



MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA

UNIVERSITY OF NEW ZEALAND

Assignment 2:

Professor Michael Belgrave
School of Humanities
Massey University Albany Campus

06/06/2018

Nigel Allsopp

(NSN): 156606856

USE OF ANIMAL MESSANGERS IN WWI



AUSTRALIAN WAR MEMORIAL

E01198

Two unidentified Kiwi signallers, with baskets of carrier pigeons, passing along the road leading through Chateau Wood to Westhoek, in the Ypres sector.

Abstract

As many Historians write about the deeds and sacrifices of soldiers during the centenary celebrations of WWI, it is important to also remember the contributions of soldiers of a different kind. As men went to battle, they were joined by a large menagerie of animals that fought loyally beside them in the trenches and at sea. There has been a recent surge in academic acknowledgment of animals during warfare and their importance in our history. I am especially glad to have explored this topic which has left many doors open for further historical examination. Animals have always been a vital part of military campaigns yet why they were used has often been overlooked by historiography.

By first reviewing the role in history of just two animals used in warfare, the *Messenger Pigeon* and *Messenger dog*, I will create a brief hypothesis by exploring issues such as why and how they were relevant in WWI. As far as pigeons in particular are concerned, historical ignorance of their war-time contribution in combination with the general view of pigeons as disease transmitting ‘rats-with-wings’ has left their involvement out of many history books. Yet even man’s best friend the domestic dog did not fare much better to the horrors of WWI with many hundreds being killed delivery messages with their contribution also being largely overlooked in the intervening decades.

In this essay I will confine information to the use of messenger animals by Australian and New Zealand Forces on the Western Front¹. Sections of the New Zealand Divisional Signal Company who used them were attached to the New Zealand infantry on the Western Front from 1916 to 1918. Pigeons were used by New Zealand soldiers usually as an adjunct to the British Army. Various accounts show the New Zealand Army was issued with British rules and regulations for their management and use.

It was assumed there would be a paradigm shift due to the advancements in communication technology rendering animals obsolete – this was not the case. The range of early communications systems was limited to a few miles due to the limitations of battlefield environmental conditions.

¹ *The New Zealand Expeditionary Force (NZEF) was the title of the military forces sent from New Zealand to fight for Britain and the Dominion forces during World War. The NZEF was closely tied to the Australian Imperial Forces (AIF) for much of the war. Notes on the use of carrier pigeons 40W.O./4481...for the instruction under training as loftmen, etc.. for the carrier pigeon service with the British Expeditionary force.*

Introduction

Historians agree the First World War (WWI) ushered in an era of industrial warfare, frequently referred to as "the first modern war," since a number of technological inventions made their debut characterised by the use of new destructive technologies such as poison gas, tanks, aerial bombardments and submarines. Technological advancement, however, did not eradicate the need for animals as part of the logistics of war. Among their many duties, animal warriors have helped carry messages through the trenches, or flown over them. This role and two animals the *pigeon* and the *dog* that carried this out mission will be the subject of this essay.

So, what made these messenger animals useful in war? Why these animals were used can be summed up by "*In WWI Battles were won and lost on the strength of an army's ability to communicate on the battlefield*". Regardless of technical advancements communications were still in its infancy during WWI, the devices were sometimes unreliable in the heat of battle, so some military units preferred — or were forced to — rely on older, tried-and-true methods of staying in touch. It would be years, well into the war before electronic devices became truly reliable and secure. The fact that commanders could not control, coordinate, and direct huge modern armies without efficient signal communication quickly became apparent to both sides.

Due to the increase in the lethality of advanced weapons systems in particular their range; meant Commanders positioned themselves miles behind the front lines. Unlike previous wars, where a Commander was able to physically view the battle as it took place, their safety only compromised by the range of an enemy's arrow or early cannon shot. Commanders in WWI however were so far back from the battle they were in effect blind. The second aspect was WWI radio technology which did not have the capability to show a map or diagram for visual analysis, whereas the pigeon or dog could deliver such an image, rolled up in a tube.

Even though field telephones were widely used for the first time during WWI they relied on copper wire lines which were often damaged. The wires were often broken by shell fire or the boots of soldiers rushing around in the mud of the trenches, some reports stating communications wire had to be repaired up to 40 times a day. To compensate for this lack

of reliability, and to ensure vital information got back to where it was needed, everything from visual signals, semaphore and written messages carried by dogs and pigeons, was used to ensure that communication was maintained between commanding officers in the rear echelon and the front lines (*See annex.1*).

