

Flying — Linking the Nations of the Western Hemisphere

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***LINKING THE NATIONS
OF THE WESTERN
HEMISPHERE —SOLVING
DIFFICULT
PROBLEMS OF
TRANSPORTATION
AND PROTECTING THE
MONROE
DOCTRINE WITH
AIRCRAFT***



By SANTOS-DUMONT

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DIFFICULT geographical and economic conditions in the Continent of South America, which have made railroads in many regions impossible, and have militated against adequate transportation and communication, have also prevented that closer union of the States of the Western Hemisphere, which has been so desirable. Important cities, located at high altitudes, have been isolated by the lack of railroads and means of efficient communication. Some, indeed, seem practically out of touch with modern civilization. The long and tedious distance from the United States, and the extensive period of time required to cover the distance by steam-ship, has retarded that closer alliance of the South American countries with the United States, which has been so desirable, has been retarded. To

people living in the United States, Brazil, Argentina and the other countries of South America seem inaccessible and remote. To us who have lived in South America, New York seems even more distant than Paris. A gulf of time and distance has separated us. It has impeded the development of profitable business relations.

European War Makes Development of Closer Relations Between the Two Continents Most Important.

With the trade of the world affected by the European War, the development of commerce between the two continents become of more urgent importance.

The countries of this hemisphere are of one family. Today they are like the members of a family who live in different houses, in a state of estrangement. For the greater development and strength of the countries of this hemisphere a closer association, a closer interchange of views and better facilities for communication and trading relations are vitally necessary. *Who knows when some European power may menace an American State? Who can tell if, in the aftermath of the present European War, some power may not reach out to grasp territory in South America?* Is war between the United States and an European power to be regarded as improbable? A more firmly knit alliance between the United States and her Southern neighbors would mean a greater and more formidable strength.

New York to Buenos Aires By Air

I have spoken of the difficulties that have retarded the development of commerce, better facilities in transportation and communication and the fostering of friendly relations. I believe these difficulties are about to be overcome. I feel certain that the present obstacles in time and distance will be surmounted. The isolated cities of South America will be brought into touch with the world of the day by aircraft. Separated countries will meet despite the barriers of mountains, rivers and forests. The United States and the countries of South America will be brought together as closely as are England and France. The distance from New York to Buenos Aires—which is now over twenty days by steamship—will be abbreviated to a trip of a few days. With time and distance annihilated, the commercial relations, so long deferred, will spontaneously develop. We shall have facilities for prompt communication. We shall get into closer contact. We shall become stronger in the bonds of understanding and friendship.

All this will, I believe, be effected by the aeroplane. I do not think many years will pass before there will be established aeroplane services between the great cities of the United States and the capitals of South American countries. With an aeroplane mail service, communication between the two continents will be cut from twenty days to two or three days. The transportation of passengers between New York and the

remote points in South America is not impossible. I believe the modern improved aeroplane will solve the problems with which we have struggled for years. *I believe the aeroplane will knit the various States of the continent into an integrally united, co-operating and friendly combination, allied for their own well being in sport, trade and commerce as well as for strength in times of possible war.*

In 1915, while I was in Europe, I received a gracious invitation from the Governors of the Aero Club of America to come to the United States as their guest in order to confer with them on the problem of bringing the Pan-American nations nearer to one another by means of aerial navigation. I was much honored and pleased, and so wrote to the Governors of the Club, telling them how heartily I commended their idea. I deeply regretted at the time that I could not at once respond, as I had been invited by my friend, M. di Soriano, the great sportsman, who holds all power boat records, to cruise with him on his yacht, in the north of Spain. Because of my previous acceptance, I was compelled to postpone responding to the invitation of the Governors of the Aero Club and delay my visit to the United States until October, 1915.

Is the possibility of aerial navigation between the United States and the South American countries merely a fantastic speculation? Personally, I believe that aerial navigation will be used for the transportation of mail, and passengers as well, between the two continents—and that, perhaps, very

soon. Some of you may shake your heads incredulously and smile at this prediction. Yet twelve years ago when I said aerial machines would take an important part in the waging of future wars people likewise shook their heads and smiled.

Prediction of Employment of Aircraft for Military Purposes Was Scoffed at In 1903

On the fourteenth of July, 1903, I piloted a dirigible over the great Longchamps military revue. One hundred thousand soldiers took part in this revue: there were from three to four hundred thousand spectators. That was the first time aerial navigation was a feature of a military demonstration. At that time I predicted that aerial warfare would be one of the most important phases of future military campaigns. My prediction was scoffed at and resented by militarists who could not see the airship in any light but as a childish toy. They would not discuss it seriously. But consider what has happened since then. Consider the invaluable work the aeroplane has done during the present war for the contending armies. Aeronautics has revolutionized warfare. Aircraft are being employed in connection with every branch of both services.

