



9. Command and Staff Arrangements

1

1. Introduction
2. Background
3. Bombardment, 1914-16
4. Bombardment, 1917-18
5. Counter Blaster
6. Supporting Attack
7. Defense
8. Training
9. Command
 - Battery
 - Brigade
 - Division
 - Corps
 - Corps Artillery
 - Army Level
 - GHQ
 - Conclusion
10. Conclusion
- Bibliography
- Glossary
- Maps

Introduction

In modern war, the greatest commander still needs a staff. The staff take the commander's ideas and turn them into the orders that send troops where they are most needed. In peacetime, the command system reflects expectations of the next war, what each part of the army is supposed to do, but also how they are to work together. Thus its organization and priorities also reflect how an army thinks about its components. Wartime changes are nearly inevitable as these pre-war assumptions are proven false. These changes are reactive, fixing things that go wrong. In the First World War, armies faced unprecedented tactical, strategic, and logistical problems. New technologies had to be harnessed to solve current problems rather than create new ones, a process that tended to expand staffs as officers who understood at least some of the new technologies were assigned to help those who did not. Commanders had to grapple with everything from laundries to poison gas, and new staff arrangements were inevitable.

The BEF's artillery command and staff systems were just a part of this expansion, paralleling the general trend. While substantial and widespread, the number and scale of the changes did not imply a different relationship between the artillery and the other arms. The eventual structure reflected the artillery's place in the army and the changes in its importance. Artillery officers actively sought changes in their command structure, but only so they could do their job better, not to take over the combat role within the army. The first years of the war saw the worst structural problems, but the new command structure was complete by the winter of 1916-17. This allowed the artillerymen—and the rest of the army—to become familiar with it, and after that point time could be spent on tactical and technical innovations. Changes took place at all levels, and we will follow them from the bottom upwards.

The Battery

The smallest artillery unit was the battery, consisting of six guns and roughly two hundred men. (Horsed batteries had around 150 horses as well.) Heavier guns were grouped in smaller batteries, as few as two for super-heavy rail guns, but manpower varied little. Batteries had no staff of their own, and field batteries only a maximum of five officers: a major as Battery Commander; a captain in charge of administration and transport; and three lieutenants each commanding two guns (a section), including their personnel and horses.

During the war, batteries suffered far fewer changes than corresponding infantry units, with most changes being restricted to the number of vehicles, horses, and drivers in each battery. As new types of guns were manufactured, new types of siege battery were created from scratch, and establishments were juggled for both new and existing units. Most of the changes were marginal, adding or subtracting a few Army Service Corps or Army Ordnance Department men as some function was centralized or decentralized. In comparison, infantry battalions had men transferred or earmarked for virtually every specialty under the sun (snipers, scouts, and signalers were only a few), and by the end of the war their total strength had been cut nearly ten percent. Even the internal structure of the battalion saw serious upheaval, with platoons becoming a more important tactical formation than companies; conversely, the artillery sections never threatened the battery.

The Brigade

Artillery brigade headquarters also saw little change to their own structure, but like the

5

infantry brigades their components changed markedly. Similarly, they became much less independent as the scale of the war overwhelmed them. The brigade staff was reasonably adequate to handle the stresses of wartime, mainly because the pre-war view of the artillery brigade as the main combat unit meant that its staff was reasonably large at the beginning. We have indirect evidence that the staff was adequate because, despite growing administrative and technical requirements, there was still only minimal expansion at this level. The only change was an increase of one officer, and only because the Royal Engineers transferred responsibility for communications to the artillery. ¹ Over the course of the war, artillery command and control were centralized well above brigade level, but brigades still had plenty to do, mainly administration and the never-ending struggle to maintain communications with subordinates.

The components of a brigade changed during the war, in both the RFA and RGA. In 1914, all RFA brigades had three batteries, all either 18-pounders or 4.5-inch howitzers. While this generally remained true in Regular Army divisions, it broke down in the BEF as a whole. The Indian Army divisions, New Army divisions, and Territorial Forces all had different artillery strengths and organizations. Administration and supply became even more of a problem, and it was difficult to plan operations when units were not interchangeable. A series of battery and brigade reorganization efforts through 1915 and 1916 all failed, but finally over the winter of 1916-17 a workable plan was implemented. Field artillery brigades were reorganized to comprise three six-gun batteries of 18-pounders and a fourth battery of 4.5-inch howitzers. (Even this is a slightly idealized picture, and almost one-quarter of brigades either lacked the howitzer battery or had four 18-pounder batteries.) The difficulty of commanding two different kinds of artillery was balanced by the reduction in numbers of brigades, which allowed more experienced commanders to apply their expertise. The new brigade neatly matched the tactics of the creeping barrage, for one 18-pounder battery would be superimposed over the other two (waiting for targets of opportunity) while the 4.5-inch howitzers spread their fire ahead of the rest. This pattern proved successful and survived the war.