Radio technology existed, but was generally regarded as insecure for frontline use. In 1914 the Army's long wave wireless sets were heavy, fragile and expensive and their transmissions were extremely vulnerable to enemy interception. *At the Battle of Tannenberg the Germans picked up unencrypted orders sent by the Russian army that allowed them to score the first great victory of the war*². Elaborate codes had to be used, which slowed everything down. Pigeons were used on all campaigns, the flattish landscape of northern France posed challenges for communication which the men of the New Zealand Divisional Signal tackled with characteristic ingenuity. Due to the conductivity of moist soil and the primitive state of insulation technology, enemy listening stations could pick up Morse signals 4500 m from the front line as well as telephone conversations. Thus, for some time New Zealanders hand-delivered messages about troop movements or relied on pigeons³. The New Zealand Division's commitment to the Somme offensive in September 1916 sighted "*Arrangements for pigeons were made and 40 extra signallers from Battalions and twelve cyclists were attached to the Div. Signal Company*" for this very reason.

Speed of communication was also important and again due to distances of the modern battlefield, messages had to be delivered and acted upon quickly. The greatly improved range, accuracy, and rates of fire of artillery created serious challenges for coordinating its fire with the infantry on the battlefield. Indirect fire techniques, which allowed guns to engage targets far beyond the line of sight of their crews, combined with the still primitive communications systems, made close support of the infantry very difficult when the farther the attack advanced from the line of departure. The messages delivered by pigeon were critical, giving indications for the direction of artillery fire during battle. It is noted on 27

² <https://www.britannica.com/event/Battle-of-Tannenberg-World-War-I-1914>

³ Roy Ellis, *By wires to victory*, Batley Printing, Auckland, c. 1968, p. 42. <https://ww100.govt.nz/pigeons-of-war>

September 1915, two days after the start of the battle at Loos that a message of 152 words was delivered by pigeon within 25 minutes, despite heavy gunfire and bad weather⁴.

Initially both sides made extensive use of human runners but as the war progressed runners faced one of the most dangerous jobs: they had to leave the safety of a trench, bunker or other shelter, and carry messages to other positions. Runners were also comparatively slow, often reaching their destination with messages that were out-of-date and inaccurate. It was not just therefore very practical reasons why animals were still used but one of safety.

Despite these new technologies, many military leaders were slow to take advantage of them and continued to wage war as if it were a cavalry-based affair. Their reluctance (or inability) to adapt to new methods of warfare has been cited as one reason WWI was such a bloody affair, resulting in more than 17 million civilian and military deaths. The unreliability of these early systems caused them to initially be regarded as strictly auxiliary and reserved for emergency use. Visual signalling returned to the battlefield in the early part of WWI with the use of electric signal lamps, Pyrotechnics, rockets, Very pistols, and flares used for transmitting prearranged signals⁵.

Pigeon

While there are many remarkable and noted stories of heroic war horses, there were also other species who contributed greatly to the war effort, one being the war messenger pigeon. The pigeon is probably best known for its ability to return 'home' from long distances and has been used extensively by man for this purpose. The earliest reference to the pigeon being used to carry messages dates back to 2500 BC. The WWI pigeon service was started by Major Alec Whaley, he transferred from the Intelligence Corps to the new Royal Engineers Signals and became Staff Officer (Pigeons). At the start of the WWI the British Army had just 60 pigeons and 15 handlers or Fanciers as they were commonly referred to. By the end of the war more than 200,000 had served with over 400 fanciers⁶.

⁴ Rebecca Simpson *Pigeons at Loos: heroes of the sky* 2015

⁵ Marc Lallanilla, Live Science Contributor 2014. Sourced from <https://www.livescience.com/45641-science-of-world-war-i-communications.html>

⁶ Col Osman, "*Pigeons in the Great War.*" published by the racing pigeon Publishing Company.

