
British Fortification and Defence of Malta 1800-1960

I 1800 — 1815

Justifiably, when the British first came to Malta, they were overawed by the massiveness of our fortifications. Unlike the Knights, however, they did not allow themselves to be deluded into a state of false security by the conspicuously deterrent though inanimate presence of those mighty complexes of defence works which practically surround the whole of the Maltese coast. What chiefly overawed the British commanders and military engineers were the enormous problems attending the structural restoration and remodelling of those defence works and, above all, their re-animation with operationally trained gunners and up-to-date armament. Thorough-going professionals as they were, they knew full well that the mere overinsurance with formidable stone fortifications, as an end in itself, can never constitute a credible, let alone impregnable, defence of an island-fortress!

From the excellent periodic reports, staff papers and other seemingly inexhaustible correspondence relating to the garrison of Malta from 1800 onwards, preserved at the Public Record Office in London and to a much lesser extent at Regimental Museums such as those of the Royal Artillery and Royal Engineers, we can follow the development of the vast and costly rearmament programmes, the progressive build up of new fortifications and the continuous flow of essential administrative backing and highly trained manpower, which, in combination, transformed the ailing

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defences into that unified and invincible fortress, so much desired and laboured for but never realized by the generous, heroic, though power-limited Knights of St. John.

The very first British fortification on Malta was an improvised heavy Mortar Battery, erected during the first days of January 1799 for the purpose of "bombing" the three French warships which had taken refuge in the Grand Harbour after escaping destruction at the battle of the Nile. That Battery was erected by the small artillery detachment under Lt John Vivion RA, who had arrived at Marsaxlokk Bay on 20 December 1798 with a 10" and 13" mortar on HM Bomb Ship *STROMBOLO*.¹ The next fortified works built by the British were the field Batteries, manned by the Ships' Marines, which formed part of the semi-circular investing front stretching from StRocco to Sliema raised against the French troops who had entrenched themselves within the Harbour defences. Those Batteries were commanded by Captain James Weir of the Marines who was later appointed to raise and command the first Maltese unit of the British Army — The Maltese Light Infantry.

Following the capitulation of the French on 5 September 1800 and their eviction from Malta, the British became immediately concerned with the defence of the Island. On 10 December 1800, Lt-General Sir Ralph Abercromby, the CinC British military forces in the Mediterranean, issued a special directive to Maj-General Henry Pigot the GOC Troops Malta, wherein he asserted "Great Britain takes the Maltese nation under its protection. Maj-General Pigot will not permit the pretensions of any other Sovereign or body of men to be brought forward or discussed."² Outlining his defence policy, the CinC went on to say that the Harbour fortifications "chiefly the Cottonera, Ricasoli, StAngelo, StElmo, Tigne, the two Cavaliers and the interior parts of the works on the Floriana side" and those at St. Paul's Bay and Marsaxlokk, were to be immediately repaired and manned. Furthermore, Maj-General Pigot was "to pay great attention to the re-arrangement of the artillery, which are of various calibres, so that each piece of ordnance may have its just proportion of ammunition allotted to it, and at hand."

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That was all very well for a start. But even that limited commitment was not as inconsiderable as might appear. Indeed, to meet it, "no less than six Companies of Royal Artillery were promptly brought over to man the guns of the defences, five from home and one from Gibraltar."³

The first technical report on the defences emanated from Captain Gordon, the first officer to command the Royal Engineers in Malta. He advised the blocking up of many of the embrasures which were sited too low to the ground and not wide enough to allow the guns an adequate arc of fire, also the raising of the height of the parapets so that heavy guns could be mounted 'en barbette' on high traversing carriages. He requested the urgent construction of traverses along the Harbour entente; the reconstruction of the land front of Fort StElmo and other important requirements. He even raised the old unresolved problem of the Corradino heights, which, in their undefended state continued to jeopardize the whole defence system of the fortress.

Captain Gordon was succeeded by Major W. McKerras who, on inspecting the StPaul's Bay defences on 24 November 1800, reported that in spite of their high military importance, they did not have a single serviceable gun between them! Two days later he inspected the even more important Marsaxlokk anchorage and although the state of the armament there was not as bad, it was far from satisfactory. The following month McKerras produced a comprehensive report on the Harbour defences in which he assessed their tactical strength and made recommendations for their improvement. He also singled out the Margerita Lines as being "so very unfinished, in some parts without a ditch, the escarp not more than 10 or 12 feet in height, particularly the prolongation of the right face of StHelena's bastion, which together with the adjoining curtain and flanks on its right are entirely exposed and uncovered; and many of the flanks and curtains without any rampart whatever"

The historical importance of those early reports is two-

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fold: they show the state in which the fortifications were left over by the Knights, and secondly, how the British set about repairing, remodelling and completing the works to bring them up to the requisite operational standards.

Perhaps in those early years no one contributed more to the rehabilitation of the Fortress than Captain (later Lt-Colonel) G.J.Dickens, who commanded the Royal Engineers in Malta from 1803 until 1814. Consider, for instance, the following few extracts from two of his numerous reports on the defences of Malta. The first is dated 15 November 1803⁴ and the other 15 March 1811.⁵ Starting with Valletta, he points out that "some of the terrepleins and Ramparts will require to be lowered in consequence of the inhabitants having formerly been allowed to deposit and spread the rubbish of the Town upon them ... considerable reforms will be necessary to the parapets of the land and sea fronts. The embrasures are in general ill constructed and composed of small materials; as well as the stone platforms: either they must be done away and the high traversing platform substituted or the embrasure and platform must be reconstructed of larger materials. Several of the escarps of the land and sea fronts are in want of considerable repairs ... and many of the front courses of the masonry forming the upper part of the escarps will require to be replaced and others pointed and repaired."

The same, in general, applied to the Floriana works. In particular "The Horn and Crown works may be said to be in a state of ruin, the escarp and the interior and exterior walls of the parapets being much decayed and mouldered away; the gates and barriers are in the same decayed state and the covertways and glacis which are partly countermined are without palisading."

