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Homing Pigeons.

HOMING PIGEONS FOR SEA SERVICE.

A lecture delivered at the Naval War College, Newport,
R.I. July 20, 1896. ; by Professor H. Marion, U.S. Naval
Academy.

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HOMING PIGEONS FOR SEA-SERVICE.

A lecture delivered at the Naval War College, Newport, R. I. July 20, 1896, by Professor H. Marion, U. S. Naval Academy.

So much has been written about the use of pigeons as despatch bearers on land that it would appear superfluous to dwell upon what has already been said about them.

The principal object of this paper is to discuss the employment of pigeons as message bearers over bodies of water, a question which has of late attracted considerable attention in this country and abroad.

There are many instances of the early employment of pigeons for transmitting intelligence from ship to shore. The fancy for pigeons was already in vogue among the Egyptians, the Greeks and the Romans. It is recorded that pigeons were used as message-bearers by the early navigators of Egypt, Cyprus, and Candia, who used to announce their approach by pigeons 3 days in advance of their actual arrival at port. The Venetians used them during the 12th century with great success in their war with the Turks and it is said, the island of Candia was once saved by a pigeon which carried to Venice the news of the return of the Turks in time to send a fleet, which prevented the island from being invaded by the enemy. In memory of this event, pigeons were fed at the expense of the Venetian government for centuries on the famous square of

St. Mark. Further notable instances of the use of pigeons as war messengers are the Siege of Haarlem in 1573, that of Leyden in 1575 and the bombardment of Antwerp in 1832. The organization of the modern military pigeon systems, however, may be said to date only from the siege of Paris (1870-1871) where homing pigeons were more extensively and successfully used.

France which took the lead in establishing a military pigeon service was soon followed by almost every continental nation of Europe. The military budget of France assigns an annual credit of nearly 100,000 francs for the maintenance of the military and maritime pigeon lofts. In accordance with law the military authorities have also a right to requisition messenger pigeons from private lofts and an annual census is taken of all available trained birds which might be utilized as auxiliaries to the regular military contingent. In order to encourage the breeding and training of homing pigeons, the government offers yearly premiums to the various Columbarian societies in the shape of medals, diplomas and money awards. The naval pigeon stations at Brest, Nantes, Toulon and Marseilles have given excellent results. The experiments with pigeons for naval purposes were commenced in France a few years ago with the cooperation of the Engineer Corps of the Army which loaned some of their pigeons to the Navy and detailed a number of their men (sapeurs du genis) as instructors at the various ports.

Each year, in April, a certain number of sailors are thus instructed in the care and training of pigeons for Sea Service. A torpedo boat is assigned to each station for the training of the

birds which are liberated at sea, beginning with 5 miles and by gradually increasing the distances, the birds soon become accustomed to their work. It has recently been proposed further to extend the French Naval Messenger Pigeon Service by having three different lines of communication radiate from each station, viz:-

1st, by pigeons trained to sea as far as 300 miles towards the English coasts on the Atlantic Ocean and towards Corsica, Sardinia, Algeria, and the Balearic Islands in the Mediterranean.

2d, by pigeons trained from each Naval Station towards Paris.

3d, by pigeons trained to connect the various military ports with each other.

To insure these communications birds are to be distributed as follows:- Cherbourg 500, Brest 600, Lorient 500, Rochefort 500, Toulon 1000, Paris 500. The line of communication by Pigeon Post, established some time ago by the maritime authorities byat Toulon for service between that port and Calvi (Corsica) is now in full operation and a new line between Bizerta and Bonifacio has recently been established and flights will be attempted this year between Algiers and Marseilles, a distance of 480 miles, with possible relays at Ajaccio (Corsica). In the colonies a regular service exists between the Reunion Island and Mauritius. French Societies all along the coast of Normandy are constantly flying their birds from Portsmouth and Plymouth, and these birds have often crossed the English Channel at its widest part. But by far the most intere

esting and conclusive experiment ever attempted in Europe with a view of demonstrating the value of homing pigeons for sea service was undertaken last year, by and through the initiative of "Le Petit Journal" of Paris, as the result of a controversy with the Paris "Figaro" on the possibility of receiving news by pigeons from the long delayed Steamer "La Gascoyne" of the "Cie Transatlantique", on her return trip to New York two years ago.

The writer of the "Figaro" who claimed to be an authority on pigeon matters, stated, that pigeons could never fly 100 miles at sea and would become sea sick on board ship and consequently unable to leave it.

