



Incorporated

NEW ZEALAND PERMANENT FORCE OLD COMRADES ASSOCIATION INC

PO BOX 33 710, TAKAPUNA, AUCKLAND 1309

NEWSLETTER No 86

June 1995

A Registered Publication

SUBSCRIPTIONS: Those still outstanding for 1995 number 90. As we are committed to purchasing a new copier in July we need all members to pay up NOW, otherwise we shall be left with no reserve funds for emergencies.

LAST POST:

1517 O.F. (Oliver) MacDonald, 5 Dec 94, at Christchurch.  
1970 A.W. (Karl) Karlsson, 9 May 95, at Palmerston North.  
M.A. (Malcolm) Tyson, 12 May 95, at Christchurch.

CHANGES OF ADDRESS:

WF Giles to PO Box 140, PDC, Matata, Bay of Plenty.  
Major E.W. Round to 304/2 Otumoetai Rd, Otumoetai, Tauranga.  
Major F. Gibbison to 273 Okura River Rd, RD2, Albany.  
M.G. Bell to 1 Sykes Ave, Hatfields Beach, Hibiscus Coast.  
W.N. Stephenson to 336C Western Hills Drive, Whangarei.

GONE NO ADDRESS:

Captain K. Frame

LAST KNOWN ADDRESS

Army General Staff, Defence HQ.

LIFE MEMBERS:

On reaching the age of 80 years:

1638 J.D. (Doc) Bennett, wef 10 Jul 95.  
A.S. (Darkie) McWhinnie, wef 14 Dec 92.

On 8 Apr 95 for outstanding service to the Association as Patron:

Major General R.D.P. (Ron) Hassett CB CBE.

COMMITTEE MEETING:

Our next committee meeting will be held in the main lounge, Birkenhead RSA, at 1000 hrs, Saturday, 12 August 1995. Non-committee members are welcome to attend.

St BARBARAS DAY SOCIAL:

Will be held at the Birkenhead RSA on Thursday 14 Dec 95. All members and wives or partners welcome. We extend an especially warm welcome to our widows. If transport is a problem contact Secretary 09/445 3567. Good luncheon available at \$7.

NZPFOCA ANNUAL REUNION:

Week-end 3-4-5 Nov 95. Details in September newsletter. Mark these dates in your diary/calendar NOW if you have not already done so.

161 BATTERY REUNION:

There will be an informal reunion of 161 past and present at Linton Military Camp over the weekend 15-16 Jul 95. For further info contact WO2 Hopkinson, BSM, Phone 06/351 9587. Cost \$25. Find own accommodation.  
or secretary 09/445 3567.

NEW MEMBER:

731288 G.W. (Gary or "Gazza") Moore, 15 Allen Rd, Raumati Beach.



NEW MEMBER:

Mrs M.M. (Margaret) Catchpole, 11 McFadzean Drive, Blockhouse Bay, Auckland 7 (Honorary Member).

BOOK REVIEW: Further to item in Newsletters No 85, Jim Ross reports that comments on "Battle Dress" also apply to other books by "Gun Buster" e.g. Return via Dunkirk, Zero Hours, Victory Salvo, Grand Barrage, all of which are about WW2. The classic novel on artillery in 1914-18 is "Medal Without Bars" by Richard Blaker (Hodder & Stoughton, 1930). Any member interested may borrow any of the above from Jim, whose address is: Major J. McL. Ross, 143 Kauri Rd, Whenuapai.

ARMED FORCES RECRUITING CENTRE ground floor Innes Dean House cnr Rangitikei & King Sts, Palmerston North now numbers W02 K.C. (Kemp) Solomon as Regional Recruiting Warrant Officer. He invites any member passing through PN to call in for a chat and a brew.

HOUSING: Mrs C.R. (Carrie) Hall, 7 Hukutai St, Elsdon, Porirua West, is looking for a flat in Auckland to be with her daughter Marilyn. Any assistance in this direction would be most welcome. Contact Marilyn at Box 23 153, Papatoetoe, or Phone 09/277 6750.