Regarding the Cottonera Lines the CRE stated that "notwithstanding their formidable and good state, they are liable from want of a glacis or outworks, to be effectively breeched in a few days after their investment ..." He then went on to stress "the necessity of a work on the Coradin, without which, the right of the Cottonera, Santa Margerita and Senglea can never be considered as secure."⁶ Describing

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the Senglea land front, he pointed out that "considerable portions of its escarp walls, parapets and platforms are in a mouldering and decayed state and will require considerable repair." Fort Tigne was assessed as being in complete order and repair but "not sufficiently covered by its glacis which should be raised, particularly as the masonry of which it is constructed is ill composed."

The later report⁵ begins also with a review of the Valletta fortifications. The two Cavaliers, he stated, were each mounted with eight 24 pounder (pdr) guns and that "there are capacious bombproof casemates in both Cavaliers and powder magazines for 2000 barrels, lately fitted with new doors, windows, shutters, stancheons etc but powder has not yet been lodged in them, the inhabitants having petitioned against it ..." The covertway and glacis were reported to be in a good state but were neither palisaded nor countermined. With some obvious satisfaction he was able to say that "the stone platforms of the sea line as well as the land front have been all relaid or repaired and are now in a serviceable state ..."

Progress was also made at Floriana. "Some additional stone platforms and repairs to the parapet and ramparts of the body of the place are still requisite although a great deal has been done to both since the year 1800. The two great Ravelins [St Francis and Notre Dame] which are sufficiently spacious to be retrenched with a redoubt in each of their gorges have been put into complete order, viz: parapets repaired, platforms relaid and expense magazines and artillery storehouses built as well as the Fausse Braye, or exterior enciente in their front. A great deal of repair has likewise been done to the Horn and Crown works which were in a ruinous but now nearly in a complete state of repair."

Dealing next with the Cottonera, Dickens reported that Fort Salvador had lately been restored and "put into complete order." He then refers to the types of guns mounted in the salient angles and flanks of each bastion and the construction of banquettes in all the flanks "the whole of which has been done since the year 1800, previous to which,

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even during the Blockade a musket could not have been made use of from the flanks except through the embrasures for want of banquettes." As for the ditches, these existed only partially, were irregularly excavated and without any covertway and glacis and "consequently liable to be breached immediately after their investment."

The Margerita Lines were still in a very imperfect state "though several completions have been made to them particularly laying three stone platforms on each flank, two of which were without any kind of rampart and have been within these six or seven years formed of stone or rubble from the back of the Firenzuola and Windmill curtains, the ramparts to which it is proposed to form by building ranges of bomb proof casemates." The ditch to the right face of StElena's bastion "has likewise lately been excavated and the miners are now employed completing that of the left face of the same bastion at present in a very imperfect state as are also the ditches in front of the StHelena curtain and the left face and flanks of the Almoner bastion on its right. The Firenzuola and Windmill curtains are without any kind of rampart and are proposed to be casemated." As for the covertway and glacis, these extended no further to the right than near the salient angle of the StElena bastion and the glacis itself was in very imperfect and unfinished state.

The report goes on to assess the state of other fortifications and the progress achieved in each case, but we need not pursue the matter further; enough has been quoted already to enable the general reader to form some idea of what the British Army had to contend with in its first attempts at transforming the Knights' outdated fortifications, with their obsolete armament, into a professionally projected defence complex worthy of a first rate naval base.

II 1816 — 1857

"Napoleon had financed his campaign by his own conquests; the Napoleonic wars had cost Great Britain some seven hundred million pounds in cash. 'It will be hard,'

wrote Edward Cooke, 'if France is to pay nothing for the destruction of Europe and we are to pay all for saving it.' The Prussians were even more insistent in their demands for reparation; they asked that Prussia should be repaid the sums which Napoleon had extracted from her in 1812. The French delegate replied that sooner than pay over these monies Louis XVIII 'would submit to be arrested and kept a prisoner in his palace.' This argument appears to have much affected the Allied plenipotentiaries who did not possess that acute financial acumen which was manifested by the Reparation Commission of 1918. They decided that the new France should start with a clean balance sheet; they did not even demand, as they had every right to demand, the repayment of sums spent on the maintenance of French prisoners of war, of whom 70,000 had been supported for years in England alone."⁸

But somehow, Great Britain had to make good that enormous war debt! As was to be expected, the Government resorted to the long practised expedient after the end of very major war of slashing its Armed Forces' budget. How did that affect Malta? By 1820, the Royal Artillery establishment was reduced overall from 112 Companies to 72, and in the reorganization which followed, the RA presence in Malta was reduced to a mere two Companies for the manning of the Harbour defences with detachments of the Royal Malta Fencible Regiment manning coast Batteries and Towers and guarding against smuggling operations and contraventions of the quarantine laws.

Eventually, when France in 1837 introduced the Paixhans gun into her Navy – the first gun to fire shell instead of the traditional solid round shot, and later started to replace her wooden sail ships of the line with steam engined, screw propelled warships; Britain, aware of the significance of those innovations was moved, at last, into seriously reassessing the defence requirements of her vital overseas bases.

In 1844, Colonel Harding produced a plan for strengthening the tactical role of the combined Cottonera — StMargherita Lines by means of a new fort (Verdala) to be sited within the core of those defences and a strongly

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fortified retrenchment (StClement's) linking the two Lines.⁹ The project, approved and completed by 1860, was the first original major fortification erected by the British in Malta.

Fort Verdala provided additional fire power to the Margerita front, it also provided garrison accommodation and served as headquarters for the Commander and Staff responsible for the defence of the area. StClement's Retrenchment consisted primarily of two strongly fortified lines stretching south eastwards from each end of the Firenzuola Curtain to the southern flanks of the StClement's and Notre Dame bastions with an internal irregular frontage of 365 and 430 metres respectively: it was designed to break up the vulnerable open ground between the Cottonera and Margerita Lines into three sectors so as to contain and prevent an enemy, in the event of his breaking through the Cottonera Lines, from spreading out and widening his attack on the Margerita Lines. Along their length, the two arms of the Retrenchment were protected by a ditch, both their inner flanks were mounted with casemated gun positions supported by mortars and their receding central curtains were pierced with loopholed musketry galleries from which the Infantry would defend the Retrenchment itself, if attacked.

