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Mapping in Portugal by French Royalists in the British Army.

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INTRODUCTION

The turmoil after the French Revolution of 1789 drove many, who might otherwise have remained, to leave the country and join the forces fighting the new regime. The extraordinary story of a married couple, who joined the army as two brothers, illustrates what could happen.¹ Louise-Françoise de Haussay's husband was asked to command the local militia unit in their area of Normandy, but when he declined, on the very reasonable grounds of having no military experience, they were immediately branded as aristocrats and thrown into prison. With the help of a local girl and a plentiful supply of drink for the guard, they escaped and made their way on foot to the Low Countries, where they joined the 'armée des Princes'. This was supported by the British Government, but later, on the 9th May, 1794, to incorporate these troops into the British Army, Parliament passed '*an Act to enable the subjects of France to enlist as soldiers in Regiments to serve on the Continent of Europe and in certain other Places and to enable His Majesty to grant Commissions to subjects of France to serve and receive pay as Officers in such Regiments or as Engineers under certain Restrictions.*'²

A little later, in August 1794, the idea was mooted of extending the plan to include a Corps of French Artillery. We have the favourable comments of the Duke of Richmond, Master-General of the Ordnance to this proposal, which includes the following amusing comment - *I presume the Pay and Allowances will be the same as our Artillery but if they will serve for less, so much the*



better!³ His worry about costs was fully justified, because it was the enormous expenditure with the war effort that forced the Bank of England to suspend payments in gold in 1797.

In the event it was not until the King's Warrant of 1st April, 1795 that authority was given for the formation of a Corps of French Emigrant Engineers to consist of nineteen officers, who had to have been in the service of the late '*Most Christian Majesty Louis XVI*', prior to the revolution.⁴ This condition should have ensured that they were trained and experienced, although there must be some doubt, in this respect, regarding the last six in our list, who may either have been too young to have completed their training before the revolution or not to have been engineers at all⁵. It should be remembered that although the Royal Military Academy at Woolwich had been formed in 1741, it was biased towards the training of artillery officers. The Royal Military College at Sandhurst did not start until 1799 and it was another thirteen years before specialist courses in land surveying and reconnaissance were started at the Royal Engineer's depot at Chatham.⁶ Skills in map-making must have been in short supply in the British army.

The initial nineteen transferred to the new Corps on the 1st April, 1795 and there were two additions later that year, one of whom did not accept, and the last officer was commissioned in 1798. The richer officers helped the others with their kitting-out expenses⁷. By the 12th June they were at Yarmouth, Isle of Wight on board the Middleton transport, about to sail for Quiberon, where one was killed and five were executed on the second of August, 1795, at Vannes.⁸

CORPS OF FRENCH EMIGRANT ENGINEERS

	Name	Born	Rank	Died	Rank	Notes
				1.4.1795	Quiberon	1.12.1796
1	François-Eugène Lenglé de Morienecourt	14.12.31	Lt. Col.	x		
2	Antoine-Jean-Louis du Portal	10. 4.45	Major	x		
3	Claude-Joseph d'Ivory de Saint-Morel (Brother - no.16)	18.11.45	Captain		Lt. Col.*	h
4	Antoine de Testas de Folmont	3. 9.48	Captain	x		
5	Joseph-Pascal du Cheyron de Beaumont	30.11.51	Captain	x		
6	Augustin-Marie de Girard de Fougeray	19. 9.48	Captain			d
7	Louis -François-Augustin de Pioger de Saint Pereux	11. 3.54	Captain		Major	h
8	Louis-Joseph-Francois-Julien, Le Compte de Robien	9.11.34			Captain ?*	b
9	Paul-Ange-Hippolyte de Suasse de Kervegan	11.12.59	Capt. Lt.		Captain*	h
10	François-Paul Gallien de Préval	18.10.58				f, h
11	Etienne-François- Louis de Lencquesaing	6. 3.62	Capt. Lt.		Captain*	h
12	Julien-Marie Lucas de Missy	16. 4.61	Capt. Lt.		Captain	h
13	Alexandre-Romain Masson de Fulaine et de Bergères	25. 3.60	Capt. Lt.		Captain*	h, i
14	Etienne-Jean-Baptiste-Louis Poisson des Londes	20. 6.67	Capt. Lt.		Capt. Lt.*	h
15	Simon-Philbert (or Charles-Nicolas) Lespagnol	14. 3.46	Capt. Lt.		Capt. Lt.	e
16	Claude-Louis d'Ivory de Saint Morel (Brother - no. 3)	c.1745?	Lieut.		Capt. Lt.	e
17	M.J.B.A. de Moncrieff	?	Lieut.			
18	J.S. Cazotte	?	Lieut.		Capt. Lt.	e
19	J.B.F. Canel de Villarcy	?	Lieut.		Capt. Lt.	g
20	J. Le Mouton de Nehou	c. 1773	Lieut.	x		
21	Chevr. C. de la Haussaye	?	Lieut.	x		
						c