NEWS FROM MEMBERS:-

Bruce McIver has problems with a hip but hopes to make it to a social one of these days.

Enid Standen reports a very well attended Anzac Day parade and service in Carterton. While in Auckland recently Enid, son, daughter-in-law and family visited Hon. Sec for a most enjoyable chat over old times.

Maurie Urquhart recently spent six weeks in hospital to have a leg amputated. However, he now has a new one which he is learning to use and is on the mend.

Darkie McWhinnie, our Taranaki Rep., reports all members in that area in good fettle, although some "are slowing down a bit." They all send regards to other members.

John Wasson, BC 11(A) Battery (since 1991) reports the Battery is very strong with 100 members - the biggest sub-unit in the Army!

Jock Gunn supplies some information on The Great Gun of Moscow (Page 6 Newsletter No 85) as follows; Length 5.34 metres, calibre 890 mm, weight 40 tons, barrel 15 cm thick. It was designed to fire crushed stone!

AUCKLAND GUNNERS DAY SOCIAL:

Attendance was slightly down on last year's, probably because the date clashed with that of the welcoming parade for the America Cup winners. Nonetheless all those present enjoyed themselves. They were: Bernard and Marie Ayling, Harry Anderson, Allan and Elsie Boyd, Eric and Pattie Autridge, Iris Boyter, Cliff and Babs Bragg, Bert Dyson, Dan and Dorothy Foley, Neville Fisher, Joe Hanvey, Vic Meyle, Reg Nutsford, Bill Powrie, Ian and Iris Rowntree, Wally Ruffell, Margaret Stitt, Henry and Thelma Salt, Terry and Joan Transom, Gordon and Nora Weaver, Les and Joan Wilson, Graham Williams, Yogi Young.

TOMAHAWK BATTERY:

