

FOREWORD

by

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OF

ORDNANCE SERVICES

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Introduction

ACKNOWLEDGEMENTS

In researching this history I have spoken to many members of the RNZAOC both past and present and have received valuable advice and assistance. Some of the information was obtained from old records and precis found at the RNZAOC School in Trentham. The authors of these articles could not be identified but I suspect that the bulk of the School's information came from similar publications as listed here. The following sources of information are acknowledged:

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ABBREVIATIONS

AAG	Assistant Adjutant General
Adjut	Adjutant
Admin	Administration
ADOS	Assistant Director of Ordnance Services
AE	Ammunition Examiner
AG	Adjutant General
ANZAC	Australian and New Zealand Army Corps
AOC	Army Ordnance Corps
AQMG	Assistant Quartermaster General
ASC	Army Service Corps
AT	Ammunition Technician
ATO	Ammunition Technical Officer
Attd	Attached
Bde	Brigade
BL	Breech Loading
Capt	Captain
CAT	Chief Ammunition Technician
CATO	Chief Ammunition Technical Officer
CDR	Conductor
CIGS	Chief of the Imperial General Staff
CO	Commanding Officer
Col	Colonel
Cpl	Corporal
Div	Division
DOA	Director of Ordnance and Artillery
DOS	Director of Ordnance Services
Gen	General
Gnr	Gunner
GO	General Order
GOC	General Officer Commanding
How	Howitzer
HQ	Headquarters
IOO	Inspecting Ordnance Officer
Lt	Lieutenant
Lt Col	Lieutenant Colonel
Lt Gen	Lieutenant General
Maj	Major
Maj Gen	Major General
MGO	Master General of Ordnance
MLE	Magazine Lee Enfield
MMG	Medium Machine Gun
MSSC	Military Store Staff Corps
NCO	Non Commissioned Officer
NZAOC	New Zealand Army Ordnance Corps
NZAOCEF	NZ Army Ordnance Corps Expeditionary Force
NZAOD	New Zealand Army Ordnance Department
NZAOD	New Zealand Advanced Ordnance Depot
NZEF	New Zealand Expeditionary Force
NZFA	New Zealand Field Artillery
NZMR	New Zealand Mounted Rifles
OC	Officer Commanding
OSC	Ordnance Select Committee
Pdr	Pounder
Pvt	Private(World War 1)
QF	Quick Firing
QMG	Quarter Master General

QMS	Quarter Master Sergeant
RA	Royal Artillery
RAAOC	Royal Australian Army Ordnance Corps
RAOC	Royal Army Ordnance Corps
RE	Royal Engineers
RMA	Royal Military Arsenal
RNZA	Royal New Zealand Artillery
RNZAOC	Royal New Zealand Army Ordnance Corps
RO	Routine Order
RSM	Regimental Sergeant Major
SAA	Small Arms Ammunition
SWO	Stores Warrant Officer
T/Maj	Temporary Major
T/WO1	Temporary Warrant Officer Class 1
wef	With Effect
Wgtn	Wellington
WMR	Wellington Mounted Rifles

HISTORY OF THE RNZAOC

CHAPTER ONE - HISTORICAL

INTRODUCTION

There have been various attempts to write the history of the RNZAOC, but to date all these essays have been rather brief, or only covered a portion of the Corps activities. This book therefore, attempts to give a comprehensive picture of the many and varied tasks of the RNZAOC over the last one hundred and fifty years. Our heritage stems from the British Army and during the two World Wars and smaller conflicts great support was given to NZ forces by the RAOC, so no study of our history would be complete without including a look at the RAOC.

Also, to portray in detail the history of the RNZAOC has involved writing the history of not one but several corps each of which has been organised, disbanded, reorganised, amalgamated, broken up and afterwards reunited only again to be changed in title and character. With the passing of time, changes in the economic structure of the country and constant upheavals in the political field, the Ordnance Corps must surely rank as being one of the most under estimated Corps of the New Zealand Army.

THE BEGINNING

There are three words, Artillery, Ordnance, and Gun, which contain the history of the development of Ordnance as we know it. If therefore we look at the derivation of these words we shall know how it all began. In the earliest times the great nobles had a personal chest, containing their valuables, money, ceremonial robes, arms and armour, which accompanied them wherever they went and which was usually in the charge of a trusted servant. Naturally the King being the greatest of the nobles would have the most valuable and comprehensive "ward-robe" and, as Kingship developed, there was an inevitable division of the wardrobe into a stationary section housed in the capital and a portable part which went with the King on his travels. Furthermore in those days of few roads and slow moving, ponderous baggage trains, the King would order arms to be collected and held at various strategic points. These stores necessitated storekeepers and visiting representatives of the King who could report on the quantity, quality and condition of the stores.

In the Wardrobe Account 28 Edward I for 1299-1300 there is mention of one Walter de Bedewynde going to Carlisle to audit the account of Richard de Abyndon "receiver of the King's victuals there" and also for surveying the King's store in his keeping. In 1307 (Edward II) there was a storekeeper at Berwick-upon-Tweed to whom the Sherrifs of

London were directed by the King's writ to deliver the arrows and cross-bows they had been ordered to buy. Again in 1378 one Thomas Norwich was appointed by the King to buy and provide for his use "under the supervision of his beloved Thomas Restwold, 2 large and 2 small engines called cannons, 60 stones for same and other engines etc." By this time, therefore, the idea of stores being bought on behalf of the King under supervision of some appointed official representative was well established and such officials called themselves viewers or surveyors. Here then is the birth of the idea of an ordering authority and an inspecting officer. An example of such an official was William of Wykeham - Clerk of the King's works at Easthampstead, Wyndsore and Henly 1354-1364.

By 1324 the Great Wardrobe had achieved financial autonomy and had become what we would nowadays call a Department of State. Between 1290 and 1407 the Wardrobe of Arms gradually became separate from the Great Wardrobe and was known as "the privy wardrobe in the Tower" (of London). John Fleet, who was keeper of the privy wardrobe from 1323 to 1344 was probably the man most responsible for the development of this independent wardrobe of arms in the Tower. The Tower of London had been the United Kingdom's workshop from the earliest times where the King's artificers plied their various crafts, for example the cissor (tailor): pavillonarius (tent-maker): faber (smith): carpentarius (carpenter): sellator (saddler): pictor (painter): tapicer (upholsterer): armator (armourer). The last named was an important individual and quite early his duties became more than any one man could perform necessitating subordinates who, in turn, became independent specialists. Thus we have the erubiginator (polisher of arms): lanceator (lance maker): galeator (helmet maker): atteliator (also spelt artillator and finally, artiller) (maker of cross-bows and other military engines) and a broudator (embroiderer).

Artillery

In 1329, there is a record of the appointment by Edward III of Blaise, son of William Conrad to the office of military implement maker (attiliatoris) at the tower of London. Blaise Conrad was joined by his elder brother Nicholas a week later. In 1334, Blaise having died, Nicholas was appointed to the office of Artiller (attiliatorus). To give some idea of his job, in 1338 he was ordered:-

"To buy 1000 bows, 4000 bow-strings, 4000 sheaves of arrows of an ell in length with steel heads, which the King has ordered to be purveyed in the realm and be sent to him beyond the seas with all speed. If he cannot find the full number of bows and arrows, he is to buy wood for the bows and arrows, feathers to wing the arrows with, and iron and steel for their heads, as may be required; to hire (arrange) matters so as to have them ready as soon as possible, and to deliver them when made to John de Flete (see above) to be sent to the King."

Edward III was at this time in Flanders and war with France was imminent. The battle of Crecy was eight years later. In 1341 one Gerard le Artiller was appointed to the office of Artiller in the tower of London. Artilliators were also appointed outside London, for example; to Chester Castle and the Castle of Wyndsore. It is evident that the artilliators were experts in the making of all kinds of weapons from a longbow to a ballista with their corresponding projectiles, bolts, quarrels, arrows, stone cannon balls - and that "Artillery" was a general term for what they produced. However the artilliators were not insensitive to the 'winds of change' which blew over Europe with the invention of the first cannon or "gonne" about 1313. Realising that his bows and arrows and ballistae were becoming obsolete, the artiller became coachman-turned-chauffeur and applied his talents to the casting and handling of "gones". A family called Byker illustrate this transition very well. In 1353-60, John Byker was making and repairing springalds (a catapult for throwing heavy missiles). He was succeeded by Patrick Byker and (1370) by William Byker who is cited as the maker of several cannon, including 47 of 380lb weight each-at that time the largest cannon in the country.

Artillery, as we now understand it, was part of the UK armament by 1450, though as early as 1345 there is mention of the supply of 100 ribalds. These must be the ancestor of the machine gun. They were groups of small bombards assembled together on a single portable carriage like a wheelbarrow. They could be fired simultaneously or in quick succession, discharging "quarrels" (feathered bolts similar to those fired from crossbows). These hundred ribalds cost in all £124-18s-4d. This was quite an expensive item which indicates that the poor old provisioner in those days had the same problems as we do today in trying to make the most from an ever shrinking dollar.

Ordnance

The name Ordnance or in its earlier spelling Ordinance or Thordynance, is derived, according to Lord Coke, a great Elizabethan lawyer, from some old ordinance (regulation concerning war material), no longer in existence, regulating the bore, size and bulk of cannon. Brigadier Hogg in his "Notes on the Board of Ordnance" gives the following interesting and original suggestion. The early craftsmen; the master bowyers, carpenters, fletchers and smiths who had patents from the Crown and received a salary by way of a retaining fee, kept their crafts a mystery and styled themselves "Master of Th'audinances". Hogg suggests a connection with Thor, the Scandinavian God of Thunder and War.

Another suggestion is that Ordnance is derived from the old French ordenance which in turn comes from the Latin, ordinantia. Another spelling was ordouance meaning 'provision' or the 'ordering' (of warlike stores). An

associated meaning was 'battle array' or a 'host in battle'. The transition from the ordering of stores to naming, (a) the stores themselves, 'ordnance' and (b) the responsible authority the 'ordnance' office is commonplace in the development of English words.

Gun

The derivation is doubtful. It may have come from Mangonel, which was a type of ballista or catapult, or from Gunilda, a woman's name. It has an onomatopoeic ring about it which would not be without influence, in recommending the words to the troops; for example, 'whizz-bang', the nickname given to the German 77mm field gun of the 1914-1918 war. It appears as *gonne* about 1339, the *gonner* being a specialist in the casting and handling of *gonnes*, and at that time he was quite distinct from the *attiliator* who was a crossbow and ballista expert. Neither the *attiliator* nor the *gonner* were soldiers. They were, rather, engineers following their own peculiar professions. The common soldier of the day could not understand the simplest technicality and therefore the makers of the cannon of those days usually manned them.

MEDIEVAL PICTURE

Let us have a last glimpse at this medieval military scene by looking at two accounts of the stocks of various arms. In 1360, one Rothwell, the keeper of the privy wardrobe at the tower had the following 'on charge':-

4062 painted bows
11303 white bows
4000 bow staves
23646 sheaves of arrows

besides quivers, saddlery, cross-bows, bolts, shields, pikes, lances, helmets, hatchets, hauberks, habergeons, ballistae, arbalastae, tools, tents and raw materials generally. In 1339, by the time Richard II was deposed, guns were well established and in the enrolled household accounts of Henry V, there is a record of a stock of 39 brass and iron cannon, 23 trunks for cannon, 800 round stones, 848lb of leaden pellets, 126lb of gunpowder, 108lb of saltpetre, 14 firepans of iron and 4 moulds for casting bullets. It is worth noting that gunpowder in those days was not kept for long as such, because it was very hygroscopic and it was therefore the practice to store the ingredients and make up the gunpowder more or less as required. It was not until much later that the glazing of the grains of gunpowder with graphite was introduced thus greatly improving its keeping qualities.

The scene was now set for the creation of a Department of State separate from the King's household though deriving its authority from the Crown. In 1414, a year before Agincourt, Henry V, by letters patent appointed Nicholas

Merbury as Master of the Ordnance, with John Louth as his clerk. This was the first time that the word "Ordnance" was used in an official document. A translation of that document follows:-

Letters Patent granted to
Nicholas Merbury - Master of the Ordnance
and John Louth - Clerk
by Henry V

Patent Roll 2, part ii, m.22
dated 22nd September 1414

The King to his well-beloved Nicholas Merbury, master of our works, engines and guns and other ordnance of war, and John Louth, clerk of the same works, greeting.

Know that we have appointed you, jointly and severally, to take and provide, by yourselves or by your sufficient deputies, as many stone-cutters, carpenters, sawyers, smiths and labourers as may be necessary for the works of the engines, guns and ordnance aforesaid, together with sufficient timber, iron and all other things likewise necessary for the works aforesaid, and also with carriage for the same when there there is reasonable need of it, so long as you shall continue in your said offices. And we therefore direct you to busy yourselves diligently about the premises and perform and execute them in the form aforesaid.

And we firmly enjoin upon all and singular our sheriffs, mayors, bailiffs, constables, servants, and others our lieges and subjects, both within liberties (areas of special franchise) and without, by the tenor of these presents, that they give to you and to either of you and to such deputies of yours in the execution of the premises, their support, counsel and aid, as is fitting.

In witness whereof (we have hereunto set our seal).

Witness the King at Westminster, 22 September 1414.

By writ of the Privy Seal.



THE ORDNANCE BOARD - AN HISTORICAL NOTE

The Tower of London had long been established as the workshop where the King's artificers plied their skilled trades. It was also the central storehouse for weapons of war of all kinds from engines such as ballistae to arrows. By 1346, engines using gunpowder, i.e. guns, were in use and "powder for engines" was being made in the Tower. It was natural therefore for the Office of Ordnance to be housed in the Tower of London, and there it remained for over four hundred years.

Up to the time of the Spanish Armada, the organisation was known as the Office of Ordnance under its head, the Master of the Ordnance. The war with Spain, culminating in a very real threat of invasion, led to a scandalous amount of profiteering and fraud at the expense of the State. Elizabeth I therefore issued a commission which carried out a searching investigation into the whole working of the Office of Ordnance. This resulted, in 1597, in the establishment of a Board of Ordnance under a Great Master (Robert, second Earl of Essex), who became responsible for the whole business of Ordnance by land and sea. Essex held the position of Great Master until his execution for treason in 1601 when the title lapsed and the two senior officers of the board became Master-General and Lieutenant-General of the Ordnance respectively. During the protectorate, the Board virtually lapsed from 1649 for eleven years. From 1660 to 1683 it was governed by a commission.

In 1683 Charles II recreated the post of Master-General of the Ordnance and the whole Board was thoroughly reorganised. The Royal Warrant of 1683 charges the Board with the duty of providing armament for all ships and fort and the Board was subordinate equally to the Lord Admiral and the Lord Treasurer. The organisation which was set up was remarkable in its ability to safeguard the State against fraud. The principle was simple: under the Master-General there were four co-equal heads of departments covering the purchase, quality, storage and issue of ordnance material. These officers were the clerk of the Ordnance, the Surveyor-General, the Principal Storekeeper and the Clerk of the Deliveries.

From 1683 the Master-General of the Ordnance (MGO) was always a distinguished soldier who had a seat in the Cabinet until 1828. The MGO and his Lieutenant-General had dual roles. In their military capacity they were Commander-in-Chief and second in command of the Artillery and the Engineers. This was a logical extension of the practice of the earliest days when the Master of the Ordnance not only provided the guns and their ammunition, but went into battle with them, the art or science of artillery being too much of a mystery for the ordinary soldier of those days. On the civil side, the Board, under the MGO, controlled stores, Lands,

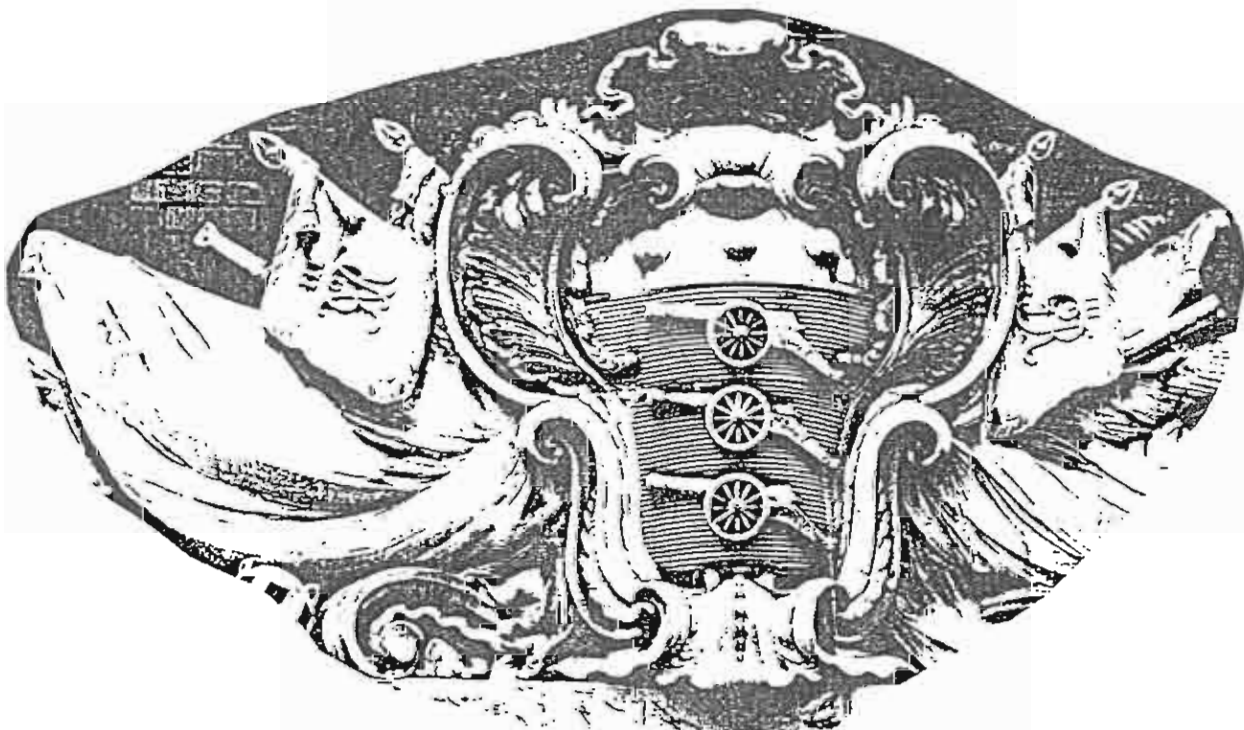
Geographical and Geological Survey, Defensive works including barracks and military hospitals, contracts and the Ordnance factories.

By the beginning of the 19th century, the Right Honourable and Honourable Board of His Majesty's Ordnance, had become a large and powerful department of State, second only to the Treasury, its prestige and importance being recognised by a grant of the right to bear arms. Reorganisation was, however, in the wind which, in the end, blew no good for the Board. In 1828 a committee had reported very favourably, "many circumstances leading them to the opinion that the principles on which the Ordnance Department was constituted were better for securing an efficient and economical dispatch of business than those on which the other two (Admiralty and War Office) were founded". Possibly as a consequence of this report the Admiralty was re-modelled on the Ordnance pattern in 1831 and this successful reorganisation is in evidence today.

Despite this favourable commendation, there were powerful adversaries of the Board of Ordnance at work, notably the Secretary at War who did not take kindly to two of the arms of the service, the Artillery and the Engineers, being under other control. The administration of the Army came under strong attack as the result of the mismanagement revealed in the conduct of the Crimean War. It was therefore only to be expected that the Secretary at War would try to divert some of the unwelcome attention his Department was receiving by attacking another Department. In January 1855, the House of Lords was debating the administration of the Army when Lord Panmure, the Secretary at War, seized the opportunity to attack the Board of Ordnance (the Master-General of the Ordnance being absent in the Crimea). Despite the strongest protests from many influential people the attack succeeded and the London Gazette of 25 May 1855 promulgated the Queen's decree revoking the letters patent of the Master-General, the Lieutenant-General and the Principal Storekeeper of the Ordnance, and vesting the administration in Lord Panmure. So ended one of the greatest and most efficient Departments of State ever to be created in the UK. It numbered amongst its Masters-General many famous men - John Churchill, first Duke of Marlborough, the Duke of Wellington and Lord Raglan to name three. The Board lives on, however, in the title of one office (MGO) and in two establishments which owe their origin to the Board of Ordnance (Ordnance Survey and the Ordnance Board). When the Board was abolished, the title of Master-General of the Ordnance lapsed. In 1904, when the Army Council was formed to take over the duties and responsibilities formerly exercised by the Commander-in-Chief, the fourth member of the Council, responsible for the supply of weapons and their ammunition, assumed the title of MGO. It lapsed again in 1939 with the creation of the Ministry of Supply and was revived once again on the demise of the Ministry of Supply in 1959. The Ordnance Survey is well known to the general public in the UK and NZ who may not, however, realise that it gets its name "Ordnance" from the Great Board of Ordnance, one of the responsibilities of which was to survey the whole UK and to supply accurate maps, primarily for military purposes, but now

embracing everything from town planning to motoring and tramping walks.

