

# The Napoleon Series

## Maps and Mapmakers of the Napoleonic Wars: British Cartography

By: [Richard Tennant](#)

### Ordnance Survey<sup>1</sup>

The roots of Ordnance Survey go back to 1747, when Lieutenant Colonel David Watson proposed the compilation of a map of the Scottish Highlands to facilitate the subjugation of the clans following the Jacobite rebellion in 1745. In response, King George II charged Watson with making a military survey of the Highlands under the command of the Duke of Cumberland. Among Watson's assistants were William Roy, Paul Sandby and John Manson. The survey was produced at a scale of 1 inch to 1000 yards (1:36,000) and included "the Duke of Cumberland's Map" (primarily by Watson and Roy) now held in the British Library.

Roy would go on to have an illustrious career in the Royal Engineers<sup>2</sup>, and he was largely responsible for the British share of the work in determining the relative positions of the French and British royal observatories. This work was the starting point of the Principal Triangulation of Great Britain (1783–1853), and led to the creation of the Ordnance Survey itself. Roy's technical skills and leadership set the high standard for which Ordnance Survey became known. Work was begun in earnest in 1790 under Roy's supervision, when the Board of Ordnance began a national military survey starting with the south coast of England<sup>3</sup>.

By 1791, the Board received the newer Ramsden theodolite (an improved successor to the one that Roy had used in 1784), and work began on mapping southern Great Britain using 5-mile baseline on Hounslow Heath that Roy himself had previously measured and that crosses the present Heathrow Airport. In 1801, the first one-inch-to-the-mile (1:63,360 scale) map was published, detailing the county of Kent, with Essex following shortly after. The Kent map was published privately and stopped at the county border while the Essex maps were published by Ordnance Survey and ignore the county border, setting the trend for future Ordnance Survey maps.

During the next twenty years, roughly a third of England and Wales was mapped at the same scale (see Principal Triangulation of Great Britain) under the direction of William Mudge, as other military matters took precedence. By 1810, one inch to the mile maps of most of the south of England were completed, but were withdrawn from sale between 1811 and 1816 because of security fears.

This survey was finally completed in 1853.

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<sup>1</sup> [Ordnance Survey](#)

<sup>2</sup> See additional notes below

<sup>3</sup> Roy commissioned Jesse Ramsden, the most prominent scientific instrument maker of his day, to make a number of instruments to enable him to carry out his work. In 1784 Ramsden produced for Roy a one hundred foot steel chain, six glass rods each one metre long, and a three foot theodolite. The original distance was measured with deal rods and iron bars as 27,404 ft. Re-measured with 1,370 placements of glass rods this became 27,406 ft. and, following correction for temperature and to mean sea-level, the value was determined to be 27,404.2 ft. or 8.352800 kilometres. Source : <http://www.catnaps.org/cassini/cart.html>

It was gruelling work: Major Thomas Colby, later the longest serving Director General of Ordnance Survey, walked 586 miles (943 km) in 22 days on a reconnaissance in 1819. In 1824, Colby and most of his staff moved to Ireland to work on a six-inches-to-the-mile (1:10,560) valuation survey.

It took until 1823 to re-establish a relationship with the French survey made by Roy in 1787.

## **William Roy<sup>4</sup>**

Major-General William Roy FRS, AS (1726–1790) was a Scottish military engineer, surveyor, and antiquarian. He was an innovator who applied new scientific discoveries and newly emerging technologies to the accurate geodetic mapping of Great Britain.

It was Roy's advocacy and leadership that led to the creation of the Ordnance Survey in 1791.

Throughout the Survey of Scotland, Roy was a civilian assistant to David Watson the Deputy Quartermaster-General but in 1755 the survey was terminated by the outbreak of the Seven Years' War with France and the consequent redeployment of personnel to more pressing posts in both the regular army and the Board of Ordnance. In the same year the engineers of the Board were formed into the Corps of Engineers. The Board officers were members of both structures for they would be deployed with the army regiments for specialist duties. In 1776 Roy was commissioned as a lieutenant in the 53rd Foot, a new regiment formed in 1755. At the same time he was appointed as a Practitioner-Engineer, the lowest rank in the Board of Ordnance survey department, and Ensign in the Corps of Engineers.