There were two kinds of Royal Garrison Artillery brigade in 1914, but both were merely paper organizations. Siege Brigades were to be formed from the heaviest available howitzers. Two Medium Siege Brigades, each of two 6-inch howitzer batteries, were planned, plus a Heavy Siege Brigade of 9.45-inch howitzers. However, the units were instead mobilized as batteries that were then sent to France individually and employed individually. It has not been possible to trace what happened to the jilted peacetime brigade commander, Lt. Col. C. O. Smeaton, but he held no senior posts during the war and was even allowed to retire in 1917. The other theoretical brigade organizations of heavy guns were the Heavy Brigades. These were merely peacetime administrative groups before the Heavy Batteries were parceled out to divisions upon mobilization.

The Siege Brigades failed largely because they did not fit the command structure. RGA Brigades had never taken part in maneuvers, and few officers knew their potential; they also fell into a gap in the command structure, since the only artillery officers legally entitled to command them were divisional Commanders, Royal Artillery. Corps-level artillery officers were officially Advisers who lacked command authority. A division rarely warranted a whole brigade of siege artillery, but the corps artilleryman could not take command on behalf of the corps; splitting the brigades and attaching batteries to divisions solved the problem. With every division clamoring for artillery support, it is not surprising that the available guns were thinly spread.

Heavy artillery grouping passed through several phases during the war. After the 1914 campaign ended, brigades were created for the heavy artillery. In essence, each corps received a brigade headquarters to oversee whatever heavy artillery was assigned to the corps. Thus the brigades had no fixed form, and any number of batteries (with different gun types) were lumped together. Nor, with only one brigade per corps, were they functionally

differentiated. A brigade was responsible for controlling all heavy artillery activity and administration in a corps sector. This worked badly and was quickly modified, with most howitzers being parceled out to divisions while a new command echelon was created on top of what were now called "Brigades RGA." Beyond these tactical problems, the hodgepodge brigades led to complaints about discipline, training, and administration. While doubtless true, one can sympathize with a brigade commander operating without a trained staff, trying to cope while everything around him changed, including his subordinates.

10

This new headquarters was the Heavy Artillery Reserve Group (HARG), which controlled heavy guns and the heaviest howitzers. ² In a BEF still concerned with procedural nicety, the HARG lacked command authority and had to issue orders through the brigades, which did become functionally differentiated, into units of bombardment howitzers or counter-battery guns. It was a stop-gap system, and the chain-of-command was hazy—for instance, to whom was the HARG commander responsible? In an undeveloped artillery chain-of-command (the corps Artillery Adviser lacked command authority), it was typically an already-busy corps or division commander, who often failed to make the best use of the artillery.

The next experiment, introduced early in 1916, was Groups, commanded (as brigades were) by lieutenant colonels. These were nothing more than brigades under a new name, but they were at least functionally organized and had some dedicated staff. There were still the problems of administration and discipline as batteries moved around through different groups, but matters did improve. The improvements did not, however, stem from the creation of the Groups. Rather, officers were more experienced at solving the problems inherent in the system, which helped, and a new system at corps level helped too. There was a slight refinement in 1917, when two groups became a "double group," with one of the commanders handling operations and the other administration. This was restricted to the most active sectors of the front because elsewhere guns were not so concentrated.

Over the winter of 1917-18, there was a final reorganization of the RGA back into brigades. After the war, Birch wrote that the reorganization was done "as soon as it became feasible." The delay was caused by the pressures of the Passchendaele campaign, which demanded terrific exertion by the artillery and also absorbed such a high percentage of artillery units that there was little opportunity to rest units by rotating them to quiet sectors or to institute a BEF-wide reorganization. ³ This time the brigades had four firm formats: Mobile, 8-inch Howitzer, 9.2-inch Howitzer, and Mixed. ⁴ Standardized units eased the work of the staff, who could tell a brigade's composition from its name. Brigade commanders' authority increased with the tightening of the chain of command, and both administrative and disciplinary matters improved because batteries no longer floated among brigades or groups. The RGA ended the war with this structure and kept it afterwards.

Overall, the brigade changed in ways that went unremarked. The RFA brigade hardly changed in structure, but it declined mightily in importance. Brigades simply did not operate in the way that had been envisioned before the war. They had to fit into a larger framework, and just how that would happen would be settled at higher levels. Meanwhile, the RGA had the same problems of establishing a command chain, but these were greatly exacerbated by having to create brigade-level structures as well.

The Division

Before the war, the division was expected to play a small role in artillery planning, with most command and control decentralized to the brigades. This changed, suddenly and almost completely, early in the war, and the division staff could not handle the work. Instead, corps headquarters took over many functions, which relieved the pressure on divisional artillery headquarters.