Another contemporary original British fortification was Fort Lascaris. This fort, in unison with Fort StAngelo commanded the entrance to the Grand Harbour. Its role was to destroy enemy vessels infiltrating into the harbour and at all costs to deny them access into Dockyard and French Creeks which led straight to the Dockyard and naval base installations.

The 1840s also saw the expenditure of considerable sums of money on maintenance and reconstruction of existing works and even additions to some, notably the Cottoneira and StElmo, to accommodate the heavy guns and their traversing platforms which were being despatched from England to replace the 24 pdrs of the Harbour defences. Thus, when in January 1841, fourteen 68 pdrs arrived in Malta followed by four 56 pdrs eight months later, it seemed that the re-armament programme was really

on its way: but that was not to be, for the next consignment of heavy guns did not reach the Island before 1852!

By the end of those first four decades the defence situation was not good. Whilst a good deal of reconstruction work had been carried out on the fortifications few of the heavy guns had arrived and the manning detail was below strength. But although it was no secret that the garrison was generally unequal to the role assigned to it, not too many people seemed to have been overperturbed by the fact because through some understanding (or misunderstanding!) it had been fundamentally assumed that as long as Britain held the undisputed mastery of the seas, Malta need not fear for her safety: the Fleet would always be there to provide the decisive first line defence.

When, therefore, the Fleet was temporarily withdrawn from Malta and sailed to Tangiers "to show the flag" during the Moroccan crisis of 1844, the Governor, Lt-General Sir Patrick Stuart, was quick to represent to the Colonial Office the precarious state in which the Island had been placed as a result of the Fleet's sudden departure. The reply was furnished by the Admiralty on 5 July 1845.¹⁰ The security of naval bases, it asserted, must not be dependent on the Fleet's supremacy, since the predominant roles of the Fleet must always be the maintenance of Britain's sea communications and the seeking out and destruction of the enemy's main fleet. These roles, as well as others which may be dictated by political exigencies of the moment, were liable to require the Fleet's presence elsewhere at short notice and it was therefore vital that Malta should be self-reliant for her own defence, for that of the Royal Naval Dockyard and other base installations on the Island. That statement of policy, which basically was to stand unchanged until the end of British rule in Malta, achieved three far reaching results: it confirmed the spheres of responsibilities for the defence of Malta as between the Royal Navy and the Garrison; it highlighted the Army's commitment to the defence of the naval base; it enabled the Army (in order to fulfil that commitment) to acquire the means with which to build up and rearm the land defences.

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Meanwhile, the recommendations in Colonel Harding's report were taken in hand and it would seem that considerable progress had been achieved by October 1848, when the Inspector-General of Fortifications, Sir John Fox Burgoyne inspected the defences of Malta. The General was impressed by the strength of the Ricasoli — StElmo — Tigne sea line and considered it as near impregnable against frontal attack; consequently, in the event of the Fleet being called away from Malta, no enemy was likely to attempt an attack on the Grand Harbour, although it was possible that in those circumstances, an enemy availing himself of the temporary command of the sea, might try and capture the Island by blockade.¹¹ On the other hand, could we not add to that opinion — that, for such a blockade to succeed it would have had to be a long one, and would not the enemy have had to reckon with the returning British war-ships?

The new Governor, Sir William Reid, did not quite share Burgoyne's optimism. "When I saw Malta for the first time in 1851, it appeared to me to resemble a disarmed fortress. On enquiry I learnt that Gibraltar had been re-armed but not Malta. A correspondence on my part of considerable length with the different Secretaries of State followed and the result was that the re-armament of Malta was commenced, but has been suspended in consequence of the war with Russia. In the correspondence here alluded to, I pointed out that the power of Steamships with their present armament, when they could close with fortresses as may be done against Malta, has been overlooked."¹² That last observation applied in large measure to Ricasoli — StElmo — Tigne, the three main sea forts constituting the front line defence of the Grand Harbour: each one could be approached by the largest ships afloat to within a hundred yards and bombarded at point blank range. It was for that very reason, to force the enemy to keep his distance, that those forts had to be equipped with guns and howitzers of the heaviest calibre.

From the start, Reid was absorbed in overhauling the fortifications and seeking approval for new armament and new works. No point of detail escaped his notice — listen,

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for instance, to what he has to say in one of his earliest despatches to the Secretary of State:¹³ "My Lord, I find here piles of French shot on the Batteries by the side of English guns, just of a size to render the guns unserviceable if one of these shot were to be, by mistake, put into one of the English guns. I am informed that it is intended to remove all the French cannon and shot here, but year passes on after year and this is not done. I hope therefore that Your Lordship will remind the Master General and Board of Ordnance of this fact."

On 9 October 1852, Reid submitted the first of his comprehensive reports on the fortifications stressing the need for new heavy guns with which to rearm the Harbour defences. His recommendations were only partially accepted but that did not deter him from renewing his pressing requests. At about that same time, Reid was concerned with another defence matter and in 1853 produced his report on "The bad state of the Gates of the Fortress."¹⁴ He pointed out that the 2914 troops of the garrison were insufficient for manning the Valletta, Cotto-nera and outer defences, some 25 miles of fortifications comprising 54 gates. Some of those gates were in need of repair, others were without guardrooms and the majority were undermanned. Gates, by their nature, breach a fortification and consequently weaken it.¹⁵ Unless, therefore, they are kept structurally sound with their drawbridges and other devices in good working order and manned by trained soldiers, they become a serious menace to the defence: through such poorly manned gates, enemy storming parties could take the fortifications in the rear. As a result of Reid's report, the main gates of Valletta and the three Cities were repaired and secured with additional men and guardroom accommodation.