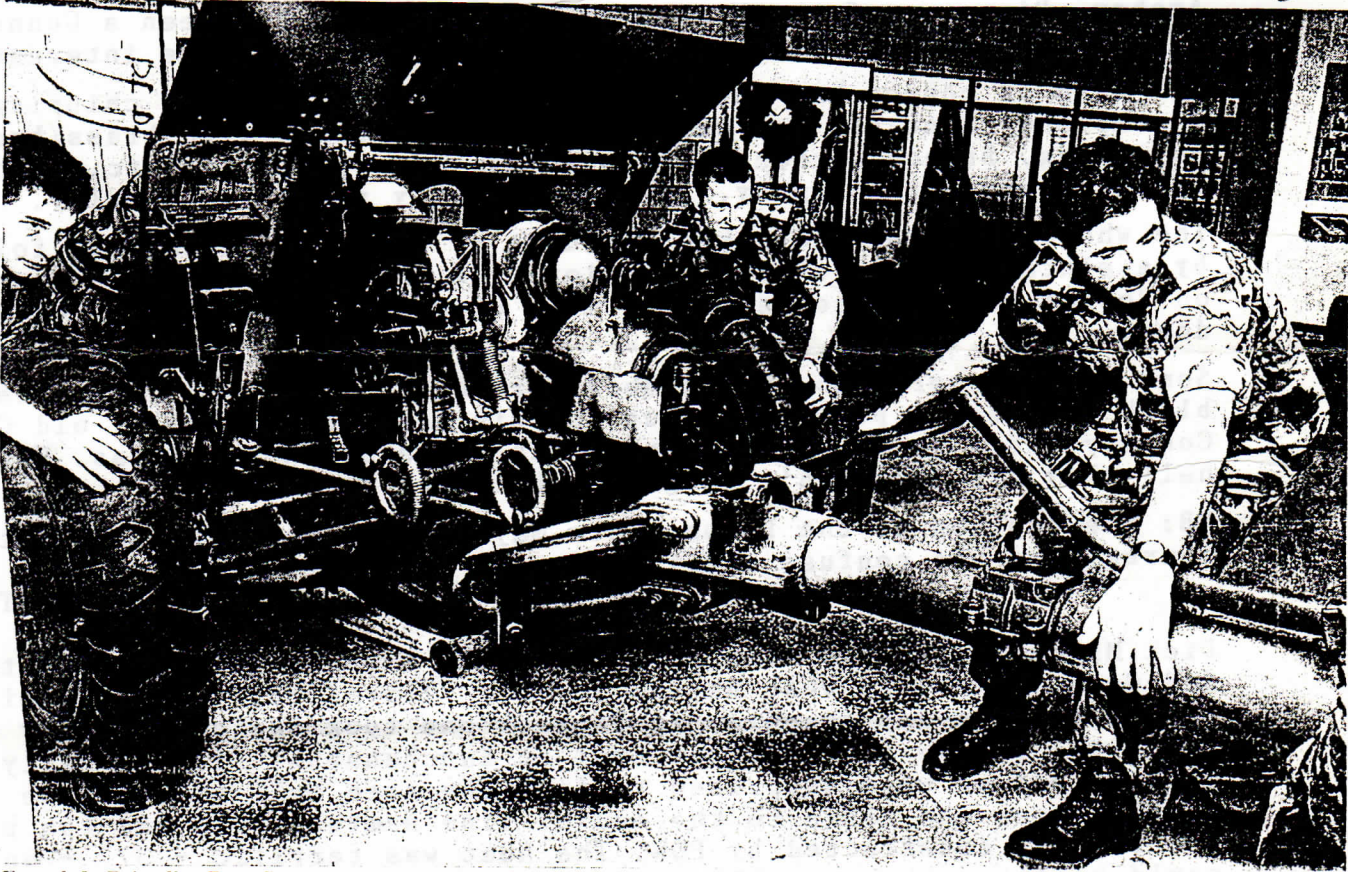
The WW2 ORBAT gives the location as "three miles SE of Dunedin port and that the armament was two BL 6-in Mk 7 guns." Apparently it existed only from 1942 to 1944, and after the war its buildings were used as a transit camp for people awaiting Government housing. Caroline Martin, feature writer, Otago Daily times, is anxious to discover further details names of personnel stationed there, including 26 WAACS etc. Contact Caroline at PO Box 181, Dunedin or phone 03/477 4760 (Office), or 472 7441 (Home).



## AUCKLAND MUSEUMS GUNS:

In supplying the accompanying picture and article from the NZ Herald Terry Transom suggests members may be interested in how the guns got to the Museum display area in the first place.

# Museum mobilises artillery



From left: Brigadier Dave Seymour, Lieutenant Rian McKinstry and Staff Sergeant Dan Sweet move artillery at the Auckland Museum in readiness for the building's \$43.5 million upgrade.

PICTURE: NICOLA TOPPING

By ANDREW YOUNG

The Auckland Museum brought in some sheer brute force yesterday to kick off the building's \$43.5 million upgrade.

A team from the New Zealand Army had the weighty task of shifting large-scale artillery displays into stor-

age so the second floor can be refurbished.

The museum's history technician, Mr Dale Quigley, said the Army was called in simply because the job required men with muscle.

Displays, including an 18-pounder quick firing field gun, and naval shells, will be

temporarily housed in the building's western wing while the opposite wing is upgraded.

The museum's second floor galleries closed last week and will reopen in stages from December. The second floor is the first area scheduled for attention

under the refurbishment programme.

Staff Sergeant Dan Sweet, from the Army's Arch Hill Battery, said the heavy moving served as a standard workout for the six men.

The exercise proved to be a test of blending pure muscle with Kiwi ingenuity,

drawing only on a jack and two-wheeled trolley for extra help.

Two of the museum's drawcards, a rare Japanese Zero plane and a Second World War Spitfire, will be dismantled and cleaned before featuring in the new galleries.

Terry goes on to say, "16 Field Regiment was reconstituted in Papakura in October 1958; an embryo RHQ and embryo 161 Bty - but still able to man four guns, led by Major "Snow" Phillips as 2IC. He was a great administrator and led us a busy life with numerous exercises - mainly back and forth to Waiouru over the next couple of years.