Notes. a. Capt. Lt. de la Chaussée is not shown, as he declined his commission. In the British Library there are reports and two maps, of 1797, by him - Bantry and Bandon, Ireland.

b. Joined as from 19.10.1795, in place of Fougeray. Transferred to Portuguese army. Died on 25th April, 1801 and was buried in Lisbon at N.D. de Bon-Secours (Ajuda?).

c. Attached to La Tour's Corps 1.5.1796.

d. Died at Cape or in West Indies before 1.6.1796, probably in October, 1795.

e. Superannuated 31.8.1797.

f. Joined 1.2.1798, retired 1814 with rank of Major. On Minorca in 1801.

g. Resigned 31.7.1797.

h. When Corps disbanded on 23.7.1802, only eight were definitely still serving - two, Pioger and Missy in the West Indies.

i. The British Library has a report and a map of Ostende by this officer, dated May, 1794.

* Six officers with longest service in Portugal.

QUIBERON

Quiberon was an abortive attempt to land a Royalist army in NW France to join up with the 'chouans' of Brittany, fighting the revolutionary Government.⁹ The expedition was doomed from the start by a divided command and although the landing, on the 29th June, was successful, the army delayed its advance and was eventually boxed in on the peninsular of Quiberon, where many were killed and even more captured, although some were able to re-embark. With hindsight it was unfortunate that Colonel Morien court and Major Portal, after working on the defences of Fort Penthièvre to turn it into a 'second Gibraltar', should have promised it could hold out for six weeks.¹⁰

After summary trials, many of the local peasantry were set free, but most officers and deserters were shot in groups of twenty

and their bodies buried in Les Champs de Martyrs, where later a Chapel was erected in memory of nearly one thousand dead.¹¹

A few of the prisoners managed to escape, including Louise-Françoise de Haussay, now on her own as her husband had been killed at what she called the affair of the Canal de Louvain in July, 1794. She had been condemned to death and was not allowed the more lenient regime usually granted to women. After a change in the unit responsible for the prison, the new guards were unaware of her special status and let her walk out with a bundle of washing! She eventually made her way to the channel coast, where she was picked up by the *Arethusa* and taken to Plymouth. From there she walked to London in ten days, living on bread, butter and tea! In spite of the slight difference in the spelling of the name, she may well have been related to the last of our engineers, Chevalier C. de la Haussaye.¹²



PORTUGAL

After taking part in an expedition, led by the Comte d'Artois and General Doyle, to the island of Yeu in 1795, the engineers returned to England, where they were garrisoned at Southampton. A year later, on the 1st December, 1796, the corps was reorganised with D'Ivory in command and with promotion for eight of the remaining officers.¹³ It must have sailed, later that month, for Lisbon, arriving there in January 1797, part of General Stuart's 'Auxiliary Army', which was to support Portugal in her refusal to close her ports to British commerce and to resist a threatened invasion by Spain.¹⁴ In spite of this the British Army does not seem to have participated in the subsequent 'war of the oranges' between Portugal and Spain, which led to the loss of Olivença and an agreement to close Portuguese ports to English ships.¹⁵

The French engineers lost little time in getting to work for there is a report on the coast from Peniche southwards to Lisbon and Sacavem, dated February 1797 and signed by D'Ivory.¹⁶

By August, 1797 there were only five officers remaining in Portugal and thereafter there were never more than six.¹⁷ It seems they spent the next three years preparing two very large maps, of part of this same area from north of Sintra to Lisbon, dated 1800 and the following year mapping areas between Abrantes and Santarem in the Ribatejo.

MAPPING

There are four maps, dated 1801, which are well documented, having been exhibited in Lisbon in 1904.¹⁸

337 *Military map of Santarem and surrounding area, 1801. Copied, in 1805, from the original in the Library of the Marquis of Alorna.*¹⁹ 91 x 81 cm.

