Sheetlines

The journal of
THE CHARLES CLOSE SOCIETY
for the Study of Ordnance Survey Maps

The Charles Close Society was founded in 1980 to bring together all those with an interest in the maps and history of the Ordnance Survey of Great Britain and its counterparts in the island of Ireland. The Society takes its name from Colonel Sir Charles Arden-Close, OS Director General from 1911 to 1922, and initiator of many of the maps now sought after by collectors.

The Society publishes a wide range of books and booklets on historic OS map series and its journal, *Sheetlines*, is recognised internationally for its specialist articles on Ordnance Survey-related topics.

Roy's map of Minden, 1759
R C Wheeler

Throughout the eighteenth century, and indeed beyond, there was tension in this country between those who favoured a 'blue water' war strategy, and those who favoured continental engagement. Popular opinion tended to side with the former: there was a good chance of picking up a lucrative West Indian island or two which might, with luck, be retained at the end of the war. In contrast, large armies fighting in Europe were expensive; but from George I onwards the Kings of England were also Electors of Hanover and did not like to see their lands overrun by the French.

In the Seven Years' War (1756-63), the continental option was particularly tough: as a result of poor diplomacy, Great Britain found itself fighting both Austria and France with Prussia as its only significant ally. What this meant was that the Prussian forces under Frederick the Great engaged Austria, while an army that was largely Hanoverian, along with forces from some minor German states and a reluctantly-provided British component, tried to hold off a larger French force.

The commander-in-chief of this Hanoverian-cum-British force was Prince Ferdinand of Brunswick. An officer in the Prussian army, and brother-in-law to Frederick the Great, he had been appointed to command the Hanoverian 'Army of Observation' after its previous commander, the Duke of Cumberland, had been forced to surrender. Politically astute, he had insisted that he should report direct to King George (or Prince-Elector Georg, to be pedantic). He had studied the profession of arms and had a good grasp of the higher levels of warfare. He was an inspiring leader, able to turn a dejected and defeated mass of troops into a disciplined and confident army. On the other hand, he lacked experience of high command, and this showed in his conduct of battles: he knew what he wanted his troops to do but either he failed to get them in position soon enough, or failed to convey clear orders to his subordinate generals.

The British component commander was Lord George Sackvillle, third son of the Duke of Dorset. Like Ferdinand, he took his duties seriously, but lacked experience of high command. He too was focused on the wider political game but lacked maturity of judgement; since he reported to the British government, whilst Ferdinand reported to the king, this was a serious failing. Finally, he seems not to have been good at personal relationships with his equals or his superiors. To be honest, he was unsuited for the job: he had originally been sent out as second-in-command to the 3rd Duke of Marlborough, but the latter had died and Lord George had stepped into his shoes.

The first half of 1759 had not gone well. Ferdinand had been pushed back northwards by the larger French force under the Marquis de Contades. He had been forced to choose between sacrificing his connection to England or to Prussia and had decided the latter was more important to him. By mid-July, the French had taken the fortress of Minden; any further retreat by Ferdinand would involve the loss of his supply depots and lead to defeat. The French force was

temporarily split, with an element under the Marquis d'Armentières besieging Münster and Lippstadt, but once the forces had been reunited, Contades could be expected to resume his advance. It was essential for Ferdinand to fight a battle before that happened. The problem was that the French army was drawn up in front of Minden and behind the River Bastau, which was modest enough as a river, but not an obstacle an army could attack across except against a decidedly inferior force.

Under this pressure, Ferdinand conceived a daring plan. He detached a force to cut around to the rear to threaten Contades' supply line. He moved his main force a couple of miles to the right, giving the impression he was about to support this rearward hook. His left wing under Wangenheim remained in front of Minden but pulled most of its men back from their field fortifications, holding them on a reverse slope out of sight of Minden. The intention was to offer Contades the apparent chance of an easy victory and lure him out from behind the Bastau; the main force would then spring the trap.

