NEW YORK EXPOSED TO BOMBING BY HOSTILE AIR CRAFT

Peary's Startling Statement of Possibility of Such a Raid Borne Out by Known Facts of the Wonderful Development of the Fighting Airship

By ROBERT G. SKERRETT.

FOOD for thought has been given to New Yorkers by Rear Admiral Robert E. Peary's statement of what might befall them should any one of from four to six foreign Powers decide to attack the city by way of the air.

Rear Admiral Peary does not deal with the years to come, but plainly tells what might happen within the startlingly brief span of thirty days should any of the nations in question declare war upon us. According to this authority, the potential foe might issue an order one day and three weeks thereafter Washington or New York or any of our coastal cities might be wiped out in a single night by incendiary bombs rained down from speeding squadrons of great aeroplanes.

All of this may sound rather fantastic to most New Yorkers in their blissful ignorance of what is actually being achieved abroad. We are distressingly far behind all of the fighting nations in this vital department of naval and military service. The most we can boast to-day is a matter of a few score aeroplanes; abroad the air squadrons are measured by hundreds and thousands.

Here we have been amazed when manufacturers have developed flying machines capable of carrying six or eight people, but in Russia this performance was exceeded by a handsome margin more than two years ago. The giant Sikorsky machines have repeatedly borne aloft fifteen persons and those great aeroplanes, for a time looked upon as aviation monstrosities, have actually blazed the way for battling triplanes capable of carrying heavier loads and flying at higher speeds.

Less than a year ago the Germans startled their foes with great biplanes of a type patterned with two unusually large fuselages and each equipped with its own tail features. The fuselages were not only large, but armored to protect them against gunfire, and upon each were mounted two machine guns and a light automatic rifle. Generous supplies of ammunition were carried for each of the weapons in separate receptacles. In order to give them great speed these fighting aeroplanes were provided with twin engines having a total of 340 horse-power. Midway between the two fuselages, but a trifle lower, was placed the pilot's seat, shielded by special process steel. The crew consisted of six men, including the pilot, an observer and a mechanic.

It was not long after the Entente Allies had brought down one of the German double fuselage machines that it became known that the French were busy upon four engine aeroplanes of both the biplane and the triplane type. Machines of this sort soon demonstrated their ability to climb high and fast and also to survive damage that would have put hors de combat any of the ordinary military aeroplanes. For instance, one of these aircraft had a motor demolished by shell fire, which incidentally killed the observer and wounded the pilot, but the remaining motive power sufficed to bring the aeroplane safely back within the French lines under the guidance of the injured pilot.

Almost at the same time Voisin machines were seen at Issy of the triplane type and with a wing spread of nearly 120 feet. Four 140 horse-power motors, arranged in tandem, two on each side of the fuselage, provided the propulsive energy and provision was made for carrying eleven persons in addition to ammunition, guns and an ample fuel supply for a long sustained flight.

Since information about these fighting flying machines reached this side of the Atlantic nearly all of the belligerent nations have been forging further and further ahead in the art of mechanical flight for military purposes. The rivalry of conflict and the incessant contest between engineering wits have led to remarkable developments. The pilots have become more and more skilful and resourceful in the ways they handle the machines entrusted to their guidance. These men are all of them young, most of them under 25 years of age, and the hazards involved have made a strong appeal to their love of adventure.

It is no wonder that Lieut.-Col. George O. Squier, in charge of the aviation section of the Signal Corps of the United States army, said recently: "The flying movement abroad is simply prodigious. • • • It is a most thrilling thing to watch them in action; in fact, there is no use reading novels any more; real life is more interesting; it is simply wonderful to see them."

There are two distinctive phases of the military aeroplane's work, one involving service immediately in touch with the firing line and the other long distance attacks in bombing expeditions. The former has been well described in a German publication, which incidentally offers a tribute to the daring of the British airmen. The article describes the great number of enemy machines, and then goes on to relate how the British aircraft are seen aloft in squadrons at dawn, circling over their foe's lines, showing the utmost indifference to bursting shells or flying at so low an altitude that the details of the aeroplanes can be seen with the unaided eye. It says:

"The pilots are frequently English lads of from 18 to 20 years, and they manœuvre their machines as if performing peacetime evolutions. At times they sweep down within pistol shot and blaze away at us in our holes and trenches with their withering machine guns. These youngsters have lent invaluable aid to our enemy's artillery. Nothing seems to dismay them aloft, and if one is winged or lost their work of detection and spotting goes on just the same, because five of their original group remain to spy upon us."