Development of Aeroplane Since the War Marvelous

Since the beginning of the war the development of the aeroplane—in the aeroplane itself, in motors and aeroplane guns— has been marvelous. Who, five years ago, would have believed that aeroplanes could be used to attack hostile forces, that cannon shots could be sent, with deadly effect, upon an enemy from the inaccessible heights of the air? Since the beginning of the war, machines have been improved. They have been increased in size, power and efficiency. Motors have undergone a steady improvement.

To Be of Even Greater Value for Peace Than It Has Been for War

If the aeroplane has proven itself so useful in the conduct of war, how much more useful should it not be in times of peace. If the war has served as an incentive in this amazing development, how much greater to scientists and inventors should be the incentive to develop the aeroplane that it may serve the nations in pursuits of commerce and the development of friendly international relations!

Less than a decade ago my aeroplane was considered a marvel. In this machine, in which there was a place for only one person, I used a motor of about twenty horsepower. At first I was only able to fly a few metres, and then a few kilometres. My record was a twelve-mile flight. I could carry only enough gasoline to fly three-quarters of an hour.

At that time the aeroplane was regarded as a sort of toy. No one could have believed it possible for aviation to develop to the degree it has in the present day. Then we went out to fly only when there was no wind, usually after sunrise or sunset, when a handkerchief would not move in the air. People believed that an aeroplane could fly only when there is no wind.

Aeroplanes Bridge International Gaps Which Neither Railroads Nor Automobiles Can Bridge

Today machines are being made capable of carrying thirty passengers, of travelling in the air for hours, of making nearly 1.000 miles without touching ground, and which are driven by 1.000-horsepower. An aeroplane has been up in the air as high as 26.200 feet and has flown, without touching the earth, for 24 hours, 12 minutes ; and from sunrise to sunset an aeroplane has travelled 1,300 miles! We no longer fear wind or weather. The modern machine can brave any gale and fly through a storm of any velocity, and can also rise above the storms, and yet even now the aeroplane is still in its infancy.

In a short period of ten years the aeroplane has developed more rapidly than did the automobile. We can get aeroplanes that can now travel at 130 miles an hour. For commercial purposes and for international communication both railroad and automobiles reach a point where their utility ends.

Mountains, forests, rivers and seas block their progress. But the air affords an unhindered speedway to the aeroplane ; it can travel above mountains, forests and seas. It can unite continents. The atmosphere is our ocean and we have ports everywhere.

A Dream Realized

I, who am myself somewhat of a dreamer, never anticipated what I beheld when I visited an enormous factory in the United States. There I saw thousands of skilled mechanics engaged in the building of aeroplanes, of which twelve can be turned out daily. To expedite the shipments of these machines, railroad sidings have been constructed into the factories themselves. To me the scene looked more like a dream than a reality. For among the aeroplanes constructed there is one capable of flying over 600 miles and carrying thirty people. An aeroplane of this type equipped with four motors totalling over 1,000 horsepower, has flown in England with eight passengers and 600 gallons of gas and other equipment on board at a speed of 75 miles an hour!

This machine is built with three planes, spreading 133 feet. The length is 68 feet, the rudder area 54 square feet ; fixed tail area, horizontal, 126 square feet. The weight of the hull and planes is 8.000 pounds, and of the motors 4.000 pounds. With a crew of eight men, weighing twelve hundred pounds, oil and gasoline weighing 5.250 pounds and a load,

presumably of ammunition, of 3.000 pounds, there is a total weight which can be carried through the air, of 21.000 pounds or over ten tons!

Developed by the needs and exigencies of warfare, this same machine—diverted from purposes of destruction—will prove of incalculable value as an instrument in the useful pursuits of the race. At the present time it is quite possible that one of these aeroplanes could make the trip between New York and Valparaiso or between Washington and Rio Janeiro. A stopping station for the taking on of supplies of fuel could be arranged every 600 miles.

The chief problem which confronted aerial navigation, getting an efficient motor, may be considered as solved. The aeroplane motor today is much more reliable than the automobile motor was ten years ago. In the early days of the automobile you could not go out driving without having trouble with the carburetor or the ignition apparatus. The magneto was not yet discovered. Now you can go out driving in a car, travel many thousands of miles, without a breakdown. With the exception of the pneumatic tires, which are still in their infancy, I have had no trouble with my last car for three years. I believe that the aeroplane motor will, in the near future, be developed to such a degree that it will give no more difficulty than the motors of the best and most modern automobile made. At present the motor of an aeroplane must be comparatively light, while at the same time it is subject to constant work. I believe the problem will

soon be solved. Already steel has been improved and made stronger by special processes. No one can say how far we can go in strengthening steel.

