

A Military History of Maker Heights **1770-1906**

The author of this article, Brian Rayden has kindly agreed to allow RPHG to publish this work on our website. All copyright remains with the author and his permission must be sought before reproducing any part of the article by whatever means. (please email RPHG)

Introduction

My purpose in writing this is to extract the information that is interesting to me *personally* from an article written about Maker Heights by David Evans for the Georgian Group Journal¹; also from his typed notes², making a summary in date order - a **Calendar of Events**. This synopsis is not intended for the academic historian who should refer to original sources, as I intend to do if I have the opportunity. I have taken a selection of information adding my own comments, notes and clarifications indicated by square brackets [.....] within the body of the Calendar text to help the reader with further information and military terms as he goes along⁵. In addition, I have also written a **preface** intended to provide a context to the events at Maker Heights. Maker Heights is on the Rame peninsula on the Western bank of the river Tamar, Southeast of the village of Millbrook and North of Kingsand. The OS map reference is SX435514.

Preface

Political Events

The French & Spanish exploited the War of American Independence (1775-1783) by declaring war on Britain (1778-1779): In 1779 a combined **French- Spanish fleet** commanded by the Count d'Orvilliers anchored in Cawsand Bay with the intention of **invasion** while the British were distracted by the Americans. Invasion by the French was a major strategic concern throughout the Napoleonic wars (1799 - 1815). Although the threat receded with Napoleon Bonaparte's invasion of Russia in 1812, it remained for decades afterwards. France, now under Napoleon III, was an ally in the Crimean war of 1854 -1858, but it was still considered a rival and potential aggressor until gradually, especially after the Franco- Prussian war of 1870-71, Germany became the main potential threat to Britain. The possibility of a German attack or invasion continued throughout the First and Second World Wars until 1945, receding after the German invasion of Russia in 1941.

The Importance of Maker Heights

The fortifications at Maker Heights are of national importance, especially 'redoubts' 4 & 5: **No. 5** because it is unique amongst 18thc fortifications in not having been modernised; **No 4** for exactly the opposite reason: it has indeed been progressively modernised, showing how those changes progressed with the improvements of artillery (see below).

A *redoubt* is a square or polygonal fortification unable to provide fire on the flanks; usually an earthwork; sometimes outlying a larger fortification; usually temporary. All of the Maker works could provide fire on the flanks so are not really redoubts - but let's call them so for convenience. Such earthworks were often *revetted*, as at Maker, by being faced in stone.

Why the Fortifications were built

1667: In the worst defeat in the history of our Royal Navy, the Royal Dutch Navy sailed up the Medway to sink many of our ships: this has 'haunted' the Navy ever since. The threat here at Plymouth was:-

1. That enemy ships would enter the Hamoaze to attack the dockyard directly. It wasn't until the 1860s, that Picklecombe Battery, together with the batteries on Bovisand and Staddon heights, on the Breakwater Fort and on Drake's Island, dominated the

A Military History of Maker Heights 1770-1906

entrances to the Sound, inside the breakwater that had just been completed about 2,000 yards away in 1841, while the Garden Battery guarded the entrance to the Hamoaze.

2. That enemy troops would capture Maker Heights from where they could bombard the dockyard, about 1½ miles away, at will. Picklecombe (the valley) provided a convenient route for troops to march from the beach to occupy the heights unobserved.

The Importance of the Dockyard

1690 onwards:³ At first called just 'Dock', the Royal Navy dockyard grew in importance from its inception in 1690 until 'Plymouth Dock' became a town in its own right. In 1796 the town, with 20,000 persons, had a larger population than Plymouth or Exeter. By Royal proclamation the town became Devonport on 1st January 1825, elected its first MP in 1832 then received a charter of incorporation from Queen Victoria on 13th October 1837. On 21st July 1914 the three towns of Devonport, Stonehouse and Plymouth were united - hence Union street which joined them. During the First World War the dockyard employed 20,000 workers.

During the 18th and 19th centuries the dockyard became of increasing strategic importance to the Royal Navy so that its defence was a national priority.