The French Wars brought a spate of inventions which flooded the Board of Ordnance and overloaded the department of the Surveyor-General, who was responsible for trials and experiments with new equipment. In 1765, therefore, two committees were formed to overcome these problems: the Colonels' Committee and the Field Officers' Committee. In 1805 a select committee was formed at Woolwich composed of the heads of Departments at Woolwich, with the Director-General of the Field Train as the ex officio President. In the long period of peace which followed the conclusion of the Napoleonic Wars, this august body pursued its way until 1852 when it was reconstituted as the select committee of Artillery Officers under the presidency of the Director-General of Artillery. This committee was quite inadequate, both in constitution and procedure to cope with the increasing pace of technical advance and with the volume of inventions and ideas realised by the crisis of the Crimean War. Early in 1855, the Secretary of state for War, the Duke of Newcastle, replaced the select committee of Artillery Officers by an "Ordnance Select Committee" (OSC). In 1858 this committee was reorganised on a full time basis and rapidly established itself as an authoritative body. Eleven years later, in 1869, it was abolished by ill advice on the grounds of expense and replaced by a high level Council of Ordnance entirely composed of ex officio part-time members. This reversion to what had already proved impracticable was, needless to say, completely ineffective. Its work had to be done by ten ad hoc sub committees who inevitably overlapped.



The Ordnance Committee came into being on April 1 1881, and apart from an oscillation between being known as a committee or as a board, has existed ever since. The Assistant Secretary of this committee was a graduate of the advanced class of Artillery officers and as the years went by more and more members of the Ordnance Committee were to be similarly qualified. In 1900, an Explosives Committee was formed to carry out trials and research into improved propellants for guns and small arms and to find out a safer but equally more efficient high explosive to replace lyddite. This committee was eventually succeeded in 1906 by an Ordnance Research Board, under the same president as the Ordnance Committee, until 1907, when the two were merged under the title of the Ordnance Board.

In 1915, with the coming of the Ministry of Munitions, the Board was dissolved and immediately re-appeared under its original title of the Ordnance Committee. In January 1939, the Ordnance Committee absorbed the Small Arms Committee and became once more the Ordnance Board which it is today.

Our link with the Ordnance Board started with the beginning of British colonialisation. Wherever Imperial troops were stationed so also were to be found staff of the Board of Ordnance. When Captain Hobson was sent from New South Wales to administer the colony in January 1840, he was followed within a few weeks by a detachment of the 80th Regiment and a Staff Sergeant from the Board of Ordnance whose main responsibility was the procurement of stores and rations for the troops.

In February 1842 Lieutenant Bennet of the Royal Engineers arrived in New Zealand with orders to procure land and erect a building for the Board of Ordnance. He was granted 5 acres on Mount Britomart in Auckland, and military mechanics from the 80th Regiment were used to build the offices and storehouses. The office of the Board of Ordnance in New Zealand was directed from Sydney Australia, and the 'clerk of Ordnance' a Mr William Plummer acted as the Boards representative in New Zealand. He arranged for the handover of stores to Mr Henry Tucker and later in 1845 to the Superintendent of Public Works for the use of the Militia called out in the Bay of Islands. Only a few of the militia saw active fighting with the Maoris, the main part being taken by troops of the 58th Regiment.

BOARD OF ORDNANCE - COAT OF ARMS

Although heraldic emblems are referred to comprehensively by the term "coats of arms", this term if properly used, relates only to the devices which figure on the shield. The technical work for the entire emblem is the "achievement", and includes the shield, crest, motto and

supporters. The coat of arms then, is the device, insignia or picture represented upon a shield. Although the use of the shield and its coat of arms was unofficially started soon after the organisation of the Board of Ordnance in 1515, the identity of the individuals responsible for the actual date of the design of the entire "achievement" cannot be clearly established. It was probably the accumulated efforts of several successive Masters of Ordnance, and was approved in 1806. That it was in use long before 1806 is inferred in the wording of the Royal Warrant on that date, which merely ratified, as many warrants have done, a piece of old established custom. The grant of arms was duly registered at the College of Arms on 16 May 1923.

An explanation of the Coat of Arms is best preceded by some definitions of the terms used in the art of heraldry:

"Azure three Field Pieces in pale" means:

On a blue background three cannons stand out in yellow or gold.

"Chief Argent three Cannon Balls proper" means:

The upper portion of the shield has three cannon balls on silver.

"Dexter" means: Right hand side.

"Sinister" means: Left hand side.

"Cyclop" means: One eyed giants.

The crest above the shield depicts a mural crown (defence) out of which is raised the right arm (strength) of Jove or Jupiter grasping a thunderbolt winged and enflamed with forked lightning as a background. The shield shows three cannons, probably the pattern of cannons used at the battle of Crecy, 1346, with three cannon balls along the upper portion of the shield shown in proper proportion to give effect and design to the whole. This typified the function of Ordnance which was to supply arms and ammunition.

Two cyclops support the shield. these were one eyed artisans. The artisans were artificers in metals and were the slaves of Jove and Jupiter. The Cyclop on the left of the shield is said to be armed with a hammer whilst the other Cyclop appears to have a pair of forceps or tongs. With regard to the motto, the correct translation is difficult owing to the lack of a verb. SUA TELA means his weapons and TONANTI or Tonans was the alternative name for Jove. The translation can therefore mean that Joves weapons were taken from him and used by the ancient Board. This seems to be a very probable explanation when one considers that a motto was customarily selected which alluded to the achievement. Today we accept the motto "To The Warrior His Arms" as being the most appropriate which symbolises the functions of the old Board of Ordnance.

THE PATRON SAINT - SAINT BARBARA

According to legend, Saint Barbara was the extremely beautiful daughter of a wealthy heathen named Dioscurus, who lived near Nicomedia in Asia Minor. Because of her singular beauty and for fear that she might be claimed in marriage and taken from him, Dioscurus shut her up in a tower to protect her from the outside world.

Shortly before embarking on a journey, he commissioned a sumptuous bath-house to be built for her, approving the design before he departed. Barbara had heard of the teachings of Christ and while her father was away she spent much time in contemplation. She looked out upon the surrounding countryside and marvelled at the growing things, the plants, the trees, animals and people. She decided that all these must be part of a master plan and that the idols of wood and stone worshipped by her parents were false. She learned more about the Christian faith and gradually accepted it. When her belief became firm, she directed the builders to add a third window to the bath-house so that the three might symbolise the Holy Trinity.

When her father returned he was enraged at the changes and infuriated when Barbara acknowledged that she was a Christian. He brought her before the prefect of the province, who decreed that she be tortured and put to death by beheading. Dioscurus himself carried out the death sentence but on the way home he was struck by lightning and his body consumed.

Saint Barbara lived and died about the year 300 AD and was venerated as early as the seventh century. The legend of the lightning bolt which struck down her father caused her to be regarded as the patron saint in time of danger from thunderstorms, fires and sudden death. When gunpowder made its appearance in the western world, Saint Barbara was invoked for aid against accidents resulting from explosions. Since some of the earlier artillery pieces often blew up, Saint Barbara became the patroness of Ordnance and Artillery.

THE MOTTO



"To the warrior his arms"

THE GUILD OF SAINT BARBARA

An old military legend maintains that King Henry VIII founded two military guilds, one to the honour of St. Barbara and the other to St. George, and that both guilds survived the dissolution of the religious houses. The guild or fraternity of St. George - later to become the Honourable Artillery Company - was founded by Henry VIII in 1537 and was without question a military guild. The guild of St. Barbara on the other hand, also founded by Henry VIII nearly twenty years before that of St. George, had no military significance and died due to lack of support or, alternatively, was abolished with the other ecclesiastical guilds and religious houses during the reformation.

On 8th December 1515, by letters patent, Henry VIII gave licence to Cornelius Johnson, Master Smith, and William Ive, Gunner, both of the tower of London, to found a perpetual guild to the honour of St. Barbara in "St. Kathrine's by the Tower" church and mortmain licence to acquire possessions to the annual value of ten marks for support of chaplain. There also exists in the Public Record Office "The Order and Manner of Admission, the Rules and Benefits of the foregoing Fraternity" which read as follows:-

"Who so ever by the grace of God is dysposyd to entre into the blessyd fraternity of the Gylde of our gloryous Savyeur cryst Jhu, and of the blessyd Seynt Barbara, founded in London, and wyll have the Pardon, Prevylege and profet thereto graunted and ordeny'd: must pay to the seyd fraternyte the Some of xs iiiid sterlynge, at his first enterynge, if he will: or ellys by leaser within the space of vii Yeres: that is to say, at his first entering xiid and every quarter following iiiid tyll the seyd xs iiiid be payd in mony, plate, or any other honest stufe. And at the first payment he or she that so enteryth in the seyd fraternyte wether they be weddyd or single, that receyve a letter with the seal of the Warden Collectour: which Warden Collectour shall receyve his name, bring it to the auter of the gloryous Jhu and Seynt Barbara in Seynt Kateryne Church befor seyd and thereto be registryde: and there shall be prayed for dayly be name. And when the last payment of the some of xs iiiid is payd: then the syd brother or syster shall receyve a letter with the common seal of the seyd fraternyte and place with the masters name and wardens therein for the Commocte and Suerty of lyvyng: that is to sey, that yf ever the seyd Brother or Syster fall in decay of worldly goods, as by sekeness or hurt by the warrys, or uppon the land, or see, or by any other casuale or meanes fallen in poverté: Then yf he brynge the seyd letter sealyd with the common Seal, the Master and al the Company that receive him favourably and there he shall have every week xiiiiid, house, rome and beddinge and a woman to wash his clothes, and to dress his mete: and so to continue yere by yere and weke by weke duryng his lyfe by the grace of almighty Jhu and Seynt Barbara. Gevyne the first day of December the Yere of our Lord God MCCCCXVIII. Sir Wyllyam Skevington Knyght then being Master, and Wyllym Uxley and Robert Fysher Wardens."

It can be seen that Sir William Skevington Kt., who appointed Master of the Ordnance on 30th May 1515, the same year as the foundation of the guild of Saint Barbara, became the Guild's first and probably only Master, and that Cornelius Johnson and William Ive, who were "Gunners" on his staff in the Tower, were "Rulers". John Stow in his "Survey of the Cities of London and Westminster", edited by John Strype in 1720, Book II, gives further details of the guild as follows:-

"There was a very noble Guild or Fraternity founded in the church of the hospital of St. Katherine, to the honour of St. Barbara. It was governed by a Master and three Wardens; it had two Royal founders, K. Henry VIII and Q. Katherine his first wife: and many very high and honourable persons associated themselves as members of the said Fraternity. One was the great Cardinal Wolsey and many other eminent Dukes, Earls, and Knights, Queens and Ladies."



THE ORDER OF THE GARTER

Even in very remote times, particularly amongst those engaged in the profession of arms, the ambition existed to possess some sort of title, rank or mark of merit which would distinguish the holder and raise his standing in the eyes of his fellows. Throughout history, monarchs, princes and governments have realised the value, and in fact the necessity, of giving rewards of some kind as incentives for loyal and devoted service and gallantry in battle.

Since the middle ages, knighthood and the insignia of orders of chivalry have gradually replaced the gifts of land and money which were frequently bestowed in those days as rewards for meritorious service and help in battle. The sovereign is the "Fount of all official Honours" and therefore every award of an official nature must receive the approval of the sovereign before publication of it is made in the London Gazette.

Great historians have acknowledged the fact that "The Order of the Garter" exceeds in majesty, honour and fame all Chivalrous Orders of the world. The Garter excels and out-vies all other institutions of honour within our realm of society, and it is the oldest of the Christian Orders of Chivalry.

There has been so much controversy regarding the date and origin of the Garter that it is difficult to even fix the date of its institution. It is however, certain that the "Most Noble Order of the Garter", at least was instituted in the middle of the 14th century, when English Chivalry was outwardly brightest and the court most magnificent. All the original records of the order until after 1416 have perished and consequently the question depends for its settlement not on direct testimony but on inference from circumstances.

College of Arms

The college was founded by King Edward III and has occupied the original site for over six hundred years. Close by the college stands that magnificent edifice; St Pauls' Cathedral. Both buildings are steeped in history but one must go to the tower of London to see the full regalia of the "Order of the Garter" when its splendour does justice to the traditions which are legend.

The records read that the College of Arms can produce evidence that wardrobe accounts existed between September 1347 to January 1349 for the issue of certain habits and the motto embroidered on them is marked for "St George's Day" (April 23). In the treasury accounts of the Prince of Wales there is an entry in November 1348 of the gift by him of "Twenty-four garters to the Knights of the Society of the Garter".

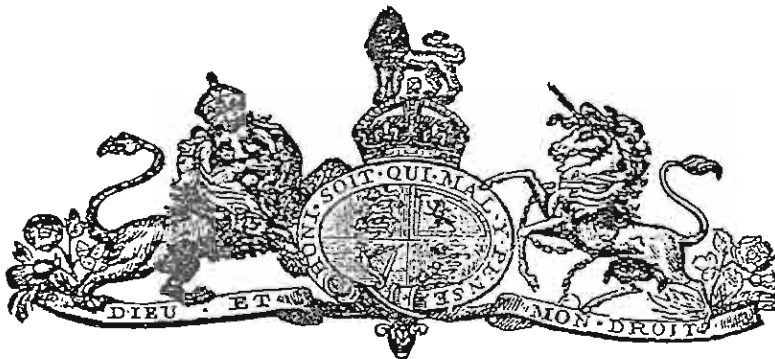
Legend of the Garter

Neither the cause nor the exact time of the foundation have been discovered for its institution and it would appear that fable and tradition have been called upon to compensate for the lack of facts and records. A picturesque version is that when a lady, taking part in a ball held at his court near Calais by King Edward III in celebration of his

victories in France, had the misfortune to drop her garter, it was picked up by the King. Upon observing her great embarrassment and the significant smiles of certain onlookers, "as if it were an amorous action", he rebuked them with the words - HONI SOIT QUI MAL Y PENSE- Dishonoured be he who thinks evil of it. He then tied the garter around his own knee, at the same time saying "I will make of it ere long the most honourable garter that ever was worn."

Another legend is that contained in the preface to the register of the Black Book of the Order, compiled in the reign of Henry VIII, (by what authority is unknown). Richard I, while his forces were employed against Cyprus and Acre, had been inspired by St George with renewed courage and the means of animating his fatigued soldiers by the device of tying about the legs of a chosen number of Knights, a leather thong or garter, to remind them of the honour of their enterprise, so that they might be encouraged to redouble their efforts for victory. It will be remembered that Richard I is referred to in history as Richard Coeur-de-Lion, his exploits as a crusader along with Philip Augustus of France conquered Acre (a town on the coast of Israel) from Saladin (an Egyptian Sultan) in the year 1191. History reads that Acre was handed over to the Knights of St John.

Other themes of thought have been advanced as to the origin of the Garter, but the two previously mentioned are considered the most worthy. Today we accept the translation of the French words "HONI SOIT QUI MAL Y PENSE" as "Evil be to him who evil thinks". Not all Corps are entitled to incorporate in the design of their cap badge the symbol of the "Order of the Garter". The distinction was accorded to the Royal New Zealand Army Ordnance Corps on 12th July 1947 by King George VI and this day is set aside as being our Corps Day.



CORPS COLOURS

The colours of the RAOC are Blue, Red and Yellow. these colours appear to have been derived from the uniform which was granted to the Storekeepers for the first time in 1833. The Duke of Wellington had in 1826, fixed the comparative ranks of storekeepers for the purpose of allocating quarters. The 1833 uniform was a blue coat with red stand up collars and cuffs. In 1865 the Military Store Staff Corps was formed and the uniform was much the same except that the tunic was decorated with yellow lace, and MSSC was embroidered in yellow on the shoulder straps. Forage caps had a three quarter inch yellow band with a scarlet button for a badge.

In New Zealand we use Red and Blue as our Corps Colours and they are employed in our flags, stable belts, pennants, hat badges, officers' mess kits and RNZAOC School Instructors armbands.

CORPS FLAGS, PENNANTS AND BADGES

Before describing the different flags worn by the Board of Ordnance and its successors, a word is necessary on the Coat of Arms and heraldic seal assumed by the Board. The Coat of Arms has been previously mentioned and an armorial seal for official use, embodying the well known device of a shield emblazoned with three field pieces and three cannon balls has emerged from similar early beginnings.

The earliest known Ordnance seal was, however, not of heraldic design. It consisted of a gunner in the uniform of the period firing a field piece, contained in an oval frame and is to be seen as an embossed paper seal of fine workmanship attached to the appointment of John Knight as Master Carpenter to Portsmouth dated 30 May 1667 and signed by Sir John Duncombe and Sir Thomas Chicheley, Commissioners of Ordnance. Possibly, this seal was intended for the official use of the office of the Master General and not for the common use of the Board. A theory borne out by official seals attached to appointments signed by later Masters General, which embodied their own family arms.

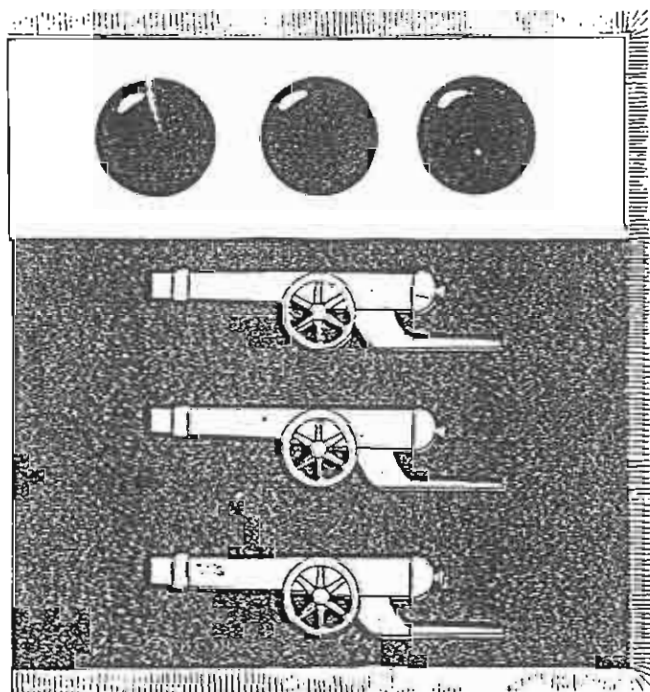
The first reference to a seal containing the Ordnance Arms is in the Royal Proclamation of July 1694, which gives instructions on the design of maritime flags for use by Government Departments; that for the Board of Ordnance being the red ensign with 'the seal used in the office of the said Board' to be placed in the body of the said flag. No trace can be found of this flag or an illustration of it, in consequence the actual design of the seal is obscure. W.G.Perrin in British Flags 1922, states that it was similar to that incorporated in the War Department Ordnance Ensign of 1865 but blazoned in red and gold. Unfortunately he gives no

indication as to where he obtained his information and no examples of these can be traced.

The earliest example of an heraldic seal bearing the Ordnance Arms on a plain shield, is found as an embossed paper enclosure seal on a letter of 1703 from the Board of Ordnance to the Admiralty, now preserved in the Public Record Office (PRO Adm 1/3999). By 1745 a metal matrix of the Arms, Crest and Motto of the Board for impressing sealing wax was in general use. This seal shows horizontal hatchment lines in the background of the shield behind the field pieces denoting the tincture to be blue.

The Board of Ordnance Banner

This banner, square in shape, displayed by the blazon from the shield, surrounded by a yellow fringe for use as a banner and without fringe for use as a flag. The earliest known example is to be seen amongst the military trophies supporting the personal arms in an armorial bookplate belonging to Sir Charles Frederick, KB, Surveyor General of Ordnance 1750, executed for him in 1752. This banner without the yellow fringe is believed to have been flown from the roof of the Board of Ordnance Office in Pall Mall and after the abolition of the Board in 1855, adopted by the War Office for the same purpose.