The bombing work calls for certain special qualities in the machine; it must have good speed and be able to climb rapidly and manœuvre easily in order to escape from the fire of anti-aircraft guns. Bomb droppers cannot afford to carry weapons to defend themselves against attacks; their mission is to bear the largest possible burden of destructive missiles. Therefore it is the practice to escort them by sending along squadrons of other machines which can fight off the enemy's defending battling aeroplanes.

Bombarding fleets now include several squadrons, which operate upon carefully determined itineraries, planned well in advance and followed at prescribed hours. Prearranged in this fashion, an aerial bombing expedition very often consists of fifty or more machines, which fly in the form of a wide triangle, like a flock of wild ducks upon the wing.

These details all have a bearing upon Rear Admiral Peary's prophecy, and will make clear the practicability of a foe's attacking New York from the air. It may not yet be apparent how an enemy could do this from a mobile base somewhere off the Atlantic seaboard, for instance, but the pioneer work of Americans suggests a possible plan. Thanks to the engineering skill of Capt. Washington I. Chambers, it was proved about five years ago that a seaplane could be catapulted into the air and sent off upon its flight from a floating platform. Within the past year we have gone further, and with a perfected launching apparatus have done this very thing from a ship moving along in the open sea. Foreigners have been keenly interested in all that has been accomplished by these means here.

But there has still persisted an obstacle to marine aviation until of late. Even though launched from a ship, it was recognized that the aeroplane could not return directly to the deck of the vessel after making its flight, but would have to land upon the water, and if the sea was rough the machine would in all likelihood be damaged, if not completely wrecked, before it would be possible for the parent craft to come alongside and lift it aboard. Again, the aircraft was handicapped if alighting momentarily for repair or adjustment, because with the surface of the water anything short of nearly calm it was well nigh impossible for the seaplane to gain headway enough to lift her once more into the air.

But this latter disability has lately been overcome by Americans through the development of suitable floats. By employing triple instead of twin floats it has been possible for one of our experimental hydroplanes to get off the water from waves having a height of seven feet and a length of 100 feet. This was done not only once but repeatedly, and it was also proved that the flying machine could alight upon the water in the open sea without injury.

We have also equipped one of the biggest of the navy's aircraft with a boatlike float of such dimensions and sturdiness that it will be able to live in almost any kind of weather at sea that would permit the employment of aerial scouting. What we have done in our modest way gives an inkling of what the fighting nations have done and upon a scale known to but a few here.

And now for confirmation of what Rear Admiral Peary says may be awaiting us. Henry A. Wise Wood, chairman of the Conference Committee on National Preparedness and a recognized authority upon matters of aviation, vigorously upholds Rear Admiral Peary's warning.

"I am thoroughly familiar with Rear Admiral Peary's view of our situation," said Mr. Wood, "and I sincerely hope the American people and the proper authorities will be promptly aroused to the gravity of our predicament, for such in truth it is.

"The world has hitherto fought all of its battles with two forces, a sea force and a land force, each limited to its restricted medium. Now air power has been introduced as a new force in military affairs, and therefore we have to-day available three arms of offence and defence, the army, the sea navy and the air fleet.

"The air navy is destined to be greater than either of the other forces in its effect on warfare because it has no arresting barriers. It knows neither coasts nor obstructions and has no need of channels or ports in the ordinarily accepted understanding of these terms. Every city on the earth's surface is open to attack by an air fleet, and so, too, is every ship that moves upon the sea. Air power, therefore, becomes a universally applicable force.

"The next question is, Can an air navy be created which is reasonably safe from attack below and which can transport great bodies of men and quantities of high explosives? This war has proved two things which before its outbreak were decidedly conjectural. First, that air power is the master of strategy; and, second, that the high explosive has taken the place of physical exertion on the part of men bent upon destroying other men or property.

"The war has also brought out the practicability of carrying aloft many men and great quantities of high explosives. Only the other day in England an aeroplane is said to have risen to a height of 7,000 feet with twenty passengers aboard. This has not astonished us because feats almost identical in difficulty had already been accomplished. We know that Zeppelins have been able to transport something less than fifty men besides sustaining a great weight of high explosives.