Developments in Gunnery during the period

It is also necessary to understand how the developments in gunnery altered the threats to the dockyard between the 18thc and 20thc resulting in the alteration of the batteries, including No 4 on Maker Heights.⁴ During that period we went through the horse-drawn era, the steam era, the era of the combustion engine, flight, the jet engine and radar (as at Whitsand Bay and Picklecombe) so it is not surprising that weaponry developed at a similar pace: from the musket to the rifle and machine gun and from smooth-bore cannon to sophisticated quick-firing guns. Ships also developed from wooden sailing ships to steam-driven ironclads and steel hulls.

Calendar of Events

1770: August: Lt Col. Roy, Surveyor-General of the Coastline for the *Board of Ordnance* visited **Rame** because the occupation of it posed a **potential threat to Plymouth dockyard**, especially with the building of the new magazine complex at Keyham Point (completed in 1783 by Suzanna Croad): the magazine casemates were not bomb-proof.).

[*Casemate*: a position with a protective roof, usually for a gun, magazine or personnel.]

1778: Although Lt Col Dixon, the Commanding Engineer for Plymouth, disagreed with him, on January 25th Lt Gen Lane Parker, Commanding Officer, Plymouth, wrote to Lord Amherst Commander-in-Chief, "*There should be a Corps encamped and a temporary Redoubt constructed on Maker Heights lest the enemy should get possession of them before us*".

1779 August: The combined **French- Spanish invasion fleet** anchored in Cawsand Bay. The heights were garrisoned by 3,500 troops but, due to sickness aboard, the fleet withdrew without landing.

Earthwork fortifications were built at Sandway Battery; The Obelisk Redoubt and the musketry lines at Mount Edgcumbe; Cawsand (where the fort is now); Pemberknowse Fort and Wringford Down Picket Post and Road Block.

1780: April 25th: Charles Lennox, the Third Duke of Richmond (22nd Feb 1735- 29th December 1806) [family seat: Goodwood] claimed in the House of Lords that Lord Amhurst, Commander-in-Chief, had failed to protect the dockyard, complaining that the 500 recruits

A Military History of Maker Heights 1770-1906

sent there were mutinous pressed men who couldn't even guard the 1,000 French prisoners and that there were only 35 inadequately-equipped invalid *matrosses* [artillery assistants] instead of the 1,050 men needed. Richmond became important to Maker later- see 1872 below.

The government bought 21 acres of land from "*Lord Edgcumbe*" at "Maker Tower" [Maker Church: The Church of St Mary & St Julian at Maker] with a view to building fortifications there.

1781: Troops were stationed at Maker Heights. Mr Joseph Martin complained that he had not been paid for damages to his land in erecting a temporary battery at Cawsand Bay.

1782: Troops were again stationed at Maker Heights. The Winter of 1782/3 caused considerable damage to the earthworks at Maker.

Charles Lennox, the Duke of Richmond was appointed **Master-General of Ordnance**, a political gift, from 30th March 1782 to 3rd April 1783 in Rockingham's second administration then again from 27th December 1783 to February 1795 during William Pitt the Younger's administration. He was known as somewhat of an aristocratic dilettante fancying himself as a designer of fortifications although he had no relevant experience. [He had been seen active service as a Lt. Colonel, eventually retiring as a Field Marshall (in those days by seniority).] Edmund Burke wrote of the Duke:- "*Your Grace dissipates your mind into too great a variety of new pursuits, all of which, from the natural vehemence of your temper, you follow with almost equal passion*".

[*Board of Ordnance*: A government department responsible since Tudor times for military and naval guns and stores of war. Its symbol was the 'broad arrow', its shield/crest three cannon and three cannonballs⁶. One of its departments was the Ordnance Survey. In 1855, after a disastrous performance during in the Crimean war (1855 -1858) it was incorporated into the War Office (later the War Department then Ministry of Defence).]

[Richmond's plans were also for Portsmouth but that is not our subject here. It is astonishing that the Master-General of Ordnance concerned himself with the design of individual forts, even redoubts and even the detailed revetment of redoubts.]