BOARD OF ORDNANCE BANNER

The Board of Ordnance Ensign

By the end of the 16th century the flag of St George had taken the lead as the distinguishing flag for British warships and had also been adopted by merchant and store ships. The first ensign carrying the King's Jack in the upper left canton of the flag, next to the flag staff, made its appearance in the reign of Queen Elizabeth I. The red ensign first made its appearance in 1621. The English version wearing the Flag of St George in the upper canton and the Scottish version wearing the Cross of St Andrew. This flag appears only to have been used to distinguish individual ships. By 1640, the King's Jack was being worn equally by warships and merchant ships. On 9th March 1661, official instructions were issued debarring merchant ships from flying the King's Jack, but no real action seems to have taken place to enforce them.

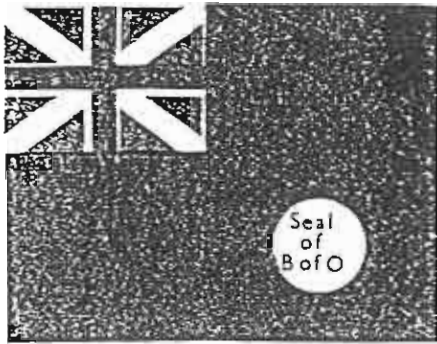
In 1674 authority was given for merchant ships to fly the red ensign with the Cross of St George in the upper canton but in spite of this, merchant ships were still wearing the Union Jack. Samuel Pepys again tried to get the order enforced in 1687 but without much success. On 12 July 1694, however, a Royal Proclamation was issued introducing special ensigns to be worn by ships and vessels owned or chartered by government Departments. The proclamation read:

"Such ships and vessels as shall be employed for their Majesties' service by the Principal Officers and Commissioners of Their Majesties' Navy - The Principal Officers of Their Majesties' Ordnance... (etc), relating particularly to those officers shall wear a Red Jack in the canton at the upper corner thereof next to the staff, as aforesaid, and in the other part of the said Jack, shall be described the seal used in the respective officers aforesaid by which the said ships and vessels shall be employed."

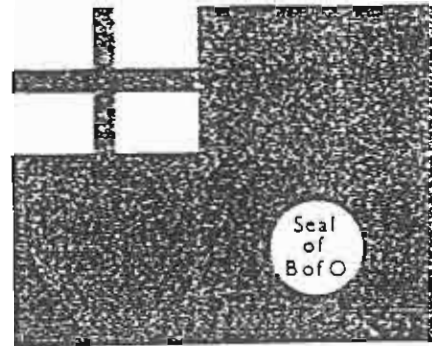
These flags were issued in two sizes to be worn as a "Jack" on the ships bows from an upright staff fitted to the bowsprit or bows, or in a larger form as an "ensign" to be worn from a staff fitted to the ship's stern. The Ordnance ensign of 1694 is defined as the red ensign with the cross of St. George in the upper canton next to the flag staff with the seal of the Board of Ordnance, as described earlier in the body of the flag.

By the 28 July 1707 the Union Jack, resulting from the Legislative union with Scotland, was redesigned to include the flags of St George and St Andrew and in consequence the ensigns were altered accordingly. The next change was made under a Royal Proclamation of 1st January 1801, the Union flag being redesigned to include the flag of St Patrick resulting from the union with Ireland which necessitated a further alteration to the ensigns. By 1830 the Ordnance Seal in the fly of the Board of Ordnance Ensign had

been replaced by the Ordnance Arms displayed on a debased shield. The ensign thus remaining, without further alteration, until after abolition of the Board in 1855.



BOARD OF ORDNANCE ENSIGN —
RED ENSIGN 1707



1694

Official War Department Flags Embodying Ordnance Arms

The Army Council Flag and Seal

Like heraldic banners all official flags are the prerogative of the College of Arms. On the abolition of the Board of Ordnance in 1855 the War Office became the legal heir general to all the powers estate etc. of the Office of Ordnance as conferred upon it by Acts of Parliament, and in consequence, inherited the Arms of the Board of Ordnance together with its seals and flags.

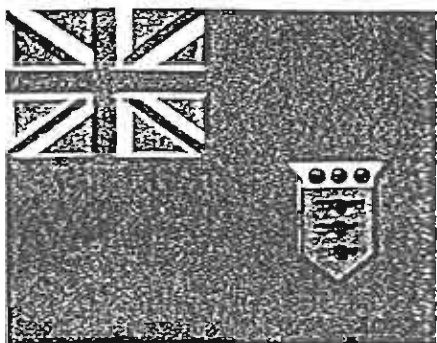
On the formation of the Army Council in 1904 it was not long before it decided to have its own seal and flag and to replace those of the Board of Ordnance. The design of the flag was called for in April 1904 and the one accepted being that of the Union Jack with a plain shield bearing the arms of the Board of Ordnance superimposed in its centre. This flag was approved by King Edward VII on 14th February 1905 and is now flown on the roof of the War Office on special occasions. The design of the seal was taken in May 1904. It was decided to adopt with suitable alterations, the Seal of the Board of Ordnance. The Secretary of the Army Council was directed to take the necessary steps but the project appears never to have been carried out.

The Ordnance Ensign

The Red Ensign of the Board of Ordnance was retained without alteration for use in War Department Ships and vessels, both owned or chartered. In 1864 the red ensign bearing the insignia of the War Department was changed to the blue ensign, and the Ordnance ensign was altered accordingly, but as the dark blue of the shield of the arms did not stand out sufficiently for recognition on the dark blue of the ensign, a red border was placed around the shield to improve

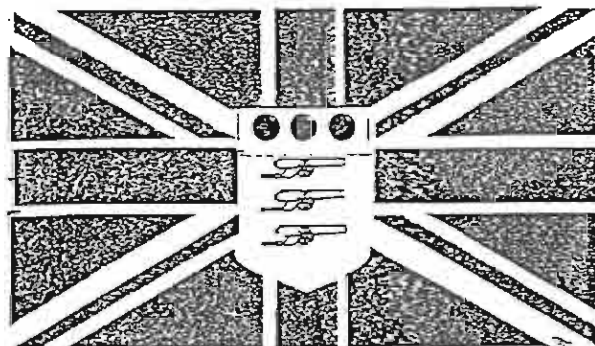
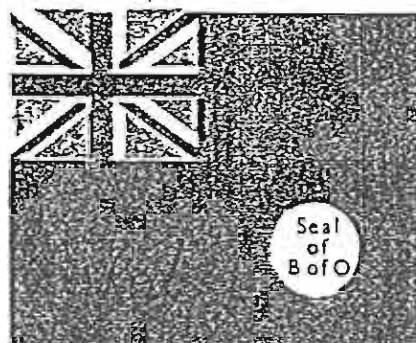
the contrast. In 1896 the first standard pattern flag was approved but it shows the muzzels of the guns on the shield pointing away from the Flag staff contrary to the laws of Arms. The fault also appeared on the first pattern of the Army Council flag. This error and the additional one of framing the shield with a red border was brought to the notice of the Inspector of Regimental Colours, Sir Gerald Woolaston, by the herald painter to His Majesty in 1944, which resulted in the arms for the Ordnance Ensign being redrawn and a new sealed pattern manufactured. The debased shield was replaced by a plain shield, the dark shade of the blue of the Arms replaced by a pale sky blue and the red border deleted altogether, and the muzzle of the guns corrected to face the flag staff.

This official War Department flag is now practically obsolete in present day use, but is still authorised by Queen's Regulations to be worn on the ensign staff of War Department ships and vessels and boats manned by crews of the Royal Artillery and the Royal Army Ordnance Corps. This flag has never been authorised for use on land but it has frequently been used on flagstuffs in Ordnance Depots, under the mistaken idea that it was the Regimental flag of the Ordnance Department and Corps.



BOARD OF ORDNANCE ENSIGN

RED ENSIGN



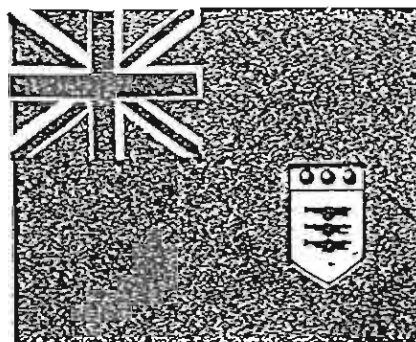
*Bills = black on white (back ground)
Cannon = gold*

LT Col

ARMY COUNCIL FLAG 1905

WAR DEPARTMENT ORDNANCE ENSIGN

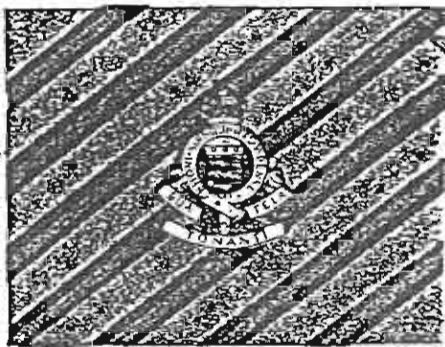
1944



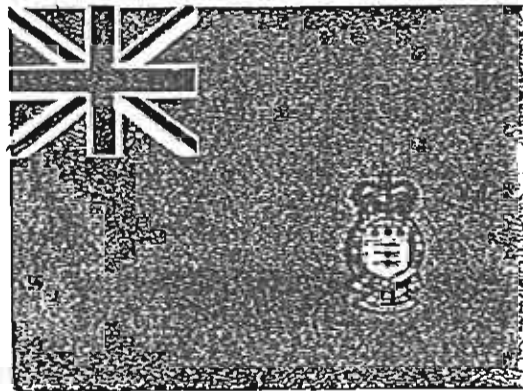
The Regimental Flag of the Royal Army Ordnance Corps

Whereas the Departmental flags and the Banner of the Board of Ordnance were official flags subject to the laws of arms and the prerogative of the College of Arms, all regimental or corps flags, as opposed to Regimental Colours, which are also the prerogative of the College of Arms, have no official status and therefore can be of any design whatever approved by the Colonels in Chief, Colonels Commandant and Colonels of Regiments but usually corresponding with the colours of the regimental facings. The Royal Army Ordnance Corps first assumed a Corps Flag in 1923. It consisted of a blue flag with seven diagonal stripes running from right to left towards the flagstaff, with the Corps Badge, in colour superimposed in the centre.

This flag was only flown at the Regimental Depot at Hilsea and at special functions held at outstations for which authority for its use was obtained from the Director of Ordnance Services. Outstations were however entitled to fly the flag without the Corps Badge in the centre. In January 1947 this flag was superseded by the present design consisting of the Blue Ensign with the Badge of the RAOC in full heraldic colours, in the fly, for which Royal approval was given by the late King George VI as Colonel in Chief. This flag should not be confused with the War Department Flag, Ordnance Ensign, 1944 pattern, which is very similar to it.



RAOC CORPS FLAG 1923



R.A.O.C CORPS FLAG 1947

(INCORPORATING THE 1923 BADGE)

The Banner of the RAOC Association

This banner also comes under the category of unofficial flags and can be of any design approved by the same authorities as Regimental Flags, but again usually corresponding with the colours of the regimental facings. It was first introduced in 1947 and consists of a blue banner with a broad red horizontal band between two narrower yellow bands across the middle with the RAOC Badge in colour

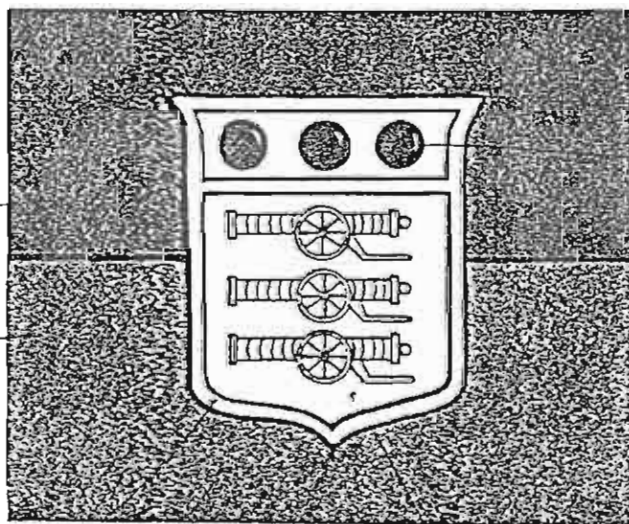
superimposed on it in the centre. In each quarter is a scroll in yellow containing the name of the Branch of the Association.

War Office Formation Badge

In 1946 Field Marshall The Viscount Montgomery of Alamein, KG., when C.I.G.S., intimated that as Officers serving at the War Office wore no distinguishing mark when on duty in uniform he wished to adopt a formation badge to replace the armband which had been abolished in 1941. The question of the design of this badge was discussed at a meeting of the Executive Committee of the Army Council when the Permanent Under Secretary recommended that the following design should be adopted, viz., a shield bearing the Ordnance Arms in full heraldic colours, supported on a background equally divided horizontally in red and dark blue, the red being uppermost. The Ordnance Arms being taken from the Army Council Flag and the background from the abolished armband.

These recommendations were submitted to the C.I.G.S. who accepted them and gave instructions for the Quartermaster General to arrange immediate provision. This design is most appropriate, for the War Office, as already mentioned, had become the legal and rightful inheritor of the Arms, Seals and Flags of the Board of Ordnance when it was abolished in 1855. It is of interest to note that Field Marshall Montgomery was first to wear this badge on the occasion of his visit to Canada in August 1946, and he also took descriptive notes with him explaining the reason for, and ancient history of, the design.

We in New Zealand will recognise this badge in the armbands worn by our instructors at the RNZAOC School.



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THE WAR OFFICE BADGE

Regulations Governing the Use of Flags

The Board of Ordnance displayed its arms in the form of a Banner according to the Rules of Arms and in this form it was flown above its Headquarters in Pall Mall. There is reason to believe it was also flown in the Master General of Ordnance Official Barge and in ships and vessels when the Master General was afloat. There was no evidence to show that it was ever flown over Ordnance Depots.

On the abolition of the Board of Ordnance in 1855 the Banner was used as a War Office Flag. The Ordnance Ensign introduced in 1864 was in use only as a maritime flag, to be worn on ships and vessels manned by RA and RAOC personnel. As far back as 1829 National flags were flown in Ordnance Depots but in 1886, the long period of lack of definite policy came to an end with a ruling by HRH the Field Marshal Commander in Chief. "I am definitely against the anomaly of storehouses or stores depots flying the National Flag". The Adjutant General in passing on this ruling wrote:-

"We think the use of these National flags should be limited to such places as fortresses, Headquarters, etc. where they may be held fitly to represent the centre of Imperial power at the place, and that it is absurd to allow them to be flown over storehouses where, if a flag is wanted at all the ordinary distinguishing pennant would be more appropriate and more useful."

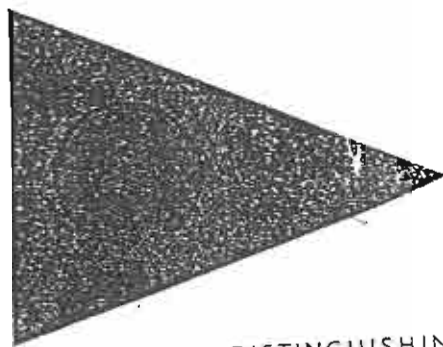
The Secretary of state was adamant that the Ordnance Ensign should only be used for maritime purposes. As a result of this, the Ordnance Store Department Regulations were amended. All flagstuffs were to be dismantled and flags withdrawn from depots. The Ordnance Ensign was to be used only as a maritime flag on ships and vessels manned by RA and Ordnance Department personnel. Queens Regulations laid down instructions for recognised Flag stations and the flags to be flown and also for flags in vessels and boats.

The Ordnance Distinguishing Pennant

There is a paucity of knowledge on the historical background of Army Distinguishing Pennants and little has ever been written about them. Tradition, however, has it that its use goes back as far as the Crimean War as a depot pennant. The earliest official reference which is known is 1866 when an authority was in existence for the flying of this pennant over Storehouses and Depots.

Army Circulars of September 1877 clause 136 states that the Ordnance Store Department will wear a blue distinguishing flag with a red centre and Equipment Regulations will be altered accordingly. This instruction was cancelled in January 1878 by List of Changes of War Material

No 3274, under Distinguishing Flags for the Ordnance Store Department. In 1889 a mark II version was introduced which only altered the quality of the bunting but referred to the "Pennant" instead of "Flag". In 1897 the bunting was changed from scarlet to red to conform with Admiralty Flags and in July 1898 the size was reduced to 3 feet by two feet and it has remained without further change to the present day. In New Zealand we fly the pennant from all our depots and units and the only difference is that we fly a slightly smaller size. Our Corps Flag encompasses the Colours and layout of the various Ordnance flags and the provision of these is the responsibility of the RNZAOC Directorate in Wellington.



FLAG DISTINGUISHING
ORDNANCE DEPOT



St. Edward's Crown.

ST. EDWARD'S CROWN



The Tudor (or Imperial) Crown.

Authority states that whatever crown is used for the coronation ceremony of the Sovereigns of England of old, and Great Britain of modern days, it is always referred to as "The St. Edward's Crown". The early crown varied considerably in design. Richard II and Edward III for instance, on the great seals of their reign, are shown wearing the Saxon Diadem or open crown. Henry IV is stated to have been crowned in "St. Edwards Crown" "which is close above" or as other texts say "arched in a cross" or "arched in three". This arched crown seems to have been used only for the coronation, for on his effigy at Canterbury he is seen wearing an open crown.

The coronation crown began to assume its present form in the reign of Henry V. Henry VI placed alternative crosses paty and fleur-de-lis on the rim, and this has

continued as the characteristic of the Royal Crown from that time, but varied in the number of arches used and the number of crosses paty and fleur-de-lis around the rim.

During Parliament in 1649, orders were given for the destruction of all existing crowns and sceptres, and the actual Saxon Diadem "of gould wyerwirke sett with slight stones and two little bells" went under the hammer of the Parliamentary Commissioners. As a result, at the restoration, a new set had to be made for the coronation of Charles II in 1661, but the name and tradition of St. Edward's Crown survived, and instructions were given that its design should follow its predecessors as closely as possible. The arches, however, were depressed and had a lateral spread in keeping with the general style of the mid-seventeenth century ornamentations. On this pattern the Royal Crown of heraldry was based until the reign of Queen Victoria. This great gold crown, weighing 9lbs (4.5Kgs), is the "St. Edward's Crown" still used for the coronation ceremony and was used for the crowning of Queen Elizabeth II.

In spite of the parliamentary order of destruction of 1649 certain ancient precious stones and jewellery, and a few individual pieces survived. These, if tradition can be relied on, belonged to the period immediately before the Norman Conquest and may be part of certain ornaments said to have been taken from Edward the Confessor's body, and placed upon Henry III at his coronation in 1216. These ornaments and jewels still exist today in the regalia.

The State Crown made for Queen Victoria differed from its predecessors in enrichment rather than design. It was made from platinum for lightness, and amongst the jewel adornment was placed a sapphire which may well be the oldest Crown jewel of all, said to be the stone from the ring of Edward the Confessor himself. Also the ruby given to the Black Prince, which later adorned the helmet of Henry V at Agincourt, and the four pearl drops popularly known as "Queen Elizabeth's earrings."

The arches were fashioned like wreaths of roses, thistles and shamrock and, although flattened, they were not actually depressed. About 1880, after Queen Victoria became Empress of India, it was felt that the heraldic crown of England, for use on the Royal Arms, seals, service badges and buttons, and for all other official purposes, which was of the St. Edward's Crown depressed arch design, should be given an imperial form and this was affected by making the arches semi-circular. The most recent (mid 1950s) change of design of the heraldic British Crown back to "The St. Edward's Crown" replacing the Imperial Crown for official purposes has meant that the British Army and the New Zealand Army recently changed all Regimental Colours, guidons and banners, regimental badges and buttons and badges of rank.

THE CRIMEA LEGEND OF
"THE MARK OF DISGRACE"

In recent years a legend has grown up around the badge of the RAOC. It is said that to mark the failure of the Board of Ordnance in the Crimean War to supply the correct ammunition for the Artillery, the cannon balls in the Ordnance Arms have been drawn out of all proportion in size to the guns, and that the RAOC have inherited this "Mark of Disgrace" for ever.

Of course there is no historical foundation for this legend whatever, and should one give the matter a moment's thought its absurdity will become obvious. In the first instance it must be remembered that the Board of Ordnance, adopted, probably sometime in the late 17th Century and over a hundred years before the Crimean War, a coat of Arms, that is to say, they designed their own arms and assumed them unofficially. It was not until 1806 that the King gave his approval for a Grant of Arms by the College of Arms. This grant, which particularly specifies the Arms to be the same as previously in use by the Board, is now registered in the College of Arms and the illustration which accompanies the grant shows the cannon balls and cannon in the same proportions as they were originally designed.