Paraphratically I will state that I took occasion, at that time, through the New York Herald, to contradict this statement, and cited the instance when pigeons, which had been purposely kept confined 21 days on board the "Monongahela," between decks had returned to the Naval Academy loft at Annapolis, over a distance of 200 miles. (See article by Lieutenant A. M. Knight, U.S.N., Proceedings U.S. Naval Institute, No. 72 (1894).

The Director of the "Petit Journal", in order to settle the question in dispute, moved by high humanitarian motives, chartered at his own expense, aided by a popular subscription, the Steamer "Manubia" of the "Transatlantic Co." for that purpose. This great and novel undertaking, which cost nearly \$5,000.00 was carried out as projected. About 4500 pigeons belonging to various Columbarian societies of France, Belgium, Holland and England, were put on

board the Monubia, June 30, 1895, at Nazaire. All arrangements for their care and comfort had been carefully made and the different cabins had been turned into so many minor lofts, each dedicated to this or that country and province from which the birds, occupying it, had come.

The operations were carried on under the management of the "Le Petit Journal" and a committee representing the various societies, and were under the intelligent supervision of M. Ch. Sibillot, Editor of "La France aerienne" the leading Columbarian newspaper in France.

4 tosses or liberations took place.

800 pigeons were liberated at 146 km. at about 91 miles from nearest shore (Pointe du Croisic.)				
/ 600 pigeons were liberated at 200 km.	"	"	125	" "
600 pigeons were liberated at 300 km.	"	"	187 1-2	" "
finally				
/ 500 pigeons were liberated at 500 km.	"	"	312 1-2	" "

Of the 1600 pigeons thus liberated at 200 kms. (125 miles) during a heavy rain and strong wind, only 3 returned to the ship. Of the 600 pigeons liberated at 300 kms. (187 1-2m) only one returned to the ship. Of the 1500 pigeons liberated at 500 kms. (312 1-2 m.) 12 remained on the "Monubia," making a total of only 16 pigeons out of 4500 which refused to seek land. During the trip which lasted 10 days, the pigeons drank, ate and cooed, apparently indifferent to their being on board ship and none showed any signs of sea sickness, thus disposing of the theory that pigeons would be unfitted for flying from that cause. In fact, pigeons or any high-

flying birds stand transportation at sea much better than overland, as the rolling and pitching of the ship, providing they are not too crowded in their baskets, has no different effect than that which would be naturally produced by the swinging of the branches, on which they are accustomed to perch when free.

The results obtained by this experiment surpassed the most sanguine expectations of the promoters of the enterprise.

The first prize offered by the President of the French Republic was won by a pigeon from Tours which made the distance of 743 K. about 465 m. of which 500 km. (312 1-2 m.) over water in 15 hours and 12 minutes at an average speed of 48 km. 850 M. per hour (30 1-2 M.)

One of the most interesting features of the experiment was the speed made by these pigeons of which Prof. Caustier, a member of the Zoological Society of France, has made an exhaustive study. From previous observations, the speed of pigeons that had been flown over water was said not to have exceeded 35 km. (22m.) per hour. (This statement was erroneous, as some of the Naval Academy pigeons had made over 100 miles at the rate of 40 miles an hour.)

The speed of pigeons liberated from the Monubia at 500 Km. (312 1-2 M) varied from 40 to 48 1-2 Km. (25 to 30 1-2 miles) per hour.

At 300 km. (187 1-2 m.) a pigeon of Rochefort flew at a speed of 60 Km. (37 1-2 m.) over a distance of 450 Km. (281 m.) others made from 55 to 60 kms.

At 200 Km. the speed rose in some instances to 88 kms. (55 m.) per hour. The average speed, however, was somewhat inferior to

that made over land.

It must be stated here that very few of the pigeons liberated from the Manoubia had ever flown over water before.

Considering all the disadvantages of unfavorable weather and lack of training the experiment proved a conclusive success. The utmost enthusiasm was created in Paris, Brussels and at all the Columbarian centers of Europe and the owners of the winning birds received a great ovation.