343 *Military Reconnaissance map of the Town and neighbourhood of Abrantes, with the Portuguese and British Military camp, 1801.* 68 x 47 cm

349 *Military Reconnaissance map of the area, between the three rivers -Nabao , Zezere and Tagus - from Tomar to Tancos , 1801.* 50 x 50 cm

355 *Military Reconnaissance map of Punhete and surroundings, copied in 1805.* 55 x 45 cm.

These four relatively small maps are now in the Archives of the Instituto Geographico e Cadastral, and there are copies elsewhere.²⁰

The two maps, from 1800, in the Public Record Office in London, are very much larger and in a completely different class, with the authors' pride in their work evident from the dedicatory titles:²¹

WO 78/882 *Military Survey from the River Manique to Fonteneles, including Cascaes, Cintra and the Cape Roca, presented to Right Honourable and Honourable The Board of Ordnance by the Royal French Engineers in His Britannic Majesty's Service employed with the British Auxiliary Army in Portugal 1800.* 132 x 91 cm.

The Public Record Office has a slightly damaged original of this map and a copy 'begun by R.Searle and finished by William Stanley in August, 1812'. There are relatively minor differences between the two. Curiously this map covers almost exactly the area now designated - The Sintra National Park.

MR 650 *Copy of a Military Survey between the River Manique beyond Oeyras and the River Sacavem, including both Banks of the River Tagus, Presented to Right Honourable and Honourable The Board of Ordnance by the Royal French Engineers in His Britannic Majesty's Service, employed with the British Auxiliary Army in Portugal 1800.* 107 x 93 cm.²²

Both of these maps are on the same large scale and meet rather than join at the Manique river, to the east of what is now Estoril. Unfortunately the eastern part of the second map from just west of Lisbon is missing²³. What remains though is a magnificent record of this part of the country at the very beginning of the last century. They show every building and the courses of both rivers and aqueducts with the roads, clearly delineated with continuous or hatched lines. Unfortunately we do not have the key to either the symbols or the letter codes, but presumably the continuous lines represented stone walls lining the roads. These would have provided excellent cover and were thus of military significance.

Scales are given for English Fathoms, French Toises, Statute miles and in the latter map 10,000 palmos or 1000 braços. They correspond to about 1:14,400, which implies 1 inch to 1200 feet (200 fathoms or 400 yards) or one pouce to 1200 toise. By 1811 the British army seem to have standardised such large scale maps at 4 inches to the mile or 1:15,840.²⁴

ORIENTATION

Both maps are oriented to magnetic north, which is stated to be 23½ degrees west of true. About the same time, the magnetic declination at Greenwich reached its westerly maximum of over 24 degrees.²⁵ Although the difference is less than one degree, we have to assume that the French engineers measured the variation in Portugal. This enormous discrepancy between true and magnetic north must

have caused considerable difficulties to map makers, particularly with one group, the army, using magnetic north, while most published maps used true north.²⁶ In fact Charles Raeuber noted large deformations, particularly in the area near Coimbra, in the three principal maps, available during the campaigns of 1810/12, to which the great difference between magnetic and true north may well have contributed.²⁷

COMMENTS

Much of the area covered by the two maps is now densely populated and it is interesting to see that in Estoril at the time there was only the church of S. Antonio and Istories' bath, using the hot springs near the present Palacio Hotel. Only ten kilometres away, in contrast, the few buildings there then on the southern slopes of the Sintra hills, above Linhó, are now in ruins and the only habitable house was one built forty years ago.²⁸

On the second map there is some information for mariners, including water depths, and this would have justified the French (see below) in describing it as a large Topographic and Hydrographic map.

General Stuart's headquarters seem to have been in the house just east of Sta. Isabel church in the Rua Saraiva de Carvalho, in Lisbon. This was of course close to the British Hospital and cemetery, which had been established, earlier in the XVIIIth century.²⁹

Portugal made peace with Spain in May, 1801 and the French Engineers were disbanded on the 23rd July 1802, with each officer receiving a gratuity of about two years' pay.³⁰ This was no doubt in accordance with their contract of service, which stipulated they should serve for the '*duration of the war and one year thereafter*'. Curiously a similar formula was used in the 1914/18 war.³¹

FRENCH ARCHIVES

Antonio Pedro Vicente in his researches in the archives of Vincennes, found lists of the maps and other documents sent from Portugal to France in 1808, which included a map described as:

Large topographic and hydrographic map of the mouth of the Tagus, of the Port and Town of Lisbon, including the surroundings on both banks of the Tagus up to one or two leagues, drawn by the French Engineers attached to the Service of Great Britain and copied by M.M. de Novion, Du Fay and Ternay³², Assistants (sergeants) in the Quarter Master General and sent by order of M.gnr Prince Regent to Lt.Gen de la Roziere, to be kept carefully and used as necessary.³³

Pedro Vicente could not find this map in Paris, but from the description, there can be no doubt that the map in the Public Record Office is a copy of the same map of the mouth of the Tagus as was sent to Paris in 1808.