Where they effective? Throughout the war, many thousands of pigeons were used to help the war effort, with a surprisingly low rate of birds not returning to their lofts. Pigeons were far more reliable than man-made machinery to get messages from one military establishment to another. Military records state they delivered 95% of their messages (*For every 20 birds released with important information, nineteen would get the message through*). Regardless of being frequently shot at or having to fly through mustard gas in all weather conditions.

Yet not everyone thought them ideal, their success record is not at all one sided in the history of the Royal New Zealand Corps of Signals and Army Signalling titled *Swift and Sure* it states⁷.

“Alternative methods of communication at the front were found wanting. Carrier pigeons were used, but birds were prone to disorientation by the noise of the battle, or could be shot down before coming to roost. In the Somme fighting, all communication with an advanced Brigade was lost and the arrival of a pigeon at Divisional Headquarters was greeted with solemn expectancy. The General Staff Officer I was hardly amused to read the message ‘I am fed up with carrying this bird’.

Yet these brave birds continued to serve valiantly throughout the war, helping to save countless lives. The pigeons used during the war were not the regular pigeons found in the parks, but instead they were a special breed of messenger birds developed in Belgium. A pigeon’s great strength was not only its extraordinary homing instinct but also the speed at which it flew. These birds were known to be able to fly on average 500 miles, (800 Kilometres) with some flying up to 1,000. They also travelled on average at 50 miles per hour (80 kilometres). In one case, going with the wind, one pigeon was clocked going thirty-eight miles in twenty minutes, or roughly 114 miles per hour.

Pigeons could be launched during heavy bombardments and use their homing ability to return to their distinctively patterned lofts, even if these had been moved. However, as they were trained to fly back to a known base, they could only be used to fly to the rear, rather than to take messages back to the front. Pigeons also served on warships so that in the event of an attack by a U-boat, a pigeon could be released with a message confirming the exact location of the sinking boat, often resulting in the crew being saved. Pigeons were also carried in tanks during battles and released through tiny portholes in the side. They were even dispatch from

⁷ Barber, L., and Lord, C., *Swift and sure: a history of the Royal New Zealand Corps of Signals and army signalling in New Zealand Auckland: New Zealand Signals*, 1996. See also Annex.2

seaplanes to relay urgent information about enemy movements. Likewise fighter planes would launch them in mid-air to report back on the progress of missions. Pigeons have extraordinary navigational abilities. Take a pigeon from its loft and let it go somewhere it has never been before and it will, after circling in the sky for while, head home. This remarkable capacity extends to places tens even hundreds of kilometres from its home. It is all the more remarkable to us because we still do not fully understand how they do it. For several decades scientists' have been attempting to understand the map and compass mechanisms fundamental to bird navigation. There have been many theories to how pigeons navigate the most attractive and persistent has been the idea that pigeons use the earth's magnetic field to map their position relative to known values of their home. New Zealand researchers claim the pigeons probably use tiny magnetic particles in their beaks to sense our planet's magnetic field. The birds use their ability to create a map of this field and then use it to navigate back to their home loft⁸.

Due to their centrality in war communications, carrier pigeons, lofts and pigeon handlers were legitimate targets for enemy forces during WWI. When released, they usually brought down a hail of enemy fire, as the Germans tried to bring down the birds and stop their messages getting through. As with all military hardware when a new weapon is successful on the battlefield so someone invents a weapon to counter it, such as a tank verse an anti tank missile. So, due to the Allies success in the deployment of messenger pigeons the German forces brought up to the front line trained hawks and sent them after the homing pigeons. They also employed hawk handlers along the coast of the North Sea using these birds of prey to attack the pigeons taking messages back to Britain⁹. Likewise the British Government ordered a cull of birds of prey along its own south coast of England. During WWI, Germans would execute all pigeons in the countries that they occupied, and anyone found harbouring them were punished for possessing war contraband. One cannot help conclude given these measures to kill them pigeons must have been regarded as essential to the war effort.

⁸ *The University of Auckland, scientists carried out a series of tests designed to impair and detect their ability to locate a magnetic field.*

⁹ *Pigeons became so valuable the British government issued a poster saying "Killing, wounding or molesting homing pigeons is punishable under the Defence of the Realm regulations by six months imprisonment or £100 fine".*

New Zealand was in many respects far ahead in their appreciation of the abilities of pigeons to deliver messages, having postal systems and even specialized pigeon stamps prior to WWI.