From careful observations made by M.Ch.Sibillot one of the chief promoters of the experiment, who remained on board the Manoubia, it appears "That the height of the flight of the birds, when liberated at sea, increased in proportion to the distance they are from, land." When liberated at 90 miles from land, they circled at an altitude of 150 to 200 m. at 125 miles they visibly rose much higher; at 167 miles they were at least 600 m.; and at the long distance liberation of 312 miles they were soon lost from sight almost vertically, above the vessel, and it was noticed that at this distance, the birds pointed at once towards the sky, their beak and tail being in an almost perpendicular position, and then formed in separate squads each taking their flight towards their respective homes, some flying directly against the sun, in spite of the legend that pigeons never fly in that manner.

The question naturally arises in reading of these experiments Did these pigeons fly by sight in recognizing land?

This long debated question has never been satisfactorily answered and as a famous French writer (M.de Gasparin) said "Un panier

de pigeons voyageurs renferme un probleme a desesperer toutes les Academies." -- "A basket of pigeons contains a problem which puzzles all the Academicians."

Some of the best known authorities, among whom is Mr. Tegetmeier, the English expert, claim, that homing pigeons fly mostly by sight. Others claim that they are influenced by the position of the sun, by atmospheric currents, and by the magnetic attraction of the Earth. Others, that they possess an intuitive sense of orientation (or taking one's bearings intuitively) developed to a very high degree, and common to all animals, civilized man, excepted.

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In ~~ere~~ order to illustrate the fallacy of the pure sight theory, let us consider the following examples of flights actually made, with distances computed from Bowditch's useful tables of visible distances at sea. Taking height of land about Cape Henry at the mouth of the Chesapeake Bay at 75 feet above sea level, pigeons liberated from the Monongahela, 110 miles off shore, would have been obliged to rise 5600 feet or over one statute mile to see the land. Taking as another illustration, height of land about Newport at 165 feet (height of Beacon Hill) visible 17 M. at sea level, a pigeon liberated at 150 miles would have to rise 10, 200 feet or nearly two miles above the sea level.

Taking height of land about St. ^Nazaire, France, at 400 feet, the pigeons liberated from the Manoubia at 312 miles off shore, would have had to rise to the enormous altitude of 47,000 feet or nearly 9 statute miles to see land. Everybody knows that at such

an altitude no animal being could live or fly.

The pure sight theory is therefore inadmissable and further, to prove its fallacy, it is well known, that pigeons, when liberated from balloons at high altitudes invariably drop almost perpendicularly towards the earth and only regain their equilibrium when reaching a more congenial atmosphere.

In this connection it will be interesting to know that Mr. Andree, who will attempt to reach the North Pole this year by means of a balloon will take with him a number of homing pigeons which will be liberated at certain intervals with messages giving an account of the progress of this novel arctic expedition.

Another point which I wish to discuss is the prevailing mode of calculating the distances flown by the so-called "air-line" gage. A pigeon never flies in a perfectly straight line and is often carried far from its course by contrary winds and atmospheric currents. Experienced and strong pigeons however are able to fly against a heavy head-wind by what is commonly called "tacking". The straight air-line from point of liberation to point of arrival as a gage of their actual speed is therefore fallacious and the real distance covered cannot be exactly measured.

Putting aside all theoretical considerations, the experiments of the Manoubia with the pigeons kept confined for over ten days and mostly without any previous training over water, one may well say that from a practical point of view, the experiment was well worth its cost and helped to dispel the preconceived idea which affirmed

that pigeons would never become the auxiliaries of the Navy and sea-faring world and greatly aided the efforts made on this side of the Atlantic to have this service officially recognized. (Endorsements and recommendations by Capt. R.S. Phythian, Captain Wm.C. Wise, Capt. F.J. Higginson and Commander C.M. Chester.)

Other countries speedily followed the example set by France after the war of 1870-71 in organizing Messenger Pigeon stations and Germany quickly recognized the importance of this new system of aerial communications and has now one of the most complete and effective Pigeon services in the world. The German Emperor has taken a personal interest in promoting this new service and frequently uses pigeons to convey messages from his private yacht the "Hohenzollern".

The German government besides having its own system and personnel with a permanent director at its head, offers annually prizes, medals and subsidies to the various Columbarian societies of the Empire of which there are nearly 400. One of the features of the German service is the use of pigeons for communications from outlying Lighthouses and Light-ships. Some years ago, one of the Light-ships, 22 miles from Tornung, off the mouth of the Elbe, broke adrift from her moorings in heavy weather and would have been lost but for the quick intelligence of the accident conveyed to the mainland by the pigeons in 58 minutes. The whole of the German frontier is now connected by pigeon post with the interior and headquarters and the northern coast is studded with pigeon stations under the control of the Minister of Marine.