Ironically maps drawn by French Royalists, working for England, became available to the Republican rulers of France. However they seem to have made little use of them as Massena in his invasion of Portugal in 1810, suffered from a lack of good maps. According to Pelet, first aide-de-camp to Massena, 'along with his instructions he was given only two or three rather poor accounts about Portugal and none of the maps or reconnaissance which were essential for such a difficult and unfamiliar country. There were many reports in Paris, but we did not have them'.³⁴

In England, on the other hand, the two large maps of the entry to the Tagus, provided the basic information, for a manuscript chart, now dissected and mounted as two, in the British Library.³⁵ It runs eastwards from Cascais and so does not include the area to the

north, but does have the eastern part, with Lisbon itself, which was missing in the version in the Public Record Office. It is described as:

A Map of the Mouth of the River Tagus from Cascaes to Sacavem, with the several Forts and Batteries erected along the coast for the Defence of the Harbour of Lisbon taken from the several Surveys made in the year 1797 by Order of His Excellency the Honourable Charles Stuart, Commander-in-Chief.

Situation of Cachoeiras ascertained by Edwd. Fairfax, Master of His MS Hibernia September, 1806. With Marks for Entrance into the Tagus by Day or Night. The Angles and Bearings were taken in the Hibernia's largest Cutter, where the compass had always some vibration. Attention must be paid to the Tides when working in or out, Ebb Tide sets strongly to westward over shoal part of North Cachopas, Flood the contrary. Variation at this time about 23°. Finally the entrance to Lisbon harbour was published as a.³⁶

Topographical Chart of the Entrance of the River Tagus describing the Coast from Cape Roca to Sacavem with the Harbour and Environs of Lisbon. The Nautical part is from a Survey taken in 1806 by Wm. Chapman, Master of the Royal Navy and approved by the Chart Committee of the Admiralty. The interiors and line of the Coast are drawn from Surveys made by Officers of the Quarter Master General's Department, London. Published by Wm. Faden, Geographer to His Majesty and to His Royal Highness The Prince of Wales, Charing Cross, Jany 1st 1810.

Four coastal views have now been added and there was a scale bar of 7 Nautical miles (309 mm), which corresponds to c. 1:42,000. Magnetic declination is now down to 22½° westerly.

The small hamlet, now S. Pedro de Estoril, was described in the original map by the French engineers, as Quiago (for Cai-Agua), after the waterfall there and this was copied in the subsequent charts.

Wellington, on the other hand, would surely have found these maps useful, when planning the two rear lines of The Lines of Torres Vedras - one near Oeiras, to facilitate the embarkation of his army, if it came to that, and the other on the south bank of the Tagus. This final line of coastal forts was unusual in being designed not to forestall a landing, but to prevent the enemy reaching that part of the river estuary, which dominated Lisbon.

SANTAREM

Of the six maps, mentioned here, only the one of Santarem was ever printed as originally drawn. It was lithographed and included by James Wyld in 1840 in his *'Maps and Plans of the principal movements, battles and sieges in which the British Army was engaged during the war from 1808 to 1814'*. This monumental work has been described *'as more like a piece of furniture than a book'* and those most involved, in its production, were Sir George Murray, the Quarter-master General under Wellington, Thomas Livingston Mitchell, a surveyor with the army, who is also famous for his work in Australia, and James Wyld. There is no space here to go into the many stories surrounding this work, but suffice it to quote Mitchell's comment *'I have some comfort here in the belief, that we have no men at Botany Bay so morally bad as Wyld of Charing Cross.'*³⁷

Among the Murray papers, there are two versions of the Santarem map. One apparently an original and the other a proof of the printed copy, which bears annotations for corrections to the two views, which had been added to the map. These annotations are in French and one cannot help wondering if Wyld did not get one of our French Engineers to check the engravings. Even though this was nearly forty years after they had retired from the British Army, one at least, Lencquesaing, was still alive in 1848, aged 86.