"We must remember that the dirigible is only sixteen years old, having first been used by Santos-Dumont in 1900, and that the aeroplane was first seen in public but nine years ago. Nevertheless aircraft of these types have since been so far developed that they have revolutionized the art of war.

"All surprises ashore have ceased, and on the sea, when sufficient dirigibles have been produced by any navy, that navy will cease to be subject to the disadvantage of an unexpected or sudden attack."

Along this very line less than a year ago Lord Montagu of England said: "The whole way from the coast of Denmark to the coast of Holland the Germans have a constant patrol of rigid airships, able to stop in the air for at least two days, and, I believe, able to see over a horizon measured by seventy or eighty miles, instead of seven or eight miles as in the case of a torpedo boat destroyer. These airships inform the German fleet about the movements of our fleet."

Continuing, Mr. Wood said: "We, who have been working in the aeronautical field from the beginning, and believe ourselves competent to speak, do not hesitate to say that it will not be long before vast bodies of men, constituting an army, will be transported not by Zeppelins but by aeroplanes at comparatively insignificant cost, over great distances, at enormous speed, and despite terrestrial obstacles.

"One need only conceive a fleet of a thousand of the new British planes, each carrying twenty men, to picture what it may be possible to do with 20,000 armed men in making a surprise attack upon a point at a considerable distance from a base. Such machines being capable of eighty miles an hour indicate the practicability of celerity in the transportation of troops undreamed of heretofore. To-day the slowest troop transportation is upon land, and the most rapid is by water; but where troops afloat can be moved at the rate of fifteen sea miles an hour, through the air they can be carried easily at five times that speed.

"I am trying to give a picture of the near future with my feet firmly set upon the ground of established facts. Europe until now has not been able to do this thing simply because the battling countries have been too much engaged with the exigencies of actual strife. But the moment they can settle down intensively to development, profiting by the vast experience of war, the world will be suddenly brought face to face with the marvellous made commonplace.

"The air holds for us in the United States a nearer menace than this, however. It is not large numbers of fighting men delivered upon our shores by way of the air that we need most to fear, but rather great quantities of high explosives rained down upon our cities, fortifications and other positions vital to our national well being.

"We have nothing in this country, even in primitive form, which might justly be called a system of air defence. We have neither anti-aircraft guns nor means for detecting the approach of hostile air fleets. We have neither the aircraft to resist a bombing force nor qualified pilots to manage the aeroplanes if the latter were at once available.

"Any Power that is our master at sea will be able not only to blockade our coasts, destroy our commerce, and, if it wishes, bombard our coast towns, many of which, like Gloucester, Mass., are wholly undefended—but it can send from its ships large fleets of aeroplanes bearing many thousands of pounds of high explosives, with which it will be able to damage at will our cities even at considerable distances inland.

"I am firmly convinced that if it were the wish of the commander of a foreign fleet, lying off our shores, to destroy the Capitol at Washington he could do so easily and with absolute certainty within twenty-four hours after arriving upon this side of the Atlantic. Therefore, it should be obvious that no coastal city is safe to-day unless we are supplied with great numbers of aeroplanes, a large corps of thoroughly trained pilots, anti-aircraft guns and apparatus, and men familiar with their use.

"To the question: Are not the army and navy to-day developing these instrumentalities of protection? I unhesitatingly reply that both together are not doing one-hundredth part of what ought to be done at once if we are able to be made safe against an inland aerial invasion carried out from a hostile fleet off our shores.

"Another matter of vast importance must be dealt with promptly by the American people if they are to survive as an equal and an independent world Power. We have now three masters upon the sea: the British are wholly our masters, the Germans, if it were not for the British fleet, would be our masters, and the Japanese in the West are our masters upon the Pacific. Situated as we are with three masters at sea we can neither command others nor disobey them and so long as we tolerate this dominance we shall be compelled, in the words of Mr. Menken, 'to navigate by order of Germany and to legislate by order of Japan.'

"As to how to regain our lost sea power there is no dispute whatever. All sea power is based upon the ability of a country to build ships quickly and in quantities sufficient for the defence of its seas, and then to man them adequately. Sea power is based upon shipbuilding and manning capacity, and our people must be made to realize that in order to get rid of our masters at sea we must not build only a navy as great as that of any other nation but we must have a merchant marine as large as that of any other Power. Then, to this end, we must have a shipbuilding capacity sufficient to produce, equip, repair and replace both of these fleets from our own resources.