The Crimean War brought the rearmament of Malta to a halt: more so, the Island was depleted of most of its heavy cannon then urgently wanted for the Field Army.¹⁶ But that war had also brought out the true strategic value of Malta as a supporting base and transit centre without which Britain could not assert her policy in the Mediterranean. When, therefore, at the end of hostilities, Reid resumed his

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demands on the Colonial Office, the Government went out of its way to convene an extraordinary interdepartmental Committee to study his recommendations.¹⁷

The Committee agreed with the Governor on all major counts. They expressed concern over the possibility of distant bombardment of the Dockyard by mortars, from ranges of 4200 yards, without the enemy vessels being necessarily seen or covered by the shore defences. It was to counter that eventuality that the Committee accepted that "to the present extent of front might be added with advantage, a detached battery or two, on each side." Later, those "detached batteries" would materialize in the form of Forts StLeonardo, StRocco, Sliema Point and Pembroke. The Committee further agreed that "all these sea Batteries should be of the heaviest calibre, mounted, and covered, and with appurtenancies, on the most approved principles that are from time to time promulgated." The Committee having then dealt with several other matters ended by asking for yet another assessment from Malta "for the improvement of the defences."

Reid, in conjunction with his naval and military experts produced another, his last, major report. His tour as Governor was coming to an end and although he left Malta without having realized those schemes for which he had striven so hard and for so long, his resolute and persistent efforts had not been in vain; they laid the foundations upon which his successors were able to develop a defence system of extraordinary strength which feared nought and scared all.

III 1858 — 1869

Major-General Sir William Reid GCMG, KCB, was succeeded by another outstanding administrator Major-General (later Lt-General) Sir John Gaspard Le Marchant GCMG. From the start the new Governor devoted his inexhaustible energy to the reorganization and strengthening of the defences of Malta. In a despatch to the Adjutant General dated

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1 December 1860, he recounts how, between 1 October 1859 and 30 November 1860, no less than 200,000 men, were employed in carrying out, *inter alia*, the following tasks:

- “ — Above 900 guns have been mounted, dismounted, and removed to complete a revised classification of the Armament.
- 30,000 barrels of powder and ammunition have been removed and placed in suitable localities throughout the works.
- 521,753 shot and shell have been brought up into the several Batteries to complete their Armament (of these 300,000 new from store, the remainder exchanged from superior to inferior Batteries or from reserves on to the works. Exclusive of Grape).
- Besides the removal of many hundred tons of War Department stores, into proper Storehouses within the works.
- The fine Siege train left after the Crimea has been put together, brought into Valletta, and is in immediate readiness for use.”

However, in spite of all his exertions, Le Marchant left Malta before the new coastal forts on the flanks of the Grand Harbour had begun to take shape. But that was not his fault. Even defence apart, for the greater improvement of which he had striven hard, Le Marchant's administration substantially benefited Malta in other spheres as well and on the basis of his long term achievements he must rank as an outstanding Governor.

It will be recalled that the Crimea had finally established the supremacy of steam over sail: steam propelled vessels did not have to depend on the wind for movement and tactical manoeuvring in battle! Experience of that war had also asserted the supremacy of the shell over the spherical solid shot and demonstrated the need for armour protection to warships. Here again, the French took the initiative and in 1858 launched the first ironclad warship, the frigate *La*

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Gloire. Britain replied the next year with *HMS Warrior*. But the first of the large British armoured warships to entirely dispense with sails was not completed before 1871.

The appearance of the ironclad upset the 'Gun vs Armour' balance of power! From then on an unbridled and very costly neck to neck escalation race for supremacy developed between them. In 1859, the *Warrior* with its 4½ inches of wrought iron armour was capable of resisting the 68 lb shell; twenty years later, the *Duilio* with its 22 inches of steel plating could resist every projectile fired from the forts of Malta including the 785 lb shell of the 12.5 inch (35 ton gun). Only the 2000 lb shell of the 100 ton gun, from a range of 1000 yards could have penetrated the *Duilio's* armour;¹⁸ but then, we did not have that type of gun.

France and Italy were soon off the mark fitting out their warships with increasing thicknesses of armour and bigger guns. Malta viewed that build-up with anxiety, for in the absence of the British Fleet those warships, thus armed, could have taken up positions beyond the range of our shore guns and bombarded the Dockyard and Valletta with impunity; they could even have attacked the forts individually and silenced their guns, after which the road to invasion lay open!

At last, in 1866, the Treasury was ready to allocate funds for the construction of new works and the further strengthening of the old fortifications. This followed the Jervis report of 23 June 1866,¹⁹ most of which was eventually implemented, though his scheme for the protection of the Dockyard and harbours against a land attack, by means of a girdle of six detached forts sited on commanding ground within a radius of about a mile outwards from the existing Harbour fortifications, was shelved. However, delays still crept in to slow down the initiation of the various projects and it was not until three years later, when Malta's key position as a port of call, coaling station and naval base in the centre of the Mediterranean was strategically focussed by the opening of the Suez Canal, that the Admiralty and War Office succeeded in hastening the start of those urgently awaited defences.

IV 1870 — 1899

For Malta, the golden age of Coast Defence had arrived. From 1870 onwards, Britain spent millions towards maintaining a credible defence of Malta based on the eventuality that the Mediterranean Fleet might have to be called away from its base at short notice.²⁰ Armament technology continued to develop extensively and fast and the evolutionary changes which emerged were becoming more difficult to keep up with and expensive to implement. Thus, no sooner would a battery of guns be installed in a fort than it would have had to be replaced by a yet more modern version of those same guns or by a completely novel type of armament. But it was not just a question of replacing one type of gun by another! In many instances the siting of an existing work was tactically unsuitable for the new armament and therefore a brand new fort would have had to be built for it: even when a new gun was earmarked to replace its older version on site, the emplacement would have had to be completely remodelled at great expense, as evinced, to quote just one example, by the 1870 rearmament of Forts St Angelo, Manoel and Tigne.

In 1871, work began at last on the Corradino feature.²¹ Different from the previous layouts proposed by the Knights' engineers, Lt-Colonel Dickens and others, this work was aptly named "The Corradino Lines." It enclosed in a continuous but irregularly fortified line the area Ghajn Dwieli to Ras Hanzir. Bounded by a dry ditch along its front, its elevated parapet was laid with banquettes for Infantry and its four salient angles were strengthened with a series of two storied casemated positions for guns and musketry. Corradino Lines were completed on 31 March 1880 at a cost of £17,634.