Anyhow - back to the Museum guns. An 18-pr and a 4.5 howitzer arrived on our doorstep, having been acquired by Auckland Museum who wanted them shifted to their display.

A recce to the Museum found that the service lift at the rear of the building would take no more than 10 cwt. So a careful study of the handbooks which we were able to acquire found that by stripping them down 10 cwt lifts were possible.

Prior to this, a search was made to obtain a set of old 1914-18 wooden wheels, to remove the pneumatic Martin Parry gear and refit them to their original condition. There were none available in New Zealand. It later transpired that when the MARTIN Parry gear was being fitted in Trentham in 1938-39 the huge pile of old wheels had been obtained by the famous or infamous Mr Chapple to stoke his YMCA Fires. Beautiful,



totally seasoned timber, the spokes of solid oak, and the felloes of ash, had to be good to withstand the stresses and strains of travel over bad roads and of prolonged firing, went up his ignorant chimney.

Anyhow, with the help of EME Tiffies we got them stripped down at the back of the building and up the lift - some loads slightly more than 10 cwt with a bit of groaning by the old lift gear - to be reassembled on the second floor.

The whole exercise had been followed by Mr Gilbert (later Sir Gilbert) Archey, Director of the Museum at the time, who had been a Gunner Officer in 1914-18. He visited us daily, taking a close interest.

All this of course had caused much scratching and paint chipping so a complete paint job was required. This, combined with brass/bronze polishing, breech mechanism burnishing, tyre polishing etc, with some deloused ammo standing by, had them finally ready for display.

The whole exercise had taken ten days or a fortnight and was followed by a sincere letter of commendation from the Director which was posted on Notice Boards accompanied by much chest puffing over a good job well done.

Some years later a 25-pr was shoe-horned, this time by dragropes and block and tackle pulley-hauling up the zig zag back stairs by old Clive Connery and a party, a photo of which appeared in the Press. How the hell they did it I can't imagine - but they made it."

NB: The caption to the Press photo may say something for present-day journalists who confuse a Brigadier and a Bombardier!

• J.T.T.

Dick Mitchell and his wife Lorma recently returned from a trip to Italy and Greece. Here is what he has to say: "Travelling with Thai airlines we had a three-day stopover in Bangkok and took the opportunity to visit the bridge on the river Kwai at Kanchanaburi. It was early morning and we were surprised to find the area full of Japanese tourists. We then took the train to the end of line Namtok. This was the part of the railway constructed by POW. The heat was terrific - 37° - and one could realise the terrible conditions the POW were subject to.

Then on to Rome. As we arrived early morning we took the train down to Cassino, only two hours and the fare only \$NZ9 each. Cassino now is a large industrial town and it seemed to be full of young students. There is a large university there, which would account for what seemed a youthful population. However, after 50 years we New Zealanders are forgotten. One person said to me, "New Zealand, you speak Dutch?" Another more knowledgeable youth said, "I know about you people; you blew our monastery up!"

The following morning we took the local bus up to the monastery. Surprise again; I counted eight tourist buses all from Germany, dozens of Germans wandering around, and their guides telling them about the heroic defence their troops made.

Looking down from the monastery towards the south, the whole valley is full of industry, including a huge FIAT assembly factory. Except for the mountains nothing is recognisable 50 years later.

The following morning back to Rome, a most expensive place so to the railway station and up by train to Levanto, which is just below Genoa. Spent a week walking the coastline down as far as La Spezia. Another walk through Tuscany, the towns of Volterra, San Gimignano, Val de Elsa, and on to Sienna. It became cold and wet so the following morning we caught the train to Florence and from there we were able to go direct to Faenza by rail. Faenza was recognisable. Walked out to the allied cemetery where a number of our boys were buried. As with all cemeteries we saw this one was well-kept. After two days in Faenza, as the weather was wet and cold we decided to head for Greece.