It worked – in part. The French crossed the Bastau in the night and attacked Wangenheim, only to find his position a lot stronger than they had supposed. The trouble was that Ferdinand, who had an obsession for secrecy, had not told his subordinates of his plans. French deserters had come in and reported that the French army was moving, but the general dealing with them had not thought it worth telling Ferdinand until dawn. Consequently, the main force moved late and in a disorganised manner. The central block of infantry, under von Spörcken, was ordered 'to advance, with drums beating, and attack whatever it might encounter'. At least, that is what it did; there was dispute about the exact wording of most of Ferdinand's orders. The main part of that force was British and did exactly as ordered, advancing somewhat at an angle to the main axis, forming a very vulnerable salient, attracting artillery fire from the flank and withstanding two charges from the French cavalry who formed (unusually) the French centre. It suffered something like 30% casualties and yet, showing remarkable discipline and resolve, it remained an effective fighting force. The French cavalry, having failed with their charges, broke; and the whole French force retreated behind the Bastau. It was a signal victory, but not an overwhelming one.

Lord George Sackville had been in tactical command of the cavalry of the right wing. Ferdinand took the view that a more effective pursuit by them might have resulted in a massive French defeat. Arguably he was right; arguably Ferdinand's own fumbling and contradictory orders to Sackville had actually prevented that pursuit. Or perhaps Ferdinand had cynically decided that Sackville had to be replaced as British component commander and he now had an opportunity. He issued a remarkable general order declaring to the Marquis of Granby (Sackville's second-in-command) 'that if he had had the good fortune to have him at the head of the cavalry of the right wing, his presence would have greatly contributed to make the decision of that day more complete and more brilliant'. It made Sackville's position untenable. Sackville made matters worse by an ill-judged response, he was recalled to London, and dismissed by the King from all his posts. Stung by accusations of cowardice, he demanded a court

martial: it opened on 29 February 1760, with Sackville facing the capital charge of disobedience of orders.[1]

Extract of Roy's map showing the dedication, from the image on Yale University Beinecke Rare Book & Manuscript Library website ©

On that same day, William Roy's map of the battle was published in London, by Thomas Major. A version in French, arranged differently but with the same content, was engraved by Jacob van der Schley.[2] It was perhaps produced with the German market in mind: the upper classes there generally spoke French; for

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[1] For an account of the battle, see Piers Mackesy, *The Coward of Minden*, 1979, and Stuart Reid, *The Battle of Minden, 1759*, 2016. Both draw heavily on the official account, *Proceedings of a General Court Martial Held at the Horse Guards ... upon the Trial of Lord George Sackville*, (Edinburgh, 1760) which is available gratis at *books.google.co.uk*.

[2] Van der Schley also engraved a smaller plan of the battle by Capt Friedrich Wilhelm von Bauer.

example, Prince Ferdinand's correspondence with Frederick the Great is all in that language. The map is famous as the first English map to use *papillons* (flaps) to indicate successive positions. The English version is available on-line at *https://brbl-zoom.library.yale.edu/viewer/15479957*. The French version is available at *http://digitalarchive.mcmaster.ca/islandora/object/macrepo%3A81544*; this site has two images, one with the flaps digitally removed and one with the flaps in place.[3]

The map is dedicated to His Serene Highness Prince Ferdinand. It is said to have been paid for by him.[4] It was referred to in the court-martial. Lord George, to establish whose infantry he had been drawn up behind, uses the expression: "if we can credit the plan of Lieut. Roy, so much relied on", which appears to be a rather grudging admission of its probable accuracy, notwithstanding it being in effect a product of the prosecution. Had this been a court of Common Law, Roy would have been sworn as a witness and we might expect him to have been asked how he came to produce the map, in order to establish its reliability; but a court martial was not a court of Common Law, and so we are left in ignorance.