Richmond originally proposed fortifications between the St Germans river and Whitsand Bay with only *field works* at Maker ("*Above Withey Hedge*") but plans of 1782 show a large *bastioned trace* [*trace*: the outline or shape on the ground] with "*4 advanced detached bastions*" all were at first timber above ground with *trous de loupes* [pits with stakes in]; they were simply earthworks open to the rear. Richmond then planned enormous **star forts** [forts in a star-shape, the points being massive integral *bastions* including *orillions*] with 55 guns to the front at both Maker (illustration: Fort 1) and Maryfield or Merrifield, Antony. At Maker Heights this was to deter enemy invaders landing at Cawsand then marching up the valley to Millbrook. He also planned four *detached bastions*: earthworks with *palisades* and *fraises* of oak. These *bastions* were completed with guns and stores in place that year. "Mr Carew" [presumably an ancestor of Sir Richard Carew-Pole] objected to the proposed fort in the "*pleasure grounds*" of Antony House so nothing was built there. Lt Col Dixon, Commander Royal Engineers, Plymouth, had proposed a more modest fort at Maker (Illustration: Fort 2).

[a *bastion* is technically in the shape of irregular pentagon with the longest side or base being the main wall of the 'parent' fortification; two *faces*, the next longest sides form the *salient* angle apposite the base, facing outwards towards the enemy; the two shortest sides or *flanks* provide *enfilading* fire (from the side) along the *curtain wall*, the wall joining two bastions. Strictly, only *bastion* No 2 met this criterion: bastion 4 was originally similar but was altered during construction.]

A Military History of Maker Heights 1770-1906

[an *orillon* / *orillion*: when a bastion is built in an arrowhead shape, with long *retarded flanks*, *orillons* are 'overhanging' shoulder-pieces on the points at each side of the head designed to allow fire to cover the flanks. The flanks are often made concave also to provide covering fire, but not so on the plans for Maker. Sometimes *orillions* protect a gate.]

[a *palisade* is a defensive obstacle made of pointed sticks often in the centre of a dry ditch but also often a temporary defence in front of infantry (soldiers on foot).]

[a *fraise* is a palisade placed on the *scarp* or *counterscarp*, the high ground to the inside and outside of a ditch.]

At first Richmond reduced the size of the planned star fort to avoid it being overlooked by the hills to on the other (West) side of the Cawsand/ Kingsand- Millbrook valley, the earthworks, now '*redoubts*', taking over the direct control (interdiction) of the valley itself. Five earthworks were built originally: they were named after the regiments, mostly militia, that were intended to garrison them in times of threat; 1,500 infantry and 15 artillerymen:-

1. The Royal Cornwall Regiment (North: near the Cremyll road)
2. Somerset (next to where the barracks is now, to the West of it)
3. 50th Regiment of foot (a line regiment)
4. North Gloucester (South: on the cliffs.)
5. North Devon (separate, North of the Cremyll road)

1783: At the end of the American war in 1783 the *redoubts* were disarmed but then Nos 1-3 were each armed with eight 18-pounder *SBML*; No 4 with six 18-pounders and four 32-pounders.

[*SBML*: Smooth-bore muzzle-loaders, i.e. simple cannon. The size is usually designated by the weight of the cannonball in pounds.]

1784: Richmond was removed from his post in April during Lord Shelburne's premiership, being replaced by Lord Townsend, who seemed confused about what fortifications were in place, having little influence on events. Richmond was re-appointed on December 27th.

1785: *Board of Ordnance* papers show a compensation claim dated January 6, 1785 for damages caused by the "*Four Gun Battery Erected on the Estate of the late John Boger Esq. near Kingsand*".

1785: Lieutenant **James Glenie**, an Engineering Officer who had been a protégé of Richmond now entered the debate about Richmond's dockyard fortification scheme for Maker Heights: his opinion that the fortifications were a waste of money being seized upon by Richmond's political opponents who groomed Glenie, using his technical advice in putting the case against the scheme.

Glenie wrote a pamphlet: this is its title!