Towards the end of WWI, New Zealanders were called upon to top up supplies of homing pigeons for the Western Front. "The New Zealand Government would be glad to receive offers of birds from fanciers in New Zealand", stated the *Fielding Star* in mid-1918¹⁰. It was "desirable that the birds should be as young as possible" as younger birds were easier to retrain. Several hundred birds were sent from New Zealand, but it is unclear how many saw active service as they were usually pooled with British birds. None however were ever returned to New Zealand due to quarantine regulations.

Newspapers in New Zealand and Australia frequently reported on military pigeon matters and contributed to spreading a 'military pigeon consciousness' beyond the boundaries of Europe¹¹. The *West Coast Times* observed that pigeons had effectively become "*a small shoot from the mighty tree of militarism*". More than two decades before the start of the Great War, the New Zealand Tuapeka Times prophetically concluded that carrier pigeons would "play an active part in the next great European war".

During WWI electronic communications improved in leaps and bounds, however towards the end of the war when breakthroughs replaced static warfare this rapid mobility caused new communications problems. Thus in 1918 we see pigeons perhaps the oldest form of military technology being released from Tanks the most modern form of military technology - relaying messages back to Headquarters as the only means of quick communication¹².

So successful were pigeons they would return in the same role in the Second World War. Even today when the US might spend \$700 billion on defence, but the French military still

¹⁰ <https://paperspast.natlib.govt.nz/newspapers/FS19180706.2.9.7>

¹¹ *C:\Users\Owner\Desktop\Papers Past _ Newspapers Home.html*

¹² Fuller, J.F.C.: *Tanks in the Great War*, London 1920, p. 171.

use carrier pigeons in case an electromagnetic war ever happens¹³. Yes it's still all about communication and subsequent intelligence derived from it that wins wars.

The messenger dog

The use of messenger dogs in war is not a new concept and has been mentioned in early war accounts as far back as 4000 B.C. However, at the beginning of WWI the military was not convinced that dogs would be reliable; they changed their minds after the War Department received the following communication for Colonel Winter, one of many such reports¹⁴.

Communication No. 549 during the operations against Wytshaete Ridge, two messenger dogs attached to this BrigadeAfter being led up through communication trenches during darkness, they went forward as soon as the attack was launched, passing through the smoke barrage....One was dispatched at 10:45 A.M. and the other at 12:45 P.M. Both dogs reached brigade headquarters, travelling a distance as the crow flies of 4,000 yards, over ground they had never seen before, and over an exceptionally difficult terrain. The dog dispatched at 12:45 P.M. reached his destination under the hour, bringing an important message, and this was the first message which was received, all visual communication having failed.

Again like the pigeon, dogs were used to carry vital information over distances due to Commanders being so far to the rear. They could also carry much larger amounts of information such as maps which technology could still not do. Pigeons tended to work well during the static phase of the war as they could be relied to fly back to Headquarters. Dogs were more useful during the flow of war back or forth as they used different scenes to locate their handlers.

The principal of using messenger dogs was using two handlers, one handler attached to the front line headquarters who sends the message by attaching it to a collar pouch or tube around the dog's neck. He then releases the dog which runs back to locate its other handler at the rear Regimental headquarters, which averaged up to three to four kilometres distant. The dog would use its superior sense of smell and direction to find its way back. Once back the second handler would lavish praise and feed the dog. Both men and dogs remain about ten days in the combat zone before having twenty days' rest, this latter period was usually spent in

¹³ <https://frenchly.us/carrier-pigeons-the-french-armys-unsung-heroes-are-still-on-duty/>

¹⁴ Susan Bulanda *Soldiers in Fur and Feathers – The Animals that Served in World War I – Allied Forces*

training.

Most of the Messenger Dogs were trained at the special War Dog School of Instruction in Hampshire, England. Lt Col Richardson, the man in charge of running the War Dog School of Instruction, was quoted in the Aberdeen Evening Express in 1918 as saying: *"The skill, courage and tenacity of these dogs has been amazing. "During heavy barrages, when all other communications have been cut, the Messenger Dogs have made their way, and in many cases, have brought messages of vital importance."* A dog from this school travelled over 4000 metres on the Western Front with an important message to a brigade's headquarters. The dog travelled this distance (war records classed it as "very difficult" terrain) in less than sixty minutes. All other methods of communicating with the headquarters had failed – but the dog had got through¹⁵.