However, one can learn a lot from the map itself. It shows the exact routes followed by each of the eight columns comprising the army for a period of two weeks leading up to the battle. It shows the move of the main force to the right, but the enormously long text does not explain its rationale. As for the locations of forces, the '1st Position of the Allied Army' shows a tidy line of departure that never existed except perhaps in the mind of Prince Ferdinand. The '2nd Position of the Allied Army' shows the manner in which the central block of infantry under von Spörcken ended up as a salient projecting ahead of the rest of the army. This only appears when just one of the two flaps is down.[5] The same view also shows a '2nd position of the cavalry of the right wing', with a long line of cavalry drawn up facing the French. The only trouble is that the middle of the line is in a wood. Militarily this is a nonsense. What had actually happened is that the cavalry had previously been on the right of the wood; they had been ordered by Prince Ferdinand to move through the wood to support the infantry of the centre. Since they could only move through the wood in single file, this inevitably took time; and, because of ambiguity in the wording of the orders as transmitted, there was a suggestion that the Hanoverian cavalry should remain to the right of the wood. So, either Roy was struggling to reconcile different officers' reports of where they were at the time in question, or else he understood that the units were moving across but thought it more noble to draw them all facing the French.

These peculiarities probably did no harm to the map's sales. The lines of small dots enabled thousands of families to trace the path their loved ones had taken;

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[3] Ashley & Miles Baynton-Williams, *Maps of War*, 2007, reproduces a variant of this published by [Pieter] de Hondt. Within the neat line, it appears identical. De Hondt and Schley are known to have been closely associated.

[4] Dublin Courier, 30 April 1760.

[5] There is a somewhat poor-quality image at *http://www.mapforum.com/15/mindmid.jpg*

and Roy's praise for the conduct of the British infantry - "notwithstanding ...,
notwithstanding ..., notwithstanding ..., notwithstanding ..., such was the
unshaken firmness of those troops that nothing could stop them;" - was no doubt
much appreciated by purchasers. It is nevertheless instructive to consider how
these peculiarities might have arisen.

Lines of dots to indicate routes taken were a feature Roy will have known
from maps of the Scottish campaign;[6] but those routes were diagrammatic in
nature. In contrast, the routes on Roy's maps are carefully related to the
topography: the artillery travel whenever possible on roads; even modest rivers
are crossed by bridges; and the routes are kept far enough apart to allow the
whole army to move without mutual interference between adjacent columns.
These differences reflect the reality of continental battles. The routes were known
as 'avenues' or *débouchés.* Ferdinand ordered his subordinate generals to
familiarise themselves with them in advance: not, let it be noted, to *plan* them in
advance but to *acquaint* themselves with the routes that had been laid down for
them to follow. The planning of such routes was the responsibility of the
quartermaster-general's department; and Roy, it will be recalled, was one of the
assistant quartermasters-general. That planning will almost certainly have been
done using a detailed topographical map. Of course, if no map was available and
there was no time to draw one, a group of assistants might have managed to do
the job on the ground; but the need to plan ahead for the parallel crossings of the
next stream, to avoid areas of marsh or scrub, would have made a trial-and-error
method liable to give unsatisfactory routes or to take excessive time.

Returning to Roy's published maps, one finds that the topography is shown in
great detail, even a long way back from the battlefield where it was of no
importance for understanding the events of 1 August. Had the victorious army
been encamped before Minden for a couple of weeks after the victory, there
might have been ample time for Roy to survey irrelevant features; but the army
moved south on 4 August, and the quartermaster-general's department must have
been busy in the intervening period, not least in preparing the orders for that
move. What, then, was the source of the topographical detail on Roy's map? I
suggest he used the very map on which the various moves of the army since 14
July had been plotted. This would of course have required the consent of Prince
Ferdinand, but as he was sponsor of the map this was presumably not a problem.
Thus it would appear that what Roy gives us is a quartermaster-general's view of
the battle, and quartermasters-general were expected to concern themselves with
nitty-gritty matters like routes and intelligence rather than strategy. Given that
Ferdinand did not tell his subordinate generals that he was creating a gap in his