"A short Essay on the Modes of Defence best adapted to the Situation and Circumstances of this Island. With An Examination of the Schemes that have been formed for the Purpose of fortifying its principal Dockyards on very extensive Plans, which are ready to be carried into Execution by his Grace the Duke of Richmond now Master-General of the Ordnance. Addressed to the Public at large but particularly to the House of Commons and the Independent Country Gentlemen of Great Britain. By An Officer"

Glenie criticised the principle of having fixed garrisons as opposed to mobile forces and also the enormous cost which he claimed would exceed the cost of the entire Royal Navy.

A Military History of Maker Heights 1770-1906

“Succeeding Administrations and Master -Generals probably, nay certainly, view them in a very different light; and conceiving them to be not only unnecessary but dangerous, will, after some hundred thousand pounds shall be foolishly expended, put a stop to their progress, and leave them to go entirely to ruin and decay. And, perhaps, some ages hence, when the memory of an undertaking so ridiculous shall be obliterated, their decayed jim-crack curiosities may furnish amusement and speculation to antiquaries.”

Glenie tells that Richmond followed the “*absurd*” new system of the ideas of *Montalembert* leading him to “fix on ridiculous *Caponiers*” and the elaborate *bastioned traces* of *Vauban*.

[*Caponier*: a part of a fortification either crossing a ditch or covering it from the sides or rear, usually at lower-ground level, enabling defenders to fire into the rear of flanks (enfilade) of attackers entering the ditch. Most works called *caponiers* in these papers aren't *caponiers*⁵.]

Richmond issued an anonymous pamphlet in reply, “*An Answer to a Short Essay*” adding an insult that Glenie was ignorant of French. Glenie then issued, “*Reply to an Answer*” in which he implied that the Duke was ignorant of Latin.

Glenie's and his patrons' criticisms were effective during a debate on the **ordinance estimates** on 14th of March 1785. Captain (RN) McBride was of the opinion that “*no landing could be affected at Whitsand Bay.*” [Probably true but not relevant as the threat was from Cawsand Bay, not Whitsand] and that Plymouth was more vulnerable from the East. John Courtney put Glenie's case, saying:

“The present Master General... had some abilities, and persevering industry. It was rather unfortunate for this country, that his grace's passion for engineering had broke forth at so late a period of his life. When an old man fell in love, there was nothing, however ridiculous, that he would not propose, and nothing so preposterous that he would not agree to, to accomplish the gratification of his passion.” The noble Duke meant well but “*a little learning was a dangerous thing and in nothing was it more dangerous than in the science of engineering: in most other sciences it only exposed the individual to a little contempt and ridicule, which was of no great consequence. The only mode of defence left for the noble duke's friends was to say (which perhaps, they might with some truth) that he had not even a little learning and therefore did not come under this predicament. Half conceptions, rude notions, exclusive of being expensive, in engineering, were to the last degree dangerous and destructive....*

He acted like a fortune-teller, who foretold of a calamity, and then thought he had a right to our money for his prediction.”

It was agreed that a committee be appointed to look at the estimates with Pitt asking Richmond to relinquish his ordnance projects until a more general board of enquiry had examined them. Unwisely, Richmond appointed himself Chairman of the committee, making himself many enemies. Several influential Generals, notably Lords Amhurst and Townshend refused join the committee as, being senior to Richmond, etiquette prevented them from serving under him, so they were effectively excluded. Richmond was accused of “packing” and unduly influencing the enquiry “in a reprobate manner”. Col. Dixon reported, unhelpfully, that each of the forts would require 1500 infantry and 150 artillerymen. Not surprisingly, though, the committee eventually approved Richmond's plans.

1786: 27th February: Not surprisingly either, Pitt's expensive **Dockyards Fortification Bill** (covering both Portsmouth & Plymouth) was **defeated** in the House of Commons, the Speaker using his casting vote against.

A Military History of Maker Heights 1770-1906

Neither Pitt nor Richmond was willing to give up the project, however, making a “reduced” plan without the Maryfield fort but still including the one at Maker. There was much scheming and political intrigue but the revised bill was thrown out on May 16th without a vote as it was considered an insult to the House.