Italy has an interior military service and has been particu-

larly active of late in establishing pigeon posts for Naval purposes to be used in connection with the manoeuvres of her new fleet. For example, there is a military pigeon post at Rome and another at the Island of Maddelena, and the birds belonging to them alternately fly from one loft to the other at a rate of about 20 miles an hour. The total distance is 170 miles and that over water 150 miles. Other naval lofts are situated at Piscaya and Cagliari, Sardinia, the latter constituting part of the Napoli-Cagliari line. The distance between the two places is 284 miles. Birds liberated at sea from Italian vessels have made a distance of as much as 287 miles over the sea at about 31 miles an hour. These pigeons sent out with despatches during the recent manoeuvres arrived many hours and often days before the despatch boats sent out at the same time.

Italy has moreover connected Massowah and Assab in Africa by pigeon post, which rendered ~~practical~~ valuable service during the recent Abyssinian campaign, when the telegraphic communications had been interrupted. The 12 principal governmental lofts in Italy are controlled by the Engineer Corps and Captain Malagoli, the Chief of the Service, has made a great advance by training the same pigeons to fly back and forth, (there and return) between Rome and Civita Vecchia, the nearest port to the Capitol and an important strategic point. This remarkable result, can only be obtained over short distances not exceeding 80 miles, by long and careful training, feeding the birds at one end of the line and keeping their mates and young ones at the other. (Experiments from shore to ship and vice versa. See Lt. Benson's article, Proceedings U.S. Naval Institute

pp.592 593 - No. 64.)

The Spaniards under the initiative of Dr. Diego de la Llave and Don. Salvador Castello have become one of the foremost Columbarian powers of Europe. They have a pigeon service in full swing at the present day. Their most important strategical lines being those across the Straits of Gibraltar ^{from} San Fernando and Malaga to Ceuta and Melilla (Africa) and those connecting the Balearic Islands with Valencia. These are fixed regular services. Spain has also pigeon lofts at various coast guard stations for communication between the different posts and between the shore and naval cruisers and revenue vessels, which in time of peace are used to prevent smuggling.

Portugal has also a regular messenger pigeon service but mostly for strictly military purposes.

Austria and Russia have both ~~auxiliary~~ extensive military and naval pigeon services and Denmark has of late made great progress in perfecting her lines of communication by pigeon post.

Belgium especially has brought pigeon flying to the highest state of perfection and in that country it has become the favorite national sport. The present type of the "Pigeon Voyageur" may be traced to that country, wherem by careful and judicious crossing and by the strict application of the survival of the fittest, an almost perfect type of "Homer" has been produced.

It would be a wise and economical policy of the government would secure through some reliable agent some of the best Belgian Homing pigeons for the Naval breeding loft, which should be located

at some central point, at Annapolis for instance, where birds could be raised from approved strains and shipped to the other stations.

England is the only European power that has no regular Pigeon service. However the Admiralty has been experimenting of late with pigeons belonging to various lofts which are indirectly under the control of the Naval authorities. That on Whale Island, Portsmouth, is first in importance and contains about 300 birds. Pigeons from this loft are now regularly liberated from English men-of-war from all parts of the English Channel as far as Ushant. Devenport has also a messenger pigeon loft and the system is being extended to Sheerness and Queenstown and it will soon be possible to receive intelligence from ships at sea anywhere between off Harwich on the east and Queenstown in the south of Ireland. Last year about 100 English pigeons were sent to the West Indies and liberated from the Cruiser "Blake" on her return trip to England at regular intervals as to time and place of liberation announcing her return to the home station. Thus for example, a vessel returning to port for repairs, coaling, docking, etc., if announced a day or even a few hours beforehand by pigeon post, would enable the dock yard authorities to make the necessary preparations proportionately sooner, thus making a considerable saving on time and money and the pigeon service would pay for itself in time of peace. The Dominion of Canada, which has a very complete system of communications by pigeon post leading from her sea ports to the interior, possesses a naval loft of great strategical importance at Halifax, ensuring communications

with Sable Island (a distance of about 150 miles) with a view to signal shipwrecks in the vicinity of that island and to receive rapid communications from vessels cruising between these stations.

The following is taken from an English newspaper recently received: (W.M.News 16/6 96.) Pigeon Training for the Navy.