At the division level, most changes happened early in the war. At first the divisional Commander, Royal Artillery (CRA) was the only artillery officer legally able to command anything, so all artillery was parceled out to divisions. By early 1915 this had changed, but CRAs still commanded a plethora of batteries. Some were brigaded, but some were not, and the un-brigaded ones had to be commanded directly from the artillery headquarters, which had no extra resources. There were also tactical and supply problems, caused by mixing different types of guns and ammunition. It does not seem that any CRA complained when, slightly later in 1915, the heavy guns were taken away. ⁵ Further reorganizations had little impact on the division level, except that in early 1917 one-third of the divisional artillery was taken away. This too provoked no complaints, and CRAs got on with their job.

If no longer commanding heavy artillery, CRAs still controlled it during bombardments. In preparing bombardments, target categories and priorities would be dictated at a high level—often army, and there was frequently input from GHQ. Divisions in the line, however, would name which targets in their sector were to be bombarded and how heavily. This would be settled by the unit commander, the CRA, and the infantry brigade commanders, so the CRA was very much a team player, and the infantry had a great deal of input into the detailed planning. The CRA also controlled all wire-cutting in the divisional sector, whether by trench mortar, field artillery, or medium howitzer. This was another powerful reason for a division to spend several days in the line before an attack, for it took a few days to learn the details of a sector and handle any last-minute bombardments.

Corps would monitor divisional plans, arrange for enfilade fire across division boundaries, conduct the counter-battery campaign, and co-ordinate field artillery barrages. Corps also had command of the parts of the Royal Flying Corps dedicated to assisting the artillery, and integrated both aircraft and balloons into artillery plans. All this meant that bombardment orders came from corps headquarters, a fact that camouflages the input from divisions and the infantry. Despite nominally commanding only a few brigades of field artillery, a good CRA could significantly affect an entire corps' bombardment plan. Furthermore, during an offensive a division would be supported by as much as three divisions' worth of artillery, all of which would be under the direct command of the CRA of the division in the line. In 1916, this sometimes caused problems, since the frontline CRA was expected to command each brigade direct (and there might be ten brigades), which placed a huge strain on a very limited staff. This was due to the problem of rank. The CRA of the frontline division might be junior to the CRA of a supporting division's artillery, in which case he could not give orders, but he would certainly be senior to the brigade commanders.

By 1917 it was common for sub-groups to be formed, of only two or three brigades of artillery, and a CRA would give his orders through the sub-group commanders, typically the CRAs themselves. This did not answer the problem of rank, but apparently nobody caused trouble. The system caused some friction and led to a few calls for change, but GHQ was satisfied and focused their efforts on solving the problems of the RGA. ⁶ All this goes far toward explaining how in 1918 a CRA could handle both a reinforced divisional artillery and frequently a heavy artillery brigade: they had already done so, even if under corps supervision.

Thus the divisional artillery headquarters had more authority by the end of the war, but a manageable level of work, unlike early-war improvisations. One part of making the workload manageable lay in sensibly reorganizing brigades, but a very large part was experience. It was the experience that allowed a return to decentralization in the mobile battles of 1918, but also a smooth return to centralized control under corps artillery headquarters.

The Corps

As modern warfare demanded more and more firepower, armies added more artillery. We have seen that the BEF did not, in the long run, assign that artillery to divisions. Instead it was controlled at the corps level, which was not the main bone of contention. The problem was simple: who would give the orders? If the artillery officers did, it might increase the artillery's effectiveness but would certainly undermine the time-honored chain of command running from the corps commander personally. Gradually the old-fashioned way was proven to be a failure, and at the same time the artillery officers proved to be team players, defusing the problem.

At the beginning of the war the corps was seen as a "mailbox" headquarters, passing orders from GHQ on to the divisions with only minor elaborations. In keeping with this view, a corps headquarters controlled no combat troops of its own, and any extra units allotted to the corps were assigned to the component divisions. As far as the artillery was concerned, there was an Artillery Adviser (AA) at corps headquarters, but he lacked both authority to issue orders (unless troops were specifically assigned to him) and the staff to implement any orders he might issue. In 1915, the HARGs were the first artillery units outside the divisions to be granted command authority, but the breaking of precedent had little effect upon AAs. ⁷ They were still advisers, consulted (or not) as the corps commander saw fit. Several tried to gain and assert authority, but that was a haphazard affair, depending on whether the corps commander permitted it. Some AAs signed themselves as Brigadier-General, RA (their rank), others GOC, RA (a function), and some by their title of Artillery Adviser. Oddly, in some cases the same man would be both BGRA and GOCRA, having been allotted command of some artillery but only advising about the rest.