Richmond then hounded Glenie systematically, posting him first to Granada then to New Brunswick where he resigned in 1787, emigrating there before he died in poverty in 1817.

Meanwhile, Col. Dixon retired to Exeter (where he died in the parish of St Sidwells in 1793) being replaced as the Commanding Engineer for Plymouth by Lt Col Mulcaster then shortly after by Lt Col Elias Durnford. Unfortunately, Durnford couldn't find the original markings for “Richmond's fort” (the *trace*).

1787: the *Guard House* of No 4 was enlarged from 7' to 10' wide.

[*Guard House*: a small fortification placed behind a detached *bastion* or *redoubt* to protect the rear entrance. Not to be confused with Guard Room. A *Guard House* was sometimes called a *traverse* although the term is usually used for a protection to the *gorge* or rear of a bastion at the parapet of the curtain wall or main wall.]

Meanwhile a quarry had been made East of redoubt No 3.

The five redoubts remained as earthen structures without any accommodations for troops so Richmond's brother, George Lennox, Governor of Plymouth, ordered a barracks for Maker to house 335 men and 50 horses. The works were planned by the Barrack Department of the Board of Ordnance under Colonel de Lancy. The Barrack Department was notorious for its laxity, especially in accounting: it was only in 1806-7, after de Lancy had resigned, that the mess was sorted out by a military enquiry. The block was built originally as a temporary block. The **barracks** and nearby hospital were probably **built** between about **1784** and **1787**: no contemporary records or plans exist, probably because Richmond and Pitt didn't want to be challenged over it, especially following their defeat in parliament. The barracks was probably designed by James Johnson and John Sanders, Principal Architects for the Barracks Department. The barracks was built of rubble masonry stone and brick with concrete floors and timber roof at a cost of £6,509 by John Scobell. Ventilating & Register grates and foul & fresh air extracting shafts were fitted. The water supply was from the roofs with iron and terracotta pipes connecting them to a tank at the rear then from there by force-pump to a cistern over the oil store; there was also a 26' well with cast-iron pillar-pump. Moule's earth closets and other drainage was by terracotta pipes to the surface of the nearby fields. The Winter of 1787/8 caused further damage to the redoubts.

1788: Lt. Col. Elias Durnford, Commanding Royal Engineers, Plymouth, provided a plan for a storehouse and carriage house 60' by 25' by 30' high internally but it was not built. *Revetting* No 4 was started but not finished until 1791. Richmond added a 2-storied '*caponier*' to the gorge and southern flank of No 4 to the plans for first time, “to procure a flank for the South face” (Durnford) [I would call it a blockhouse, not a *caponier*].

1789: A plan dated August 1789 shows Richmond's fort with enormous “Advanced *fleches*” like fingers projecting down the hillside; No 4 being provided with a “Projected outlying *Orillion* Battery” and also connected to the main work.

[*Fleche*: an outlying pointed earthwork in front of the main wall or bastion. In this case the *fleches* are actually also *bastions*. Normally the *gorge* or rear is open, but these are not]

1791: The *revetting* work in stone with casemated accommodation in the *gorges* for *redoubts* 4 & 5 was completed by the *Military Artificers* (forerunners of the Sappers; the Royal Engineers being then solely a corps of officers). The *guardhouse* and storehouse in the rear of

A Military History of Maker Heights **1770-1906**

a redoubt 4 and also the *caponier* were finished. During these constructions the Board of Ordnance contractor, Mrs Suzanna Coad, was given a higher fee due to the difficulty of the site and of the quarries on site. At No.4 alone 214,486 solid feet of earth was excavated. A second contractor, Matthew Trevan, was also brought in to help.