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[6] Carolyn J. Anderson *Constructing the Military Landscape: The Board of Ordnance Maps and Plans of Scotland, 1689–1815.* Available at *https://core.ac.uk/download/pdf/280200.pdf*. Such lines of dots were part of the standard vocabulary of battlefield maps. One would not expect to see the detailed mapping of *débouchés* for any of the battles against the Scottish rebels, but one might expect to find it for more of the set-piece continental battles. However, scanning the Baynton-Williams' book failed to yield any more examples.

line in order to lure the French out, it is highly improbable that such knowledge was vouchsafed to mere assistant quartermasters-general: they would have been told who was to be moved where and expected to get on with organising it.

Whilst the route-planning map may have served as a basis, it will have needed augmenting with the various positions of units during the battle itself; but this could have been done some time after the event by asking officers from those units. That would explain the deficiencies of Roy's map in this regard.

These strengths and limitations actually helped Roy politically. His map was largely an uncontroversial statement of the basic topographical points. The prosecution saw no need to call him as a witness; and the defence accepted his map, if somewhat grudgingly. He was useful to the one party without making himself obnoxious to the other. In 1760 he was made deputy quartermaster-general of the British forces in Germany; in 1761 he was made Major of Foot and deputy quartermaster-general of forces in South Britain.[7] His career was made; and he was firmly set on the path to becoming a Major General and a luminary of the scientific establishment.

Of his final period in Germany, we know little. He will have been reporting to the Marquis of Granby, who had replaced Sackville as the British component commander, a man noted for his concerns about the welfare of his troops but who could be relied upon to take no interest in the higher matters that Prince Ferdinand liked to keep to himself. Roy presumably retained the trust of Ferdinand: he done a sound job with his map, stating (perhaps *improving upon*) the facts, while not revealing anything that might have displayed Ferdinand's tactical fumbling. As the man responsible for a best-selling map, he may be presumed to have gained the respect of continental cartographers. And he at last had time to develop a proper understanding of the continental perspective on military cartography, something that had probably been impossible during the hectic series of retreats that led up to Minden.

This continental perspective on cartography needs some consideration. Evidently the commander-in-chief needed a medium-scale map (say at 1:200,000) for planning his moves, a map that at the very least showed where rivers could be crossed. He also needed a large-scale map (say 1:50,000 or 1:25,000) for deciding where he would fight his battles, a map that would show where his flanks might be protected from cavalry by woods or marshes. Maps at this scale could always be surveyed as and when they were needed, but that wasted time; and time, as Ferdinand knew only too well, was a precious commodity. Commanders could, and often did, manage without maps altogether, but with a significant penalty.[8] Those large-scale maps would also serve the quartermasters-general for the detailed planning of *débouchés*. For most purposes, a single copy of these maps would suffice. It is noticeable that at Minden the subordinate generals saw no maps, except for Prince Schaumburg-Lippe-Bückeburg, who

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7 JB Harley, "William Roy and the Ordnance Survey map after 200 years", *Chartered Surveyor*, Jan 1978.

8 Christopher Duffy, *The Army of Frederick the Great*, 1974, 143.

commanded the artillery. Perhaps artillery commanders were thought to need their own map for planning lines of fire; or perhaps the Prince was one of the few men Ferdinand trusted with a map. (Incidentally, one of the British artillery officers had seen his map and thought it better than Roy's in showing the density of the wood that lay to Sackville's left and was topographically the most important aspect of the court martial;[9] but there were no standard cartographic conventions for showing the penetrability of a wood and if the impression given by the map the witness had seen was different from that which he gained from Roy's engraved map, it does not imply that the maps used different sources.) Thus, ideally, large-scale maps should be available in advance; and ideally they should be hung on a proper triangulation rather than being constructed – like Roy's survey of Scotland – from a series of traverses.

