	20:12	151.50	272.70
SANTIAGO (Chile) .....	5	21:00	157.50	284.50
BUENOS AIRES (Argentina) .....	10	21:36	162.00	291.60
CAIRO (Egypt) .....	3	23:12	174.00	313.20
TOKIO (Japan) .....	2	27:36	207.00	373.60
BOMBAY (India) .....	3	32:00	240.00	432.00
CAPE TOWN .....	3	34:00	255.00	459.00
AUCKLAND (New Zealand) .....	2	37:36	282.00	507.60
MANILA (Philippines) .....	2	37:36	282.00	507.60
SYDNEY (Australia) .....	2	42:00	315.00	567.00
SINGAPORE (Malaya) .....	2	43:00	322.50	580.50
HONG KONG (China) .....	2	44:00	330.00	594.00

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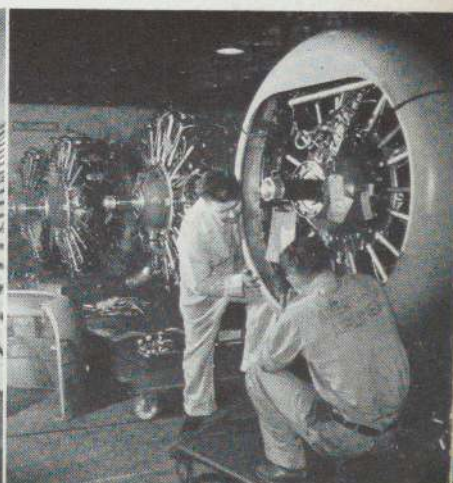
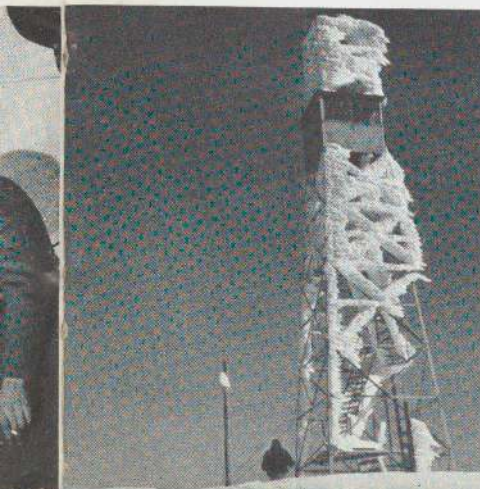
Photographs 2-7 courtesy of the C. A. A.

- 1 Curtiss-Wright Commando, C-46. The most efficient two-engine cargo carrier for trips under 1,500 miles. Carries 40 paratroopers or several jeeps or 2 light tanks. Can carry its own loading ramp and hoisting gear, and is fitted for gliding, too. Photo U. S. Army Air Forces.
- 2 Washington, D. C., National Airport. The U. S. has nearly 1,000 major airports, most of them Government constructed under C. A. A. specifications on sites designated by the Army and Navy.
- 3 Airport traffic controller directing local aircraft movements.
- 4 An Instrument Class of the C. A. A. War Training Service cross-country and Link Instrument training. The C. A. A. War Training program gives initial flight training to all Army and Navy fliers.
- 5 To produce a straight radio path for blind landing, several transmitting antennae are used. Ten antennae are used at Washington National Airport to overcome effect of nearby steel buildings on localizer path.
- 6 The highest C. A. A. beacon in the U. S., Bill Williams Mountain, Williams, Ariz.
- 7 Flight progress board at an airway traffic control center. By telephone and radio the position of all planes in flight is recorded.
- 8 Overhauling the motors of transport planes. Photo American Airlines.
- 9 Vought-Sikorsky helicopter. Generally considered as the likeliest possibility for the postwar private market. Life Photo.
- 10 Probable timetable, 1948. Prepared by Pan American Airways System especially for the Airways to Peace exhibition.

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*Lockheed Constellation. The largest land-based transport plane yet built, and the newest development for post-war commercial passenger use. Designed to carry 55 passengers, it is now being used as a troop carrier.*

## TRANSITION TO PEACE

Our one great aim, beyond military victory, must be to create a world of freedom, opportunity, justice and lasting peace. Only so can the cruel cost of war be justified.

Vision and courage will be as necessary for the winning of the peace as for the winning of the war. We must learn that narrow nationalism and racial and religious intolerance are suicidal. We must understand that economic freedom is as important as political freedom. We must accept our full responsibility for America's share in the tremendous tasks of reconstruction.