Did Australia and New Zealand take dogs from their respective countries? Although messenger dogs were used by all armies during the First World War both New Zealand and Australia were slow to use them. New Zealand took several mascot dogs to WWI- however the first official NZ war dog was Ceaser- (*I regard him as a dual-purpose dog including being a messenger dog*). He was trained as a Red Cross dog in order to help rescue wounded troops. He wore a harness which was equipped with medical supplies like bandages, water and writing materials. If a soldier was slightly injured, he could self administer first aid. If unable to move but conscious, he could write a message informing of his location. Caesar was also trained to take a piece of a soldier's kit if he was unconscious returning it (a visual message) to his handler as evidence. While serving at the Western Front Caesar was credited for locating many men who were wounded on the Somme battlefield, many of who would not have survived without his intervention. During one of these missions Caesar was killed in action. He was found in No Man's Land, shot presumably by a sniper alongside a New Zealand soldier who had died with his hand resting on Caesar's head¹⁶.

Was there an alternative to Messenger dogs? Again human runners were tried, potentially large targets and, weighed down by uniforms, there was a chance that they would not get through. In the heat of a battle, there was even less chance of a runner getting through as the

¹⁵ *Animals In War* Jilly Cooper Corgi; New Ed edition – 21 Sep 1984. See also Annex.3

¹⁶ *Patricia Stroud 'Caesar the ANZAC Dog' illustrated by Bruce Potter* Harper Collins - NZ 2003

enemy's artillery was likely to be pounding the frontline and the area behind it. Vehicles were also problematic as they frequently broke down, or the 'roads' could have been reduced to a mushy pulp and travel on them made impossible. So dogs were used as messengers whenever available and proved to be as reliable as soldiers in the dangerous job of running messages. They were sent out during barrages or under machine gun fire when conditions were considered too dangerous for human messengers¹⁷. Faster and lower to the ground, they were less likely to be shot and could cross most forms of terrain. But the companionship of dogs was so highly valued in the trenches that men would often offer to deliver messages in their place. Likewise, dogs were never fully trusted to complete a mission- some defected to the enemy, some were distracted and took days to get back to headquarters.

Could any dog do the job? No they had to be intelligent and trainable. Various breeds were used during WWI, but the most popular type of dog was medium-sized, breeds which were agile and had stamina.

Australian troops did not have an initial establishment for war dogs, not until the later stages of the war that the Australian Army carried out trials using dogs. Records indicate the Messenger Dog Sections were deployed into France. Number 3 Messenger Section was attached to the 4th Divisional Signal Company while operating with the 12th Brigade. The section comprised 16 men and 50 messenger dogs of various breeds. These dogs worked with fairly successful results, but were never solely relied on in sending messages#.

Three well known dogs were War Dog 103 Nell, a Cross Setter; 102 Trick, a Collie; 101 Bullet, an Airedale. All three dogs were very efficient in message carrying and saw service with the 2nd, 4th and 5th Australian Divisions, also with Divisions of the British 8th Corps (Imperial). 102 Trick was particularly efficient and was well known by all Brigades of above-named Divisions. He was specially mentioned by Signal Officer of 2nd Division for good work at Rubimont, near Heilly¹⁸.

Prior to this dogs used by ANZAC Forces on most parts were either attached to a unit for a specific task then returned to the British Army where they were pooled. Some units had them

¹⁷ <https://anzacentenary.vic.gov.au/messenger-dogs-wwi> Interestingly one Axis Force messenger runner who served WWI was Corporal Adolf Hitler.

¹⁸ *Australian War Memorial*

unofficially and sometimes just stole them from the enemy and used them against their previous masters¹⁹.

There has always been a debate as to the action of these animals; some historians excel the bravery of their deeds, whilst others consider the definition of cognisant thought. Did they achieve their missions by simple training, natural instinct or a desire to aid man? One thing is for sure they were all press ganged into service- not one volunteered. Secondly hardly any ANZAC animals ever got to return home after the war²⁰.

But they proved there worth as in the Second World War more pigeons and dogs were used than in WWI. They are still used in wars today.