"Here we are, the greatest two ocean nation in the world, having a population of 100,000,000 of the dominant race, possessed of a concentration of modern man power such as the world has never seen elsewhere, and yet in effective sea strength we are below that of three other nations in the matter of fighting ships, while four other maritime Powers, among them Japan, lead us in the matter of trained seamen.

"We must become, as nature so willingly makes possible, the greatest manufacturer, the biggest agriculturist, the foremost merchant, the most energetic trader and the largest of all oversea carriers. In order to do this we must train our people to take the commerce of the world into their own hands and we must give them the machinery wherewith to conduct that trade and a battle fleet by which it may be protected for all time.

"But this measure of self-sufficiency will ever elude us if we hesitate to provide ourselves with that potent instrument air power. In this direction we must move along quickly and widely, and the national funds must be spent generously in order to neutralize our years of dangerous indifference or delay—call it which one will. Our present status is distressing, fraught with danger. Just think of it, here we have a city of well nigh incalculable riches, and what is there at present available that resembles anything in the way of aerial preparedness?

"As I look south from my office window I ought to see at least a hundred airplanes aloft carrying out manœuvres in preparation for the defence of the metropolis. I should be able to know that on the broad roofs of our tall buildings there are anti-aircraft guns being daily exercised by many hundreds of men in perfecting that arm of protection, and I should be comforted by the knowledge that we have powerful searchlights at many points where they could sweep the skies and pick up approaching enemy aircraft. Finally, we should have listening apparatus in service and men being instructed in its use so as to detect and locate by the whirl of their propellers the oncoming foe aloft long before New York was within reach of any of his weapons.

"Think of the wonderful mark this city would offer to bombing squadrons! Where are our defending airplanes? Where are our anti-aircraft guns? Where are our protecting searchlights? Where are our listening apparatus? And where are our air pilots, our gun pointers and the many other skilled men needed for this many sided service?

"No wonder, then, Rear Admiral Peary has predicted dire things. If the German fleet were free to-day in less than three weeks this city or any seaboard port could be bombarded and set on fire, and industrial centres hundreds of miles inland could be raided and set aflame. Don't let us lose sight for one moment of this perilous fact: The aerial defences that we need could not be provided within less than two years even were they begun at once and pushed with the utmost concentration of effort!

"It is the knowledge of what may happen to us; of our inability to resist; and of the almost hopeless folly of our people that makes me heartsick. Look down that long vista of towering buildings, monuments to industrial wealth and manifold human activities, and then look up to the sky through which a foe may sweep unmolested down upon that prize! Do you wonder I say our people our heedless?

"How many times since the world war began have we shrugged our shoulders at Great Britain's insularity, self-satisfied conservatism and stubborn faith in her self-sufficiency? And yet she was confronted well nigh without warning with a staggering situation. We have had two years and more in which to profit by her predicament. What have we done to make ourselves ready for the day that most of us feel to be inevitable even though we may regret the fact? We have blindfolded ourselves here upon the ground, and we are absolutely blind aloft!

"Aerial preparedness is, to be sure, but a single phase of the many angled problem of national security. We shall never get where we properly belong in this matter generally until all of our people are aroused to its necessity. Therefore in the name of wisdom and of public awakening I strongly urge that we scatter the plants essential to our self-protection throughout the entire country, and most of them far back from our seaboards.

"I would build many of our submarines, torpedo boat destroyers and gunboats on the navigable waters of the great Mississippi Valley and possibly upon the great lakes, and in this way give the people of the middle West a material interest in the creation of the biggest navy in the world, for nothing less than a fighting fleet of that sort is commensurate with the position which is rightfully ours in the association of nations."

So far attention has been centred upon the work of a hostile fleet serving as a mobile base for the launching of an aerial attack. But there is that other peril which lies in the offensive part that might be played by the transporting or escorting battle craft in conjunction with less numerous squadrons of fighting aeroplanes, and with aircraft of relatively moderate individual powers of attack. Leading up to this, let us quote something from the statement of Major-Gen. Erasmus M. Weaver, chief of Coast Artillery, made so recently as the middle of last December. Gen. Weaver was then explaining how some of our coastal cities were to be better protected by heavy ordnance, and he emphasized what was to be done in safeguarding these places from attack on the flanks and rear. Gen. Weaver said:

"The mortars are the only arms which have all around fire; but the policy of the War Department as now laid down contemplates that all primary armament, guns and mortars, hereafter shall have all around fire, and that which is being installed at Rockaway Beach and part of that which is to be installed at Cape Henry, and probably at San Francisco, will have all around fire.