There is another map of Santarem in the Public Record Office, bearing the following title:

Military Survey of Santarem and adjacent country, August 1808, copy of a Reconnaissance By a French Officer dated 1801.

*I delivered a copy of this plan to General Viscount Wellington at Cartaxo on the 6th January, 1811, at which time the Headquarters of the French Army were at Santarem.*³⁸

*This plan appears to be very correct.
Geo. Landemann, Capt. Royal Engineers.*

The scale is one pouce to 200 toises.

We have here a fine endorsement of the quality of the work of the French Engineers and, in particular, of this map, which in all probability was drawn by Captains Suasse and Missy, who we know were at Santarem in August, 1801.³⁹

CONCLUSION

After leaving the British Army in 1802, some of the officers continued their careers back with the French army. After the First Restoration, Colonel D'Ivory was confirmed in this rank and in 1814 was made a Field Marshall. Subsequently he was a Député and Conseiller Général of the Ardennes. He was awarded the Grand-Croix de Saint-Louis and was a 'chevalier de la Legion d'Honneur'. Lencquesaing became a major and later an Honorary Colonel. He was a 'chevalier de Saint-Louis'. Missy was promoted to Lt-Colonel, after the First Restoration, and was an 'officier de la Légion d'Honneur', retiring in 1830.

¹ She lived to nearly 90 and recorded her life to 1795 under the title - *'The narration of the sufferings of Louise-Françoise de Haussay de Bennes who served in the army as a volunteer from 1792 to July 1795 when she was made prisoner at Quiberon, with her examination at Vannes, from whence she made her escape, the day before that which was appointed for her*

execution.' British Library, 010655 bb 11. Her story is also told by G.Lenotre in *Vieilles Maisons, Vieux Papiers*, 6° serie, Paris 1930, pp 164/212.

² M.E.S.Laws, *Foreign Artillery Corps in the British Service*, *Journal of the Royal Artillery*, vol.65, 1938, p 356.

³ M.E.S.Laws *op.cit.* p357.

⁴ R.F.Edwards (editor), *Roll of Officers of the Corps of Royal Engineers*. Chatham, 1898, p. iv. This work is based on the Ms Rolls of T.W.J.Conolly There is also mention of nine other French Engineers, Arnaudin d'Auvray(?), Louis-Marie-Jean de Chevigné, Col. Baron Coehorn, de Courounel, de Josserand, des Lions, de St.Paul, and de Serveceux, , who served in the British Army, but not in the Corps of French Emigrant Engineers. In some cases the names have been corrected in the light of the information in Anne Blanchard, *Dictionnaire des Ingénieurs Militaires 1691-1791*, Montpellier, 1981, where she shows, for example d'Ivory as being '*seigneur de Saint Morel*', the Saint Morel has been added to the name, as it would appear this is how they called themselves, while in the British Army. The writer is extremely grateful to Claire Lemoine-Isabeau of the Musée Royal de l'Armée et d'Histoire Militaire, Brussels, for drawing his attention to this valuable book and for supplying several photocopies and her own notes, regarding the work of French Engineers in Belgium in the same period.

⁵ The majority of French engineers were in the corps du génie, but there were also Ingénieurs Geographes. The latter had been in decline for some time and one of the early acts of the Revolutionary Government was to abolish them altogether, although they were subsequently reinstated. The first fifteen of the officers in our list were definitely from the corps du génie.

⁶ M.H.Edney, *British Military Education and Military Surveying*, ca.1800, paper presented at Fourteenth International Conference on the History of Cartography, Sweden 1991.

⁷ Vicomte Grouvel, *Les Corps de Troupe de l'Émigration Française*, reprinted Paris 1957, Vol. I, p.180.

⁸ Public Record Office, WO54/702. The six were shown as '*missing since 21st July, 1795*, and J-P. Champagnac, *Quiberon La répression et la vengeance*, Paris, 1989, pp 307/355, records the following:

Moriencourt (François-Eugène de), lire Lengle de Moriencourt, colonel du génie, Cassel (Nord), 63 ans, shot Vannes 2.8.1795.

Portal (Jean-Louis du), lire Antoine-Jean-Louis, major du génie, chevalier de Saint-Louis, Strasbourg, born 10.4.1745, shot Vannes 2.8.1795.