With an improved motor and efficient means of guiding one's course, the aeroplane is certainly destined to figure as one of the most effective mediums in the development of commerce and the welding together of nations that lay far distances apart.

Development of United States Has Followed the Wake of the Railroad—Development of South America to Come With Aerial Transportation

Countries in which well-made roads did not exist were the first, I believe, to adopt the railroad and steam engine. *The development of the United States has followed in the wake of the railroad.* If it were not possible for people to travel quickly by railroad from Texas to Chicago, from San Francisco to New York, the closely welded union that exists between the States would not be possible. The railroad has brought distant places close to one another. Railroads are the nerves and arteries of the United States. In the new countries of South America there are not many railroads. In fact, because of precipitous mountain ranges and vast rivers, railroads have not been possible. The countries of South America have remained isolated and apart because of this. There are cities so high no railroad can reach them. Indeed,

there are hardly roads of any kind. To these cities the aeroplane would bring civilization and progress. Aeroplanes could carry mails between them and other South American cities. Commercial relations could be effected. Passengers might be carried, for instance, between Quito and Santiago. I foresee a time when there will be regular established aeroplane services between all the South American cities. I believe these countries, lacking railroads, will be the first to adopt aerial navigation, and they will do it soon.

I should not be surprised, if in a few years, there will be aeroplane lines operating between the cities of the United States and South America. At the present time business relations cannot develop because of the long time required in travelling and the delay of mails. An aeroplane mail service would facilitate commerce. *Whereas it takes a steamship over twenty days to go to South America, an aeroplane would make the trip in three or four days.* Men engaged in export and import trade having big deals in hand could have agents make the trip, in four days closing the contracts that under present conditions must pend during the transit of mail communications from twenty to forty days or more. The diplomatic relations between the Governments of Washington and the South American countries would be more intimately established. New York could have the newspapers of South American capitals on the newsstands just as Chicago and Philadelphia papers are now on sale. People in South America would similarly become acquainted with life and news of the United States and the people of the

United States would know what is going on in South American cities. The literature of the various nations would be exchanged and we would learn to see the point of view of the different countries.

Large Air Fleets Needed for Protection of Pan-American Countries

Besides the strength that is to be gained by a closer alliance of the South American countries among themselves, and also with the United States, there is another point to which I would draw your attention. All the European countries are old enemies. Here in the new world we should all be friends. We should be able, in case of trouble, to intimidate any European power contemplating war against any one of us, not by guns—of which we have so few—but by the strength of our union. In case of war with any European power neither the United States nor the great South American countries could, under present conditions, adequately protect their extensive coasts. It would be impossible to patrol the shore of Brazil and Argentina with a sea going fleet. Only fleets of great aeroplanes flying 200 kilometres an hour could patrol these long coasts. Scouting aeroplanes could detect the approach of hostile fleets and warn their own battleships for action, and larger aeroplanes attack them and destroy their submarines. One of the most powerful means of protection would be in such squadrons of aeroplanes, owned by the governments of the United States and the

various South American countries. The European countries are getting aeroplanes by the thousands, we should do likewise, employing them for commercial purposes. In case of war, these aeroplane fleets would enable the United States and South American countries to operate as allies in protecting their coast lines. *Am I speaking of an impossibility?*

Remember that, ten years ago, when I came to the United States with my twenty horsepower airship no one would talk seriously about aerial navigation. We now see what the aeroplane has done in Europe, in taking observations, directing battles and the movements of troops, in attacking the enemy, and in the protection of coasts.