Conclusions

Much of the historiography on WWI and many of its images have painted a picture of a four-year long static blood bath commanded by incompetent generals. However recent studies have shown that the period from 1914 through 1918 introduced the biggest changes in war fighting tactics and technologies in all human history. One paradigm shift that was expected to alter war was improvements to communications. This was not the case and many traditional methods such as using messenger pigeons and dogs were used right up to the end of the war. It was common practice for a Tank or Aircraft to be seen deploying a pigeon to send intelligence and commands back to base as electronic communication had not kept up with the advancement of war (*See Annex.4*).

Simply put WWI could have been conducted without the use of messenger pigeons and messenger dogs who are credited with helping to save the lives of thousands of servicemen and influencing many key moments in the conflict via the delivery of timely communications.

¹⁹ *This lure could cross boundaries as Australian Forces found out during World War I when a German messenger dog called, Roff a Doberman was tempted to cross the trenches outside Villers-Bretonneux by the prospect of some Aussie tucker.*

²⁰ *Many died overseas from disease or injury. An acute shortage of transport, and quarantine restrictions related to animal diseases prevalent overseas, prevented most from returning. Instead they were killed, sold or kept for use by the British army. <https://nzhistory.govt.nz/war/nz-first-world-war-horses/end-of-the-war>*

They were particularly useful during battles, when field telephones were disrupted, or once the men had advanced – or retreated – past their prepared lines of communication.

They were not always the best option and suffered from human mistrust. Many times, the limitations of terrestrial technology were shown during WWI due to weather and equipment being waterlogged. Thus pigeons remained on standby right up to the end of the war in case technology failed.

The American committee on public information wrote *"When telephone, wireless, or any other means of communication breaks down, the 'winged wireless' will be relied on to keep communication open between the fighting front and headquarters."*

The New Zealand Hawera & Normanby Star, stated the contribution of the winged soldier was undisputable. As such, they became early advocates for pigeon commemoration. In this regard, asking: *"What memorial will acknowledge the services of carrier pigeons in the world's war of 1914–1918 remains to be seen, but their work amidst barrage fire, bursting shrapnel, the zip-zip of machine-gun bullets and the death destroying gases was of enormous value"*.

The telephone worked well enough in defensive situations, but during an attack, human and animal messengers were the only way to send and receive requests for fire support and corrections in a timely manner. The speed of messenger dogs was an obvious solution in warfare over human dispatch runners due however, they had one disadvantage: Beleaguered soldiers often befriended the dogs and, rather than send their beloved animal companions on dangerous missions, they would carry the messages instead, leaving the dogs safely behind.

Because of their success during WWI, when the Second World War began New Zealand Forces used messenger pigeons and dogs particularly in areas where the distance over which communicating with rear area command was great or the environment such as the jungle canopy restricted transitions. Also, due to the Japanese having broken our codes at one stage in the South West Pacific theatre- these messenger animals were again the solution for a time. Many Commonwealth bomber and reconnaissance aircrafts carried two homing pigeons, which would be used to send rescue messages back to their base in the case of their aircraft made an emergency landing.

It's interesting to reflect on the importance of using pigeons to send short, succinct messages very speedily in difficult situations, and what today's version would be – instant messaging? Perhaps even Twitter...

Bibliography

Books:

- Theo Barker *Signals – A history of the Royal Australian Corps of Signals – 1788 - 1947*.
- Susan Bulanda *Soldiers in Fur and Feathers – The Animals that Served in World War I – Allied Forces*
- Jilly Cooper *Animals in War* Corgi; New Ed edition – 21 Sep 1984
- Fuller, J.F.C. *Tanks in the Great War, London 1920, p. 171.*
- Col Osman, "Pigeons in the Great War." published by the racing pigeon Publishing Company.
- Patricia Stroud 'Caesar the ANZAC Dog' illustrated by Bruce Potter Harper Collins - NZ 2003
- Rebecca Simpson *Pigeons at Loos: heroes of the sky* 2015
- Richard Van Emden *Tommy's Ark: Soldiers and their Animals in the Great War* Bloomsbury Paperbacks 6 Jun 2011
- Roy Ellis, *By wires to victory*, Batley Printing, Auckland, c. 1968, p. 42. <https://ww100.govt.nz/pigeons-of-war>
- Peter Street *Animals in the First World War* Paperback The History Press (31 Mar. 2016)

Ephemera:

- Australian national pigeon association* Vol 23 2017
- Marc Lallanilla, *Live Science Contributor* 2014. Sourced from www.livescience.com/45641-science-of-world-war-i-communications.