Next day by rail again we set off for familiar names Cesena, Rimini, Pesaro and Senigallia before reaching Ancona. I was surprised to find all along the coast between Rimini and Ancona massive high-rise hotels; it is now another Italian Riviera. The same evening we caught the ferry to Patras calling at Corfu on the way..

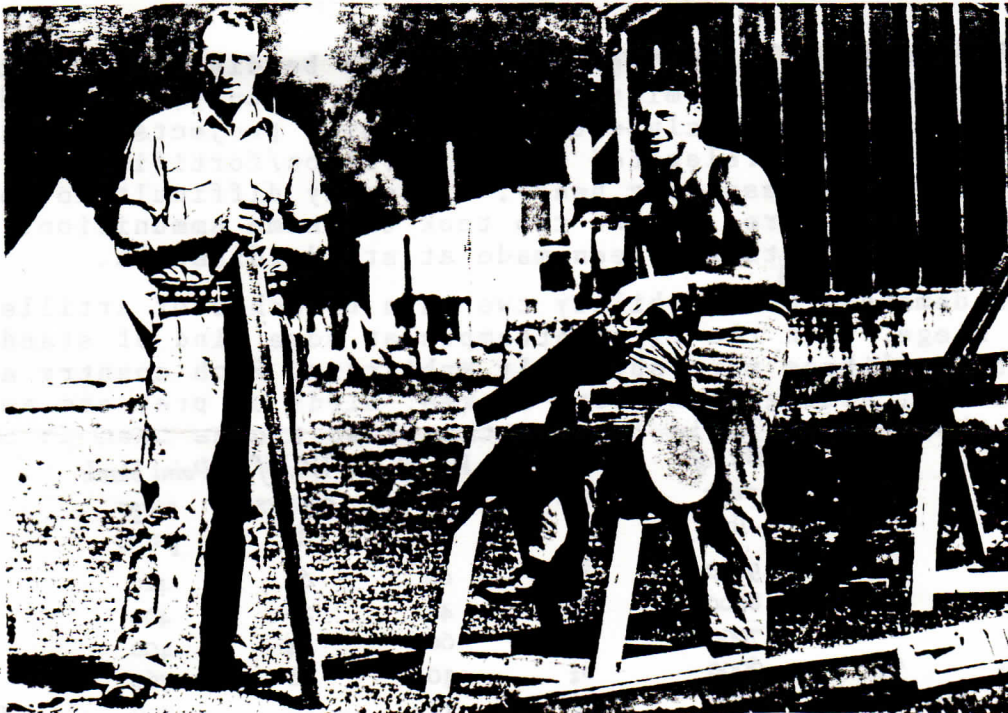
On the Peloponnese we went by ratchet train high up in the hills to a village called Kalavita. In 1942 as a reprisal German troops took every male over 15 from the village, marched them a mile out and executed them, a total of over 1600. A large memorial now stands on the site with all the names of men and boys engraved on it.

From Patras we spent a week on the Peloponnese, walking and sightseeing, then by train back to Athens. The following day we caught the ferry to the island of SYros where we spent the next week, from there by ferry to Paros where we spent another week and the final week on the island Mikonos, perhaps the most well-known of the Greek islands. Blue skies and high temperatures make the Greek islands most inviting. The best time to go is from middle of May and June. July and August are the best months and places are expensive then. We travelled independently everywhere, used trains, ferries and local buses and we paid what the locals pay. Accommodation for double room in Greece averages about \$NZ20 and we travelled light - a medium pack each, just cabin luggage, and believe me that's the way to go. This way the cost of travel is light."

Dick Mitchell, 19 Rewiti Ave, Takapuna. Ph 486 6177.

NB: The fare Rome-Cassino (\$NZ9) amounted to 9400 lire!

Arthur Kilmore, just back from six months in Fiji, supplied the photo below which he believes will bring back a few old memories to some:



Waiouru December 1938: Bdr Sandy Bissett on left and Gnr Arthur Kilmore with saw. The job: building the cook-house!

7 ANTI-TANK REGT 2NZEF, formed on 8 November 1939, held its last reunion at the Otumoetai Hotel, Tauranga, on the weekend 7-9 March 95.