As the redoubts were completed, John French, a mason, made accusations of fraudulent practices by the contractor in that large parts of the *revetments* were constructed without mortar. Durnford made enquiries of Thomas Coxworthy, an Overseer, who reported that he had "*reproved*" French for "*Not performing his work in a workmanlike manner*" but had received "*very gross abuse which oblige me to request the contractors foreman to send him off the work after which I received a very penitential note from him and several solicitations from his wife signifying that herself and the children were starving*". The committee of enquiry concluded that French was a "*shuffling fellow*" and that the "*capital gentleman*" (his words) who dictated his letter of complaint was probably a malicious person interfering to excite these people to tell idle stories for the purposes of making trouble. As the *revetments* survive to this day it is likely that they came to the correct conclusion. It is possible that the "Capital gentleman" was Richmond or his representative having the aim of knocking down the faulty redoubts so as to allow building of the grand fort.

1793 1st February: **The French Republic declared war** in Britain. Charles, 1st Marquis Cornwallis replaced Richmond as Master-General of Ordnance. He planned to garrison Maker with 4,500 infantry with artillery and 4 troops of horse.

Col. Durnford asked the commanding officer of artillery to help to arm redoubts No 4 & 5 with the French and Spanish guns which were lying about there.

General Dumouriez abandoned the Republican cause to give valuable advice to the British government on its defences. [Richmond probably consulted him].

1794: Col. Alexander Mercer (who had designed the redoubts at Berry Head) replaced Durnford as the Commanding Engineer for Plymouth: he also advocated Richmond's fort at Maker.

1795: February: Richmond was dismissed from his post when the Duke of York, with whom Richmond was on bad terms became CIC, followed by Cornwallis. General Lane Parker succeeded Richmond but contributed little, if anything to Maker Heights as he was so confused about what was there, proposing the building of works that were already there.

Mercer wrote that the whole of these defences were "*a forward point upon what may be called Enemies' ground*" needing 4000-5000 men and 4 troops of horse to defend it.

1798:- Richmond had proposed a stone artillery storehouse within the proposed fort, on the curtain wall facing Mount Edgcumbe; that No. 5 be armed with 18 or 24-pounders at the front with *Carronades en barbette* on the **left** flank [I think he means the right flank towards the lake and the King's Brewhouse] unless *merlons* were placed there; no artillery to be placed on the flank nearest the steep hill.

[*Carronade*: a short cannon made by the Carron works in Falkirk, Scotland. It has a smaller gunpowder chamber than a standard cannon, a lower muzzle-velocity, is lighter, quicker to fire, requires fewer crew and causes more casualties when hitting the side of a wooden ship as it makes more splinters. It was used on the quarter-deck, especially of frigates, due to its lower weight. There is a Carron at Whitsand Bay Battery but it is a standard naval cannon, not a Carronade. Not to be confused with cannonade – a volley of cannon fire.]

[*En barbette* means firing over a wall with no other protection such as *merlons*.]

A Military History of Maker Heights 1770-1906

[*Merlons* are the protecting upward-projecting pieces in a *castellation* or *crenellation*, the gaps being *crenels* or *embrasures*]

1800: February: The barracks was reported to hold 335 men and 50 horses.

1801: Mercer complained again that the guns *en barbette* in No. 5 would have sufficed had Richmond's fort been built but now they required *merlons* and a counter-parapet to prevent being taken in reverse. He also proposed a circular redoubt "a *strong armed tower*" on the crown of the hill behind 1-4, armed with 6 *Carronades* but with muskets and pikes as the main defence. The tower would remain entire in the Parade of the polygon of the proposed new fort. 3000 men would be required to defend the area including 700 for the *redoubts* with 175 in reserve. He also proposed building Lines to join the works, employing 600 men to build them. Nothing came of these proposals.

1807: Troops of the Maker garrison, probably the *Stannary Corps*, built **redoubt No 6** at Empacombe under Mercer's direction at a cost of £6,445. This was probably to Mercer's design, as it was a copy of one he had designed and had built at Stonehouse Hill, Devonport: it was completely different from the others, being square with towers on opposite corners as a "*Demi Revetted Redoubt and Battery with Tower Flanks on the Right Flank of the Works at Maker*".