It must also be appreciated that it is good heraldic design, not only to show the charges, which in this case are the guns and cannon balls, symbolically and sometimes exaggerated but that these charges should fill, as far as possible, the part of the shield in which they are placed without losing the balance of the design as a whole. The placing of the cannon balls in the chief and the guns in the lower two thirds of the shield illustrate this aspect of recognised heraldic procedure. A good example of this practice may also be seen in the fourth quarter of the Royal Arms, where the lower leopard is drawn so that its legs fill the bottom part of the shield.

Therefore when considering the Ordnance Arms, it is clear that the cannon balls must be drawn, not only big enough to show what they are intended to be, but also to fulfil the conditions mentioned above. Finally, Queen Victoria on 17th July 1896 gave her Royal Approval to the honour of the use of the Ordnance Arms to the Army Ordnance Corps as their Regimental Badge.



OFFICERS CAP BADGE 1917

THE RNZAOC CAP BADGE



OTHER RANKS CAP BADGE 1917

When authority was granted to raise the New Zealand Army Ordnance Section with effect 1 April 1915 it is doubtful that any consideration was given to designing a new cap badge. The section was small consisting of only one NCO holding the rank of Bombadier, and six gunners. It was placed under command for administration of the OC RNZA and as its main duties were the assembling of ammunition components for the Artillery it was natural that they should wear the cap badge of the RNZA. The only difference between the badge worn by the Ordnance Corps Section and the Artillery today is the word "UBIQUE" was replaced by the initials "NZ".

On the 1st February 1917 the formation of the Ordnance Department and the Ordnance Corps was approved vide the NZ Gazette No95. The Department consisted of the Officer element whilst the Corps comprised the Warrant Officers, NCOs and men. The need for two badges on the lines of our counterparts in the British Army were obvious and the design follows closely the pattern of the Ordnance Department and the Ordnance Corps in the UK.

As a matter of interest the first badges to be manufactured for Ordnance were made by Mr C.M. Bay of Wellington in 1917. His name was stamped on the reverse of the badges in very small letters. There was a difference in the design of the British and New Zealand Ordnance badges, the British badges show three cannon balls whilst the New Zealand badge shows only two cannon balls divided by the letters NZ. Collar badges were also worn, these consisted of the shield only without the scroll and again shows the three cannons and two cannon balls.

On the 3rd July 1924 the NZ Army Ordnance Department and the NZ Army Ordnance Corps were combined into one service and became the NZ Army Ordnance Corps. The Corps was now re-established as a permanent Force. The change in constitution now warranted the existing Department and Corps badges to be redesigned, opportunity was taken to modify the badge on the lines of the badge used by the RAOC. It was appropriate that the new badge follow the design of the RAOC, for on the 1st March 1921, His Majesty the King was graciously pleased to approve the alliance of the NZAOC with the RAOC.

By 1936 stocks of the second badge designed in 1924 had diminished and provision action was taken to replenish supplies. In a letter of recommendation to the Quarter Master General the then Director of Ordnance Services, Major T.J.King (later to be Brigadier T.J.King DDOS 9 Army Group Europe) recommended that we waste out the existing stock of NZAOC Expeditionary Force Badges. This was the first reference to the NZAOCEF Badge and it would appear that this reference is to the first Ordnance badge introduced post 1917. The recommendation was not approved by the QMG and the decision to purchase was deferred until the DOS investigated the possibilities of designing a new badge. Early in 1937 the DOS submitted a design of a new badge for approval. The proposed badge closely resembled the RAOC badge in use at that time. On the badge a circle surrounded the shield, within the circle the words "NEW ZEALAND ARMY ORDNANCE CORPS" was inscribed. A three band scroll was suitably placed below the circle with the words of the Corps motto "SUA TELA TONANTI". At the top of the badge and above the circle was placed the Tudor Crown.

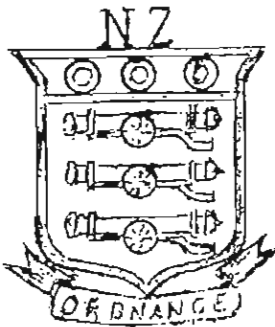
The GOC the NZ Army (Major General W.L.H. Sinclair-Burgess) at the time wrote to the War Office asking if there were any objection to the NZAOC adopting a badge similar to the RAOC. The War Office replied welcoming the idea of an affiliated Corps adopting such a badge and the proposed badge was introduced. The drawings of the new badge were designed by Mr (later Sgt) C.E.Baker NZAOC of Clothing Group Main Ordnance Depot.

The badge designed in 1937 was to last almost ten years, it saw service throughout the Second world War and men wearing the badge of the NZAOC were to be seen in various theatres of the war. After the War, His Majesty King George IV as a mark of approbation and in recognition of the valuable services rendered by the Corps saw fit to designate the NZAOC as a Royal Corps. This honour was published in the NZ!Wazette No 39, under the signature of Lieutenant General Sir Bernard Cyril Freyberg, Governor General of New Zealand and took effect from the 12th July 1947. This change in designation brought the distinction of being permitted to incorporate within the badge the "Royal Order of the Garter". In redesigning the badge it is apparent that some thought was given to the badge worn by our counterparts in the RAOC. The circle on the existing badge was replaced by the "Order of the Garter" whilst the initials NZ were suitably introduced above the scroll bearing the Corps motto. The Tudor Crown and the original shield remained the same.

When Her Majesty Queen Elizabeth II ascended the Throne on 2nd June 1953 the Corps badge as designed in 1947 continued to be worn, until two years later when the Queen exercised her right and changed her cypher from the Tudor Crown to the Edwardian Crown. This again meant a change in the design of the cap badge and on the 29th Oct 1955 steps were taken to redesign the Corps Cap Badge. There were two types of

badge issued, the Officers pattern in gilt and enamel whilst the Other Ranks were issued with anodised aluminium with the "Order of the Garter" in blue and a red background behind the shield.

The current badge on issue to the RNZAOC is attractive, neatly designed and gives full effect to the heraldic symbols which constitute its make up. All those who have the privilege to wear the badge should bear these traditions in mind and strive to extend into the future the same high principles of the service they have inherited.



Cap Badges of the RNZAOC throughout the years

COLONEL-IN-CHIEF

In January 1921 His Majesty the King appointed HRH The Duke of York Colonel-in-Chief of the RAOC. From the beginning the new Colonel-in-Chief took a great personal interest in all RAOC activities and achievements. At the wedding of HRH on April 26th 1923, Generals Sir John Steevens, Sir Harold Parsons and Sir Charles Mathew and Colonels H.S. Bush and H.C. Fernyhough were among the guests in the Abbey and a detachment of the RAOC formed a Guard of Honour outside.

On the accession to the throne of the Duke of York as George VI in 1936 he continued to hold the appointment of Colonel in Chief of the Ordnance Corps until his death in 1952. Her Majesty Queen Elizabeth II on the eve of her Coronation graciously consented to continue the appointment which her late father held, and is the present Colonel in Chief of the RAOC and the RNZAOC.

COLONELS COMMANDANT

During 1921 The British Army Council had been considering the question of Colonels Commandant for the Administrative Corps and in April it was agreed in principle

that the RAOC should have one. The appointment was to be "a titular one and unpaid" and the duties were defined as - "To occasionally visit the Corps HQ and the HQ of the RAOC at principal Ordnance Depots. The first appointment in the British Army was offered to Major General Sir John Steevens, who accepted it as a great honour on August 12th. In NZ we also maintain the tradition of a Colonel Commandant and officers who have held this appointment are as follows

Brigadier T.J.King, CBE	1 Jan 49 to 31 Mar 61
Lieutenant Colonel F.Reid, OBE	1 Apr 61 to 31 Mar 65
Lieutenant Colonel H.McK.Reid, OBE	1 Apr 65 to 31 Mar 69
Brigadier A.H.Andrews, OBE	1 Apr 69 to 30 Sep 77
Lieutenant Colonel J.Harvey, MBE	1 Oct 77 to 31 Mar 79
Lieutenant Colonel G.J.Atkinson, MBE	1 Apr 79 to 31 Mar 85
Lieutenant Colonel C.J.C.Marchant, ED	1 Apr 85 (still serving at the time of publication)

CORPS MARCH

In January 1921 it was decided that the RAOC should have a band. The decision was put into effect in April 1922. The Bandmaster was Mr R.T. Stevens, who had been formerly bandmaster of the 3rd Battalion, The Rifle Brigade. He suggested the adoption of the "Village Blacksmith" as the Corps March on the grounds that the melody had a marching lilt, that the theme was appropriate and that many regimental marches were based on traditional airs. Accordingly the "Village Blacksmith" became the RAOC Regimental March. The tune undeniably had a lilt of sorts but it lacks that indispensable feature of martial music; a brisk and lively tempo. A defect aggravated by the fact that it used to be played with religious unction and in the manner of a professional hymn. No real alternative has ever been suggested and as time goes on tradition will increase the resistance to change. We in the RNZAOC have also adopted the "Village Blacksmith" and copies of this March are held in the RNZAOC School Library.

"The Village Blacksmith"
H.W. Longfellow
* * * *

The first two stanzas of the poem form the first verse of the music, and it is this section of the song that is used as the Corps March:

Under a spreading chestnut tree
The village smithy stands;
The smith, a mighty man is he,
With large and sinewy hands;
And the muscles of his brawny arms
Are strong as iron bands.

His hair is crisp, and black, and long,
His face is like the tan;
His brow is wet with honest sweat,
He earns whate'er he can,
And looks the whole world in the face,
For he owes not any man.

Week in, week out, from morn till night,
You can hear his bellows blow;
You can hear him swing his heavy sledge,
With measured beat and slow,
Like a sexton ringing the village bell,
When the evening sun is low.

And children coming home from school
Look in at the open door;
They love to see the flaming forge,
And hear the bellows roar,
And watch the burning sparks that fly

Like chaff from a threshing floor.

He goes on Sunday to the church,
And sits among his boys;
He hears the parson pray and preach,
He hears his daughters voice,
Singing in the village choir,
And it makes his heart rejoice.

It sounds to him like her mother's voice
Singing in paradise!
He needs must think of her once more,
How in the grave she lies;
And with his hard, rough hand he wipes
A tear out of his eyes.

Toiling, rejoicing, sorrowing,
Onward through life he goes;
Each morning sees some task begin,
Each evening sees it close;
Something attempted, something done,
Has earned a night's repose.

Thanks, thanks to thee, my worthy friend,
For the lesson thou has taught!
Thus at the flaming forge of life
Our fortunes must be wrought!
Thus on its sounding anvil shaped
Each burning deed and thought!

CORPS COLLECT

The RAOC has a Corps Collect appropriate for church services, National days of Remembrance and St. Barbara's day. It was composed in 1930 by a Chaplain to the forces using appropriate references from Ephesians.

The Collect

"Almighty God who hast made ready for us the sword of the spirit against the evil one and the shield of faith to resist his devices give, we pray thee, to the Royal Army Ordnance Corps whose duty it is to provide for our brethren against the day of battle, faithfulness in our duty; and so assist us to put on thine armour that we may be ever ready in the warfare, for the sake of Jesus Christ our Lord"
"SUA TELA TONANTI"

WAR MEMORIALS

An RAOC War Memorial Committee was formed in 1919 and there was a very generous response to an appeal for funds. It was decided to build a permanent memorial at Hilsea. A

large stone reredos was erected on the east side of the parade ground, and a brass tablet was placed in Hilsea Garrison Church. They were unveiled on November 11th 1922 by Sir John Steevens at a large Armistice Day Parade. After World War Two, RAOC HQ was moved to Blackdown and the memorial was transferred there. It was extended to include the names of the fallen in the Second World War. The South African War Memorial was also moved from Woolwich to Blackdown. It was generally known as "Private Barry" from the name of the RAOC soldier who was the model for the statue.

In NZ our Corps is mentioned in the National War Memorial in Wellington. There are no other war memorials specific to RNZAOC Soldiers.

CORPS ALLIANCE

At the end of 1920 His Majesty the King was pleased to approve an alliance between the Ordnance Corps of Australia, Canada, New Zealand and South Africa. All the Dominion Corps welcomed the alliance as warmly as the RAOC did and it has been to put practical use on many occasions since then. Formal approval was granted in NZ on 1st March 1921 by General Order No 95 of 1921

No. 3.



NEW ZEALAND DEFENCE FORCES.

GENERAL ORDERS,

BY

Major-General Sir E. W. C. CHAYTOR, K.C.M.G., K.C.V.O., C.B.

Commanding New Zealand Military Forces.

HEAD-QUARTERS, WELLINGTON. 1ST MARCH, 1921.

CONTENTS.

No.	Subject.	Page.
G.O. 95.	ALLIANCE OF N.Z. UNITS TO IMPERIAL UNITS.	
1921	His Majesty the King has been graciously pleased to approve of the undermentioned Corps of the Dominion of New Zealand being shown in the Army List as allied to the respective Imperial corps, namely:— <i>Royal Army Ordnance Corps.</i> Allied Ordnance Corps: The Army Ordnance Corps of the Dominion of New Zealand. (35/41/9.)	

THE CONDUCTOR

As long ago as the seige of Boulogne in 1544 there were Conductors of Ordnance, there were also Conductors in the train of Artillery assembled in 1618, while in 1639 Conductors of the Matrosses were paid 2/6d per day. The following year, one Richard Huckley was appointed Conductor of the trenches as sergeant at 1/6d per day. A Royal Warrant dated the 20th of January 1642, addressed to Sir John Haydon, Lieutenant General of Ordnance, concerning a train of Artillery to be formed for service overseas, lists three Conductors who were John Kerbye, for the draught horses, Christopher Jones for the ammunition and William Anderson for the fireworkers. With every train assembled there were conductors. In 1689 a train for service in Ireland included a Chief Conductor who was paid 4 shillings per day and twelve Conductors at 3 shillings day. In 1691 a train for Flanders included eight Conductors of Stores, a Conductor Plumber and assistant, two Conductors of Woolpacks and two Conductors of Horses.

In 1693 it is also recorded that a Conductor and plumber at 4 shillings, two Conductors and Coopers, and twenty eight other Conductors at 3 shillings per day were assembled with others for service with a train of Artillery.

At the capture of New Foundland in 1672, Lieutenant General Amherst's force included a Conductor and a Clerk of Stores named Foreman. These officials were from the Board of Ordnance depots at New York and Halifax respectively. Thomas Simes, Esquire, in his book "The Military Guide for Young Officers" dated 1776, states "Conductors are assistants to the Commissary of the stores, to receive or deliver out stores to the army, to attend at the magazines by turns when in garrison and to look after the ammunition waggons in the field. They bring their accounts to the Commissary and are immediately under his command.

A universal military dictionary of 1779, by Captain George Smith, Inspector of the RMA, Woolwich, states re the Commissary General of Stores, "A civil officer who has charge of all stores for which he is accountable to the office of Ordnance. He is allowed various other Commissaries, Clerks and Conductors especially in wartime. The dictionary defines Conductors as; subordinate officers who are assistants to the Commissary of Stores and whose work it is to conduct depots, or magazines, from one place to another. They also have charge of ammunition waggons in the field. A Royal Warrant of the 1st of February 1812, detailing the establishment of a field train includes sixty Conductors of Stores. For allowances and a share in prize money they were entitled to half of that of a subaltern officer.

From the early records of Woolwich Arsenal we learn that one Charles Sargent was a Conductor at sixteen in 1808, a clerk in 1811, and was in the field train at Corunna with Sir John Moore and was pensioned in 1818. He died at Woolwich in 1886. Truly a remarkable thing to be pensioned at

the early age of twentysix and to draw the pension for sixty eight years.

When the iron and brass ordnance, ammunition and stores were loaded on transports at Woolwich in June 1813, destined for the siege of Danzig, there embarked, among others, three Conductors of Stores as well as an assistant Commissary of Ordnance and three Clerks of Stores. It is well known that Wellington had strong views on the place of the storekeeping personnel of the Board of Ordnance in the field, and we find in his establishments for the field train department, were included 122 storekeeping clerks and 150 Conductors. They were responsible for the receipt, delivery, safety and transport of field train material. For the Crimean War of 1854 a siege train was hurriedly formed, the personnel included eight Sergeants, Conductors of Ordnance.

For the New Zealand War of 1860, Conductors accompanied the officers of the Military Store Department. There were six of them, transfers from the Royal Artillery, the Foot Guards and the Infantry of the line. They had to be at least a Sergeant and they attended a six week course in Ordnance Store duties and procedures at the Tower and at Woolwich Arsenal. Records of the preparations of these men show that with their kit they were each issued with two pounds of tobacco at a cost of two and one half pence per pound. They did their work, and were well reported on at the end of the campaign.

Conductors Appointed as Warrant Officers

By Royal Warrant of the 11th January 1879, a class of Warrant Officer was constituted to assist in the discharge of the subordinate duties of the Commissariat and Transport, and of the Ordnance Stores Departments of the British Army. They were Conductors of Supplies and Conductors of Stores respectively. Their position was inferior to all commissioned officers and superior to that of all non commissioned officers. Conductors could exercise full power over any subordinates of the departments of the army who were placed under their orders. Candidates were to be not less rank than sergeant and not less than thirtyfive years of age if of that rank, and more than forty years of age if of the rank of Staff Sergeant. While on probation they were styled acting conductor and received not less than four shillings per day.

In March, May and June 1879, there were thirtyfive conductors of stores appointed. Sixteen came from the Royal Artillery, and two from the Royal Engineers, while the remaining seventeen were already serving with the Ordnance Stores Branch of the first Army Service Corps which became the Ordnance Stores Corps in September 1881. A Conductor, a Master Gunner 1st Class, and a Staff Sergeant Major 1st Class ranked with one another according to the date of their promotion or appointment, or by Corps precedence if promoted or appointed on the same day.

The Conductor in New Zealand

The appointment of conductor was used in the New Zealand Army up to the 1930s. It then lapsed and was reintroduced by the then director of Ordnance Services, Lieutenant Colonel AJ Campbell, in 1977. The appointment is denoted by a crimson backing to a Warrant Officer Class One badge. Upon reintroduction to the New Zealand Army the first three appointments were granted to:

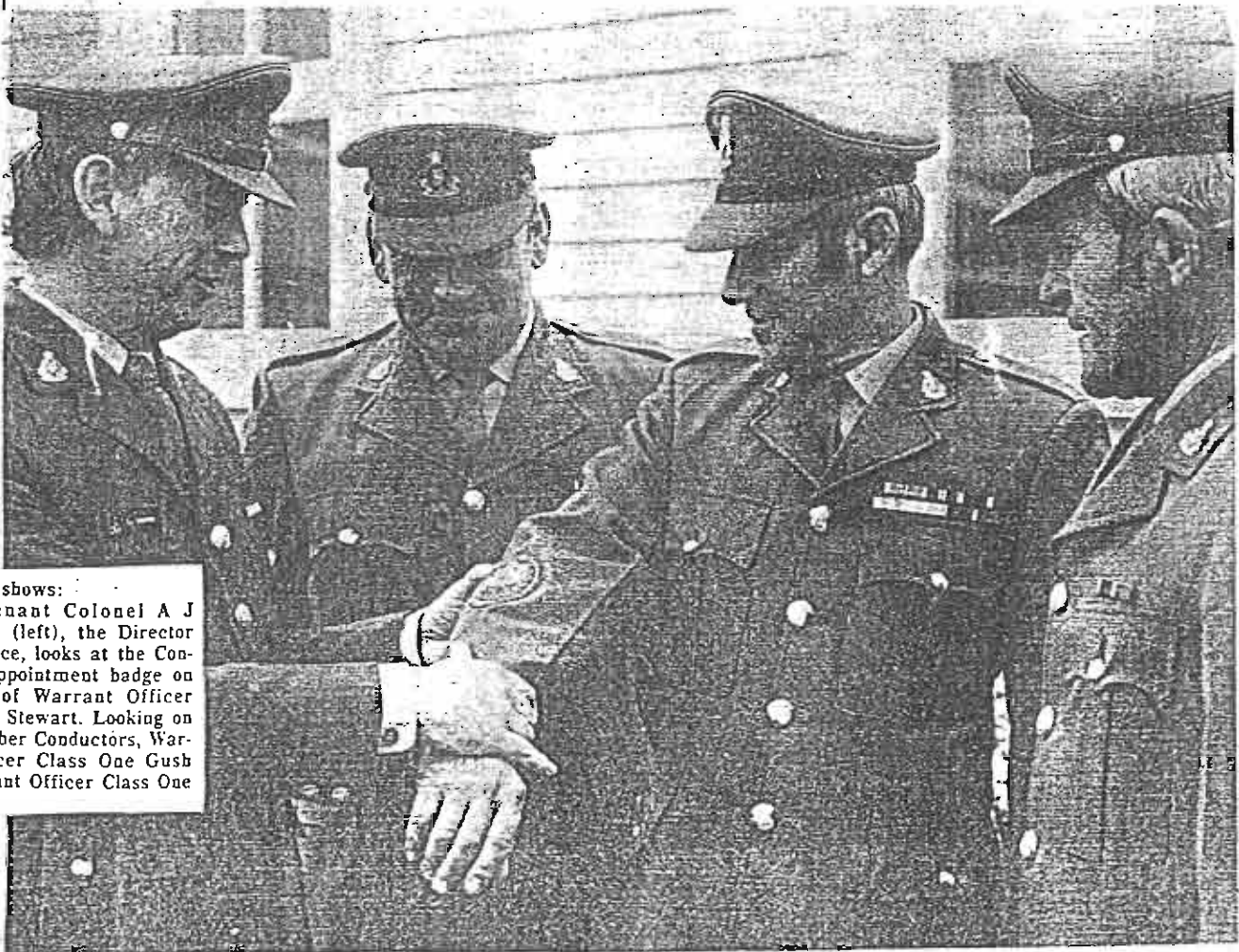
Warrant Officer Class One G.T. Dimmock, CAT 3 Supply Coy

Warrant Officer Class One B.A. Gush, RSM RNZAOC School

Warrant Officer Class One B. Stewart, SWO Base Ordnance Depot

The appointment of Conductor can be awarded to a maximum of five personnel at any one time and they are approved by the Director of Ordnance Services.