Jim Gilberd, our Immediate Past President, Hawkes Bay/Taupo Rep., and foundation RSM, paraded the Regiment for the first time at Hopuhopu Camp, Ngaruawahia, in February 1940, and for the last time at Tauranga on 9 March 95.

A total of 205 including wives attended.



## CHAPTER 5:

## THE SMOOTH-BORE ERA:

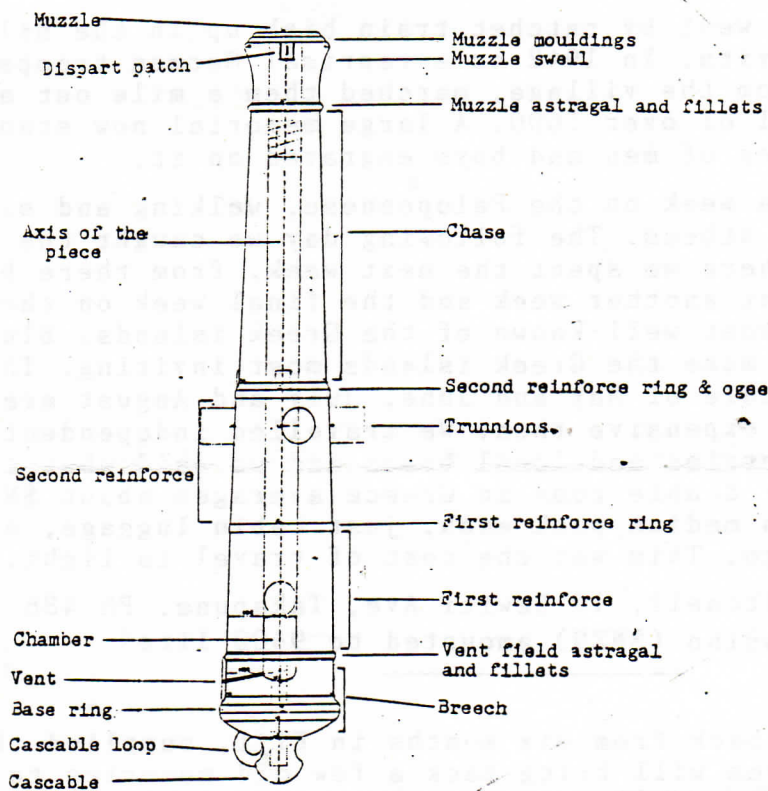


Fig. 54:

Parts of a SBML gun c. 1800

Prior to this date guns had an additional astragal and fillets just forward of the second reinforce ring, and no cascable loop

The smooth-bore muzzle-loading (SBML) era to be discussed lasted from the early 1500s until the middle of the 19th century, a period of over 300 years. It does not include the 'think big' projects described in Chapter 4; these were relegated to the garrison/fortification role because they were excessively heavy, extremely difficult to move, had very slow rates of fire, and no two took the same ammunition. Each one was unique; no attempts had been made at standardisation.

As Gunners demanded more mobility two main branches of artillery emerged: field and siege, with the first attempts at some kind of standardisation, although the calibres were obviously arbitrary. Each country adopted similar pieces, naming them after snakes, birds of prey etc as was the custom in those days. Table 1 shows the basic pieces then in use:

	Cal.	Wt. of	Diam. of	Wt. of	Wt. of	Point blank
	in.	piece	shot	shot	powder	range
		lb.	in.	lb.	lb.	paces
Cannon Royal	8½	9000	8	60	60	420
Old Cannon	7	8000	6½	42	20	400
Cannon	8	7000	7½	60	44	400
Demi-Cannon	6½	6000	6½	30	28	760
Culverin	5½	4000	5½	18	18	500
Demi-culverin	4½	3000	4	9	9	400
Saker	3½	1500	3½	5	5	360
Minion	3¼	1100	3	4½	4½	340
Falcon	2½	800	2½	2½	2½	320
Falconet	2	500	1¾	2	2	280
Robinet	1½	200	1	1	½	—

Table 1.