In February 1915 GHQ reorganized artillery into three categories. ⁸ "Divisional Artillery" was now field guns and howitzers and the few mountain guns, which were thought adequate to "support the infantry both in attack and defence." Medium artillery was called "Army Artillery" and was attached by armies to the divisions; it might migrate with a division or remain covering the same sector when the infantry moved. The few heavy artillery pieces (over 6-inch caliber) became "GHQ Artillery," and were allotted to armies "to influence the course of operations after the battle has become fixed." This was the artillery that became the Heavy Artillery Reserve Groups. In all this reorganization, corps artillerymen played no role whatsoever, largely because the necessity for an intermediate command echelon had yet to be proven. Armies had existed a scant two months, and there had been no fighting during that brief period.

In July 1915, after the spring battles were over, the Artillery Adviser at GHQ (Major-General John du Cane) pointed out to the Chief of the General Staff (Sir William Robertson) the difficulty divisional CRAs were having. He requested that "superior artillery Commanders should be specially appointed ... 'the very best men being selected and adequate staffs being provided.'" ⁹ Du Cane had in mind the gradual assumption of responsibility by AAs, starting with the power to co-ordinate but later placing all heavy artillery under the Artillery Adviser's command. Robertson had no fixed views of his own, and put the question to the three armies with the dismissive caveat that even if they thought corps artillerymen should be commanders, that authority would seldom be necessary. While corps were starting to play a greater role in administration and tactics, especially for the infantry, for the artillery they were still clearly superfluous. The three armies were barely lukewarm in support, and all thought the circumstances requiring a command echelon between division and army would be rare, although a special artillery commander had been appointed (or at least requested) for some of the BEF's attacks.

To be fair, in 1915 the shortage of shells and guns meant there was little need for an intermediate commander. The BEF never had enough guns to support an attack larger than two divisions, and a good CRA could handle that much artillery. It was certainly difficult for a CRA to handle two divisions of field artillery plus attached heavy artillery, and it took time

to prepare, but it was not impossible. While the system made no provision for any future developments whatsoever, it was a fair reflection of the situation in mid-1915. Du Cane accepted the armies' views, having won support for granting Artillery Advisers a tiny staff and some command authority, if only in limited circumstances. Du Cane was not seeking independence for the artillery, and spelled it out for Robertson: "If a Commander wishes for assistance or advice in connection with his artillery, he should receive it from his staff—as regards the employment of the arm and its organisation, from the General Staff...." ¹⁰

25

The battle of Loos fell into the cracks of this system. Rawlinson lacked confidence in his Artillery Adviser, but on the same day that he asked for A. H. Hussey's replacement there was a major command reshuffle. GHQ created a formal corps artillery headquarters and gave the AAs command authority over a large portion of the heavy artillery. ¹¹ Rawlinson was in a bind, because he did not feel he could ask for Hussey's replacement, but he liked the new system. At least he liked it in theory, but he wanted the incumbent batch of former AAs replaced with good men: "There are plenty of them if only [GHQ] will promote the junior ones." ¹² Rawlinson had to work around Hussey by never admitting the need for a corps Artillery Commander, instead forming clumsy groups and sub-groups under the command of one of the CRAs. (Hussey never realized that the maneuvers were being taken to avoid him, being either monumentally dim or successfully kept out of the loop. After Loos he remarked that corps artillerymen were receiving authority "just too late for me." ¹³) Plans then had to be co-ordinated by Rawlinson himself, in consultation with each division commander and CRA, while to get heavy artillery support the HARG had to spread itself between all the divisions "without reference to Corps" to avoid Hussey. ¹⁴ The convoluted artillery chain of command did not cause any catastrophes at Loos, where the main artillery problems were shortages of guns and shells. Still, it hardly helped. After the battle, IV Corps looked for lessons, especially regarding the artillery. C. E. D. Budworth (promoted to become IV Corps' GOCRA after, as the CRA of the 1st Division, having done the work for Hussey) wrote in coded language:

The Artillery plan of action should be a Corps Artillery plan ... It is distinctly preferable that the Artillery plan for the action of both heavy and light artillery should be drawn up by one officer. Rightly or wrongly, Divisional Commanders look to the Corps Artillery Commander ... and they did not understand why there should be divided control. ¹⁵

Sir John French's GHQ promptly decided the corps artilleryman did indeed need to have command authority, and re-titled the AA "General Officer Commanding Royal Artillery of the Corps" (GOCRA). But GHQ immediately contradicted itself. Nominally the *Commander* of the artillery, he still had only coordinating responsibilities unless otherwise notified. This lasted only a few brief months before Haig's GHQ further muddied the waters by creating the post of Commander, Corps Heavy Artillery (CHA). At the same time the GOCRA, Corps was retitled the Brigadier-General, RA (BGRA), and receded to being solely a coordinator. The CHA definitely had command authority, but the BGRA mostly did not. This led to great muddle, confusion, and variation between different corps. In at least one corps the CHA refused to take orders from the BGRA, his superior on the organization chart but lacking command authority, unless they were channeled through the General Staff. It was at just this time that GHQ's Director of Operations, John Davidson, wrote to Haig that the Fourth Army's corps would need experienced gunner officers—perhaps to cut through the nonsense that GHQ had created or encouraged. ¹⁶ Rawlinson rose above the problem by giving orders within the Fourth Army to ignore GHQ's change to the GOCRA, and for the duration of the Somme fighting his corps would have corps artillery *commanders*. ¹⁷ The artillerymen tried to get the confusion sorted out and at GHQ Birch took on the Chief of Staff (Launcelot Kiggell) over the matter, but only won the argument in December 1916. Birch's evidence was straightforward: many corps and armies already granted their senior