Old title back in the Army



Picture shows: Lieutenant Colonel A J Campbell, (left), the Director of Ordnance, looks at the Conductors appointment badge on the arm of Warrant Officer Class One Stewart. Looking on are the other Conductors, Warrant Officer Class One Gush and Warrant Officer Class One Dimmock.

The Chief of the General Staff, Major General R D P Hassett, recently approved the reintroduction of the appointment title of Conductor, Royal New Zealand Ordnance Corps.

CHAPTER TWO - THE EARLY YEARS

INTRODUCTION

Colonialisation of NZ by the British, brought the traditions and heritage of the RAOC to this country, and during the NZ Wars of the 1840s & 1860s, there were members of the Board of Ordnance here providing the supply services. Ordnance support to the British Army in NZ must have been extremely difficult. The Army was deployed at the extreme edge of the Empire, creating a long line of communication, there were no roads or railways, the land was rugged and the going difficult in the bush. The foe was most formidable and in addition there were very few local resources for the Army to procure, either from friendly Maoris, or the fledgling European community of the colony.

COLONIAL STOREKEEPER

The function of the Ordnance Corps in NZ began with the appointment of Mr Henry Tucker as the Colonial Storekeeper at Auckland on 23rd August 1841. His function was to store and issue arms to settlers should the occasion arise. By December 1842, Tucker had in store the following items:

- 46 Bayonets
- 53 Muskets
- 2 Carronades 18pr
- 3 Cannons
- 3 Camp Ovens

Tuckers appointment was cancelled in 1844 and he was directed by the Colonial Secretary to hand over his stocks to the Superintendent of the Public Works. However, Henry Tuckers name lives on in the RNZAOC today, in the form of the "Henry Tucker" club meetings. These gatherings are used by senior military storekeepers in various locations to discuss matters of a mutual interest. Usually, alcoholic stimulants are consumed at these meetings and poor old Henry would probably turn in his grave if he knew that his name was now synonymous with a "booze up".

As mentioned in Chapter 1, Mr William Plummer "Clerk of Ordnance", acted as the representative of the Board of Ordnance for the handover of the stores between Henry Tucker and the Superintendent of Public Works.

NEW ZEALAND WARS

Careless land purchasing by NZ Company agents, led to the first violent clash to take place after 1840. This was the Wairau affray. On the 17th June 1843, the local magistrate and fifty armed settlers set out from Nelson to

enforce a claim to land at Wairau which they believed they had purchased. The Ngati Toa chiefs Te Rauparaha and Te Rangihaeata, great generals of the Musket Wars, believed that their people owned the land, and had not been paid for it. Similar disputes had been settled by compromise or set aside for subsequent adjudication, and in this case Te Rauparaha, a strong advocate of interaction with Europeans, was willing to negotiate. But the settlers attempted to arrest him; to apply British law to a Maori chief. Firing broke out, and the settlers were routed by an equal number of Maoris. The Maoris lost four killed, and the British lost twenty two, including some slain after capture. The British took no action over this incident, mainly because they lacked the military resources, and large scale conflict was thus avoided until the Northern War broke out in 1845.

Despite Wairau, the competition between British and Maori military systems had, for the latter, an unpromising starting point. Maori tribal forces were qualitatively superior to untrained and ill organised posses of armed settlers. But the professional military forces of the British Empire were another matter. Maori disadvantages did not lie in the area of small arms. It seems that, from 1830 if not earlier, the Maoris were able to insist on weapons of reasonable quality, avoiding the "sham dam iron" guns made in Birmingham and Liege for the Africa trade. Such guns cost five or six shillings each, and 8,000 muskets exported from Sydney to New Zealand in 1830-31 had an average value of twenty seven shillings each. Particularly in the areas of longest contact with Europeans, such as the North, the Maoris were able to supplement their original flintlocks with double-barrelled shotguns and percussion lock muskets by 1845. In the Northern War of 1845-46, they were therefore on a par with the British, who had yet to complete the change to percussion locks. By 1860, most Maori guns were apparently percussion locks, but the British had by this time switched to enfield rifles, firing the expanding Minie bullet. These were far superior to muskets in range, power and accuracy. These advantages were balanced, however, by a lower rate of fire, and a degree of parity in small arms persisted. The Maoris had difficulty with repair, replacement, and ammunition supply, (familiar problems) but inferiority in small arms weaponry remained the least of the Maoris' problems.

The two basic Maori disadvantages were also the simplest, though their importance is hard to over emphasise. Maori society had no professional warrior class, and it produced little in the way of an economic surplus. The military force was a vital part of the labour force; economically, it could not be spared for more than a few weeks and as a result traditional Maori warfare had the character of sporadic raids rather than campaigns. The Maoris therefore faced the same problem as any tribal people in conflict with a regular army; a totally inadequate capacity to sustain a war of any length.

This compounded the second problem of inferior numbers. Maori political entities were very small. Population figures are unreliable before 1858, but the thirty North Island tribes averaged something over 2000 people in 1845, and

the hapu, or sub-tribe was often the unit of military action. Even when substantial combinations occurred, the need to divide the warrior's time between the cultivations and the battlefield kept numbers low. Though the British Empire did not commit a significant fraction of its resources to New Zealand until 1863, the troops outnumbered the Maoris in virtually every campaign.

Other important areas of Maori disadvantage related to the nature of their enemy. Many writers have remarked upon the weakness of the nineteenth century British army, and one New Zealand historian has described it as a collection of "scum led by fools". Despite its undoubted weaknesses, the British army had a high tactical success rate against European and non-European enemies alike. The fiasco of the Crimean war arose primarily from logistical failings. It was not so much that the logistic system was flawed, but that it did not exist. There was no comprehensive supply and support organisation designed to sustain an army in the field. Logistics were organised in ad hoc fashion, for each particular campaign. This meant they could be either good or bad, depending on environmental conditions, the size of the force involved, and the commander's grasp of the importance of logistic planning. In New Zealand, despite persistent problems with such things as land transport, British logistics were usually reasonably good.

Kororareka

In March 1845 there was little Fitzroy could do after the fall of Kororareka but place Auckland in a state of defence and await further reinforcements from Australia. At last, on April the 22nd, these arrived in the form of 215 men of the 58th Regiment. Fitzroy felt he could waste no time in mounting a punitive expedition. Within four days a British force was sailing north towards the Bay of Islands. The British expedition consisted of 300 regulars, about forty European volunteers, and some 120 seamen and marines. The schooner "Velocity" carried ordnance stores and some men of the 58th Regiment. The force had no cannon, but it did have a couple of rocket tubes in the care of the grandly named Rocket Brigade, eight seamen strong. The commander was Lieutenant Colonel William Hulme, an officer of good reputation and considerable experience. The expedition's first act was to seize the neutral chief Pomare, who was thought to be supporting the enemy in secret, and destroy his coastal pa after his men had evacuated it. Hulme then sailed further North, and landed at Onewhero Bay on the 3rd May 1845, and immediately marched overland towards Lake Omapere to seek out and destroy Heke.

The march proved to be a difficult one. Heavy rain spoiled some provisions and ammunition and further supplies had to be ordered up from the ships. Hulme was short of transport, his men found the bush tracks difficult and, though the navy got the extra supplies up "in an incredible short space of time", the fifteen mile march to the vicinity of Heke's pa took four days in all.

Ruapekapeka

Another example of the supply and support difficulties is aptly described by the force which began landing at the Kawakawa river on the 7th December 1845. In the context of Imperial military resources, always exiguous and now further strained by the First Sikh War, it was not an insignificant force. In the context of New Zealand's isolation and of the number of men originally thought necessary to deal with the Maoris, it was a very large one. Some 1300 British were involved in all, of whom about a hundred were detached to hold the line of communication. Estimates of the pro government Maoris, now joined by Nopera Panakaraeo and some Rawara, went as high as 850 warriors, but the true figure was probably much lower. The British eventually included 800 regulars, sixty volunteers from Auckland, a naval brigade of nearly 400, and, interestingly enough, eighty sailors and artillerymen from the East India Company's European forces. The figure usually given is somewhat lower, but does not take account of 115 soldiers and some seamen who arrived during the expedition. This little army was supported by five warships and several transports. The artillery consisted of three 32 pounders, one eighteen pounder, two twelve pounder howitzers, and several lighter pieces, including four mortars. One chief of Waka's group, Makoare Te Taonui, was asked by Grey to prevent Heke, who was still at Hikurangi, from joining Kawiti. Even after this detachment, the British and their remaining Maori allies outnumbered Kawiti's Ruapekapeka garrison by about four to one.

Assembling the British army at the Kawakawa was one thing, and getting it up to Ruapekapeka, appropriately enough called the "Bat's Nest", was another. The British had to crawl over eighteen miles of hill, bush, river, and ravine, hauling thirty tons of artillery along with them and cutting their road as they went. It took them over three weeks to get the whole column up, but by Christmas the first echelon of 700 men and a couple of guns were before Ruapekapeka.

It is interesting to note how the Maori changed his military tactical and logistic thinking to counter the British army at Ruapekapeka. The strategic character was more directly important at Ruapekapeka than at the two earlier Northern War pa, Puketutu and Ohaeawai, but the relevant features were common to the three pa. In April 1845, as soon as he heard that the British were mounting an expedition against him, Hone Heke had begun building Puketutu pa. He had a small pa at Te Ahuahu, guarding some cultivations, yet he went to the trouble of building another, several miles away, from which to face the British. After the British attack failed, he abandoned Puketutu while under no pressure at all. Yet when Te Taonui and Waka Nene seized Te Ahuahu, he immediately made strenuous efforts to retake it. Kawiti also had several pa, but he too chose to build new ones from which to fight the British. At Ohaeawai, he applied all his energy and genius to smashing the assault on the 1st July, only to abandon the pa on the 11th of July when all serious danger had passed. All three Northern War pa were built deep in the interior, approachable only by difficult bush tracks, quite isolated from the main areas of cultivation which pa were

normally supposed to protect. They were surrounded by rough country, but at the same time they were relatively easy to attack once their vicinity was reached. An enemy who struggled up the miles to each pa would, on at least one face, find the remaining yards fairly easy to cross.

Why did the Maoris build these pa to face British expeditions when others were available? Why were they prepared to abandon them and not others? Why did they build them to be difficult to approach from the coast, yet easy to attack once the long haul had been completed?

Clearly one reason for the changes was that a purpose built pa could be specially tailored to counter European warfare, it could incorporate the improvements and innovations in construction which had proved so effective at Ohaeawai. But this was by no means the only reason. Of the rest, the most basic was the change in the function of the pa. In contrast to older pa, the Northern War pa had no direct strategic or logistic importance. They did not guard borders, command important routes of communication, or protect cultivations. They did not hold tribal reserves of food, ammunition, and seed crops, nor did they contain canoes, nets, tools, or other equipment. They did not act as citadels for tribal populations, their garrisons consisted mainly of warriors. In short, the new pa had virtually no inherent value. In contrast to traditional pa, they could be abandoned without a qualm.

The concentration of the largest force yet seen in New Zealand was a difficult and expensive process. This force had to be shipped from Auckland to the coast, and it was then that the major problems began. The troops with their carts and guns crawled through the bush clad hill country at a mile a day, cutting their road as they went. They had to be fed on the way, and both men and guns had to be supplied through the eighteen days of bombardment.

The Taranaki War

Whatever its political connections with its predecessor in the North and its successor in Waikato, the Taranaki War of March 1860 to March 1861 was militarily a separate conflict. It was fought in a different area, and there were certain differences in the strategic context. In contrast to the Northern War, the British had the advantage of interior lines and of relatively easy access to the seat of operations. The theatre of war extended North and South of the main British base at New Plymouth, and the troops were rarely called upon to walk more than twenty miles from this base. contemporary writers made a great deal of the unfavourable terrain in this area, and it is true that the interior of Taranaki province was mainly dense forest. But operations were restricted to the coastal strip. Part of this was Maori and European farmland, and the rest was rough but penetrable, even by convoys of carts.

In contrast to the Waikato War, the main combatants on the Maori side did not have to protect their logistic heartland. The Waikato Kingites fought outside their

own territory, travelling to and from Taranaki when they chose. They therefore had substantially more freedom of action than in 1863-64. This war was notable for the intervention of the King Movement and the battle of Puketakauere. This event marked a major departure in New Zealand history, the first clash between the British and a substantial combination of Maori tribes fighting as a single, supra tribal entity. Though some young men may have been primarily interested in plunder and excitement, the Kingites as a whole entered the war reluctantly, cautiously, and with defensive objectives in mind. It was not until the Battle of Puketakauere on 27 June 1860 that substantial Kingite involvement became a reality. The possibility of intervention, however, had a considerable effect on British strategy prior to this.

The two principal limits to the Kingite commitment to the Taranaki War were that no more than a quarter of the available warriors fought in Taranaki at one time, and that care was taken to restrict the war to that province. These restrictions seemed strange to the British commentators. They observed that for Waikato the Taranaki war was almost a seasonal sport. It became the fashion for all the adventurous men to spend a month or two in the year in Taranaki. They noted with some irritation that warriors walking in the streets of Auckland had been killing Englishmen the preceding month. "Rifles and tomahawks at Taranaki and fraternization in Shortland Crescent". But only a few Europeans realised that this tacit neutrality pact combined with the circulation of warriors between Waikato and Taranaki to form the very foundation of the Maori war effort. It was only by operating a sort of shift system that the Kingites were able to keep a substantial number of warriors in Taranaki, and so partly overcome the great disadvantage of a tribal socio-economy in conflict with a professional army.

The same logistic problem was further minimised by the continued availability of markets in the Auckland province. This was particularly important as regards ammunition. The war had led Browne to tighten restrictions on the sale of ammunition and arms to the Maoris, but peace in Auckland made it far easier to circumvent these and to obtain the ready cash necessary for illegal purchases. Transactions on the coast with visiting ships were a source of ammunition, and these were probably not entirely cut off even during the Waikato War, but some of the rare hard evidence on the blackmarket in arms indicates that important purchases were made on European land to the South of Auckland. Money for such purchases came largely from trade with the Auckland province.

Another element of the Maori strategy consisted simply of an offensive against settler property. Raids to remove or destroy houses and household goods, stock, crops, and agricultural equipment. The Southern tribes commenced looting in the first week of the war, though it may be noted that the Maoris claimed that the British had begun the chain of destruction by destroying Kingi's property on the Waitara block. The removal of crops and cattle deprived the British of supplies and forced them into greater dependence on the New Plymouth roadstead. It also went some way towards solving the Maoris' own acute problems of supply, and so enabled them to

remain in the fields for longer periods. Ngati Ruanui at least did not consume all the stock they captured. In 1865, British commissariat officers in their territory noted the thriving herds of thoroughbred horses and cattle. A little known effect of the War of 1860-61 was the creation of a pastoral boom amongst the South Taranaki Maoris.

The Fight at Boulcott's Farm

In the narrative on the fight at Boulcott's farm there is mention of the role of the local Ordnance soldier. Two miles above the stockade at the Hutt Bridge a pioneer settler, Mr Boulcott, had hewn a home out of the forest. His clearing bordered the left bank of the Hutt river. Today, this area is called Military Road in Lower Hutt and is directly opposite the Hutt Hospital.

Boulcott's Farm was the most advanced post of the Regular troops in May 1846 and here fifty men of the 58th Regiment were stationed under the command of Lieutenant G.H. Page. It was upon this post that the Maoris, under Rangihaeata's orders and led by Topine te Mamaku, of the Ngati-Haua-te-Rangi, Upper Wanganui, made a desperate assault at daybreak on the morning of the 16th May 1846.

Lieutenant Page's house was surrounded by the Maoris in a very few moments after the destruction of the picquet. Page, on the first alarm, had snatched up his sword and loaded pistol, and rushed out with two men, but was confronted by scores of natives. Driven back into the cottage, the three sallied out again, and, joined by several soldiers from one of the sheds, they fought their way to the barn, firing at close quarters at their foes, who attempted to charge in upon them with the tomahawk. The party of men in the barn, three sections, each under a sergeant, fought their post well and successfully, taking turns in firing through the light stockade and in returning to the shelter of the building to reload. The Maoris evidently had calculated on completely surprising the troops, but what they did not accurately estimate was the steadiness of disciplined Regular troops.

A little later that morning John Cudby, a youth of seventeen, who was engaged in carting commissariat from Wellington to the troops at Boulcott's farm (for Mr WB Rhodes, the contractor for supplying rations), harnessed up in the yard of the Aglionby Arms, Burcham's Hotel, near the bridge stockade, and drove out into the bush for the front, unaware of the fight which had just been waged a short two miles away. In this duty it was the practice of Cudby and the other carters to bring out their loads along the beach road as far as Burcham's in the afternoon, stay there that night, and go on to Boulcott's farm or the Taita in the morning. Cudby had previously had the protection of an escort of fifteen men under a NCO, but, to use his own words, "the poor fellows at the stockade were worked to death, and so I said I'd do without them in the future." His sole companion henceforth was a clerk, the military issuer, (probably a member of the Board of Ordnance).

The carter and his companion were in the middle of the bush, jolting along boggy patches of road, when they were met by two men in a cart driving furiously from the camp. One of them shouted for Cudby and the military issuer to go back but being resolved to fulfil his duty Cudby drove on to Boulcott's to get the rations through. When he arrived at the camp he saw laid out in the barn six dead bodies, the soldiers who had fallen. Meanwhile bodies of troops despatched by Major Last, who had been informed of the attack by messenger from the front, were on the march out from Thorndon barracks and the Hutt stockade to reinforce the camp. These troops reinforcing Page drove the Maoris into the bush and silenced them.

The Waikato War

The British forces performed three basic functions during the Waikato War.(9) All three functions involved some danger and all were shared by Imperial Infantry, whom no one could deny were "effectives". The first was the transport of supplies through the war zone. This task was undertaken by the Commissariat Transport Corps assisted by sailors and the Waikato Queenites. The second role was the protection of the communications system. The number of troops devoted to this depended on Maori action. The third role, forming the column of attack, may seem the most important but in a sense it had the lowest priority. The supply system had to be manned and protected before the column of attack could exist.

The commander of these forces, Lieutenant General Duncan Cameron, was an unusually able commander. He was thorough and cautious, yet capable of bold initiatives when the situation warranted them. He showed more flexibility and willingness to learn than other British commanders in New Zealand. General Colin Campbell, Lord Clyde, reportedly considered him to be "the finest soldier in England" and in other circumstances he might well have ranked with Wolseley and Roberts among Victorian generals. The parallel is reinforced by the calibre of Cameron's staff. DJ Gamble, the quarter-master general, H. Stanley Jones, the commissary-general, Robert Carey, the adjutant-general, James Mouat, the principal medical officer, and such staff officers as WH St Hill and GR Greaves, were all capable and energetic men. Gamble, in particular, was a most zealous officer and one of rare business abilities.