Peace must be planned on a world basis. Continents and oceans are plainly only parts of a whole seen from the air. And it is inescapable that there can be no peace for any part of the world unless the foundations of peace are made secure throughout all parts of the world. Our thinking in the future must be world-wide.





*Pan American Airways Clipper Flying Cloud (Boeing Stratoliner 307). The latest land-based plane in current commercial use.*

*Stephen C. Clark, Wendell L. Willkie, and Vilhjalmur Stefansson examining the transparent glass antipode globe. By sighting past a point at the center of the globe, the antipode (opposite point) of any major city may be located.*





## A NOTE ON THE EXHIBITION

The purpose of the exhibition Airways to Peace is to assist the layman to orient himself in relation to the air age. The evolution and new uses of the airplane have made this a global war, and changed our way of looking at the world. Whether we like it or not—whether we can adjust our national defense and political idealism to it or not—the airplane has changed the vast vague geography of the past into one small indivisible globe.

The exhibition consists of six sections, each of which (except that on meteorology) is prefaced with text especially written by Wendell L. Willkie. The entire display was designed by Herbert Bayer, who has used free-flowing space to symbolize man's conquest of the atmosphere. Richard Edes Harrison served as chief consultant cartographer. The subdivisions are:

### I. HOW MAN HAS DRAWN HIS WORLD.

The progress of map-making is surveyed in twenty-five exhibits, from the earliest known map, of Ga-Sur, Assyria, ca. 2400 B.C.; a model of Homer's world; the world as conceived by Anaximander; Roman road maps; and the epochal maps of Ptolemy, Leardo and Mercator; the Behaim globe of 1492; the visionary polar projection of Glareanus (1510); and so on to the latest polar projections showing the air routes of the near future. Great circle routes are demonstrated, and a special gauge permits the visitor to measure great circle distances in miles and hours of flight between any two points on the globe.

In a war which knows no boundaries, it is necessary for the civilian to have a true concept of the globe. Flat maps convey it only distortedly by means of projections, which are misleading unless their specific purpose is understood. For general understanding we

must turn to the three-dimensional globe, and for this reason the Museum constructed an "outside-in" globe, fifteen feet in diameter.

Upon entering this globe, the spectator finds the land areas depicted on the *inside* of the globe, enabling him to observe at a glance how three-quarters of the earth's land is in the northern hemisphere, and the extraordinary proximity around the North Pole of the most populous and powerful nations, within easy flying distance of one another—a fact which is the crux of history today. In spite of its great size, the "outside-in" globe is of demountable construction and can easily travel with the exhibition to other cities.

**THE PRESIDENT'S GLOBE.** A unique addition to the New York showing of Airways to Peace is President Roosevelt's Fifty-Inch Globe, the largest printed globe in the world (page 8). It was the Army's Christmas present last year to its Commander in Chief, and at the same time a replica was presented to Prime Minister Churchill.

Another feature of the map section is a five-foot layered relief model of Europe by Norman Bel Geddes, made to assist aviators in distinguishing the terrain and anticipating the height of vertical elevations.

A glass antipode globe permits the visitor to sight through a point at the center of the earth to find the antipode (opposite place) of any of the great cities of the world.

### II. THE PROGRESS OF FLIGHT

is summarized in sixty photographic enlargements which trace the evolution of flight from the pterodactyl of fifty million years ago to today's helicopter, the latest war planes and the transport planes which foretell the future of civilian aviation.

Man's desire to fly began in the obscure dawn of history, in envy and emulation of



birds, and the mere dreams of men of overweening imagination were given reality by reasonable scientists who, little by little, solved the mysteries of aerodynamics. The decade of the French Revolution saw the first actual flight, and we see now that of these two contemporaneous events the latter may have been the more profoundly revolutionary. It marked the coming of a new era not only in world politics but in the technique of warfare and the everyday life of every man in time of peace.

Aviation did not become a practicable matter until the Wright brothers flew the *Kitty Hawk* on December 17, 1903, but from then on innovations and improvements have been so swift as to bewilder the layman. But he already knows that tomorrow he will fly easily and far; and to appeal to his imagination, the Museum asked Pan American Airways to prepare a peace-time world timetable, dated 1948, which has been included in the exhibition.