Aeroplane Speed Will Keep Increasing

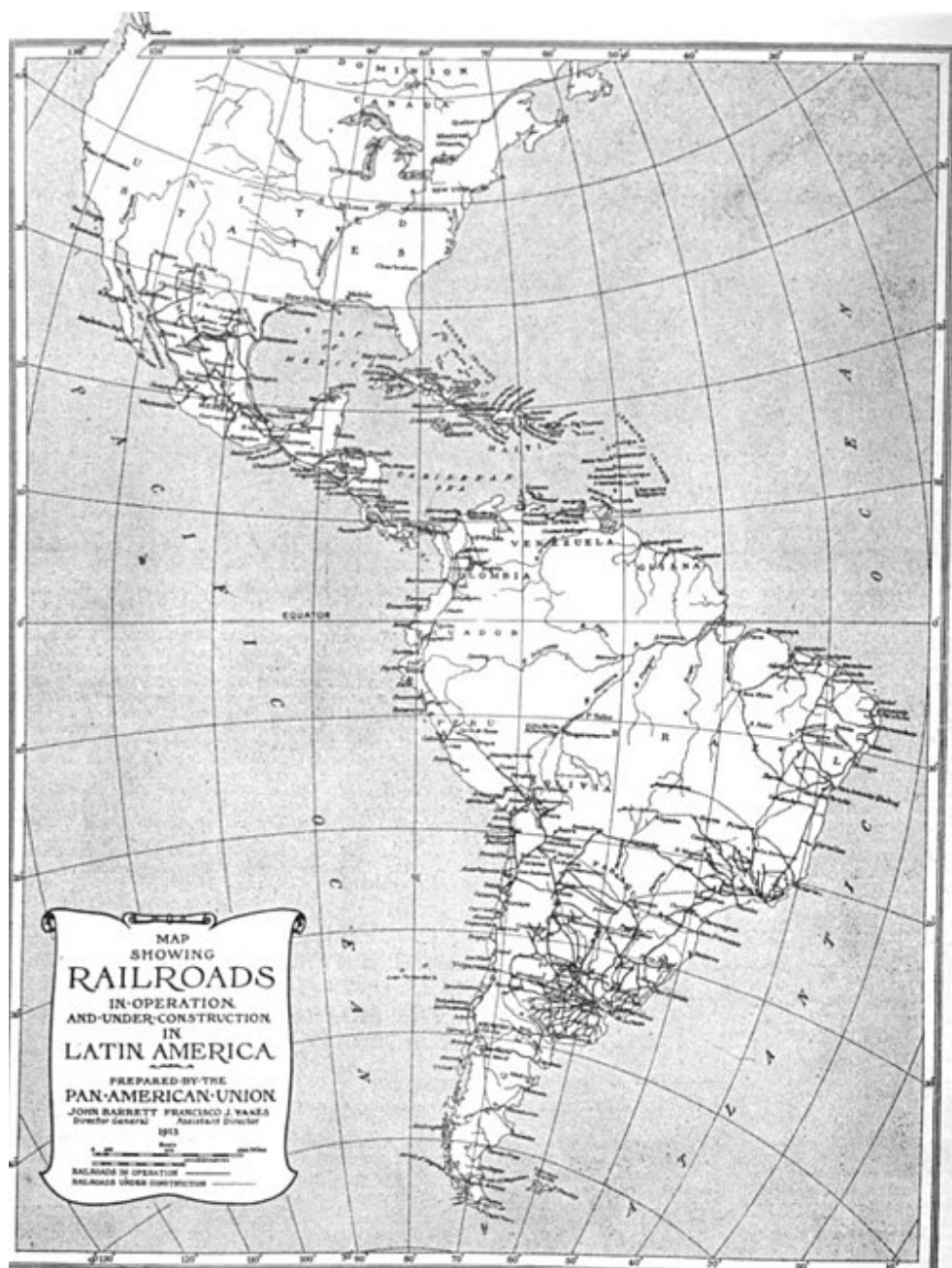
Close association is necessary for the development of mutual understanding and friendship between nations as well as among human beings. Having already attained a speed five to ten times that of the fastest steamboat, the aeroplane, as soon as motors are improved, will undoubtedly bring the two continents closer, and thus effect an indissoluble alliance. With a record now of over 200 kilometres an hour, I believe that in a few years the aeroplane will make **three to four hundred kilometers an hour**. This would bring the most distant place in South America within one or two days' journey from New York.

Aerial Navigation to Make a Permanent Union of Pan-American Nations

Let us hope that, by means of the aeroplane, the barrier of distance and lack of communications between the United States and South America may be utterly overcome with the result that for all future time the nations of the new world may abide in cordial and co-operative concord. Lack of communication in the old days is the basic cause of a fighting Europe. Let us hope aerial navigation will mark a permanently united and friendly America.



View of Rio de Janeiro, and the Bay, where the Pan-American Aviation Trophy will be competed for next Summer



Map showing railroads in operation in South America—

railroads shown by heavy black lines.

The South and Central American countries may be said to need aeroplanes and dirigibles to solve their problems of transportation. In most of those countries railroad transportation is limited to the central places, and the process of transportation even in central places, is often slow and costly on account of long detours made necessary by mountains, waterways and undeveloped country. The aircraft going as it does, over all obstacles at high speed, would solve many problems of transportation. For mail carrying it would be unsurpassable in efficiency. South and Central America are larger than the United States and every country of the Pan-American Union is destined to become a large nation.

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