Web sites:

- Australian War Memorial Research Centre* on line repository (Accessed 4-29 May 2018)
- <https://nzhistory.govt.nz/war/specialist-units/signallers> (accessed May 3, 2018).
- <https://frenchly.us/carrier-pigeons-the-french-armys-unsung-heroes-are-still-on-duty/> (accessed May 9, 2018).
- <https://www.britannica.com/event/Battle-of-Tannenberg-World-War-I-1914>(accessed 1June, 2018).
- <https://anzacentenary.vic.gov.au/messenger-dogs-tales-wwi>

Newspapers: (all sourced from the online repository)

- <https://paperspast.natlib.govt.nz/newspapers/FS19180706.2.9.7>

C:\Users\Owner\Desktop\Papers Past _ Newspapers Home.html

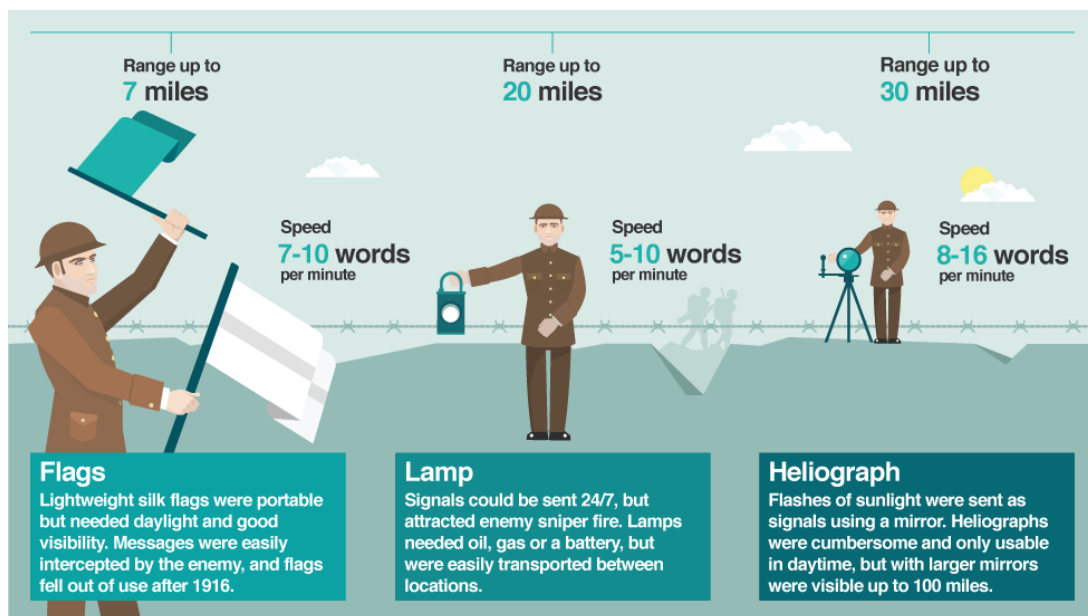
Consultants:

- Ray Thomas President *RAAF Military Working Dog Association*
- Maj Kendall Crocker *Australian Army Veterinarian*
- Mr Winsor Jones Curator *NZ Army Museum*

Annex.1.



Soldiers at a New Zealand signal post near Colincamps on the Somme, France, April 1918.
Alexander Turnbull Library Reference: 1/2-013721-G



The range of early communications systems was limited to the Battlefield view and environmental conditions. A brave man also had to stand up and wave the flag or lamp during the engagement. Diagram above shows range of none- electric communication devices. A pigeon on the other hand was capable of flying across the Channel from France to Britain to deliver messages to the General Staff.

Annex.2.



The tube attached to the leg of a pigeon allowed not just written communication to be delivered but Maps- often made of silk. These aided commanders get a picture or feel of the battle as they were frequently many miles behind the front line.



St. Gratien, France, 1918. A mobile pigeon loft probably operated by the 2nd Divisional Signals Company, 1st AIF, standing in a field northeast of Amiens. AWM photo P01835.73 Public domain



The Signal Office and Headquarters of the 4th Australian Divisional Signalling Company on the Vaulx-Beugny Road. A despatch rider is seen leaving for the forward units with a basket containing carrier pigeons.