Cameron and most of his staff had served in the Crimean War, and they were determined to avoid a repetition of that logistic fiasco. The ordinary supply difficulties of a campaign in Waikato were not inconsiderable, despite the advantages offered by the river and the relatively favourable terrain. As Martin van Creveld has pointed out, armies lacking railways generally relied on the war zone for their supplies, more often through contracts than plunder, and the ad hoc character of commissariat organisation reflected this. But Auckland settlement could supply only a fraction of the army's needs and the Waikato district could supply less. Most requisites had to be imported from England and Australia, and then transported up to 100 miles into the interior, a process which sometimes required a dozen changes in types of carriage. These basic problems of supply, difficulties which did not involve Maori action, were tackled by the British with complete success. Men complained about the size of the pickle ration, and at one point some Waikato Militia were reportedly left in a shameful state of semi nudity, but no soldier ever starved in Waikato, and the sick rate never exceeded five per cent. The efforts of Cameron and his staff were one key to this, and their success makes it clear that the British learned something from the Crimea.

The other key consisted of Grey's preparations. The transport services were greatly expanded during the war, but the Corps created in 1862 to supply the road building was the vital kernel. Grey's preparations and the talents of Cameron and his staff ensured that as far as natural obstacles were concerned the British invasion ran like a well oiled machine. The campaign was one of the best prepared and best organised ever undertaken by the British army.

The logistic problems encountered by the Maoris during the Waikato War were of a different nature. On three occasions the Maoris assembled armies of between 1000 and 2000 men and maintained them for three months, at Meremere (August-October 1863), at Paterangi (December 1863-February 1864), and at Hangatiki and Maungatautari (April-June 1864). The strains of supply and lost labour were so great that each of these concentrations had to be followed by dispersal, and these cycles had an important effect on operations. These two patterns meant that Maori strength at any one time substantially understated the total mobilisation. It is quite true that the peak Maori strength at one time and place was about 2000 warriors, but of course this number reflected a higher turnover. An overlap in personnel between the three armies certainly existed, it was this which made the strain so great, but it was far from complete. Each army included warriors who had not served in either of the others. Furthermore some hundreds of warriors who had not served in any of the great armies fought in the Tauranga campaign, which was an integral part of the Waikato War. It is therefore safe to conclude that the total Maori mobilisation was not 2000 but at least 4000 warriors. This excludes the men involved in the sporadic and muted operations in Taranaki. If one in four of the total Maori population of the North Island was a warrior, then 4000 men represents something like one third of the total manpower available.

Methods of supply, recruitment, and command are more difficult to assess than numbers. It is true that Maori organisation was informal and unstructured. But the absence of European forms of organisation does not mean that organisation per se was absent. A Maori conference had no chairman, no agenda, and no vote, but it could reach a concensus and act on it. All that can be said about Maori logistics is that large numbers of men were clearly fed for substantial periods during which they produced very little themselves. At Paterangi, the Maori army was supplied from the rich agricultural district nearby, but even here the collection, distribution and transport of provisions required some degree of organisation. There is no way the Meremere army could have been supplied from the locality, and we can be certain that this concentration demanded the transport of hundreds of tons of food and ammunition over long distances. These goods were probably carried by canoe, and in this sphere the Waikato River was as important to the Maoris as it was to the British.

In mid August, the British had established a supplementary line of supply utilizing the Waikato River. Provisions were brought from Onehunga to the Waikato Heads by steamer, then transferred to canoes and paddled upriver to Queen's redoubt by the pro British warriors of chiefs Te Wheoro and Waata Kukutai. A protective redoubt at Tuakau, garrisoned by a detachment of Imperial regulars, and an intermediate depot at Camerontown, guarded by more pro British Maoris, formed vital parts of the system. the whole operation was directed by James Armitage, the resident magistrate of Lower Waikato. The system cut out fifteen miles of difficult overland carriage from Drury to Queen's redoubt, it utilized the greater carrying capacity of water transport, and because the pro British Maoris were prepared to provide most of the labour, it made few inroads into Cameron's own strained manpower resources. In all it was vastly preferable to the alternative route, and may well have become the main British line of supply. Cameron and his staff were well aware of these advantages and they greatly appreciated the services of the Queenites.

Once it became apparent that the route was to be a major part of the British system of supply, the Kingites decided to destroy it. From their base at Pukekawa, a party of about 100 warriors, mostly Ngati Maniapoto, launched a surprise attack on Camerontown on the morning of the 7th September. Armitage was returning downriver with a convoy on that day, and he co-incidentally decided to go on ahead himself to borrow an extra canoe. Around 8 a.m. he stopped at Camerontown. The Ngati Maniapoto war party were hidden in the bush near the river bank, perhaps waiting for the convoy to arrive and augment their catch, but when Armitage and four of his assistants began to re-embark, they sprang their ambush. they killed the five men and then attacked the depot and its protecting pa. As their subsequent defection proved, the garrison of Camerontown, men of the Ngati Whauroa hapu, were rather luke warm Queenites and they put up little resistance. Colonist writers saw this as confirmation of their suspicion that the "so called friendly natives", were all Kingites at heart, and it generally believed that the Ngati Maniapoto took

Camerontown without much of a fight. But it seems clear that more Queenites, probably the men of Armitage's convoy, came up after the flight of Ngati Whauroa and engaged Ngati Maniapoto. The course and casualties of this second action are unknown, but it involved a quarter hour of heavy firing, and it is clear that Ngati Maniapoto had the better of it. They burned the depot and its protecting pa together with over forty tons of commissariat stores.

It seems that the war behind the front was not a cattering of revenge raids, but a co-ordinated part of a well planned and effective Maori strategy, carried out under the auspices of the Kingite "high command". Like one subordinate element of the Taranaki War strategy, and unlike most Maori operations, the raiding campaign had the character of a guerilla war. The Maoris made good use of the bush and they did prove extremely elusive. Causing the enemy heavy casualties in close combat was less important than forcing him to spend more men on protecting his communications. These guerilla operations were only a part of the Maori strategy. The other, more conventional part, was the Meremere line. The two elements were inter-dependent. The line provided secure bases for the raiding campaign, and the raiding campaign prevented the concentration of a large force against the line. As a whole this strategy was enough to stop an army which grew from 4000 to 8000 men, for fourteen weeks, despite the careful British preparations for war. The Maori army which achieved this feat is not likely to have exceeded 1500 men.

The effects of the raiding campaign did not end with the fall of Meremere. The Maoris had conclusively shown that they could seriously threaten British communications, and whether they actually mounted such threats or not, Cameron could not afford to relax his hold on the area behind his front. Isolated Maori operations behind the lines during the succeeding months served to remind him of this. In mid November, Cameron sent 800 men to the Thames to form a line of redoubts westwards to Queens Redoubt, so as to hamper Maori access to the East of Lower Waikato. The following month, a 700 men expedition to Raglan performed the same function for the West, and throughout the war Cameron devoted the majority of his men to the protection of his supply lines. The General was not jumping at shadows. That the Maoris should raid infrequently when the rear areas were well protected was no proof that they would continue to do so if the protection was removed. Another loss of provisions on the scale of Camerontown might well have forced the British to retire back to Auckland. Cameron could not take this risk, and so his very large army was transformed into a much smaller striking force for each battle.

The Paterangi Line

As a final example of the logistics of the Maori Wars and the ordnance type functions carried out by the British army, it is interesting to look at events soon after the fall of Rangiriri. While the Maoris were fortifying the Paterangi Line, the British were crawling towards them from Ngaruawahia. Cameron occupied the Kingite capital on the 9th of December, but he did not move south to Whatawhata until two

weeks later. On the 1st January 1864, he moved on a further five miles to Tuhikaramea. He did not continue up the Waipa river towards the Maoris until the 27th of January. He then marched to Te Rore, facing the Paterangi Line, but it was not until the 20th of February that he made any aggressive move. As they had done before and after the fall of Meremere, the colonist press complained loudly about the delays, but there were good reasons for them. The first was simple logistics. By January 1864, the British had 7000 men south of Ngaruawahia, and the difficulty of supply naturally increased proportionally with numbers and distance. The second reason was bad luck. On the 8th February the Avon struck a submerged tree in the Waipa and sank. With the Pioneer, this steamer was the centrepiece of the transport system. It not only carried twenty five or thirty tons of supplies itself on each trip, but also towed several barges carrying more stores. For a few days, the fate of the Waikato invasion hung in the balance while desperate efforts were made to complete the fitting out of a third steamer, the Kcheroa, which had just arrived in Auckland. The supply situation was so urgent that it was decided to launch her as she was, a mere shell, and matters became even more critical when the vessel burst several plates in her hull at the Waikato Heads. It was only when the vessel arrived at Te Rore on the 18th February, with thirty tons of supplies that Cameron was able to proceed against Paterangi. Had another delay of a few days occurred the British would have been compelled to fall back. The Koheroa had been ordered a year before from the Sydney shipyards, and the importance of the British preparations for invasion could hardly be more clearly underlined.

The third factor behind the slow British advance was essentially the after effect of the Maori campaign against enemy communications of July-October 1863. Every precaution was taken to secure the advance up the Waikato country, and to prevent the supplies being intercepted. Cameron's striking force in January 1864 was nearly 3000 strong and not many more than 500 men would normally have been needed to supply this force, so half the 7000 men south of Ngaruawahia were devoted to protecting the line of supply. The need to protect communications greatly compounded the other two problems behind the slow advance. Twice as many men had to be supplied, and the margin for such accidents as the sinking of the Avon was gravely reduced.

The slow British advance did not relieve the pressure on Maori resources completely. The distance between Ngaruawahia and Paterangi was short, and the line had to be manned and supplied against a sudden British thrust, but the delays did provide a chance to complete the works, and by the end of January they were formidable. Inevitably, given the size and function of the line, it was not possible to conceal their strength as had been done at Rangiriri.

COLONIAL DEFENCE

Defence Policy

By 1866 the urgency of the situation in the

Waikato and Taranaki had diminished and the Imperial troops who had numbered up to 10000 during the campaigns were gradually withdrawn. Early governments never intended that the Defence Department should be permanent and forces were raised only to meet the threat of war with the Maoris. Their place was taken by the Armed Constabulary which was formed in 1867. This was the permanent armed police force, the forerunners of the present Police Department.

The Volunteer Army

It will be recalled that the Board of Ordnance was abolished in 1855 and was followed by the formation of the Military Stores Department. In 1856 stores depots were established at Mount Cook in Wellington and Mount Eden in Auckland. The Stores Department gave excellent service to the Imperial troops during the 1860s and on their withdrawal their stores were handed over to Defence Storekeepers at Wellington and Auckland for use by the Volunteers. The Volunteer system, with its lengthy series of Acts and Regulations, was inaugurated by the Act of 1858 and continued until 1910. For long it provided the country with a very peculiar force, largely social in character, organised in the worst possible fashion and frequently reorganised with little improvement, trained under no particular system, dressed in an extraordinary variety of uniforms, and for long uncertain of the reasons for its own existence.

They were responsible for providing their own uniforms and equipment, for which purpose the Government paid a capitation allowance to Corps. Cavalry and Artillery received three pounds whilst all other Corps received twentyfive shillings. Corps were allowed to please themselves in the matter of dress and opinions varied as to the shade of the main garment. For example, in 1871 grey cloth was favoured by 22 Corps and a Mr Webb of Nelson was contracted to supply 6000 yards, however just two years later in 1873 green with scarlet facings was suggested. In 1894 a change to khaki was suggested but it took another seven years for it to be universally adopted. As was the custom in the British Army, Officers were expected to provide their own uniforms while other ranks were issued from stock. In 1880 the Government decided to issue to the Volunteers greatcoats and groundsheets but it took three years for the items to eventuate.

As you can imagine the supply situation was far from satisfactory which unfortunately reflected the state of the whole army. Every few years the Force was inspected, sometimes by an imported Imperial officer, sometimes by the Commandant or a senior Volunteer officer. Their reports are all alike. That of Major Gordon in 1874 said, inter alia:-

1. The whole system is inefficient, lax and wasteful.
2. Artillery armament is most varied, quite unorganised, and depends on the whim of the individual corps.
3. No two companies in the colony are dressed alike.
4. The instructors are quite unqualified.

5. Why they attend drill at all is a matter of much surprise.

One corps which he criticized held an indignation meeting and passed a vote of censure on him. However, the picture was not wholly black. He reported on many corps as quite efficient and as doing their best with poor equipment, bad instruction, no manuals, and little money. All stores supplied to the Volunteers were issued through the Staff Officer of the district to the Officer Commanding the Corps. In 1900 it was the opinion of a secret joint defence committee that matters of finance, and the ordering and receipt of military stores should belong to the department of the Under-Secretary of Defence. And that on receipt, taken on ledger charge and issued by that department to the commander of the forces for issue to corps through districts. The tremendous paper trail involving forms and book entries must have been very frustrating.

In 1887, because of retrenchment, the Auckland depot was closed down and magazines were used. This made Mount Cook in Wellington as the main depot. Like uniforms, weapons held on charge in the early 1870s left a lot to be desired. The Volunteers were equipped with Terry BL Carbines, the total stock being 1200, while the Militia were in possession of a Martini/Henry pattern. The Defence Department ordered 500 Snider Carbines from England and by the end of 1874 all Enfields and Terrys were recalled into store for disposal. Martini/Enfields were introduced in 1897 to replace the Sniders which were fitted with triangular bayonets, and these were in turn replaced by the well known .303-in Lee Enfields in 1904.

Stores Depots

In 1900 the Parliamentary Estimates provided for the erection of Mobilisation Stores in each centre and to make provision for the necessary staff. A store was in the process of construction in Christchurch, money sanctioned for one in Wellington and Dunedin, but there was no requirement in Auckland as magazines could be used. Land was purchased at Trentham for a rifle range and camping ground in 1901 and by 1907 the Stores had been completed and Storekeepers appointed under the control of the Officer Commanding each District. Some of these Storekeepers were granted honorary rank and attached to the New Zealand Staff Corps on 13 February 1916, and later transferred into the NZAOD on its formation. Appointments were held as follows:

- a. Christchurch Mr ARC White later 3rd Class Officer
- b. Dunedin Mr OP McGuigan later 4th Class Officer
- c. Wellington Mr FE Ford later 3rd Class Officer
- d. Auckland Mr WT Beck later 4th Class Officer

Formation of the Ordnance Corps

The formation of the Ordnance Corps within the framework of the New Zealand Army was first recommended by Major General JM Babington as far back as August 1904. Again in 1905 he stated in his Defence Forces Report to Parliament that the civil staff engaged in the ordnance function should be established as an Ordnance Corps as part of the permanent army and not controlled by the Under-Secretary of Defence. His recommendations were not agreed to, in fact, the Government of the day always considered that the business side of the army should be dealt with by civilians and that only the pure military side should be placed under direct command of the Army Commander. This view still persisted in 1918 when the Defence Expenditure Commission deemed it expedient to inquire into the financial administration of the Defence Department.

Field Marshal Viscount Kitchener when invited to inspect the New Zealand Forces at the request of the Right Honourable Sir JG Ward, the Prime Minister, stated in his report on 2 March 1910, that an Ordnance Corps should be formed. The following year saw Major General AJ Godley state in his Defence Report that the following Imperial Officers had been appointed as follows:

Major (Temp Lt Col) GN Johnston, RA, Director of Ordnance and Artillery wef 11 May 1911.

Captain JS Maidlow, RA, Assistant Director of Ordnance and Instructor of Artillery wef 28 July 1911.

These officers were lent by the Army Council for a period of three years to assist in the formation of the Citizen Army. From a perusal of the Defence Report dated 20th June 1913 there is reference to the New Zealand Ordnance Department and the New Zealand Ordnance Corps with an extensive list of the responsibilities of the Director of Equipment and Stores. Further in the report is the following extract:

"Ordnance depots will be established at this year's camp, and the nucleus of an Ordnance corps formed by the training of selected officers and NCOs at the same time as those for the Army Service Corps".

14 October 1912 page 37.

Sir Ian Hamilton, the Inspector General of Overseas Forces, after inspecting the New Zealand Army, rendered a most castigating report to parliament on 4th June 1914. Little did he realise that he was to command the Gallipoli campaign the following year in which New Zealand made such a heroic stand. In his report he stated that the evils arising from a lack of homogeneity are well exemplified in the existing state of the Ordnance Department, two thirds of whose members are under the Defence Department, and one third under the Public Service Commissioner. I venture to suggest that not a scull, either in the Ordnance Department itself or outside of it, can be found to defend the system, or rather, want of system. He went on to state that the

institution of a new business department and a strict observance of the duties assigned the General Staff and to the Adjutant General, will render the retention of the Chief of Ordnance's department unnecessary. A system which places the command and administration of the Corps of Artillery and Engineers apart from the rest of the Army is a bad system, and should be abolished forthwith.

The scope of the duties of the Director of Ordnance were listed on page 28 of Hamilton's report. The director was responsible for armaments and all accessories; coast defence, Defence Department's vessels; reserves of arms and ammunition; technical equipment and vehicles of Artillery and Engineer units; guns; ordnance and field gun ammunition; permanent fortifications and works; Artillery and Rifle ranges; control and distribution of Permanent Force; and Inspection of Artillery and Engineer duties. How different from the role of the Director today.

The Artillery Stores Section

As early as 1911 regulations laid down that the Director of Ordnance and Artillery (DOA) was responsible for the training and organisation of the New Zealand Army Ordnance Corps (NZAOC). The duties of the NZAOC have a familiar ring them similar to the present DOS Instructions. The role then was to receive, hold, issue, and account for munitions of war required for all branches of the Army, including all military stores, clothing and necessities for use in camp and in the field. The DOA was also responsible for the provisioning of ammunition, guns, carriages, technical stores and equipment. Another area was the setting of scales for ammunition reserves, the pattern and inspection of small arms and their ammunition.

The DOA at that time was Lieutenant Colonel GN Johnston and he was rather perplexed between the responsibilities of his duties, and those of the QMG. In a letter to the QMG he outlined the overlapping of similar responsibilities and asked him for a clarification. In reply the QMG agreed that the procedures were faulty as they stood and would recommend an amendment. He also mentioned that they were the procedures of the British Army, which is not surprising for at this time there was a strong British influence in our force.

It is on record that during the early pre-corps days the Artillery Stores Accountant at Wellington, Lieutenant RGV Parker, was asked by the DOA (Lt Col Johnston) for a return on the making up of ammunition locally. Lieutenant Parker's return was detailed and compared the cost of imported made up ammunition, with the cost of made up ammunition and components of a local variety. Ammunition covered the current range of 6pdr, 12pdr, 18pdr, 4.5-in How, all Quick Firing (QF) and Breech Loading (BL) 2.75-in, 6-in, and 8-in guns. His estimated saving of cost, excluding labour, was some £3333.15.0, in favour of the local effort which costed out at £5683.11.10.

Lieutenant Parker also recommended that an Ordnance Stores Corps be formed for the manufacture and modification of ammunition. He recommended a team of six experienced gunners of the higher age group. In charge would be a capable Bombadier working under the supervision of the Master Gunner. Men selected would be employed solely for this task and would not be called on for other jobs or work. Of extensions for engagement, he suggested that it rested on industry and efficiency. His alternative idea was to engage six gunners whose time had expired, but had acquired considerable experience in the making up of ammunition. Lieutenant Parker added that this proposed Ordnance Corps, as another Artillery section, would be entitled to the same allowances as the RNZA. He prophesied too the need for occasional work parties.

Surely here, in this subaltern's return for ammunition manufacture, he has unconsciously (perhaps), conceived the Ammunition Technician (AT) trade. Indeed, in its metamorphose state the seed of an Ordnance Corps was sown.

The section idea was discussed and deliberated on at various levels up and down the chain of command. By mid 1914 it was on the Minister of Defence's desk from the then Commander of the New Zealand Forces, Major General Godley. After a small query on payment, the idea was approved by the Ministry and the "green light" was given for the official establishment.

By the end of 1914, formation of the Army Ordnance Corps was under way and HQ RNZA approached the Adjutant General's branch for advice on pay, establishment and conditions of service. The Inspector of Artillery also urged for formation of the section. He reasoned that as most of the men who had experience in laboratory work were due to retire, under the new proposed conditions they could be eligible for a transfer. This in effect meant they could serve up to the age of sixty. Because a formed Corps would take two or three months to get going, it would be necessary to put the men through a course to bring them up to scratch. There was already in hand, a good deal of preparatory work to be done before production could start, as there was a considerable number of neglected cartridge cases. The Inspector of Artillery vied for cleaning up the contaminated cases, and advocated commencement at once to ease the backlog of work when the cordite and components did arrive.

Machinery had already been ordered, some of which had arrived, and the balance was on promise for early delivery. Cordite and components had been ordered from Great Britain and by this time the Great War had started. Ammunition was then at a premium, both for active service and training and for New Zealand to make up her own certainly showed sound reasoning.