"For the past two years a considerable amount of money, time and patience has been expended at the Royal Naval Barracks, ^KHeyham, in the training of pigeons with a view to their being used for the conveyance of despatches. Up to the present, the Admiralty have failed to recognize the pigeon depot, and the expense of building and furnishing the lofts has been met by the contributions of the officers of the establishment. From inquiries which the Admiralty have been recently making, however, it is regarded as certain that the training of pigeons at Devonport will be taken over officially by the Admiralty. For many reasons this would be a most desirable step, as besides relieving the present voluntary contributors of their expense in maintaining the lofts in a state of efficiency, it will ensure greater facilities for the training of the birds. Under the present arrangements those interested in the care and training of the birds are dependent entirely upon the willingness of the officers of the instructional torpedo boats to take the birds for exercise, and, as these vessels rarely go far from Plymouth, there is little chance for the birds having anything but a very limited area for practice. It is now proposed to appropriate a torpedo boat or destroyer for the purpose of training the birds, and with this

object in view satisfactory results are assured. At the Keysham Barracks, there are two lofts, one for birds under training, and the other for breeding purposes. At the present time there are 60 birds in the training loft and 8 pairs of breeders with 12 youngsters in the breeding loft. The Devonport birds have been trained to cover the ground west of Plymouth and the greatest distance of birds released off the Wolf Rock was about 75 miles from land".

In reading these lines one is forcibly reminded of the efforts made in this country with a view to establish this service, which was organized at the Naval Academy about 6 years ago and at Newport, by the late Lieutenant F. W. Nichols. In 1891 about 20 birds belonging to the signal corps Stations at Key West, which had been discontinued on account of the transfer of the Weather Bureau to the Department of Agriculture, were sent to the Naval Academy for experimental purposes with a view to demonstrate their usefulness for the Navy. They were domesticated in the tower over the Boat House, where a model loft was fitted up mostly by private enterprise. During these years the work was carried on without any regular appropriation for its maintenance and each year during the summer cruise of the Naval Cadets successful experiments were made, which fully demonstrated the value of homing pigeons for naval purposes as shown by the reports made to the Superintendents of the Naval Academy by Lieut. W.S.Benson, Lieut. F.K.Hill, Commander C.M.Chester, Lieut. A.M.Knight, and Lieut. E.W.Eberle.#

#Lieutenant Eberle who was to deliver a lecture at the War College on the strategical importance of a Naval Messenger Pigeon

Service, illustrated by most carefully prepared charts, was unfortunately unable to do so on account of his being ordered to the Pacific Coast.

In this connection I beg leave to quote an extract from a letter addressed to myself by General Greely, Chief Signal Officer of the Army. Speaking of Key West pigeons, he says:

"These pigeons were originally received as donations from owners of the lofts in the U.S. whose birds had made the best flights. They were sent to Key West Barracks, where a loft was established. From this stock ~~##~~ young birds were bred which, at first, were trained for short distances and gradually extended until flights had been made from Havana to Key West. It seems, however, that you have been more successful from the fact that birds ~~liberated~~ under your training and liberated at sea at a distance of 102 M. off Cape Henry returned to Annapolis (total distance about 230 miles). It is therefore to be regretted that for lack of funds, the maintenance of the Station at the Naval Academy has been discontinued as well as the future establishment of lofts at the most suitable naval stations on the Atlantic, Gulf and Pacific Coasts."

Since then, through personal efforts aided by articles periodically published in the Proceedings of the U.S. Naval Institute, to which belongs the credit of having kept this work before, the Navy this service was officially recognized this year by the Honorable Secretary of the Navy and lofts ordered to be established at several

of the principal Navy Yards by the Bureau of Equipment at Boston, Newport, New York, Norfolk, Key West and Mare Island.

No breeding or experimental station has yet been designated but it is hoped that one will be established, as this service would be incomplete without it, its main object being the creation and breeding of a strain or type of "Naval" pigeon capable of performing fast and continuous long distance flights over water.

With that addition and a suitable appropriation by Congress for its support, this new service, under intelligent supervision, is destined to render valuable assistance to the systems of Naval signals and coast defense as advocated respectfully by Lieutenant Commander R. Wainwright and Lieutenant Niblack in their admirable articles in the Proceedings of the Naval Institute, and to become one of the best of its kind in the world, and we will then be able to say as did the promoters of the experiment of the "Manoubia" "We have got the pigeons, we have got the stations, we have got the ships and we have got the sea."