III. WAR OVER THE WORLD. The role of the airplane in carrying war across the earth is pictorially suggested by a photographic mural displayed against the background of the full-size silhouette of a *Liberator* bomber with a wingspread of 110 feet. These fifty-five pictures show more nations on broader battlefields than have ever been known before, and help us to see at a glance the innovations of offense and defense for which the airplane is responsible. Furthermore, they cannot fail to stimulate one's imaginings in regard to the political and economic changes which must occur as part of this great mutation of history which modern science has evoked.

IV. AIR STRATEGY. Once we have attained the airman's view of the world, the strategic problems of the war become re-

markably clear. Mr. Willkie has pointed to the Germans' lack of the global concept as the basic flaw in their strategy. They planned their conquest on Mercator maps and relegated the United States to the fringe of their world. To demonstrate this and other essential factors of an air-age war, an important section of the exhibition, consisting of spheres and "outside-in" hemispheres, shows Germany's tragic misinterpretation of geopolitical theory, Japan's scheme of Pacific conquest, the possibilities of long-range bombing, the chances of dislocating war industries inside Germany's enslaved and fortified Europe, and the importance of Allied air bases in China.

The formidable extent of Japanese conquest in the Pacific, compared with German conquests in Europe, is forcefully depicted by an animated electric map of Axis aggression from 1931 to the present.

V. THE NATURE OF THE ATMOSPHERE. The private citizen of the air age, who will soon be flying his own helicopter, must have some idea of the rudiments of the new world into which the scientist and the aviator have led us. We can no longer think of the earth as a simple solid eight thousand miles in diameter, studded with mountains and immersed in ocean. Our planet is a ball of liquid gases, perhaps fifty thousand miles in diameter, with a solid core. Then comes the troposphere, which is the air we breathe; then the stratosphere, in the lower regions of which we now can fly; and then the ionosphere, which divides our human realm from the infinite.

In a series of brilliant paintings, made especially for Airways to Peace, Herbert Bayer has portrayed this entirety of the earth as we now know it, with its multiple elements of cloud forms and weather currents. In a little analogical model, man



appears as he is in reality, beneath a three-fold sky at the bottom of the atmosphere, like a fish at the bottom of the sea—a deep-air mammal.

**VI. TRANSITION TO PEACE.** Today the air is necessarily an immense battlefield. But amid the necessities of war the personnel of the aviation of the future is being trained on an undreamed-of scale, these future airports of domestic and international air transportation are being constructed, and systems for the safe and orderly regulation of air traffic are being perfected.

This year approximately thirteen million aircraft movements—ninety-five per cent of them military—will be handled by the traffic control centers of the Civil Aeronautics Administration, which serves the Army and Navy Air Transport Services in the movement of cargo and personnel (a complete hospital was recently flown to Alaska in thirty-six hours).

The extent of these operations and their revolutionary consequences are shown in the concluding section of the Airways to Peace exhibition.

If we imagine this revolutionizing travel of

the time to come, it is easy to read the moral of Airways to Peace. Not only in idealistic theory but in actual fact the world today is one unit: air neighbors are near neighbors. No national boundary can have the importance it had in the past. No selfish interest can devise a separate security in ignorance of other nations. Whether we like it or not, each nation is a portion of the world-nation. Over our heads the airways have woven a web of intimacy, a new scene of mutual advantages, a world-brotherhood.

War, from now on, will all be civil war among nations which can no longer isolate themselves. With this new proximity we must begin to exercise an imagination as far flung as our air routes, an international intelligence and world-conscience which will match the great new machines we have invented.

The present war and its aftermath of trouble and reconstructive labor may last a lifetime, but the children of tomorrow, the new generation born with wings—whom we see in the photo-mural at the close of the exhibition—must have a modernized and law-abiding world to grow up in.

MONROE WHEELER

## PRESS COMMENTS UPON AIRWAYS TO PEACE

*Newsweek*—"It is a stunningly designed show which will undoubtedly succeed in its aim of reorienting visitors to an air age. . . . If *Road to Victory* was a hit, *Airways to Peace* should be a sensation."

*The New York Times*—"A unique display of the world's expanding horizons . . . timely reminder of the change, growth, and ever-new responsibilities entailed in the progress of civilization."

*New York Herald Tribune*—"Installed in dramatic sequences. . . . Shows how the predicted air age will be of crucial importance in international politics."

*New York Daily Worker*—"Deserves the attention of every victory-minded citizen. . . . The designer, Herbert Bayer, has presented the material in a most striking and dramatic way. The material is arranged in lucid sequence and convincingly makes its point."

*Town and Country*—" . . . should be seen more than once, by even the most intelligent observer, and there is such a richness of invention and so much aesthetic pleasure that no encore will be a chore."