Folmont (Antoine de), lire Testas de Folmont, capitaine du génie, Bagat (Lot), 46 ans, shot Vannes 2.8.1795.

Beaumont (J.P. de) lire Joseph-Pascal du Chérou de Beaumont, capitaine du génie, Perigueux, 43 ans, shot Vannes 2.8.1795.

Meoux (de), lire Le Mouton de Nehou, lieutenant du génie, Paris, 22 ans, shot Vannes 2.8.1795.

Villarcy (de), lire Canel de Villarcy, lieutenant du génie, killed 16.7.1795.

According to Grouvel, Missy was wounded.

⁹ Public Record Office WO54/702. On 12th June, 1795, the whole corps was on the Middleton Transport at Yarmouth, Isle of Wight.

¹⁰ Vicomte Grouvel, *ibid.*

¹¹ J-P. Champagnac, *op.cit.* photograph facing p.177. There are 928 names on the monument, but some are duplicated and others missing.

¹² This name and variations of it are not uncommon in Northern France. At Quiberon both Le Chevalier de la Houssaye and the Vicomte de La Houssaye were killed. Anne Blanchard in her Dictionary (see note 4 above) records an Engineer, named Honoré Cordier de la Houssaye (1709/1745). Near where Louise-Françoise de Haussay lived, there are hamlets named la Hussaye (2), la Grande Houssaye and la Petite Houssaye.

¹³ R.F.Edwards, *op.cit.* List 10, which is based on the ms of T.W.J. Connolly, held by the Royal Engineers Library, Chatham.

¹⁴ M.E.S.Laws *op.cit.* p365/6. Stuart was replaced by General Frazer in 1798. While in Portugal the officers were paid in escudos at a rate, variously described as 'at par' or 67.5 pence per milrei or in modern parlance £1 = 3.56 escudos (PRO WO54/702). By 1874 the rate had slipped to £1 = 4.50 escudos (A Guide to Lisbon by Joaquim Antonio de Macedo, Simpkin, Marshall & Co., London and Matthew Lewtas, Lisbon, 1874).

¹⁵ H.V. Livermore, *A New History of Portugal*, Cambridge University Press, 1969, p.247.

¹⁶ WO 37/10. Public Record Office, Kew. This must have been accompanied by an annotated copy of an existing map or chart, but this has not yet been traced.

¹⁷ Thereafter, there were never more than six in Portugal. Cazotte resigned in July, 1797 and the same year L'Espagnol, St. Morel and Moncrieff were superannuated. Missy and Pioger spent time in the West Indies and Préal on Minorca. The maps of Portugal must have been drawn mainly by d'Ivory, Robien, Suasse, Lenequesaing, Fulaine and Poisson des Londes, although Suasse and Missy were together at Santarem in August, 1801 (P.R.O - WO55/858).

¹⁸ Catálogo - Exposição de Cartographia Nacional, Sociedade de Geographia, Lisboa, 1904.

¹⁹ J.J. Pelet, The French Campaign in Portugal 1810-1811, Trans. D.D. Horward, University of Minnesota, 1973.p.127 - '*...the Marquis d'Alorna, whom I later saw die in Russia, had been in our ranks since 1807.....He finished a memoir on the conquest of Portugal with these remarkable words: "Since my country is destined to be occupied by troops whom no one can resist, I must hope, for the good of my compatriots, that it is invaded quickly rather than disputed step by step"....*'

²⁰ Catálogo de Cartas Antigas da Mapoteca, Cadernos Técnicos e de Informação, no.22, Instituto Geográfico e Cadastral. 1969:

174/5 Santarem, copied by M.M. Franzini in July, 1805 and by J.J. Leão in December, 1807. Both have scales of 1000 toesas = 136 mm or c.1:14,300. The sizes are given as 910 x 812 mm and 930 x 830 mm.

There are other copies of this map in the Arquivo Historico Militar, Lisbon - Ref: AHM 3/47/17932/5 and in the National Library of Scotland - Murray papers MS 46.10.1 nos. 52/53.

168/9 Abrantes, one copied by Lt. Moreira. Both have scales of 1000 toises = 133 mm or c.1:14700. The sizes are given as 618 x 452 mm and 575 x 444 mm.

161 Nabaão, Zezere and Tagus rivers, copied by J.J. Leão in May, 1805. Scale 800 toises = 137 mm or c. 1:11,400.

172 Punhete (now Constancia). copied by J.J. Leão in January, 1807. Scale 1000 toises = 134 mm or 6 lignes por 100 toises or c. 1:14,500.