Replacement of the old armament of Fort St Elmo started in 1871, and soon afterwards, whilst remodelling the bastions for the new 10 inch (18 ton) guns, the Royal Engineers laid bare the vault containing the remains of Sir Alexander Ball, who had been buried there in 1809, and, a few weeks later, that of Sir Ralph Abercromby, buried in the adjacent bastion in 1801. Both coffins were recased

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and laid in a new vault within the same bastions.

From a very interesting report compiled by Brigadier-General John Adye CB, in December 1872, we are brought up to date on the details of the vast reconstruction plan for re-equipping with heavy rifled muzzle loading guns of 11" (11 inch), 10" and 9" calibre the Valetta fortifications and Forts Ricasoli, StAngelo, StElmo, Manoel and Tigne. With regard to the new forts the report stated:

“ — Sliema Point: This work has just been commenced and if the shields arrive it will be completed in about 18 months.

— StRocco: Arrangements now being made for purchase of land.”

Thus, it was not before the end of 1872 that the first pair of sea forts had begun to take shape: they were built in pairs so as not to allow any bombarding vessels to close in on the harbours from any unguarded angle.

Sliema Point lay one kilometre NW of Tigne and was designed for an armament of two 12.5" (38 ton) and two 10" (18 ton) guns, while StRocco lay a kilometre SE of Ricasoli and was being equipped with three 12.5" (38 ton) guns each capable of launching a 785 lb pointed shell over a distance of 6100 yards at maximum elevation of 9° 56': the shell was propelled by a muzzle velocity of 1575 feet per second and at 1000 yards could penetrate 18" of wrought iron armour plating. The 10" (18 ton) gun could be elevated to 12½° and in that position had a range of 5800 yards; its common shell weighed 390½ lbs and at 1000 yards penetrated 12" of armour.

Concerning the land defences of Valletta and its suburbs we are informed that “the only work at present in progress is that on Corradino Hill, which is about ¼ completed. The cost of the land was about £1600 and that of the work when completed will be £15,000.” In fact, as stated earlier, the final bill for the Corradino Lines was £17,634.

The report then dealt with the Jervois plan of 1866

which had proposed the erection of six detached forts on commanding ground immediately surrounding the harbour area to secure the defence of the Dockyard and harbours against a land attack. Having pointed out the inapplicability of that plan to current conditions, Adye put forward his alternative proposal to construct an outer line of land defences along the line of cliffs formed by the great geological fault which crosses the Island from East to West (Madliena to Fomm ir-Riġ) — “a few detached forts on this line would cut off all that westerly portion of the island where there are good bays and facilities for landing. This line of fortification would retain the resources of the greater part of the country and the water on the side of the defenders; and the ground would be much cheaper than that in the immediate neighbourhood of Valletta.” Adye’s project was approved by the Defence Committee in 1873, commenced two years later and completed in 1897; however, as and when parts of “The North-West Front” (as it came to be called) were finished, they were placed at the disposal of the troops for land exercises. The fact that the whole position was finally completed in 1897, the year of Queen Victoria’s Diamond Jubilee, was fortuitous and it was to commemorate the double event that it was renamed “The Victoria Lines.”²²

But soon those prestigious Lines would come under fire — not from enemy bullets, but from within! As early as 1901 their operational viability was being queried and by 1907 it was rightly decided that the land defence of a small island like Malta must be conducted from its very shores to prevent an enemy gaining a foothold on its soil: it would be most difficult to evict him afterwards. The Victoria Lines were consequently abandoned and the two major forts of Madliena and Bingemma assigned to the coast defence role.

We must now look into that masterly report produced by the Inspector-General of Fortifications Sir J.L.A. Simmons, on 22 February 1878.²³ He restated the Government’s policy “that the defences should be local and self-contained, that is, independent of naval means, so that HM’s fleet may be free to act, and the Admiral in command relieved of all

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anxiety as to the security of the Dockyard and ships, whether war or commercial, that may be in its harbour.”

He remarked that although much had been achieved yet “during the progress of the works the power of artillery had been greatly developed, as well as the thickness of the armour plates of the ships, to the attacks of which they may be exposed.” Therefore, whilst “the sea defences may be considered equal to the requirements of the present day ... within a few months the condition will be changed and the works will be exposed to attack from ships of the *Duilio* class, protected by 22” of steel and armed with 100 ton guns. The heaviest gun now mounted will be powerless to pierce the protected parts of these ships, even at the shortest ranges, whereas their shields will not afford protection against the guns of these ships at their longest ranges ... it is therefore of the utmost importance that no time be lost in providing four guns to be placed in position on the sea front, capable as a minimum, of piercing ships of the *Duilio* class at a range of 3000 yards. Unless the step is taken, considering the proximity of Italy and other maritime powers on the shores of the Mediterranean, Malta cannot be considered secure.”

The persuasiveness of that argument was beyond dispute. Four 17.72” (100 ton) guns were produced but they had to be shared with Gibraltar. Each of our two guns was mounted in a separate fort specially built for it — Cambridge in 1880 and Rinella in 1884. The barrel of this gun actually weighed 102.25 tons and its length measured 32.65 feet. Its common shell weighed 1921½ lbs and its powder charge 450 lbs. At 1° elevation its range was a mere 900 yards but at its maximum elevation of 9°56’ the distance was increased to 6000 yards. At 1000 yards it penetrated 23” of armour, reduced at 2000 yards to 21”.¹⁸ It was a formidable showpiece but as a weapon of war it was severely limited by its slow rate of fire of one round every four minutes. In defence of a straight sea line like Malta’s, its chief value would have been in deterring the enemy from approaching closer than the 6000 yards area imposed by its arc of fire.

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From the start, Cambridge and Rinella Batteries regularly took part in Garrison firing practices. The last time they participated together was on 27 June 1904 and then both were short of common shell — out of a complement of 100 shells, Cambridge held only 28 and Rinella 81! Station practice was discontinued at Cambridge after that shoot “on account of liability to damage of new buildings erected in the vicinity.”²⁴ Rinella, however, took part in the next year’s firing practice on 5 May 1905. The following year both were struck out of the Approved Armament for Malta.