artilleryman command authority because "the experience of warfare proved that to be necessary." ¹⁸ Birch was exasperated and wanted the "bogey of dual control [between corps or army commander and their artillery subordinate] buried," pointing out that there was no trouble on this score with the Royal Flying Corps, an organization in a roughly analogous position to the Royal Artillery. In December 1916, as noted above, GHQ returned the title GOCRA to corps-level artillerymen, and also bestowed it upon MGRAs at army level to forestall subordinates having more command authority than their superiors. From this point onwards, relations improved. Uniacke would complain at the end of 1917 that corps commanders should not be allowed to downgrade the GOCRA to an adviser, but there is little evidence this took place during battles. ¹⁹ Most officers worked at winning the war.

Over the course of the war the nature of the corps changed considerably. ²⁰ It began as theoretically only a way-station for orders, and for the artillery that situation lasted too long. In early 1915, steps were taken to anticipate some of the problems of handling large bodies of artillery, primarily via forming the HARGs. The anticipation was highly creditable, but the new methods proved inadequate. Unfortunately no action was taken during the quiet summer of 1915, and the battle of Loos was fought under a command system that was known by at least one key participant to be flawed. This undoubtedly contributed, if only slightly, to the shambles that occurred. Afterwards the problem was rapidly addressed, but artillery was the last element of corps responsibilities that was solved. The corps had already become an important administrative headquarters, and also organized all aspects of infantry operations. Without much thought, the pre-war concept of the corps as a group of divisions that moved and fought together was changed. Now divisions would come and go and a corps generally stayed put, covering a sector of the front. This let the small artillery staff in corps headquarters develop expertise about operational differences in a particular sector. (The corps-level artillery staff grew from one but stayed below six, largely because the heavy artillery staff and counter-battery staff were technically independent.) It is, unfortunately, impossible to discern what weight was given to this consideration in the decision that corps should become part of the terrain.

1916 saw corps developing far more control over their divisions, but some of that control passed up to the army level. One reason corps artillery became more important was the increasing depth and sophistication of the creeping barrage: once heavy artillery was involved, corps not only had to participate, but also had to organize the barrage. ²¹ After two months' experience during the Somme offensive, GHQ drafted (but apparently did not send) a memo warning divisions and corps to stop changing artillery orders and also granting the higher echelons more control over operations. ²² (The memo is available as [Appendix 42](#).) This trend of greater centralization continued throughout the trench-warfare stage of WWI. On quiet fronts, the army would lay down policy and corps handled operations, while during attacks the armies took a more active role in organizing and coordinating artillery operations. Friction seems to have been remarkably slight, suggesting that most senior artillerymen accepted the situation. Afterwards there were complaints that centralization increased "until individuality was well nigh starved out of existence," but this was not only an exaggeration, but a willful neglect of the fact that an organization the size of the BEF needed a degree of standardization and centralization. ²³ By 1918 it was possible for a corps' artillery to shift effortlessly between three types of control: one for ordinary trench warfare; a second, more centralized, to handle a bombardment or barrage; and the third, more decentralized, for mobile fighting. ²⁴

30

Throughout these changes, the artillery proved that a stronger chain of command within the artillery let a formation commander better use his artillery. While on paper this model potentially cut across other chains of command, in fact it helped solve problems. Because the Royal Artillery was not looking to fight a private war but was seeking the best way to be a productive team player, the potential problem never arose.

Corps Heavy Artillery

The heavy artillery of the corps was in a different, and far less confrontational, command situation. Very early in 1915 some heavy artillery had been taken away from divisions and entrusted to Heavy Artillery Reserve Groups. At first there was one per army, but this link fell away into a broadly (but not wholly) functional role of handling counter-battery work. The troubles that ensued, especially at Loos, foreshadowed the demise of the HARGs. But someone had to take over the heavy guns, and since corps had recently been given control over the field artillery of their component divisions it was natural enough that corps should have control over their allotted heavy artillery. Army bureaucracy moved slowly, and the changes approved in January did not take effect until March. [25](#)