Point blank range is the distance reached by shot with the piece horizontal.

Note that windage is a quarter inch (6.35 mm) in each case!

Many believe that during the three hundred years of the era ordnance underwent virtually no change, i.e. a gun cast in 1600 was little different from one cast in 1800, but this is not the case. Gunners were never short of ideas for improving their guns, though some ideas were misguided while others were hampered or ignored by hidebound officialdom. We shall examine some of the changes, some of which appear in Table 2 below compiled c 1600:

These pieces be most serviceable for battery being within 80 paces of their mark which is the chief of their force.

These pieces be good and serviceable to be mixed with the above ordnance for battery to pierce being crossed with the rest as also fit for castles, forts and walls to be planted for defence.

These pieces are good and serviceable for the field and most ready for defence.

Piece	Calibre in inches	Weight in lbs.	Weight of shot in lbs.	Weight of powder in lbs.	Point blank range	Extreme range
Cannon royal	8.5	7000	66	30	320 paces	1930 paces
Cannon	8	6000	60	27	340 paces	2000 paces
Cannon Serpentine	7.5	5500	53½	25	400 paces	2000 paces
Bastard cannon	7	4500	41.25	20	360 paces	1800 paces
Demi cannon	6.5	4000	30.25	18	340 paces	1700 paces
Cannon perrier.	6	3000	24.25	14	320 paces	1600 paces
Culverin	5.5	4500	17½	12	400 paces	2500 paces
Basilisk	5	4000	15.25	10	none stated	none stated
Demi culverin	4.5	3400	9½	8	400 paces	2500 paces
Bastard culverin	4	3000	7	6.25	360 paces	1800 paces
Saker	3.5	1400	5½	5½	340 paces	1700 paces
Minion	3.25	1000	4	4	320 paces	1600 paces
Falcon of 2½	2½	800	3	3	300 paces	1500 paces
Falconet	2	500	1.25	1.25	280 paces	1800 paces

Table 2:

#### TYPES:

Table 1, compiled either during the reign of Henry VIII (1509-47) or early in that of Elizabeth I (1558-1603), shows the basic pieces authorised by the former monarch, a pioneer in the production and organisation of artillery in England. Sealed 'patterns' - in this case models - of the pieces were found in his effects after his death. In those days many tradesmen, including gunfounders, could neither read nor write, so it was of little use expecting them to work from drawings or written instructions. Hence they were supplied with models of the guns they were to produce and told to make the finished articles so many times larger.

Later lists of ordnance often show pieces additional to those shown in Table 1, mostly variations of the basic, some of which no doubt resulted from the method of production outlined above. For example, a 'bastard' piece was one the dimensions of which differed in some way from the pattern. Also, as guns were expected to last for decades, there appear 'old,' 'eldest,' 'ordinary,' 'extraordinary,' as well as foreign, i.e. imported types.

Broadly divided into siege and field, some idea may be gained of their respective employment by a study of Table 2. Both tables refer to English ordnance but types produced in European countries were similar.

In 1665 in England (earlier in Europe), the old names, e.g. cannon, culverin etc began to be dropped and the guns designated by the weight



of shot fired, as shown in Table 3. Here we find the first application of a modern basic principle, i.e. that the projectile is the weapon of the artillery, the gun merely the means of putting it on to the target. The arbitrary progression of calibres by one half or one quarter inch as shown in Tables 1 and 2 has disappeared. In its place are guns firing projectiles selected for their individual effectiveness, e.g. the 24-pdr fired from a gun of 5.824-inch calibre was found to be the best projectile for all-round siege work.