To return to General Simmons’s report. The construction of the new sea forts was progressing very well. It will be recalled that only Sliema Point had been started by December 1872 (Brigadier-General Adye’s report) whereas just over five years later the position was as follows:

Sliema Point — Work completed and armed with two 10” (18 ton) guns “and in which two 38 ton guns will be mounted almost immediately.”

StRocco — Fort completed with two of its three 12.5” (38 ton) guns already mounted.

Pembroke — Fort completed with its three 11” (25 ton) guns on site but not yet mounted.

StLeonardo — “designed for three 25 ton guns, which is at present incomplete, but will be finished this year.”

StLucian — The fort was remodelled during the years 1874-78 and armed with three 10” (18 ton) guns in casemated emplacements. At that time it was the only major work protecting the entrance to Marsaxlokk Bay.

Delimara — This fort “near the entrance of the Bay is a self defensible work, which will be armed with six 12.5” (38 ton) guns protected by iron shields. It is hoped that it may be completed by the end of the year.”

Tas-Silġ — “Not yet commenced, but is to be proceeded with at once.” In fact it was started in 1879 and completed in 1883.

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With regard to the new land defence forts the situation was as follows:

Bingemma — Complete and ready for its armament.

Madliena — Land acquired and the work had just commenced. The fort was eventually completed in 1880.

Mosta — “will be commenced shortly.” It was completed in 1885.

Other reports followed annually, sometimes even more frequently; meanwhile, new fortifications emerged and the variety of guns continued to increase: Zonqor Battery was erected (1882 – 86) for the defence of Marsaskala Bay, and StPaul Battery (1882 – 85) for the defence of StThomas Bay. The flanks of the Grand Harbour were further strengthened by:

Delle Grazie Battery (1899 – 94). Two 10” (18 ton) Rifled Muzzle Loading (RML) and two 6” Breech Loading (BL) guns. Cost £16,344.

Spinola Battery (1889 – 94). Two 9.2” BL and two 6” BL. Cost £15,793.

Garden Battery (1890 – 1). One 9.2” BL and two 6” BL.

The Inner Harbour defences were reinforced by the addition of a new work:

Tryon Battery (1896 – 98).²⁵ Erected on the rocks below the Old Knights’ Hospital directly covering the Grand Harbour entrance and mounted with six 12pdr QF guns.

Along the “Victoria Lines” five new works were built between 1882 – 89:

Gharghur Right Battery, Gharghur Left Battery, San Giovanni Battery, Targa Battery and the important Dwejra Lines complete with ditch, artillery positions and infantry loopholed defensible walls flanking the main approaches.

The long-drawn-out battle between the adherents of the BL and ML systems, which had started in 1859 when William Armstrong produced the first breech loader, ended in 1885 with the adoption of the BL system on the grounds

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that it offered greater accuracy, range, power and rate of fire. Muzzle loaders were thus rendered obsolete from that instant and ships and coast defences had all to be rearmed.

As guns increased in size and firepower a new problem arose with regard to their handling and that of their massive shells. Eventually, all equipment became electrically operated, but as a first step gun movement and shell loading was effected by means of the hydraulic gear. Another major issue was fire control, that is, how could the gunner hit a distant target moving at fast speed unless he knew the range and bearing of that target? The invention of the Position Finder (PF) and the Depression Range Finder (DRF) by Captain H.S. Watkins RA, provided just the answer needed to sink that target. The other serious problem of how to deal with enemy craft attempting to force an entry into a harbour under cover of darkness was resolved, after the discovery of electricity, through the installation of Defence Electric Light (DEL) which could illuminate the target and the area of operations for the guns to open fire and destroy the attacking craft — as we did on 26 July 1941.

Until the Second World War the DEL was operated by Fortress Companies, Royal Engineers (RE), who in that role, formed an essential part of Coast Defence since the gunner could not engage his guns by night without DEL illumination. The RE, of course, were integrated with us in other aspects of Coast Defence: they manned and operated as additional obstacles to the open entrances of the Grand and Marsamxetto harbours — torpedoes, submarine mining, sea mining and the Boom defence installations.

With the end of the century drawing near, the Royal Artillery could look back with satisfaction on the eminence into which its Coast Defence branch had elevated itself by its technical achievements of those last few decades; however, under pressure of prolonged action certain details tend to be overlooked! For as long as anyone could remember, few were the occasions when overseas garrisons had returned obsolete equipment to the U.K., with the result that over the years garrisons had amassed a motley combination of guns of all types, the bulk of which were

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obsolete. By the 1890s the situation was growing administratively chaotic and proving terribly wasteful in manpower. A radical standardization of equipment was urgently called for.

V 1900 — 1960

Once undertaken, that standardization of armament was carried out quickly and effectively. An accurate assessment was first made of the probable forms of attack to be expected, followed by a choice of guns most suitable for combating those attacks, namely:

- a. Bombardment at long range by battleships or heavy cruisers.
- b. Bombardment at medium range by light cruisers.
- c. Attempt to break down naval obstructions or block the entrance to port or harbour.
- d. Attack by torpedo craft at night.²⁶

Against those four threats, four types of guns only were to be retained as follows:

- a. 9.2"BL gun Mark (Mk) X on carriage garrison barrette Mk V. Elevation 15°, range 17,400 yards, weight of shell 380 lbs.
- b. 6"BL gun Mk VII on carriage garrison Mk II. Elevation 16°, range 16,000 yards, weight of shell 100 lbs.
- c. 4.7"QF Mk III on carriage garrison Mk IV. Elevation 20°, range 11,800 yards, weight of shell 45 lbs.
- d. 12pdr, 12 cwt Quick Firing (QF) on carriage garrison Mk II. Elevation 20°, range 8,000 yards, weight of shell 12 lbs.

All forts were to be rearmed with the above guns as applicable to their role, and all other types of guns were to be ruthlessly scrapped.