In a letter to the QMG in January 1915, the AG asked if the Ordnance Corps would come under the QMG's department. Lt Parker solved this problem and explained that as the new Corps was a military body it would come under the

exclusive administration and control of OC RNZA. It would not come under the QMG. To lay aside any doubt at all, the QMG established categorically that the corps was to be another detachment of RNZA as was the Electric Light Company and Field Artillery. So finally, after some twelve months of contemplation and deliberation the new artillery section had been approved by the Minister of Defence. At regimental level a promulgation was made in ROs of the 1st of March 1915:

"Establishment RNZA - Formation of Army Ordnance Corps Section".

It laid down officially the criteria to be taken. The section was to be effective as from the 1st April 1915 and was stationed at this time in Wellington. The establishment was for a bombardier and six gunners supervised under the Master Gunner who was also stationed in Wellington. The section was supplemented to the present establishment of artillery.

Pay and discipline was to be the responsibility of the OC RNZA and although the members were not to receive proficiency or good conduct pay, they would be entitled to the same allowances as other gunners of equal rank. The rates of pay were laid down for NCOs at 11 shillings a day for a seven day week. The gunners, while on a period of probation, would receive 9/3d a day for the seven day week. After the completion of the probationary six month period the pay would be increased to 10 shillings a day, that is, after being reported on by the Master Gunner as being thoroughly efficient and authorised by the OC. The Master Gunner was to receive, over and above his other pay, 9d per day for his superintendency.

Preference was given to experienced and mature applicants who were currently serving and nearing the retiring age of 55 years. They also had to be recommended by their OC. Serving applicants had preference over those gunners who were time expired. Retention was conditional to efficiency, industry, and good conduct and the retiring age could be extended to 60 years of age. Promotion would not exceed the rank of Bombardier and any promotions would be by the OC's selection. NCOs making application must understand that if successful they would be expected to revert to the rank of gunner, however, they would not have to pass a probationary period and they would be put on the higher rate of pay.

The proposed section was to be non-combatant and employed exclusively on that work. The magazine store was located in Wellington at Fort Ballance and it was here that the cartridges were to be manufactured. The Fort Ballance area is now under the Justice Department and accommodates Mount Crawford Prison.

There was some confusion at Command level regarding the raising of the Ordnance Corps section. Incredible as it may seem, the OC of the Royal Regiment of Artillery (NZ), Lieutenant Colonel JE Hume, was away from the Wellington HQ and his responsibilities were carried out by a subordinate officer, Lieutenant J Burberry. Shortly after the

promulgation of ROs Lieutenant Burberry wrote to his OC at their Auckland Regimental HQ. He enclosed the file pertaining to the section formation and requested approval of the seven selected men. A very unexpected reply came back six days later exclaiming that this was the first time he had heard of such a Corps being appointed. It also seems rather incredible that the OC went on to say that as it had been settled upon without his reference he had nothing further to say. Finally he added that if it was intended to appoint those men who were serving then the seniors with good records should get it.

This discussion was all rather academic because the response from applicants was disappointing to say the least. The OC RNZA (HQ) submitted names of potential "Ordnance Gunners", to the AG's branch for consideration. The AG maintained that further efforts should be made to obtain applicants, and the OC RNZA replied that those who had retired and had the necessary experience and had not reached 59 years of age had been contacted. All save one declined re-enlistment. That exception was ex Sergeant Murray and his re-enlistment was already under way.

There were some applications from ex RA and RNZA men but none of these had as much service as the original candidates. As there were not sufficient candidates who complied with the requirements approval was eventually sought for the following:

Ex Sergeant J Murray RNZA to be Bombadier
Gunners, on transfer from the Gunnery Section.

Gunner C. Marshall 33 years service

Gunner W. Thornton 25 years service

Gunner R. Ross 19 years service

Gunner P. Keesham 19 years service

Gunner H. J. Adams 18 years service

Gunner M. F. Johnstone 18 years service

These then, were the original members of our Ordnance Corps and the state of the ordnance services in the early part of this century, leading up to the tragedy of the Great War.

THE BOER WAR

In September 1899, two weeks before the Boer War began, New Zealand offered the British Government a contingent of mounted riflemen. The offer was accepted, although the War Office was said to be reluctant to employ colonial volunteers - on the grounds that in matters of discipline they might prove troublesome. This was a milestone in New Zealand's military history as it was the first time that New Zealand had contributed troops to an overseas theatre of war.

Logistics played a very important part in this mobilisation. Preference was given to men who could provide their own horses and who could pay for their own equipment, a sum of about £25: for those unable to pay, patriotic fellow citizens quickly raised the cost. It was a feature of the war that the public continued to directly subscribe money for equipping the troops. Ten contingents of mounted rifles, totalling 6495 men and about 8000 horses were despatched to south Africa. The term of enlistment was for twelve months, although a number of men volunteered to remain in South Africa after their term had expired and joined later contingents. By comparison with other colonies our contribution to the war, on a proportionate population basis was only surpassed by Britain and Rhodesia.

The New Zealanders were brigaded with other forces throughout the war and were not employed operationally as a national entity. Ordnance support was provided by the British Army who had no previous experience of the special logistical problems posed by this war. The zone of operations was vast and the means of communications scant, so that even when supplies were plentiful it was by no means easy to provide what was wanted where it was wanted. The war lasted nearly three years, by which time the stocks of general and warlike stores had increased enormously. The campaign developed into a war of attrition in which a mobile adversary had to be worn down. The total strength of the British force including the colonial and irregular corps reached a peak figure of nearly 450,000 men. To supply this force with war material the British AOC strength was built up from 446 all ranks in South Africa at the outbreak of war to an average strength of 1,000 supplemented by the employment of 2,000 civilians.

The NZMR built up an enviable reputation as scouts and horsemen well suited to the irregular guerilla war waged by the Boer on the veldt. They were lauded as natural soldiers. It was a reputation that the New Zealand public was more than willing to believe, however this was built largely on the performance of the first contingents. Later contingents suffered in the quality of the recruit, who was committed immediately to anti-guerilla operations with little training and no administrative support. Pay, welfare, mail and hospital care were lacking. This led to strikes which threatened New Zealand's reputation. To avoid this the 8th, 9th and 10th contingents were to serve as a New Zealand Brigade under a New Zealand commander, Col. RH Davies, with proper administrative support but the end of the war in 1902 prevented this.

No cut-and-dried scheme had been prepared for supplying the troops with equipment as they advanced, nor for repairing guns. A chain of supply linking the base with the troops in the field only existed for food and forage. For ordnance stores a supply system had to be improvised as the campaign developed. The Ordnance Corps had to work out its own salvation without assistance, yet it always managed to surmount its most pressing difficulties. This was due to the energies of the younger officers on the spot and the zeal and initiative of the rank and file, rather than to any help from

higher command or indeed from some of the senior members of the British Ordnance Corps in South Africa who belonged to the old school.

Back in New Zealand, public interest was reflected in the strength attained by the Volunteers during the war - at their peak local volunteers numbered 17,000. The cavalry was reorganised into battalions, the Lee-Enfield rifle was imported as the standard weapon and, for the first time, a standard "Karkee" uniform was adopted nationally. During the war 288 New Zealanders died, 59 of whom were killed in action, the remainder dying as a result of accident and disease. Wounded numbered 166.

CHAPTER THREE - WORLD WAR ONE

INTRODUCTION

When war was declared New Zealand was still a very young country, and depended heavily on support from the United Kingdom and Australia. Remembering that the first section of Ordnance was not formed until April 1915, and then totalling the grand sum of six men, Ordnance activity at the start of the First World War was negligible to say the least.

However, preparation of the New Zealand Army just prior to World War One was quite extraordinary. Godley had the men, the organisation and the training. He also convinced the Government to purchase the necessary military equipment. Artillery batteries were equipped with the most modern of British field pieces, the 18pdr Field Gun. Two batteries, one in Palmerston North and one in Dunedin, were equipped with modern 4.5-inch Howitzers. These would initially be the only such guns available at Gallipoli and were invaluable in the hilly country. D Battery of Wellington was to be equipped with mountain guns but the initial order of four guns delivered in 1914 were found to be obsolescent and they were returned to Britain. It appears that they were then sold to Turkey and it is possible that they were next experienced by New Zealanders on the ridges above ANZAC Cove.

It was the same with small arms and machine guns. Two machine guns were issued to each regiment of Mounted Rifles and each Infantry battalion on the same scale as the regular British Army. Each of the Infantry soldiers was equipped with a .303-inch Magazine Lee Enfield (MLE) long Mark I which had been standard issue since the Boer War. These rifles were purchased in large quantities second hand from the Canadian Government and the Enfield factory in Britain at considerable savings in cost. The most modern pattern rifle in service was the MLE short Mark III. Sufficient of these had been imported to equip the Artillery, Engineers and Mounted Rifles. In all aspects, from webbing to weapons, New Zealand had bought sufficient stocks to equip her expeditionary force. Much of the material such as clothing, boots and SAA was manufactured in New Zealand.

We had never been better prepared for war at any stage in our history. Since 1909 Defence expenditure had quadrupled and the effective strength of our forces had grown from 14249 volunteers to 25905 territorials. The scheme was not yet totally effective and would not be for another two years, but the planning had been done and New Zealand's likely war roles anticipated.

In May 1914, at the divisional annual camps, General Sir Ian Hamilton, Inspector General of Overseas Forces, reviewed the Territorial Force throughout New Zealand. His conclusions were; "It is well equipped, well armed, the human material is second to none in the world, and it suffers as a fighting machine only from want of field work and want of and ingrained habit of discipline.

In addition to the normal means of supply, individuals were encouraged to bring their own equipment. To join the Mounted Rifles one had to come equipped. Volunteers were expected to bring their own saddlery and horse. Saddles were to be "of a large strong type and must be in thoroughly good order in every way". The saddlery, if up to standard, would be bought by the government and the amount credited to the owner. Volunteers also had to bring a suitable horse which, if passed by a veterinary officer or regimental board, would be paid for at its market value. "Such value would not exceed £20. The following letter giving notice to mobilise is a good example of the equipment state of the private soldier at the start of the war:

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To Pvt P.M. Thompson
NZ Drug Co.
Burnside.

You are hereby called up for active service. You are to proceed to the Garrison Hall, Dunedin on Thursday 13 August 1914 at 9.00a.m. You will bring with you the following articles to the place of assembly:

To be worn; Complete service uniform, Service Boots, accoutrements, arms, water bottle filled with cold tea or water, strong pocket knife, about two yards of strong cord, haversack containing sufficient rations for the day, Overcoat folded- worn if wet.

As Baggage; Rolled in waterproof sheet in as small a space as possible- one double or two single blankets, dubbing for boots, empty pillowslip, change of underclothing and a shirt, pair socks, towel and soap, brush and comb, shaving material, few needles, pins and strong thread, fork and spoon and plate, pannekin distinctly labelled with name, company, regiment.

R.N. Fraser Capt & Adjt
4th(Otago)Regiment

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There was an unreal quality about those balmy days of August 1914. Despite the training it was hard to believe the country was at war. For most of the men these were lazy holidays after the hard life of the bush and the sheep runs. The army was generous in its supply of food, and much good butter, jam, meat, and bread, which would have been luxuries indeed in the months to come, went to waste in Awapuni incinerators. And day after day came cars from towns and farms and stations within two hundred miles, bringing tuckbox after tuckbox containing the choicest products of the home larders...

It was at this time that Col Malone's Wellington Battalion wore their brimmed felt hats with four distinctive dents, later known as the "Lemon Squeezer". Malone instituted this headdress in his Territorial Battalion, the 11th Taranaki Rifles, and on his appointment to command the Wellington

Battalion of the NZEF made this the headdress in the battalion. In 1916 this was adopted by the New Zealand Division. It is still worn in the New Zealand Army on ceremonial occasions.

SAMOA

New Zealand's initial response at the outbreak of the war was to occupy German Samoa. This was at the request of the Imperial Government and was accomplished unopposed on the 29th August 1914. The Ordnance line of communication unit established was known as 1 Base Depot in Samoa.

the speed of mobilisation was impressive. On the 7th August the New Zealand Government received a cable from Britain: "If your Ministers desire and feel themselves able to seize German wireless at Samoa we should feel this was a great and urgent imperial service." The New Zealand Government agreed and Godley was ordered to mobilise a force. This contingency had been planned for. It had been anticipated by Godley in 1912- "I had received a private letter from Henry Wilson, the previous year, in which he stated that in the event of a war with Germany this would probably be the first step New Zealand would be asked to take." It was Friday night, a Territorial parade night, when the instructions went out and by Tuesday 11th August Godley could report that the force of 1413 all ranks were on parade on the Wellington Wharfs, fully armed, equipped and ready to embark. They were all Territorial volunteers from Auckland and Wellington. It would be a further three days before a transport and escorts were ready. The Samoan Expeditionary Force landed at Apia in German Samoa, the first German territory to fall in the First world War.

MIDDLE EAST

Meanwhile another expeditionary force intended for France was recruited of volunteers from the 25 000 members of the recently raised Territorial Force. The force numbered 8574 men and 3818 horses. Godley's HQ corresponded to that of a division. For example, there was an officer of the Military Secretary's Department to look after all records of officers promotions, appointments, Gazettes etc, an AAG to keep track of all personnel and to keep all records as regards discipline, an AQMG to keep an eye for the New Zealand Government on all the business part of the show, especially the finance for which he had a small pay staff, and an Assistant Director of Ordnance, and a base depot organisation commanded by Shawe, late Rifle Brigade.

In force Godley commanded an Infantry Brigade of four battalions, a Mounted Rifles brigade of three Mounted Rifles regiments, plus an independent Mounted Rifles Regiment as part of Divisional Troops. A brigade of field artillery of three batteries each of four 18pdr field guns, an artillery brigade ammunition column, a signals company of the divisional train or supply company, and two field ambulances.

The 10 transports were jammed with men, horses and equipment plus 10 million rounds of rifle and machine gun

ammunition. In these conditions the officers of most of the units found the organisation of realistic training to be too difficult. "After all there was a limit to the brass work to be polished, the decks to be scrubbed, the boat drills to be gone through, the musketry courses that were possible in such limited space, the military knowledge that could be imparted by means of lectures, the odd jobs that could be found for orderlies, yet there seemed no limit to the number of men. So for the greater part of the time the majority lay around in the sun smoking and playing cards, yarning and sleeping but coming to life in a rush when the bugle called all and sundry to 'Come to the Cookhouse Door'."

One thing broke the monotony and that was food. From living like kings in New Zealand on the best that the country could provide, shipboard fare was all too different. the diet was: Breakfast-porridge, coffee, bread and butter. Dinner-tough roast beef and potatoes or "bog oranges", beans and cold tea or a mug of soup. Tea-bread, butter, jam and cheese. Tea was remembered by all as the worst meal. It was the subject of much wry humour in the ship's newspapers that flourished.

The New Zealanders linked up with an even larger Australian contingent and while their convoy was at sea were redirected to Egypt, where they arrived on the 3rd December 1914. The first combat engagement of the war for New Zealanders was with the Turkish enemy in defence of the Suez Canal on the 2nd February 1915. Logistic support from New Zealand was provided through a line of communication unit established as an Ordnance depot in Cairo. The NZAOC was also represented on HQ INZEF.

GALLIPOLI

On the 25th April 1915 the New Zealanders (who, initially less the mounted Rifles Brigade, had been combined as the Australian and New Zealand Army Corps-ANZAC) landed on the Gallipoli peninsula, where for the next eight months they fought alongside the Australians in a desperate campaign against the Turks. Further to the south British and French divisions stormed Turkish beaches. Notwithstanding the fine effort on the part of the ANZACs, a stalemate was quickly reached and trench warfare in conditions of physical hardship and extremes of climate became the norm. Few of the ANZAC trench systems ever penetrated further than 2000 metres from the shoreline.

Some 1600 New Zealanders from the Infantry Reinforcements would remain in Egypt, as well as Russell's Brigade and Bauchop's regiment of Otago Mounted Rifles. The total number of New Zealanders who would sail for the Dardanelles were 6324. This included 522 reinforcements who were to act as 'hold' parties to unload stores and to remain on board ship until called for. Billy Beck was the first New Zealander of Godley's force (there were New Zealanders serving in the Australian Division) to get on to Gallipoli. It seems mildly ironic that in this first major operation, the first New Zealander to land was the Ordnance Staff Officer of the Division.

The infantry went into reserve and were quartered in gullies off the beach and Shrapnel Gully, known as "Rest" and "Reserve" Gullies. "Rest" at Anzac was a misnomer. Unlike Helles, where labour corps unloaded stores, all the work at Anzac was carried out by troops resting from the front lines. Private Ben Smart, 19 years old of the Wellington Battalion, was one of the third reinforcements: "On fatigues this morning and making a mule track up this gully to bring up stores but we have to carry all the water up by hand in kerosine tins and I may say this job nearly succeeds in breaking our hearts". It certainly broke their health. There was no rest for anyone at Anzac. "We made roads, dug saps, and any pick and shovel work that was going. Sometimes we would work all night to work unobserved."

The flies and heat made sleep during the day impossible and the men were always on call to reinforce the line. Everything had to be carted to the front line by men and mule, and in many areas it was too risky to take mules. Every day and night long lines of fatigues would trudge from the beach 1000 - 1500 metres up Walker's ridge or along Shrapnel Gully.

"The actual fighting at Anzac was the easiest of all. The fatigue work was enormous, colossal. Imagine a man with two kerosine tins full of water tied together with a belt and slung over the shoulder climbing for half a mile up these grades, slipping back, up and on again, the heat of the sun terrible, bullets and shells everywhere, and, as often happened, a bullet or shrapnel hitting the tins and bursting it and the priceless fluid running away just as he had scrambled almost to the top. Nothing for it but to go all the way down again for some more.

Gallipoli was a struggle to survive. Each man's world was his area of the trench, two to three metres deep and perhaps the same in length, with a niche in the trench wall covered by a blanket where he rested by day and tried to sleep. His belongings were a greatcoat, webbing, rifle and bayonet. His dress was a singlet and shorts. Dirty, unkempt, bearded, he bathed in the sea whenever his duties took him to Anzac cove and risked death from Turkish shrapnel to do so. His food was beef and biscuits, the first salty, the last rock hard. Bacon fat and rotten cheese and jam, that ran like thin watery juice, completed his fare. A lack of fresh vegetables, no exercise, the dirt and the monotony of the diet saw him waste away.

New Zealanders marvelled that the greatest empire on earth waged war in this fashion. Food though monotonous, was plentiful, but everything else was lacking, from ammunition for the artillery to grenades for the infantry, to iron and timber for the trenches. They became masters of improvisation. Periscopes and periscope rifles were made from glass cut from ship's mirrors and scavenged boxwood. Barges would disappear overnight and become supports and framing for trench and dugout. Stealing became an art form but only from officers and other battalions, never from your mates.

It was a war of grenades - something that Anzacs had never seen before the Walker's ridge battle. The Turks were well equipped with a manufactured, cricket ball shaped gsnaf of German pattern. The Anzacs were forced to improvise and a bomb factory was set up on the beach. "My duties at the bomb!actory were simple!n the extreme and consisted of making exceptionally crude bombs out of whatever material was available. These bombs consisted of a jam tin or cigarette tin packed full of spent cartridge cases, nails, bullets, or like articles with a plug of gelignite stuck in the centre into which a fuze and detonator was fixed, the lid being then tied down with any odd bits of wire or string we could pick up. To keep up our supply of "packing" we took it in turns going up to the front line and spending the day picking up spent cartridges fired by our infantry chaps and filling sugar sacks with which we would carry back with us.

On the beach the Army Service Corps turned food supplies into miniture fortresses to protect themselves from the constant shrapnel: "thousands of cases of bully beef, mounds of cheese, hundreds and hundreds of sides of bacon, and castles made of Huntly and Palmer's aggressively nourishing biscuits". Bully beef was salty and stringy; the cheese smelt and ran like yellow lava in the heat. The bacon was the same as the beef, although it made excellent "slush" lamps for the bivvys. It was a diet that demanded water, but water was rationed to half a gallon per man per day. The biscuits were an epic in themselves. They were best used by the tinfu! in lieu of sandbags, and when the scanty supplies of paper ran out, men wrote home on the indestructible buscuit. "These buscuits were not of the household variety, but were great big affairs four inches square and as hard as a rock. The only way to eat them was to break pieces off the corners and keep them in the mouth until they were soft enough to chew. Men pounded them into porridge, or threw them at the Turk, who sometimes threw them them back."