#### GARRISON GUNS (BRASS)

Nature	Calibre	Weight	Length	Weight of shot	Diameter of shot	Weight of charge
42-pdr.	7.018 ins.	64 cwt.	10 ft.	42 lb.	6.684 ins.	14 lb.
32-pdr.	6.41 ins.	49 cwt. 2 qrs. 18 lb.	9 ft. 2 ins.	32 lb.	6.105 ins.	10 lb. 10 oz.
24-pdr.	5.824 ins.	37 cwt.	8 ft. 4 ins.	24 lb.	5.547 ins.	8 lb.
18-pdr.	5.292 ins.	27 cwt. 3 qrs.	7 ft. 6 ins.	18 lb.	5.04 ins.	6 lb.
12-pdr.	4.623 ins.	18 cwt. 2 qrs.	6 ft. 7 ins.	12 lb.	4.403 ins.	4 lb.
9-pdr.	4.2 ins.	13 cwt. 3 qrs.	6 ft.	9 lb.	4 ins.	3 lb.
6-pdr.	3.668 ins.	9 cwt. 1 qr.	5 ft. 3 ins.	6 lb.	3.498 ins.	2 lb. 8 oz.

Table 3:

Dating from 1753 the table shows the complete re-designation of all pieces of ordnance commenced c 1665.

#### GARRISON GUNS (IRON)

32-pdr.	6.41 ins.	56 cwt.	9 ft. 8 ins.	32 lb.	6.105 ins.	9 lb. 4 oz.
24-pdr.	5.824 ins.	48 cwt.	9 ft. 8 ins.	24 lb.	5.547 ins.	8 lb.
18-pdr.	5.292 ins.	36 cwt.	9 ft.	18 lb.	5.04 ins.	8 lb.
12-pdr.	4.623 ins.	24 cwt.	7 ft. 8 ins.	12 lb.	4.403 ins.	4 lb.
9-pdr.	4.2 ins.	18 cwt.	7 ft.	9 lb.	4 ins.	3 lb.
6-pdr.	3.668 ins.	12 cwt.	6 ft. 1 in.	6 lb.	3.498 ins.	2 lb. 8 oz.
4-pdr.	3.204 ins.	8 cwt.	5 ft. 4 ins.	4 lb.	3.003 ins.	1 lb. 8 oz.

#### BRASS FIELD PIECES

Nature	Calibre	Weight	Length	Weight of shot	Diameter of shot	Weight of charge
12-pdr.	4.623 ins.	8 cwt. 3 qrs. 8 lb.	5 ft.	12 lb.	4.403 ins.	4 lb.
6-pdr.	3.668 ins.	4 cwt. 3 qrs. 10 lb.	4 ft. 6 ins.	6 lb.	3.498 ins.	2 lb. 8 oz.
3-pdr.	2.913 ins.	2 cwt. 3 qrs. 10 lb.	3 ft. 6 ins.	3 lb.	2.755 ins.	1 lb.

Note that windage has been changed from one quarter inch for all types to one twentieth the shot diameter - which improved the performance of the smaller guns but not those of 24-pdr or larger. "Rules of thumb" had still not been entirely discarded!

Note also that 'heavy brass' guns (which were in fact of bronze) became obsolescent c 1800 because they could not stand high rates of fire as well as those of iron. The lighter field pieces only were retained.

#### GUN DESIGN:

In the beginning gun design was largely by 'rule of thumb.' For example, trunnions were made the same diameter as the calibre, the walls of the piece one calibre thick at the breech and a half calibre at the chase etc, but no logical reasons could be given for these dimensions, for the designers had no means of gauging bore pressures, muzzle velocity, or strength of materials.

Nevertheless, throughout the smooth-bore era much thought continued to be given to improving ordnance, ammunition, and to a much lesser extent, ballistics and gunnery.

#### ORNAMENTATION:

We have already seen in Chapter 4 how the expense of casting was greatly reduced by practical gunmakers' omitting fancy decorations from their guns.

#### PROPELLANT CHARGE:

The peculiarities of 'serpentine,' the original gunpowder, have already been explained in Chapter 1. As with gun design 'rule of thumb' prevailed, so at the start of the era - by which time the use of cast iron shot had become general - Gunners made the charge weight the same as that of the shot (in most cases), as shown in Table 1. Where discrepancies occur apparently the guns were shorter than usual and the charges reduced to avoid wastage.