For Malta, the outcome of that policy could only mean another major rearmament of the coast defences. All those hundreds of obsolete guns were dismantled and many forts closed down; new forts had to be built to meet the technical

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requirements of the new armament, which, with all its complexities had to come from England. All in all it proved a very costly operation indeed, but that was the price, even in those days, that had to be paid from time to time to keep up the defences in a high operational state of readiness. It need hardly be pointed out, however, that such was the superiority of the new armament in accuracy, range and rate of fire, that just a few of those modern guns were enough to render the defences incomparably more effective and secure than they had ever been before. When it came to applying the new policy to Malta, two deviations stood out. In the first place, the 4.7" gun was not employed as a coast defence weapon but as moveable armament, that is, in a landward defence role.²⁷ Secondly, the need for a high-angle Battery to cover the water area from St. Paul's Bay to Sliema and the corresponding land area fronting the Victoria Lines, called for the erection of a completely new work armed with guns which did not form part of the Approved Armament. Thus emerged, in 1900: Gharghur High Angle Battery — armed with six 10" High Angle guns.

The rearmament of our coast defences was backed by the strong support of the Colonial Defence Committee. It was spread over several years being completed only shortly before the outbreak of the First World War, as shown below:

<i>Year in which Fort or Battery erected (E) or reconstructed (R) for mounting Approved Armament</i>		<i>Type and number of guns mounted</i>		
		9.2"BL	6"BL	12pdr QF
1899	— Wolseley Battery (E)		4 (QF)	
	„ — Fort StLeonardo (R)	2		
	„ — Fort Ricasoli (R)			2
	„ — Pembroke Battery (E)	2		
1902	— Fort Ricasoli (R)		3	2
1904	— Fort Benghajsa (E)	2	2	
	„ — Fort StRocco (R)	3		
	„ — Fort StElmo (R)		6	
	„ — Fort Tigne (R)	2		
	„ — Fort Bingemma (R)	1	2	
1907	— Fort Madliena (R)	2	2	
1909	— Fort StElmo (R)			8

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„ — Garden Battery	(R)	1	
„ — Madliena Tower Bty	(E)		2
1913 — Fort Delimara	(R)	2	
		<hr/>	
		16	20
			14
		<hr/>	

On the outbreak of war on 4 August 1914, our coast defences were deployed as above and manned by eight Companies of the Royal Garrison Artillery and three Companies of Royal Malta Artillery. Only one new Battery was erected in Malta during that war — Wardija Battery, overlooking StPaul's Bay. Early in 1916 it was equipped with two 6" guns transferred from Wolseley Battery, which was dismantled at the same time.

A passing reference must be made to the historic presence — operationally insignificant though it then was — of Anti-Aircraft artillery in Malta during the First World War. That presence must be regarded as a historically noteworthy beginning in view of the later formidable developments of A.A. artillery and its decisive achievements in the defence of Malta during the Second World War.

In between the wars, the coast defence layout of Malta was again changed, mainly owing to three fast developing threats: air attack, the improved fire power of warships and the high speeds of the modern Motor Torpedo Boat (MTB).

The air menace had reached such proportions as to require the build up of AA defences on a scale which plunged Coast Defence into second priority. Pembroke and Wardija Batteries were closed down; Forts Delimara, StRocco and Tigne were reconstructed for the change over of their 9.2"BL for 6"BL guns; Forts Bengħajsa, Ricasoli, StElmo, Madliena, Bingemma and Garden Battery had their 6"BL guns dismantled. On the other hand, the new Fort Campbell was completed just in time to take over from Wardija the wartime role of Examination Battery for the StPaul's Bay anchorage.²⁸

The answer to the long ranging guns of modern warships was provided in the form of a specially designed new

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mounting which allowed the coast defence gun a higher arc of elevation thereby substantially increasing its range. In Malta, however, only the three 6"BL guns of Fort StRocco were so modified and re-equipped with the MK V, 45° elevation mounting, and their range was stunningly increased from 12,600 yards to 24,600 yards (14 miles!).

Against the fast MTB, the 12pdr could no longer compete. A new gun was produced for the defence of harbour entrances, the anti-MTB 6pdr QF double-barrelled gun which could fire a standard rate of 72 rounds per minute.²⁹ Three of these were installed at Ricasoli and six at StElmo and it was these very guns which were to elevate the prestige of Coast Artillery to a new peak with their memorable performance against the Italian E-Boats' attempt to break into the Grand Harbour on 26 July 1941, to destroy the ships of a newly arrived convoy.

By the outbreak of the Second World War the coast defences had been reorganized and redeployed as shown below, the 9.2"BL guns being manned by 4 Heavy Regiment, Royal Artillery, and the other guns by the Royal Malta Artillery:

	9.2"BL	6"BL	12pdrQF	6pdr,twin QF
Fort Benghajsa	2			
Fort StLeonardo	2			
Fort Madliena	2			
Fort Bingemma	1			
Fort Delimara		2		
Fort StRocco		3		
Fort Tigne		3	2	
Fort Campbell		2		
Fort Ricasoli			2	3
Fort StElmo			2	6
	<hr/> 7	10	6	9

In considering that layout, however, it should be borne in mind that unlike the First World War, throughout which Malta had remained operationally static, the outbreak of the Second heralded a vast expansion of Coast, Anti-Aircraft

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and Beach Defence artillery and Infantry units and soon the Island began to resemble some gargantuan hedgehog bristling with weapons of every description. Furthermore, in addition to the Fleet, this time the Defence had also the Royal Air Force on its side! Then it could really be called impregnable and it proved it.

Another major rearmament was planned after the war and a start was actually made when the two formidable 5.25" dual purpose (Coast and Anti-Aircraft) Batteries were installed, at a cost of millions, at Forts StRocco and Bengħajsa (renamed Balbani). That was in 1950. But by then, the death knell was about to be sounded for all conventional forms of Coast and Heavy Anti-Aircraft artillery.³⁰ The emerging missile armed warship had rendered our Defence Schemes archaic and obsolete. By 1960, our Forts and HAA positions were dismantled and closed down and their guns — those same war guns which had defended Malta so decisively only a few years before — were soon afterwards cut up and sold as scrap iron.