Right from the start, the Commander Heavy Artillery (CHA) was officially a commander, as HARG commanders had previously been. (In fact, many of the CHAs were promoted HARG commanders.) Clearly, the troubles this would cause for his colleague, the BGRA/GOCRA, were not foreseen. To make these new CHAs, the HARGs were abolished and, since there were not enough to go around, some corps had to create CHA headquarters. This was less trouble than it sounds, for most corps had unofficial heavy artillery HQs before they were authorized because it was simply common sense to have someone controlling the heavy guns. [26](#) The men who were HARG commanders or CHAs were (with the sole exception of Herbert Uniacke) RGA officers, who better understood the heavy weapons and their use. It is notable that, while essentially only RGA men commanded heavy artillery, as the war dragged on RGA men rose beyond commanding just heavy artillery and became corps GOCRAS, and one even became an army MGRA. By 1918, seven of eighteen corps on the Western Front had had a siege artilleryman commanding all their artillery. In a nutshell, the technicians proved better able to learn tactics than the 'horsey' tacticians proved able to master the intricacies of ballistics. But the point should not be taken too far—there were many very competent RHA and RFA officers.

There was little change in heavy artillery headquarters, simply the trickling addition of staff officers as the need became acute. In some ways the Counter Battery Staff Officer (CBSO) was a part of heavy artillery headquarters, but this was always a matter of personal relationships since the CBSO was technically only "attached for counter battery work." There was one proposal made mid-way through the Somme offensive that CHAs should become attached to the landscape, not changing sectors when the rest of a corps headquarters did but instead becoming experts on a certain area. This was quashed when Birch pointed out the necessity of confidence between corps commanders and their two artillerymen. This would seem to fit Tim Travers' model of a "personalized" rather than "efficient" system of command, but as best as can be judged only one CHA was replaced when a new corps commander took over, so the system must have been reasonably efficient. [27](#)

Army Level Artillerymen

Before the war, the British army did not have armies; they were a wartime phenomenon, and so were their artillery staffs. The original BEF split into the First and Second Armies on 26 December 1914, and most of the staff appointments at GHQ were replicated in the new armies. Artillery, however, was not among these. Early rumors had it that since one army had an artillery officer as its Chief of Staff, he could advise his army commander on artillery matters too. [28](#) Just how this would help the other army was unclear, but was clearly unimportant. This state of affairs did not last long, and it was only a month after the armies were formed that a Major-General, Royal Artillery (MGRA) was appointed to each. At first their duties were light, for despite being promoted to major general, they were simply a more senior edition of the Artillery Adviser at the corps level. [29](#) In April 1915 their duties were finally defined, but it was primarily a case of putting the status quo on paper:

As the duties of Artillery Advisers are not laid down in the Staff Manual or in Field Service Regulations ... they should be defined in order that possible misunderstandings should be avoided. Except as provided for below the duties of an Artillery Adviser are purely advisory. He is not a Commander nor is he a Staff Officer. [30](#)

The exception mentioned was the practice of detailing the MGRA to specific short-term tasks, hardly efficient use of a major-general. Because an MGRA was not a commander, there was no repeat of the arguments that raged around the GOCRA at corps level. Of course, had artillery command been centralized at the army level, the argument that did erupt at corps level would have instead taken place about the role of the MGRA. Apart from a minor change of title (to GOCRA in December 1916, mirroring the change at corps level), there was no real alteration in the post of MGRA at an army. [31](#)

So the situation remained through 1915 and 1916. Charles Budworth was the MGRA for the Fourth Army, yet he does not stand out during the Somme planning. From the records, it is clear that Rawlinson consulted Budworth, but over the same period he apparently spent more time talking with corps commanders and Archibald Montgomery, his chief of staff, about artillery matters. [32](#)

During a battle the MGRA was substantially like a conductor of an orchestra, playing no instrument himself but controlling the others. He held conferences to share and disseminate information that, due to other organizational quirks, only the army had. The most important variety was information from air reconnaissance, since long-range reconnaissance was done by the army-controlled RFC Brigades. Air reconnaissance closer to the front was done by Corps Wings, and conferences allowed that information to be shared laterally. [33](#)

MGRAs had relatively little to do. They directly commanded the railway artillery, coordinated all artillery plans between corps, changed corps artillery boundaries, and generally handled administration, including allotting shell supplies. Early in the war they handled most counter-battery work, but that was soon delegated to corps. A more important function was distributing artillery amongst subordinates, which required understanding the tactical problems facing each and balancing all against the supply of guns. Beginning with the winter of 1916-17, MGRAs laid down artillery policy for quiet times, trying to maximize the results from counter-battery work, minor bombardments, and harassing fire between offensives. Some also realized that better staff work—especially at the army level—would permit more use of surprise through better control of fire. [34](#) Because army MGRAs had limited responsibilities, they only had a limited staff, so the full details of their activities are murky.