A report in October "A *small Bake House was Erected some years since in Rear of No. 4 Redoubt by permission of Lord George Lennox, late governor in Plymouth for the accommodation of the Troops then Encamped on those heights – it is at present unoccupied.*"

1815: With The end of the Napoleonic wars the fortifications were abandoned and disarmed.

1819: the Duke of Wellington, victor of the campaign in Spain then of the battle of Waterloo, inspected the fortifications on Rame together with Col. Moreshed, now the Commanding Engineer for Plymouth. The Noble Duke placed particular importance on the positions at Merrifield (Antony) where there was only a *redoubt*, and at "*Craftshole*" where he would have placed an entrenched camp along the ridge to the east of the place, flanked by Whitsand Bay and the Lynher river. The Duke then rode to Maker where he inspected *redoubts* 1 – 4 remarking that he could march troops between them to destroy the dockyard - in a day!

1843: The new Steam Yard at Keyham made the dockyard even more vulnerable to bombardment.

1844: A committee to consider the sea defences of Plymouth considered the Maker defences essential. The Duke of Wellington changed his mind in saying that the position was "quite secure" but his previous disparagements probably caused Col. Oldfield, now Commanding Royal Engineer Plymouth, to order No 4 to be up-gunned by keeping the 4 32-pounders but replacing the 2 18-pounders with 6 56-pounders on dwarf traversing mountings on new iron pivots (instead of old cannon muzzles) firing *en barbette* and 3 8-inch howitzers; also to rebuild the shot furnace and build a *Guard House* behind the gateway. No 2 *redoubt*, in front of the barracks was to be connected to it by looped walls, the rear ditch *revetted* and crossed by a drawbridge while a 2-story *caponier* [probably a blockhouse] was to be provided for the barracks. The other redoubts were to have *traverses*.

[*Howitzer*: it is an artillery piece firing at a high angle (but not as high as a *mortar*) to send shells down on the enemy by *indirect fire*. In modern times the US army still calls them howitzers but the British army now calls them "guns" probably due to their modern dual purpose for both indirect and direct fire.]

1847: A plan showed an "advanced position at "*Crafts-Hole*" and two reserve positions at *Antony and Maker Heights*". There was also a plan for a line of blockhouses between "Craft's Hole" and Rame Head with 4 more inland between Polscove Lake and "Craft's Hole" then 7

A Military History of Maker Heights 1770-1906

between Scraesdon and St John's with defensible *Guard Houses* at Sallock and above Kingsand.

1847-8: The officers' stable was built.

1858-9: a first floor for the barracks was re-built.

1865: A survey showed the barracks as holding 7 officers, 142 men and 3 officers' horses; no 5 accommodating 1 officer and 22 men living in married quarters (but none were married); no 6: 40 men.

1879: no 4 was incorporated into the line of new coastal forts [Fort Picklecombe etc.] with 2 38-ton 12.5" *RML* placed facing the sea; it was re-named Grenville Battery.

[*RML*: Rifled muzzle-loader⁴. Rifling with grooved gun-barrels gave greater accuracy and range as they span the bullet or shell. The size was usually designated in inches.]

1879-80: the men's latrines were built.

1881-2: the straw store and the women's washhouse were built

1882: A new battery, Maker Battery, was built just to the West of No. 4 to house 3 12.5" *RML*. Redundant smooth-bore Cannon were used as spigots for the *RML*- one can still be seen today. The hospital was converted to married quarters.

1898/9: No. 4's *RML* were replaced by 3 4.7" *QF* and a Norton *Unclimbable Fence* protected it from the road. [The remains of the fence are still there, known locally as Black Railings or more recently, Rusty Railings.]

[*QF*: Quick-firing gun⁴, a breach-loading gun incorporating both the brass cartridge and the shell in one piece for quick loading and firing. The British experimented with rifled breach-loaders '*RBL*' (with a separate powder bag) in the 1860s but they were not successful due to a poor seal at the breach. In the 1890s '*BL*' used a separate brass cartridge to seal the breach which was successful; the *QF* followed on from that.]

1900/1: Maker Batteries' *RML* were replaced by 2 6" *BL* with the central *RML* emplacement being demolished then replaced by a 6" 35' to the East.