It is incontestable that the days of those guns were over. An up-to-date defence system was needed and, as with past rearmaments of the fortress, Britain would have made available such a system for a Class "A" strategic base, as Malta then was, irrespective of the huge costs and manpower involved. But with Malta on the threshold of independence, the political climate was both unreliable and inexpedient for Britain alone to undertake a long term defence commitment of that magnitude.

Thus ended a significantly long era of our history. The building and rearmament of our fortifications had been going on unremittingly since the Knights first set foot on the Island in 1530, for the same fundamental reasons which still apply today: Malta's defences must be on Maltese soil; Malta is too small and too isolated to be defended from a proxy base. It is logistically impossible to prevent an invasion of Malta unless the means of defence are already prepositioned on the Island and are in every way ready for immediate use to repel an invader before he lands. Unless Malta has the capability to defend herself on each and every

occasion she is threatened, she can never consider herself secure against invasion and occupation by a foreign power. All said and done, help, however well intentioned it might be, is of little use if it arrives too late to save the patient.

Yet, survival in war, demands from us much more than the prepositioning of equipment on our soil in peacetime! Above all, we would need to be reciprocally, though completely, linked through an active and mutually benefiting Defence Treaty with the kind of Allies who, in return for our strategic and logistic co-operation in peace and war, would credibly undertake to deliver the vital convoys to Malta in wartime — at a cost, if necessary, of milliards of pounds in shipping losses and the sacrifice of thousands of their countrymen's lives. For unless our supply lifeline can be kept open in wartime the Island could not hope to survive the rigours of a future war. Food, to a blockaded garrison, is as vital, at least, as war matériel. Without food there can be no defence. In the annals of war no leader or general has ever been able to find an answer to starvation — except through the enforced capitulation of his forces and the surrender of his civilian garrisons to the enemy.

We must choose our Allies wisely so that the vital armament for our defence and the food for our survival are always available to us at the right time and the right place.

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4. G.J.Dickens: "Report on the present state of the Fortifications and military buildings of the Island of Malta (exclusive of the officers and soldiers Barracks) with proposals for their reform and repair. Valetta, 15th November 1803." Ms. (RE Museum).
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 8. Harold Nicholson: "The Congress of Vienna" London, 1946, pp.98-99.
 9. PRO, WO, Despatch 78: "Plan of proposed works at Verdala and St Clements fronts, 1844."
 10. PRO, WO, 1/506, p. 631.
 11. PRO, WO, 55/1555: "Report on the Defences of Malta, October 1848."
 12. "A private memorandum on the Defences of Malta. 4th February 1856." I own a Ms copy of this report which bears the following handwritten annotation on the front cover page "This was written by me at the request of Lord Palmerston made through Mr Labouchere, Secy of State for the Colonies.
W^m Reid'
 13. MD, No.7, dated 13 January 1852.
 14. PRO, WO, Volume 513: "Papers relating to Malta 1854-55, Military."
 15. A.Samut-Tagliaferro: "Gateways through our Fortifications", Armed Forces of Malta Journal No.22/23 (April/July 1975).
 16. This loss was later made good by ships of the Royal Navy returning from the Crimea being ordered to leave some of their heavy armament at Malta.
 17. Three important reports from Sir William Reid were despatched to the Secretary of State for the Colonies that year (1856): on 4 February (PRO,CO 158/178); on 22 April no.17) and on 31 May (PRO,CO 158/178) enclosing recommendations from Capt G.Spratt RN "HMS Medina," Capt G.Ryder RN "HMS Dauntless," Capt J.Dalrymple Hay RN "HMS Hannibal" and Capt W.R.Meads RN "HMS Royal Albert."
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 19. PRO, WO, 33 Volume 18: "Report on the defences of Malta, 23rd June 1866."
 20. Conversely, so long as the Fleet was in or around Malta, the Island would have never been attacked, let alone invaded. The Fleet's powerful presence assured the Island's security.
 21. War Office, Malta 2372 dated 27 December 1871.
 22. "The position hitherto known as the North-West Front will in

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- future be described as THE VICTORIA LINES." War Office, Malta 5/21572/77 dated 30 November 1897.
23. PRO, WO. 33 Volume 32: "Memorandum on the Defences of Malta, 22 February 1878," General (later Field-Marshal) Sir John Lintorn Arabin Simmons was Governor and Commander-in-Chief Malta from 13 June 1884 until 27 September 1888. Lintorn Barracks (redesignated BELTISSEBH in 1972) were named after him.
 24. CR Malta N/7870/1 dated 7th December 1904.
 25. Named after Vice-Admiral Sir George Tryon KCB, Commander-in-Chief Mediterranean Fleet (1891-93), who went down with his flagship HMS VICTORIA when she sank off the coast of Syria after colliding with HMS CAMPERDOWN on 22 June 1893.
 26. K.W.Maurice-Jones: "The history of Coast Artillery in the British Army," London 1959, p.171.
 27. The coast defence role of the 4.7" Quick Firing (QF) gun was absorbed by the 6" BL gun, additionally to its own primary role, i.e. "bombardment at medium range by light cruisers."
 28. Coast Artillery Training, Volume 1, (1938), p.2, defines the Examination Service as follows: "An organization designed to identify and to ascertain the character and intentions of vessels ... seeking entry into a defended port. Its function is to ensure that the defences prevent a suspicious or unfriendly ship from entering the port." The Battery specially detailed to support the Examination Service was known as the "Examination Battery." The same authority defines Examination Anchorage as: "the area of water covered by the guns of the Examination Battery in which vessels which cannot be identified, and admitted to harbour without examination, will lie. Detailed examination of such ships is carried out in the anchorage."
 29. I well remember one or two exceptionally keen 6pdr twin detachments under my command at Fort Ricasoli in 1939, attaining a rate of fire of 80 rounds per minute during competitive training.
 30. Coast Artillery was abolished from the British Army in 1956 and Heavy Anti-Aircraft Artillery two years later.