By 1757 Roy was with his regiment in France for the Rochefort expedition and then in Germany for the Battle of Minden in 1759. His technical abilities and willingness to innovate brought him to the favourable attention of his commanders. Preparatory to the battle, the various military engineers made drawings of each step of the coming battle, with each step drawn on a different sheet of paper. The commander could then study the course of the battle before it occurred, going from one sheet to the next. Lieutenant Roy, however, made his drawings on a single sheet with coordinated and accurate overlays, so that the commander could more easily study the course of the battle by examining a single sheet of paper. The commander's comprehension was greatly facilitated, and Roy's methodology was soon adopted as an advancement in military science. Thereafter his promotion was rapid and by the end of the war in 1763 Roy was a Lieutenant Colonel in the regiment and Director of the Engineers of the Board of Ordnance as well as being the Deputy Quartermaster General for Germany.

Roy was promoted to colonel in 1777 and to major-general in 1781. He was in charge of the departments of the Quartermaster-General and Chief Engineer in 1782 and in 1783 became the Director of Royal Engineers.

Late in life, when he was 57, Roy was granted the opportunity to establish his lasting reputation in the world of geodesy. The opening came from a completely unexpected direction. In 1783 the Comte de Cassini (*Cassini IV*) addressed a memoir to the Royal Society in which he expressed grave reservations of the measurements of

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<sup>4</sup> [William Roy](#)

latitude and longitude which had been undertaken at Greenwich Observatory. He suggested that the correct values might be found by combining the Paris Observatory figures with a precise trigonometric survey between the two observatories. Sir Joseph Banks, president of the Royal Society, proposed that Roy should lead the project. Roy accepted with enthusiasm for he saw that apart from the specific measurements proposed the survey could be the first step towards the national survey that he had advocated so often.

The triangulation itself was delayed until 1787 when Ramsden supplied a new theodolite of unsurpassed accuracy. The final report of 1790 presents figures for the distance between Paris and Greenwich as well as the precise latitude, longitude and height of the British triangulation stations. Roy died when only three pages of his final report remained to be proofed.

**Thomas Jefferys**, (his successor) **William Faden**, (his successor) and **James Wyld**, were engravers and publishers, not scholars or academics, nor strictly 'cartographers'. Their part was to publish and supply maps to the crown and parliament in their role as "geographer to the king".

### **William Faden<sup>5</sup>**

William Faden (1749 – 1836) was a publisher of maps. Faden came to prominence during the War of Independence "with maps and atlases of considerable historical note". In 1783, his inheritance from his father enabled him to buy out the family of Thomas Jefferys, with whom he had been in partnership and establish full control of the business. In the same year he was appointed "Geographer in Ordinary to His Majesty." "Systematic in the acquisition of the best available maps, Faden developed the most competent cartographic service of the period. His was an international concern, in contact with map-makers throughout Europe. He supplied government departments and commissioned fresh surveys. A gold medallist of the (Royal) Society of Arts in 1796, his activities foreshadowed the emergence of national cartographic agencies."

The importance of his maps is indicated by Michael Glover in his *Wellington's Army...*. When considering the problems of command Glover draws attention to the "limitations under which they and their staffs worked". "One of the most serious handicaps was the absence of reliable maps..." Wellington based his orders and movements at the time of Vimeiro on the desire to operate in country "... of which we had a knowledge." Moore's campaign in the same year was largely dictated in its early stages by the absence of maps... Lopez' map was a great standby of both sides. It was reasonably accurate for Spain, but its representation of Portugal drew largely on the cartographer's imagination... By 1810 a British map of the Peninsula on four large sheets had been published by William Faden... The scale was 14 miles to the inch, and, although it was a great improvement on Lopez, of which General Graham remarked that it "deserves to be burned by the public hangman."