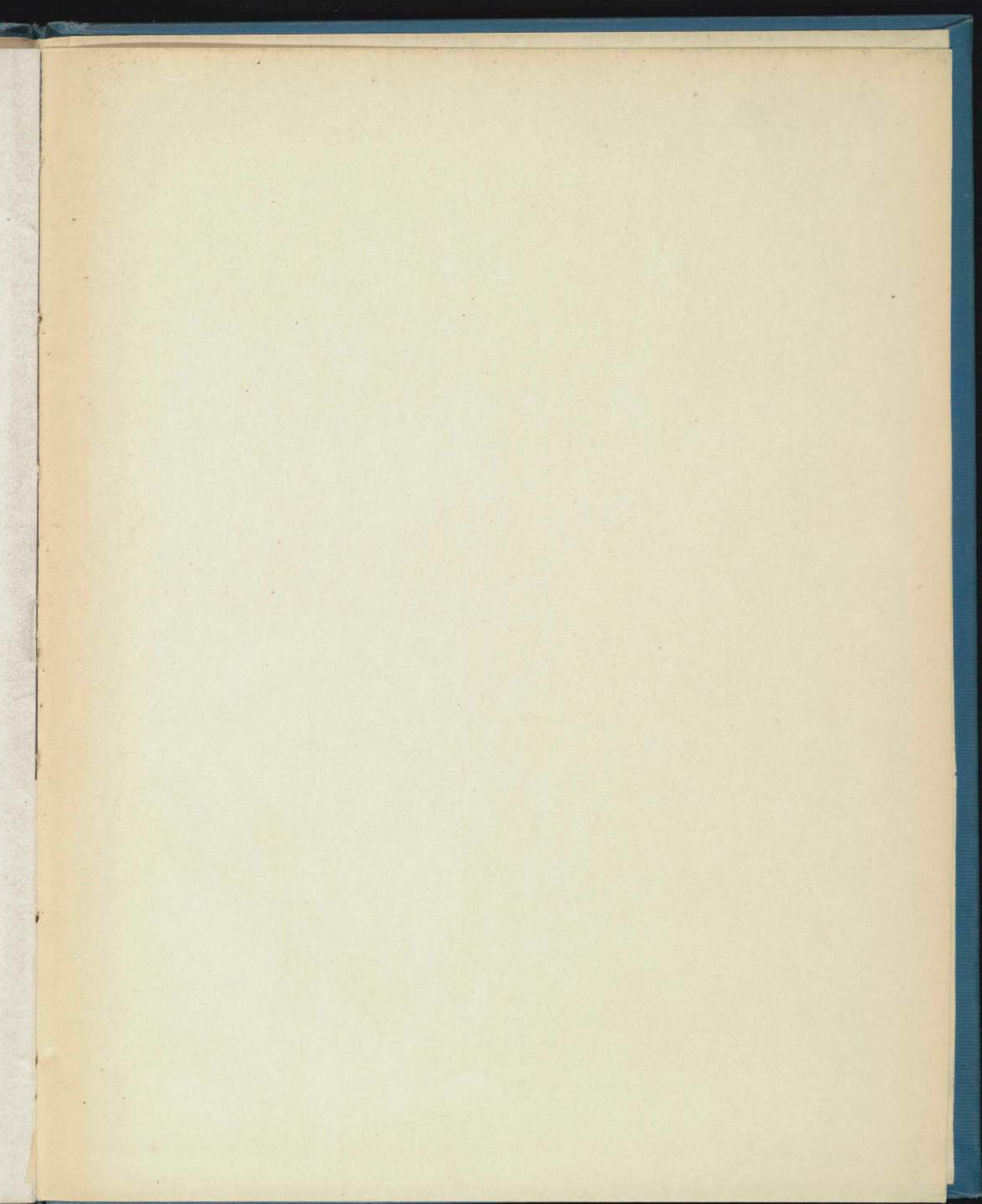
*New York World Telegram*—"Extremely interesting and informative. The openness of the installation . . . seems almost a symbol of the wide, clean openness of the stratosphere."

*Art Digest*—"This show is tantalizingly close to painting shows by Dali and Tehelitchew and a number of other surrealists who have come, in natural course of events, to these same walls."

*South Norwalk, Connecticut, Sentinel*—"No movie packs in more drama and visual entertainment."

*Time*—"A brilliant educational exhibition."







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The Museum of Modern Art



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