40

Very rarely was an MGRA used in the original sense of commanding a particular concentration of artillery. H. F. Mercer took command of a large part of the artillery of the First Army to support the Canadian Corps attack at Vimy, but that is the only significant example. [35](#) It did not happen in 1915, when the problems in the chain of command at corps level might have made it reasonable. Instead, at that time infantrymen such as Rawlinson preferred to keep the artillery in their own hands. About Neuve Chapelle, Rawlinson noted that "the allotment of tasks and objectives of the [artillery is] being conducted + arranged under my own immediate direction & orders." [36](#) An MGRA's role in planning attacks lay more in elaborating than inventing—taking part in discussions about the attack, then (when the infantry were reasonably satisfied) organizing the guns as best they could around the fixed features of the operational plan.

Overall, the role of the senior artilleryman, and the artillery staff, at army level was relatively uncontroversial. The main reason was that there was relatively little at stake—the MGRA was mainly an administrator and coordinator and commanded very few guns. If the BEF had assigned the bulk of the artillery to the armies, the MGRA would have had the problems that confronted the BGRA/GOCRA at corps level.

Gunners at GHQ

There was little argument over the responsibilities of the Artillery Adviser at GHQ, largely because it was clear that it would not be a command position: GHQ simply did not command any units in combat. But was still a critical position, because the AA (later MGRA) was the most important artilleryman in the BEF, working for changes in the artillery command system at all levels. The artillery staff at GHQ also changed, expanding in ways that demonstrated the increased responsibilities and bureaucratic obstacles that had to be overcome to make the most effective use of the artillery.

GHQ started the war with an Artillery Adviser in much the same position as any other senior artillery officer—an adviser who could be entrusted with some task or other. The first, Walter Lindsay, made no particular mark upon history. He was not called upon to command any body of artillery except for the abortive attacks in December 1914 and even then the force commander, Horace Smith-Dorrien, sidelined Lindsay. ³⁷ Lindsay's main occupation was worrying about ammunition supplies, where his preference was apparently for shrapnel over HE. ³⁸ In early January 1915 he was sent home to use the experience he had accumulated as Inspector of Royal Horse and Field Artillery, the sting of his removal eased with a knighthood. He eventually commanded the 50th (Northumbrian) Division for a short spell before being shuffled off to be commander of a remote area. ³⁹

His replacement was John du Cane, who spent most of 1915 acting as the intermediary between the Ministry of Munitions and the troops in the field. ⁴⁰ He was hampered in this by bureaucrats operating through "the normal channels" who objected, in essence, to ruining the peacetime system by using it to fight a war. ⁴¹ Eventually he won the point, with the support of the Ministry of Munitions, who preferred to talk about artillery with an artilleryman rather than negotiating with Ordnance Services. Du Cane had the job at a thankless time, but took sound steps to improve munitions, manpower, and the command structure. He took the first steps towards confronting the issue of corps-level artillery control despite opposition or indifference from many below.

45

Around the time Haig replaced French, du Cane was attached to the Ministry of Munitions to bring them some field experience, and was replaced at GHQ by John Headlam. ⁴² Headlam had actually risen through the artillery hierarchy in the BEF, first as a CRA and then as MGRA of the Second Army for nine months. ⁴³ He and the Second Army had opposed many of du Cane's proposals about the chain of command, but he bore no grudges and actually expanded the corps artillery hierarchy to include the Commander, Heavy Artillery. In fact, during the course of 1915 there was something of a sea change in Headlam's views, for in November he shook up the Second Army's arrangements to create responsible artillery commanders at all levels:

[I]t is essential to ensure a chain of artillery command that corresponds to the ordinary chain of command of formations- divisional, corps and army. When therefore a corps is employed as a whole in any operation the general officer commanding the artillery of the corps will, under the orders of the corps commander, make out the artillery plan, and will co-ordinate the action of the whole of the artillery. In the ordinary work of holding the line the general officer commanding the artillery of a corps will be chiefly concerned with the co-ordination of the work of the divisional and corps artillery, the latter of which is directly

under his orders. [44](#)

That autumn the Second Army devised a number of reorganization plans; it is remarkable that an army was able, on its own initiative, to adopt such a different system. Presumably this was because GHQ was now leaning in the same direction, but the effect of waking GHQ up and getting them to ponder the matter ultimately only worked to delay matters. The Second Army had to postpone its plans until GHQ made up its mind. [45](#)

Headlam arrived at GHQ in December 1915 only a few days before Haig, and held the post just a few months before Haig replaced him with the man he wanted for the job, Noel Birch. After the war, Headlam claimed he was replaced because he had got on the wrong side of Haig at a GHQ dinner in 1915, but his account does not answer all questions that remain. [46](#) Despite being the odd-man-out in Haig's headquarters, he worked hard, starting some of the projects that would bear fruit for Birch. As Haig shook up the whole BEF, making it face up to the prospect of a long war under trench-warfare conditions, Headlam started the process with the Royal Artillery. The key event was the issue of the "Artillery Notes" series of pamphlets, described in more detail in the previous chapter. The first item on the agenda at Headlam's first conference after Haig's arrival was creating "a common doctrine." [47](#) (The minutes are available as [Appendix 11](#).) While Headlam had a reasonable record on training and doctrine at the Second Army, the responsibility for having pushed a common doctrine via "Artillery Notes" seems to lie with Haig.