This understanding of the requirement can be seen from developments in Prussia. Notwithstanding Frederick the Great's deep distrust of large-scale maps, Count Samuel von Schmettau (1684-1751) had conducted a triangulation of Prussia's new territories; and his son, Friedrich Wilhelm Carl von Schmettau (1743-1806) would map them at 1:50,000.[10] Compared to the work of the Cassinis in France, the Prussian maps were cheaply surveyed, with cruder instruments used for the triangulation and a willingness to use existing large-scale maps (especially of forests) rather than completing a fresh survey; but arguably the carefully coloured MS maps that resulted were of greater utility to a commander in the field than the printed French maps at 1:86,400.

Why is this relevant to the Ordnance Survey? Well, in 1763, immediately after the end of the war, Roy put forward his first proposal for a general survey of Great Britain. Details do not survive, but it is generally presumed to be along the same lines as the one he put forward in 1766.[11] This was to be based on a series of triangles, run along the coast and 'remarkable ranges of hills and principal rivers'. The topography was to be derived where possible from existing county maps. The scale was to be one-inch or an inch-and-a-quarter to the mile. Note that the last is almost exactly 1:50,000. All this is closer to German thinking than to French.

To see the final stage of German-style cartography in England, one should look at the map reproduced as the frontispiece to the first of the Margary volumes.[12] The scale is now six inches to the mile, but what is striking about the map is the contrast between the green of the marshes and the pasture closes – unsuited for cavalry – and the buff of the arable open fields, well-suited for set-piece battles. There is lots of extra detail, but in conception it is similar to the Schmettau maps. These splendid maps were to be compiled into 'the great map'

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[9] See eg Reid p180.

[10] Wolfgang Scharfe, *Abriss der Kartographie Brandenburgs 1771-1821*, 1972, with a specimen at Abb. 5a.

[11] Y O'Donoghue, *William Roy, 1726-1790*, (British Museum, 1977).

[12] JB Harley & Y O'Donoghue, *The Old Series Ordnance Survey Maps of England and Wales*, Vol I, 1975.

lodged in the Tower, in other words into a single MS map, just like the survey of Scotland. A single copy had sufficed in 1759; therefore a single copy was all that was needed in 1790.

These ideas were not to last much longer. In 1798 it was agreed that Faden might engrave the map of Kent for public sale. The following year, Mudge wrote to the Deputy Master of the Ordnance, suggesting that 'since it would be impossible to publish a portable map' of Essex showing field boundaries, the 'very minute part of the Survey' might be relinquished. Note the thinking: that nothing is worth doing that cannot be *published*. Those proposals were accepted; and thenceforth the Ordnance Surveyors' Drawings show only such detail as was thought suitable to be engraved.

What occasioned the change? A number of influences occur to mind.

Colonial Warfare. Recent military experience was primarily in America. Commanders at quite low levels were accustomed to assessing the tactical situation and developing plans. They needed maps for this. The number of such commanders meant that such maps had to be engraved.

County Maps. Most country gentlemen and their sons were accustomed to using county maps. If those gentlemen entered the militia or bought commissions for their sons in the regular army, they were not enamoured of the idea that only the commander-in-chief needed a map.

Landscape Change. The idea that the country was divided into open-field arable, suited for manoeuvring, and nasty boggy pasture was now nonsense. Large parts of the country had no open-field arable; and officers with a taste for fox-hunting knew how fast they could move over enclosed land, be it pasture or arable. Whether a cavalry charge was possible in such country was perhaps a disputed question. Either way, the Schmettau style of map was inapplicable to the England of 1800.

Disentangling these influences will not be attempted here. My purpose was to draw attention to a German style of thinking about mapping which perhaps originated from Minden but which died in 1799.

A postscript: what happened to Lord George Sackville? The court found him guilty of disobedience to orders, but continued:

> "It is the further opinion of this Court, that the said Lord George Sackville is, and he is hereby adjudged, unfit to serve his Majesty in any military capacity whatever."

Since the King had already dismissed him, this was the least the court could do without provoking a major crisis. It was the closest to an acquittal that was politically feasible.