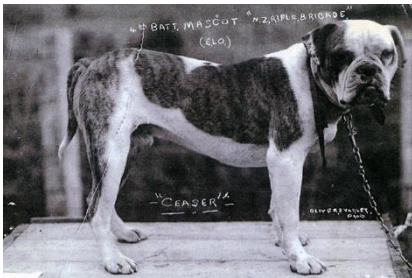


France. c. 1918. A carrier pigeon being released from a British Army tank gun turret to carry information back to the pigeon base to be subsequently passed on to army troops. (Donor British Official Photograph L1064)

Annex.3.



St. Gratien, France, 1918. Members of the 2nd Divisional Signals Company, 1st AIF, with the unit's messenger dogs, in an area northeast of Amiens. (Donor B. Garcia) WWI Australian dogs were used to send messages from the front trenches to rear headquarters units. Map and photos could not be transmitted via any technical mean in WWI so a map or battle plan still needed to be delivered to a Commander to the front line troops. Animal messengers were one way.



The first Military Working dog record as being used by the New Zealand Army was Caesar, A Company, 4th Battalion, New Zealand Rifle Brigade. Caesar and his handler, Rifleman Thomas Samuel Tooman (s/n 26/918). A dog could carry maps and larger reports than a pigeon, they were however never as successful as a pigeon.



Colonel D G Marks DSO, Commanding Officer of 13th Battalion, with a German messenger dog, named 'Roff' by the Germans, but christened 'Digger' by the Australians, which was captured at Villers-Bretonneux. The use of messenger dogs by the Australian troops was adapted in this sector, but only as an auxiliary means of communication. Many dogs showed singular intelligence, but the system was not sufficiently reliable.

Annex.4.

WAR DIARY or INTELLIGENCE SUMMARY. <i>(From heading not required.)</i>		
Hour, Date, Place	Summary of Events and Information	Remarks and references to Appendices
WAR DIARY OF O.C. CARRIER PIGEON SERVICE. From JULY 28th 1915 to September 30th. 1915.		
July 28th. ST. OMER.	Carrier Pigeon Service taken over from I.B. by Director of Army Signals G.S. O.B./395/ 28/7/15.	dyf
* 29th. * *	Conference with D.A.S. drawing out memos for organising new office. Drafted a letter for the enlisting of 60 men for the G.H.Q. Carrier Pigeon Service.	dyf dyf

Extract from unit war diary for pigeon messenger service

(catalogue reference: WO 95-123-4)

September 26th. ST OMER.	WAR DIARY OF O.C. CARRIER PIGEON SERVICE. Continued. Made a complete round of 1st Army lofts and found that three messages had come in, in very good time. The first from Hill 70 sent up at 9.20 and received by Divisional Headquarters 9.58. The next one sent up at 9.25 and delivered at 10.3, and the third one sent up at 10.3. and delivered at 11.0 o'clock. All these messages were important.	dyf
* 27 * *	Visited 4th and 5th Corps lofts. At this Corps a message of 152 words had come in good time. At the 5th Corps a message had been sent as our advance had reached the German 2nd line trenches. The time however was bad, owing probably to the very heavy firing and also to the bad weather. From 5th Corps visited 2nd Division and then 4th Corps lofts. At 2nd Division two good messages had come in both marked, "Very Urgent". The times were :- 77th Brigade sent up 10.35 received Divisional Headquarters 11.20 The second sent up from Hohenzollern Fort at 12.10 received at loft 12.35 Both these messages were giving indications for the direction of Artillery fire.	dyf

28 July 2015, unit war diary for the pigeon messenger service

(Catalogue reference: WO 95/123/4)

Abbreviations

AIF	Australian Imperial Forces
ANZAC	Australian and New Zealand Corps
AWM	Australian War Memorial
Axis Forces	Germany, Austria-Hungary, and Turkey
BC	dates of events before Christ
DSO	Distinguished Service Cross
Div	Division (Army formation)
Runner	A term used to describe a man delivered messages by foot
NZEF	New Zealand Expeditionary Force
WWI	World War One
WWII	World War Two
Hawk	Bird of Prey
RAAF	Royal Australian Air Force