"The 16 inch guns will fire at 30 degrees, will have a range of about 40,000 yards and would be able to participate in any action within that range. At New York, for instance, 40,000 yards from Rockaway Beach would include to the east Garden City, to the north Westchester, to the west Newark, Elizabeth and Perth Amboy, to the south Asbury Park."

This elevation of 30 degrees is just what the Germans gave all of their naval guns prior to the present conflict, and it is a matter of common knowledge that already some of the Kaiser's dreadnoughts have 15-inch rifles. The German fleet may have still bigger guns in preparation, but the significant point is that the naval 15 inch gun has a higher velocity and probably quite the range of the 16 inch weapons with which Gen. Weaver hopes some day to arm the positions mentioned.

Gen. Weaver was asked by one of the Committee on Military Affairs, before which he appeared, if he meant "that the emplacement of guns now directed seaward would be in position to be used in the rear?" The chief of Coast Artillery answered:

"Yes, in this way: We propose to map the country very carefully, topographically, and then have it blocked off this is with reference to landward defence—and an aviator going up with a map, having the topographical features before him, will locate on his map any particular target.

"He will note the block number and will signal by radio the block number to the battery. The officer at the battery, having a duplicate of the map, gives us the best range finding system which it is possible to have, and we can deliver a fire on the selected spot within a few minutes."

This may sound ingenious and novel to the uninformed American, but the method is really borrowed bodily from the daily practice on the battle fronts of Europe. And what is more suggestive is the undoubted fact that any German squadron coming over here to attack our shores would have maps of a convenient size already prepared showing all vulnerable points upon our seaboards blocked off in the fashion described. The Teuton aviators would thus be able to soar aloft substantially without fear of effective interference and direct the German fleet just where they could do the greatest damage with a minimum waste of ammunition.

At best anti-aircraft defence is difficult, the gun pointers require special training and long practice, and weapons of peculiar characteristic are essential. We all know how impotent the British were in this direction when the Germans made their earlier Zeppelin attacks upon London and other important cities. The most that the English have been able to achieve with guns on land has been to force the dirigibles so far aloft that they could not make certain of hitting any desired point; they simply dropped their bombs haphazard upon the indistinct target lying thousands of feet below.

The ultimate security against Zeppelins lay in the employment of defensive aeroplanes, swift in flight, of amazing climbing power, and armed with small machine guns using incendiary bullets. The exact nature of these missiles is not known, but their action was startlingly and tragically illustrated when Lieut. Robinson destroyed the Zeppelin that fell near Cuffley in September last.

The use of the bomb for repelling dirigibles, despite the size of the latter, is no longer encouraged, because there is but one chance in a thousand of hitting the mark even when the bombing aeroplane is able to surmount the Zeppelin. The French tried liquid air bombs but abandoned them because they were dangerous to the carrying aircraft, and now the principal reliance is placed in incendiary bullets or explosive shells which can be fired from a cannon.

These guns are light and so designed that their recoil will not wreck or imperil the stability of the aeroplane, and the instant one of these missiles strikes the envelope of a dirigible the hydrogen is inflamed and the doom of the great craft sounded.

All this is instructive of the manner in which attack and defence have been developed abroad and equally illuminating of the degree in which we lag behind here. With the present state of the art of Zeppelin building, and with the general knowledge of their cruising possibilities, we have nothing to fear now so far as an oversea attack from craft of this sort is concerned. Nor is it likely that the unassembled parts of dirigibles of this nature could be brought across the Atlantic and put together at any point where they could operate against any of our large centres of population.

But the battling aeroplane is a very different foe, and according to both Rear Admiral Peary and Henry A. Wise Wood we may have to reckon with this instrument of aerial assault.

The Admiral draws a lesson from the preparations for his successful polar trip.

"In advance of that trip," he says, "we took advantage of past experience and made an earnest study of the proposition. Everything was provided for, as far as it lay in human ability to provide for it. We had two mottoes in that work, to hope for the best and to prepare for the worst. Particularly applicable for that kind of work was a free translation of the old Latin phrase, 'Find a way or make a way.'

"The same should be the case in national preparedness against armed ag-

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