²¹ The author's photographic copies of these two maps are now in the Map Library, Biblioteca Nacional, Lisbon.

²² Public Record Office, WO 55/958, includes a document referring to three titles: 1. *Observations upon the coast and part of the Country, from the valley near Fontenelles up to the River Manique*, 2. *Observations upon the right bank of the Tagus, and the adjacent country between the River Sacavem and Manique*, 3. *Observations upon the left bank of the Tagus, between Ponte de Matos, Almada, Trafaria and Costa*. However the three documents themselves have not been traced.

²³ Public Record Office WO 55/958. includes an urgent request for '*a plan of Lisbon and of forts St. Julian and Cascais to be sent to Chelsea*' for a meeting the next day. Was the Lisbon plan never returned?

²⁴ Public Record Office ref.: MPI 223 part 2(19) '*Rough sketch of the Ground to be occupied by the 4th Division...*' Scale 4 inches to 1 mile. For smaller scale maps 1 inch to 4 miles was used.

²⁵ Malin & Bullard, Phil. Trans. Royal Society, London A. Vol. 299.

²⁶ Later in the Peninsular War, the British army were orienting their maps to true north.

²⁷ C-A. Raeuber, Les Renseignements, La Reconnaissance et Les Transmissions Militaires du Temps de Napoleon., Comissão Portuguesa de História Militar, Lisboa 1993 pp 57/8. The three maps were:

Tomas Lopez 1:450,000, first printed 1779, (see note 32 below).

Military map by Eloy of 1808, showing routes only with distances in time and leguas. Scale c. 1:455,000

Jasper Nantiat 1:925,00 map, printed by W.Faden 1810.

²⁸ This house was built by Roy Campbell, the S.African poet and was the home of the writer for many years.

²⁹ The British Cemetery was founded, in conjunction with the Dutch, in the early part of the XVIIIth century and a new hospital was built at the very end of that century.

³⁰ Public Record Office WO54/702. Lt.Col. d'Ivory received £750 and the Captains £365 at the end of their contracts and they confirmed they had no further claim on the British Government.

³¹ M.E.S.Laws op.cit p.359.

³² In the British Library, Manuscripts Dept. (ref. Ms 57642), there is a very large map (c. 170 x 170 cm.) by the Marques de Ternay, presumably an older relation of this draftsman, entitled:

Mapa Militar da Provincia de Tras os Montes, e da sua communição com as Provincias da Beira e Minho. Para servir a intelligencia dos Planos de Defenca da dita Provincia propostos pelo Marechal de Campo Gomes Freire de Andrade. Levantada em totalidade pelo Tenente Coronel Marquez de Ternay, e reconhecida pelo dito General para o estabelecimento do Cordão no ano de 1801. Desenhada pelo dito Tenente Coronel, e pelos Capitão Jose Maria Ferreira da Fonseca, e Primeiro Tenente Francisco Pedro Arbués de Moreira.

There are scales of Portuguese Leguas and German miles, making the scale c. 1:91,000. The magnetic variation is shown as 23° 15' west.

³³ A.P. Vicente, *Manuscritos do Arquivo Histórico de Vincennes, referentes a Portugal I (1799-1802)*. Fundação Calouste Gulbekian, Centro Cultural Português, Paris, 1971.p.71.

³⁴ J.J. Pelet, *Op. cit.* p.18. On page 55, Pelet describes the Lopez map (see note 22 above), 'in spite of its large scale, was poorly marked, the roads and rivers horribly drawn and the terrain even more poorly represented'. Pelet had started his military career as an 'Ingenieur Geographe', so was a competent judge.

³⁵ British Library Manuscripts Department number 18796 A & B. It is from the Stowe Collection and bears a note stating 'purchased of J.R.Smith 13/Dec 1851.'

³⁶ British Library Map Department ref. MAR 5 V58.

³⁷ T.C.Sargent, Thomas Livingston Mitchell and Wyld's atlas of the Peninsular War, 1808-1814, *Cartography* Vol. 13, no.4, pp 253/259, Perth, Australia, 1984.

³⁸ Pelet, *op.cit.* p.249 wrote that the position of Santarem was, 'vital for us, as much for its defensive position as for its proximity to the Tagus, its dockyard, and the various kinds of provisions we found in the city and its environs.'

³⁹ Public Record Office, London WO/55/958.