**John Stockdale<sup>6</sup>** was a somewhat controversial publisher whose London shop became a salon for the political classes and who had to face two actions for defamation. In 1781 Stockdale opened a book shop opposite Burlington House in Piccadilly and "being a man of natural parts, he soon became conspicuous in business in spite of much eccentricity of conduct and great coarseness of manners".

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<sup>5</sup> [William Faden](#)

<sup>6</sup> [John Stockdale](#)

His shop was the resort of the Pittites, the whigs going chiefly to his neighbour, John Debrett. He was an industrious publisher with many works under his name. He also issued the *London Courant* newspaper, *Debates in Parliament* (1784–90), an edition of *Robinson Crusoe*.

### **Jasper Nantiat<sup>7</sup>**

Nothing seems to be known about him, yet he is credited with a couple of significant maps. In 1810 Faden published *A new map of Spain and Portugal, exhibiting the chains of mountains with their passes, the principal & cross roads, with the other details requisite for the intelligence of Military Operations* by Jasper Nantiat. It was very large and printed on four sheets. It was described that when pasted together, 'would fill the whole side of a moderate-sized room'.

However, having such a large map out on campaign would probably not have been very convenient for other than headquarters staff. In 1812 Faden published *Map of Spain and Portugal, reduced from Jas'r Nantiat's Map, 55.5 x 79.2 cm, hand coloured in outline*. This appears to be an improvement on previous editions.

*The Russian Dominions in Europe, drawn from the latest Maps, printed, Academy of Science, St. Petersburg: revised and corrected, with the Post Roads & New Governments*, from the Russian Atlas of 1806; by Jasper Nantiat. Originally published by William Faden in 1806, it was then republished by James Wyld (successor to Mr Faden) in 1824.

### **Depot of Military Knowledge**

Britain's first central organisation for the collection, preservation and dissemination of military intelligence was created in 1803. In that year York was authorised by the Secretary-at-War to establish a Depot of Military Knowledge. The Depot was formed under the QMG, who was charged with the duties of military intelligence. The Depot was assigned the only space available: the cramped top floor of York's Headquarters at the Horse Guards.

With Napoleon's declaration of war on 16<sup>th</sup> May 1803, a few weeks after the Depot had been authorised, it was not possible for the Depot to be fully manned. Many of the officers earmarked for it - such as Lieutenant-Colonel George Murray of the 3rd Foot Guards - were posted to more active appointments. As Wellington's QMG, General Sir George Murray directed the "exploring officers" in their vital intelligence-gathering and mapmaking duties in the Peninsula.

After some delay, the Depot was finally established. Under the direction of an Assistant QMG, the Depot collected, stored, copied and issued maps, plans, books and manuscripts. The Depot comprised "a Drawing Room, a Military Library, and a Depot of Military Plans, Maps, and Memoirs". The Depot had four functions: the collection of information by overseas agents, mainly for contingency planning; the collection of information needed for troop movements anywhere in the world; the formation of a library as the basis for the study of past and current operations; and the collection, preparation and copying of maps.

The Depot replaced the Drawing Room at the Tower of London (which had been a repository for the collection and making of maps since 1683). The first lithographic printing of maps took place at the Depot in 1808. A similar establishment was created

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<sup>7</sup> [Jasper Nantiat](#)

in the QMG's office in the Peninsula and copies of maps and plans made or kept there were sent to London for inclusion in the Depot. Despite the paucity of accurate native maps and guidebooks in the Peninsula, the combined efforts of the "exploring officers" in the field, the QMG's office at HQ and the Depot at Horse Guards enabled Wellington and his generals to know to a remarkable degree what was on the other side of the hill.<sup>8</sup>

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<sup>8</sup> Peaty, John. "Architect of Victory: the Reforms of The Duke of York" *Journal of the Society for Army Historical Research*. Vol. 84, No. 340 (Winter 2006), pp. 339-348