The lack of any fresh fruit and vegetables saw the onset of malnutrition, gum sores, boils that the heat and dirt turned septic. The same happened with any cut or scratch, mens knees and elbows became covered with sores. The Anzac Corps HQ did not initially see such matters as a problem. It was over to the men or their battalions to improve the diet. A similar view was expressed by Bauchop of the Otago Mounted Rifles. They were the last of the mounteds to arrive, and occupied number three post. Bauchop praised the quantity and quality of the food as far superior to that of the Boer War. This may have been true, but that war had been a war of movement. At Anzac, troops were confined to an increasingly rotten and unsanitary area from which there was no escape and no relief.

"Friday 11th June was a notable day, as on it we received our first issue of bread since landing two months ago" In June a bakery was established on Imbros and men at Anzac started to receive bread. "When the bread boat arrived from Imbros, each loaf was cut into two pieces and apportioned out, each man's piece being all he would get for another ten days". Any change in diet warranted an entry in the diary, for

they were few and far between. "In our rations we had bread and 8 ozs of jam each. Things are looking up. Dysentery has been very prevalent here all along and I have been pretty bad with it the last few days." Dysentery became a daily entry and a part of Anzac life.

There were no canteens on Anzac where troops could buy pickles, sauces, dried or tinned fruits, tinned milk, sweet biscuits, chocolate or margarine. Birdwood did not see this as necessary. It was only after repeated requests from both divisions that some effort was made. The New Zealand Infantry Brigade War Diary of 3rd June requested battalion representatives to report to the beach to purchase canteen stores. They did, but as the diary notes, only mineral water was available. So in the confined space of Anzac, two worlds continued to exist. There was the world of HQ and the beach area where men could bathe daily, have first call on supplies landed and could improve the diet by trading souvenirs or purchasing foodstuffs from sailors on the water barges who ran a prosperous black market. There was also that world inhabited by the soldier in the trenches. It was November before canteen stores began to arrive in any quantity. A large shipment came in the week of the evacuation, when it was too late for the men to benefit, and most of these stores were destroyed or left for the Turks, although each man had his pay debited for his portion to reimburse regimental funds. Such comforts meant a lot to the men, but their importance and the difference they made to living at Anzac was not always appreciated by the most concerned of officers.

During World War 1 nowhere else were logistic services more arduous than in the Eastern Mediterranean and we can best give an idea of what work they involved by quoting the passages in General Munro's despatch concerning the lines of communication. These passages bring out more clearly perhaps the unique character of the Gallipoli campaign. "On the Dardanelles Peninsula it may be said" (wrote Sir Charles Munro) "that the whole of the machinery by which the text books contemplate the maintenance and supply of an army was non-existent. The zone commanded by the enemy guns extended not only to the landing places on the peninsula, but even over the sea in the vicinity. The beaches were the advance depots and refilling points at which the services of supply had to be carried out under artillery fire. The landing of stores as well as troops was only possible under the cover of darkness. The sea, the ships, the lighters and tugs, took in fact the place of railways and roads, with the railway trains and mechanical transport etc, but with the difference that the use of the latter was subject only to the intervention of the enemy while that of the former was dependent on the weather. Between the beaches and the base at Alexandria, 800 miles to the south, the line of communication had but two harbours, Kephalos Bay, on the island of Imbros, 15 miles roughly from the beaches, and Mudros Bay, at a distance of 60 miles. In neither was there any piers, breakwaters, wharves, or storehouses of any description before the advent of the troops. On the shores of these two bays there were no roads of any military importance, or buildings fit for military usage. The water supply at these islands was, until developed, totally inadequate for our needs."

"The peninsula landing places were open beaches, Kephalos Bay is without protection from the north, and swept by high seas in northerly gales. In Mudros harbour, transshipments and disembarkations were often seriously impeded with a wind from the north or south. These difficulties were accentuated by the advent of submarines in the Aegean, on account of which the Vice Admiral deemed it necessary to prohibit any transport or storeship exceeding 1500 tons proceeding north of Mudros, and although this rule was relaxed in the case of supply ships proceeding within the netted area of Suvla, it necessitated the transshipment of practically all reinforcements, stores, and supplies, other than those for Suvla, into small ships into Mudros harbour. At Suvla and Anzac, disembarkation could only be affected by lighters and tugs, thus for all personnel and material there was at least one transshipment, and for the greater portion of both, two transshipments."

During the Gallipoli campaign water was a major logistical problem. During the planning for the assault on Suvla Bay by the 9th Army Corps under Lt Gen Sir F. Stopford a special organisation for each unit was created, a mule pack corps to supply 80000 troops was formed and a high level reservoir to hold 30000 gallons of water was erected at Anzac. The mule corps was the Zionist Mule Corps, composed of refugee Jews and commanded by one Col Patterson.

As another example, Gen Hamilton had troops in reserve which could have been sent to Gen Birdwood's aid during the crucial days. The reason why he refrained from doing so is illuminating as to the conditions of campaigning at Anzac: "At times" (he wrote) "I had thought of throwing my reserves into the stubborn central battle, where probably they would have turned the scale. But each time the water troubles made me give up the idea, all ranks at Anzac being reduced to one pint per day. True thirst is a sensation unknown to the dwellers in a cool, well watered England. But at Anzac, when mules with water 'Pakhals' arrived at the front, the men would rush up to them in swarms, just to lick the moisture that had exuded through the canvas bags. It will be understood then, that until wells had been discovered under the freshly won hills, the reinforcing of Anzac by even so much as a brigade was unthinkable."

How the troops at Gallipoli were dependent upon the safe transport of all supplies, and the difference made by the appearance of submarines is vividly shown in the following passages from Sir Ian Hamilton's despatches: "During the whole period under review the efforts and expedients whereby a great army has had its wants supplied upon a wilderness have, I believe, been breaking world records. The country is broken, mountainous, arid, void of supplies, the water found in the areas occupied by our forces is quite inadequate for their needs, the only practicable beaches are small cramped breaks in impracticable lines of cliffs, and with the wind in certain quarters no sort of landing is possible. The wastage by bombardment and wreckage of lighters and small craft has led to crisis after crisis in our carrying capacity, whilst over every single beach plays fitfully, throughout each day, a devastating shell fire at medium ranges. Upon such a situation appeared quite suddenly the enemy submarines. On 22nd May 1915 all transports had to be despatched to Mudros for safety. Thenceforth men, stores, guns, horses, etc, had to be brought from Mudros, a distance of 40 miles, in fleet sweepers and shallow craft less vulnerable to submarine attack. Every danger and difficulty was doubled."

Those dangers and those difficulties were overcome in a manner which reflected the highest credit upon the ASC and the AOC (under Brigadier RW Jackson) but chief credit must be given to the efficiency of the allied squadron under Admiral De Robeck.

Lemnos was an enormous hospital. Five brigades of Australians and New Zealanders had been withdrawn to reorganise and rebuild their strength. The 1st and 2nd Australian Infantry Brigades of the 1st Australian Division and all of Godley's NZ&A Division, the two New Zealand brigades and Monash's 4th Australian Infantry Brigade. Together the five brigades did not total more than 4000 out of an original establishment of some 18000. Conditions would improve, but the watchwords for everything and everybody was inefficiency and muddle and red tape ran mad. Even in October 2000 of Godley's division were still without tents, they were available but getting approval was the difficulty. Supply conditions were equally bad in the hospitals and convalescent camps. Ewen Pilling a New Zealand soldier, had been evacuated with concussion and dysentery on 13th August. On the 16th August he wrote - "Our treatment turns out to be pretty rotten. Life does not promise to be very interesting, nor with the food we get will a man recover his strength quickly. Could they pump plenty of porridge, fresh vegetables, meat and good bread and butter into a man, he would soon be fit once more. But the food is only a slight improvement on the hard tack of the peninsula. We have no money and the luxuries of the canteen are beyond us." Canteen stores were available only for cash but there were no arrangements for pay.

"At present I wear a pair of boots, short pants with two bulls eyes in them, a torn jersey and tunic and felt hat. These and my field glasses are my present worldly

possessions, and even in the hospitals, beds and stretchers are in short supply. There are wounded and sick men here on the mend and all that saves us from a bed on the stones is an oil sheet."

The 19th of December 1915 came, and the last of the troops prepared to embark. It was a full moon that night, but a slight haze veiled its beams and the sea was perfectly calm. Soon after dark the covering ships were all in position. At 1:30am on the 20th December the withdrawal of the rear parties began from the front trenches at Suvla and the left at Anzac. Those on the right at Anzac who were nearer the beach, remained in position until 2:00am and after they had left their trenches they still appeared to be occupied. The Anzacs were adept at all kinds of ruses, and by time fuzes and other means the crackle of rifle and other fire was heard along the trenches when the defenders were making their way to the beach. The Turks gave no sign, and by 5:30am the last man had quit the trenches. Shortly afterwards the boats and their convoy sailed away.

The Turks were left to discover for themselves as the dawn came that their redoubtable opponents had vanished, leaving scarcely a wrack behind. They got the first inkling of what had happened by a blaze on Suvla beach, arising from a small stock of supplies which General Byng, being unable to remove, set on fire. But he brought away every man, gun, animal, and vehicle of his force. At Anzac it had proved impossible to make quite so complete a clearance. Four 18pdr guns, two 5-inch How, one 4.7-inch naval gun, one anti aircraft, and two 3pdr Hotchkiss guns were left, but they were destroyed before the troops finally embarked. In addition 56 mules, a certain number of carts, mostly stripped of their wheels and some supplies which were set on fire, were also abandoned. Thus ended a historic phase in our military history.

EUROPE

From Egypt the New Zealand Division was ordered to France where it arrived in April 1916. Both sides were stalemated and the New Zealanders quickly became accustomed to the rigours of European trench warfare. The first major action was in the closing stages of the Somme offensive in September 1916. In 23 days of fighting 1560 New Zealanders were killed and 5440 were wounded. During 1917 the Division took part in the battles for Messines and Passchendale, again taking heavy casualties. The winter of 1917-18 was spent in the Polygon Wood sector, these "quiet" winter months alone cost nearly 3000 casualties.

With a steady stream of reinforcements arriving from New Zealand, the Division was able to maintain its four-battalion brigades (other allied divisions having three-battalion brigades) and it became the strongest division on the Western Front. In March 1918, the Germans launched an offensive which created a dangerous gap between the British IV and V Corps and the capture of Amiens seemed certain. The New Zealanders were rushed to fill this gap and, gradually managed

to gain the upper hand and the British front line was stabilised. For the next four months the Division held part of the line defending Amiens.

The Battle of Bapaume, the final British offensive, started in August 1918. One of the division's finest actions was on the 4th November 1918 when the 3rd (Rifles) Brigade stormed and captured the medieval fortress town of Le Quesnoy, using the scaling ladders to climb the 60 foot ramparts - a success which, according to Lt Gen Harper, Commander of IV Corps, "did much to decide the finish of the war" on the 11th November 1918.

After the war Field Marshal Earl Haig who commanded the British armies, wrote of the New Zealanders: "...no division in France built up for itself a finer reputation, whether for gallantry of its conduct in battle or for excellence of its behaviour out of the line." On armistice day 1918, New Zealand had 58129 troops in the field, while a further 10000 were in New Zealand preparing to embark or under training. Troops provided for foreign service during the war represented just under 10 percent of the Dominion's 1914 population and 41 percent of the 1914 male population between the ages of 20 and 45.

Being part of the huge British Army in Europe, we relied on logistic support from the British for nearly all of our needs. For its size the British Expeditionary Force was the most highly trained and the best equipped of any of the armies at the beginning of the war. But it was practically destroyed in the first year, and no attempt was made to withhold a proportion of this valuable manpower as a nucleus for the vast army which was to be created.

The need for an efficient supply system was felt almost at once. The wastage of guns, ammunition and other Ordnance stores in the fighting at Mons and Le Cateau called for extensive and urgent replenishment, but no adequate system existed.

Base installations were planned. Control of these installations was invested in an Inspector General Lines of Communication (IGC) who had a DOS, with the rank of Brigadier General, on his staff to deal with Ordnance Depots and Workshops. There was also a DDOS (Colonel) at GHQ, but he had no control over activities at the base. The IGC was under the direct control of the War Office and communications between them were good. Communications between GHQ and IGC were not so good and the two headquarters tended to act independently.

Despite the lessons of the South African War, it seemed to be assumed that a regular supply of Ordnance stores to the fighting troops was not required. The idea was that when the deficiencies in equipment of a division became excessive the formation would be withdrawn from the line and re-equipped. Intermediate requirements were to be met by "the unit drawing its stores from the nearest Ordnance Depot". How all this was to work in the middle of a period of heavy fighting was not explained.

The organisation at the base was soon in trouble. Havre was chosen for the base ordnance depot with subsidiary depots at Rouen and Boulogne. It was also decided to create an advanced ordnance depot at Amiens. This was unsound. Amiens was too close to Havre to justify a duplication of large installations. It was also too far forward in the event of a withdrawal.

The retreat from Mons caused Amiens and Boulogne to be hastily evacuated, the former being in the hands of the Germans for a short time. A decision soon followed that the main base with its two ports on the Seine must be abandoned and a new base established at Nantes and Saint Nazaire at the mouth of the Loire. The move took place in an atmosphere of panic when the army was in retreat and known to have sustained serious losses of equipment.

Havre was not yet organised and in working order. Stores were still arriving in every ship which berthed at the port. The AOC was kept in ignorance of what was being sent because the documents prepared in the QMG'S and MGO's branches at the War Office were confidential. There was no means of ensuring associated stores were sent together in the same ship. The first vessel to arrive carried tents without poles and stores were not charged to the ship's master on a bill of lading. His sole concern was quick turn-around of the ship, and in this he had the full support of the Movement authorities who would not permit any "interference" by Ordnance largely because they were not prepared to admit that any Ordnance problem existed.

The IGC had not consulted with his DOS about the transfer of the base from Havre and many vital stores, such as machine guns, were already on board ship enroute for Nantes before the DOS could intervene. He rescued what he could and established a temporary depot at Le Mans. Besides guns, machine guns and first line transport there were heavy demands for greatcoats, packs, clothing, boots, saddlery and horse shoes. The IGC had searching questions to answer from GHQ as to why the troops were not being re-equipped more quickly. But, no amount of work by those on the spot could prevent a temporary breakdown of Ordnance services. When the front stabilised Havre became secure and the base was moved back there before the end of the year (1914). This time the process was carried out systematically and smoothly and there was no repetition of the earlier chaos.

It was now necessary to create an efficient supply system linking the base with the fighting formations. Active service forced the higher command to tackle a problem it had persistently shirked during peace time. There were four major changes to the process. Firstly the daily pack (ration) train had a number of railway wagons attached to it for Ordnance stores. Secondly, the ASC was responsible for feeding the troops and horses, and looked upon anything else it might be called on to carry as an incubus - "this bugbear of Ordnance stores" as it was styled in a letter to the Director of Supplies and Transport at the War Office. It was now decided that the D&DOS would be provided permanently with one

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or more vehicles to take his stores from the railhead to the formation. Thirdly the DADOS was given sufficient staff to deal with the flow of stores to his division, and finally detail issues were reduced by bulking demands from units for clothing and other items in constant demand. Issues were made from stocks of these items held under DADOS control.

In this way work was decentralised and the programme levelled out to achieve a steady flow of stores to the front. This method was agreed, according to a report from the Commander-in-Chief, "as a result of the experience of the war", although Ordnance Officers had pressed for such a system for years. It is interesting to note that the DADOS staff of one clerk and one horse increased to four warrant officers, four clerks, six storemen, a car and four three ton lorries.

The long period of static warfare in France led to expenditure of ammunition on an unprecedented scale. Mass production, following the acute shortages in 1915, resulted in a heavy burden on the AOC, responsible for supply and storage. There was no time to eradicate faults in design and manufacture so that a large measure of these had to be rectified in the theatre of war. Safety in storage against the propagation of an explosion in one stack to others, and against the more remote danger of air attack, had to be worked out by trial and error. The AOC undertook inspection, repair and other technical ammunition work, on a scale never attempted in peace time outside Woolwich Arsenal. Schools were established to train officers and NCOs to deal with all the new natures of ammunition produced during the war and also enemy ammunition. Ordnance detachments were sent to formations to advise and assist them in the proper storage of the large dumps of ammunition established in the forward areas.

The Ordnance workshops staff had to cope with work on a scale never before envisaged. The massive artillery support for operations on the Western Front, and the wear and tear caused by heavy ammunition expenditure, placed a tremendous strain on the technical staff who had to keep these guns in action. Mobile workshops were established well forward and artificers were attached to units to maintain and repair weapons on the spot.

The best indication one can give of the development of World War 1 is the record of the RAOC. At the outbreak of war the RAOC had in France 30 officers and 1,360 other ranks: at the close it had 800 officers and 15,000 other ranks: that, beginning in 1914 with one ammunition train and a few hundred tons in reserve, there were in France in October 1918, eight great depots with 336,450 tons of ammunition and over 120 railheads, giving final delivery -to the enemy- of over 9,000 tons of shot and shell a day. Nor would that tell more than half the story because RAOC responsibility was for almost all that the soldier in the field needed except rations.

The provision of Ordnance services such as Laundry and Bath facilities for the New Zealand Division is well recorded by a NZ Medical Officer Randolph Gray, when he was ordered to take over the Divisional baths at Estaires in

mid October 1916. "At 4.30p.m." (he wrote) "left by motor car with Captain Crawford to take over the Divisional baths at Estaires. I have fortyfour men and fiftyeight women to look after, and am considering myself quite a business manager already. Captain Crawford says he cannot understand why a medical man should be sent to such a place, and has given me a free hand as to management, etc. You might be interested to know a few facts about our 'home'. the buliding in a large starch factory, and has been modified to serve as a combined baths and laundry. The men are put through large concrete tanks, every man being issued with a clean rig out. While in the bath, the uniform is deloused and pressed, and outwardly at any rate the soldier goes away a new man. His dirty things are washed on the bottom floor, some thirty women being constantly employed here; then are sent by lift to the next floor where they dry. This room is steam heated, and is some warm. From there they go to the top floor where they are sorted, mended, and placed in store. We can put through 1000 men per day, fitting them all with clean shirts, underpants, singlets, towels and socks, nad in addition we supply 1500 pairs of socks a day to the men in the front line, who get a fresh pair every day. It is no wonder that men like this part of the line! On the Somme they didn't take their socks off for twentyone days, some of them. Mercifully, I have no trouble with the girls. There is a forewoman who looks after them, and one of my chief concerns is to keep our boys from interfering with them at their work. the boys upstairs in the drying and sorting rooms take some watching I can tell you as their work interacts with that of the girls."

It is interesting to note that a capacity of 1000 men per day is roughly our capability today with modern equipment and only a few soldiers and the effect on morale after a visit to the baths has not changed.

PERSONNEL

It is difficult to trace with any accuracy the exact units and appointments that Ordnance personnel held during the war whilst the New Zealand division was part of the great Allied army. However, it is known that the following Corps personnel served overseas in various appointments:

HQ NZEF Admin,	OC NZEF Ordnance Corps and ADOS
	Lt Col HE Pilkington, RNZA
HQ NZ Div,	DADOS, Lt(T/Maj) CI Cossage NZAOC
ADOS British Army Corps,	OC NZEF Ordnance Corps
	Lt Col AH Herbert, WMR
Australian and NZ Div,	DADOS, Lt TJ King, NZAOC
Australian and NZ Div,	DADOS, Captain WT Beck, NZAOC
NZ Div Salvage Officer,	2Lt KB MacRae NZAOC
Attd British Ordnance Depot,	Captain HH Whyte, NZAOC
Attd War Office London,	Major NJ Levien, NZAOC
NZ Army Ordnance Corps	Cdr A Gilmour
	Cdr EC Little
	Cdr CA Seay
	Sub/Cdr ES Green
	Sub/Cdr HG Hill
	Sub/Cdr FP Hutton
	Sub/Cdr WG Smiley

Sub/Cdr JG O'Brien
T/WO1 AS Richardson
SSM C Slattery
SSgt HF Wilson
Sgt HS Trowell
QMS DC Inglis, (attd NZFA)
Pvt BW Holman, attd Labour Corps

CONCLUSION

World War 1 was the worst tragedy that has ever happened to Pakeha New Zealand and the greatest source of suffering. 18,166 New Zealanders or over 7 per cent of all men between eighteen and forty five died in the war, and the total casualties of about 55,000 represented over half of all the men who sailed overseas and almost one in four of all the eligible males. Even for those who survived unscathed there was much suffering and unfortunately this was not the "war to end all wars". In twenty years Ordnance soldiers would again be called on to serve the nation.