1902: Plans dated January 1902 were for "*BO post and telephone room*" in Grenville." [I have a plan of the Plymouth area military and naval telephone system of the time linking all of the outlying fortifications with the headquarters at Mount Wise]

1896 (-1914): Maker Heights reservoir was built.

1906: A plan shows the complement of the barracks as 5 officers and 97 men, still with 3 officers' horses.

To be Continued...

The First and Second World Wars and after

I am saving this for a later note but very briefly:-

In the Second World War a Heavy Anti-Aircraft battery of 4 3.7" guns was sited on Maker Heights and an interesting Z- or Rocket-battery (one of a square of 4 surrounding Plymouth) in the field just East of Maker church.

Grenville was abandoned in 1946 but Maker Battery survived until the abolition of coastal defence artillery in 1956.

*

**A Military History of Maker Heights
1770-1906**

I expect the originals of the black & white plans, maps and illustrations reproduced in the Georgian Journal to be much larger and in colour. Examination of these and other original documents is essential.

RAME HISTORY GROUP 2018

A Military History of Maker Heights
1770-1906

Footnotes

1. Evans, David. *The Redoubts on Maker heights, Cornwall, 1770 -1859*.The Georgian Group Journal, Volume IX 1999, pp 44-68.
2. Evans, David; Bridge Agency. *The History of the Defences of Maker Heights*. Typescript held by Mrs Cynthia Gaskell Brown MA, AMA, FSA, Heritage Consultant and Historian. This is a carbon copy which is difficult to read.
3. Rayden, Brian. *Batteries Included – Part 1*. The Friends of Mount Edgcumbe Journal No 82, Winter 2012.
4. Rayden, Brian “*Batteries Included*” The Friends of Mount Edgcumbe Journal in 4 parts from No. 82 of Winter 2012 to No. 85 of Winter 2013; “*The Garden Battery*”: No 87 of Summer 2014 and “*Whitesand Bay Battery*” in 2 parts: No 89 of Spring 2015 & 90 of Summer 2015.
5. The Rame Peninsula has Fort Picklecombe that wasn't a fort; an Officers' Mess that wasn't an officers' mess; *redoubts* that weren't redoubts; *bastions* that weren't bastions; *caponiers* that weren't caponiers – and the papers refer to a *fortress* that wasn't a fortress (a fortified town or city). I assume that Richmond and others gave grand titles to works in an attempt to seem like the great continental fort-builders such as *Vauban* and *Montalembert*.
6. The WD broad arrow and the BO crest may be seen (by arrangement) at 'Fort' Picklecombe on an iron bath used for the quenching of red-hot cannonballs.

Other Fortifications on the Rame Peninsula

See: The Historic Defences of Plymouth by Andrew Pye & Freddy Woodward.

16thc: Mount Edgcumbe Blockhouse at (1540-1545 or 1586); Beggars Fort (Antony); Barn Pool; Inwork Point Battery; Thanckes Redoubt; Wearde Quay Battery.

17thc: Mount Edgcumbe / Bowling Green Battery (1690); Cawsand (built over in 1779 then by the present fort).

18thc: Mount Edgcumbe and the Powder House; Redding Point Battery; Amhurst Battery.

1848: Picklecombe Battery (misleadingly called “The Officers' Mess”).

1860s: Picklecombe Battery (misleading called a fort); The Garden and Earl's Batteries; Cawsand Fort; Tregantle Fort; Scraesdon Fort; Polhawn Battery; Bakers Battery / barracks (Kingsand); Sandway Fort.

1890s: Whitesand Bay Battery; Hawkins & Raleigh Batteries; Tregantle Down (high-angle Battery; Penlee Battery; Rame Church (high-angle) Battery; (the Wacker-Tregantle Railway); Pier Cellars Brennan Torpedo Station and QF Battery;

Also, additional Watkins position-finder stations wee built at Redding Point, Hooe Lake, Maker, Wringford Down, Knatterbury, Crowstone, Trenninow, Middle Barton and Folly Tower.

Copyright Brian Rayden 2018.