Despite a solid performance, Headlam was eased out of GHQ in favor of Birch, clearly a protégé of Haig's. [48](#) Haig had slipped Birch into the first available CRA post, then up to corps (both in 1915), army, and finally GHQ (both in the first half of 1916). [49](#) Despite Headlam's work, Birch was dismissive of the situation of MGRA at GHQ:

50

When I first joined at GHQ I was told that I was an Artillery Adviser and I was ushered into a room containing two staff officers. There was not even a list of the guns in France in the office. ... There was no department to collect all the technical experience of other nations. Nobody watched the tactical development of the artillery and issued instructions for the guidance of people fighting in the line. ... The first thing that had to be done at G.H.Q. was to form a department to get an artillery "doctrine" going and to submit a programme of artillery material, including ammunition, to get the artillery staffs in different formations organised, etc., etc. As you know, we now have an office—no doubt an imperfect one—consisting of 10 officers. ... The office is divided into a tactical side, a technical side and an artillery intelligence side. [50](#)

Birch was able to make changes because he had the confidence of the commander in chief, who was willing to make the changes needed to get the whole BEF squared up to fighting a long, hard war. The first job was to continue work on that "common doctrine," and the production of pamphlets did not diminish. Birch was also dragged into discussions with the War Office about the number of guns required to win the war. This was more than an artillery question, for it depended on the type of war that was expected and the available manpower. It involved industrial effort and manpower allocation on the national level, but there is no evidence GHQ spent much time looking at these factors, which should have been a War Office responsibility anyway. Simultaneously, Birch was overseeing the planning of the Somme campaign and trying to predict how many guns would be needed to 'solve' trench warfare.

During 1916 Birch fought, and lost, a battle about the rights of artillerymen in the chain of

command. He only sought enough authority for artillerymen (mainly MGRAs) to enable them to give orders to subordinate artillerymen, strengthening the control of a formation's commander by strengthening his artilleryman. ⁵¹ (Two key letters he wrote that he thought should be preserved are available as [Appendix 17](#).) However, this would have been a hybrid between the staff officers (who had no combat troops) and the subordinate commanders (who were not staff officers). Practically, the question boiled down to an MGRA signing his own letters. On paper it would have been a small step, but raising the question of divided command was a giant leap, and Haig did not back Birch against the inertia of the system. ⁵² Birch was not a radical, but he failed to persuade the critics that his proposals were within the spirit of the existing system. Thus, he would always be subordinate to the traditional staff departments even as he built an efficient artillery staff and solved many of the BEF's artillery problems—and even won the title of Major-General, Royal Artillery instead of Artillery Adviser. But he did not think that subordination to the General Staff was wrong, and he did not try to recast the artillery into the leading arm within the British army. After the war, he wrote, "what good would the artillery have been on the 8th of August [1918, at the Battle of Amiens], without stout infantry to hold the ground which tanks, aeroplanes, cavalry and guns had assisted them to win?" ⁵³ Instead, Birch specifically restricted himself to urging the General Staff "that higher formation commanders must really study artillery tactics of the present war." ⁵⁴ If the commanders did so, Birch felt, they would become better commanders, but even if they did not, it was the duty of their artillerymen to be loyal subordinates.

By the end of 1917, the duties of the MGRA at GHQ had been codified. He acted "as Adviser to the three principal Staff Officers [Quartermaster General, Adjutant General, Chief of the General Staff] on all artillery matters," while being allowed to write directly on technical matters (only) to all and sundry. ⁵⁵ In 1918 Birch won minor bureaucratic turf battles with the Tank Corps and the Director of Gas Services, but the question of the artillery's subordination in the system was never again raised. ⁵⁶

Birch himself saw his job as divided in three parts: tactical, technical, and intelligence. To handle these was well beyond the ability of any one man, and Birch built around himself an able staff, one that he worked as hard as himself. ⁵⁷ Building a staff at GHQ had been a slow process for the Royal Artillery, reflecting the Artillery Adviser's difficulties in his no-man's-land between staff and command. At one point the Army Council intervened by suggesting that a Royal Garrison Artillery officer be attached to GHQ, although whether as a subordinate to or a rival of the AA was unclear and possibly undecided. Sir John French defused the proposal with a little praise of the incumbent Artillery Adviser, and very little else happened to the AA's staff during French's tenure. ⁵⁸ Tracing the personnel of the GHQ artillery staff is difficult, and their functions are even harder to discern, as the lists only show names and ranks. ⁵⁹ By June 1918, which must represent very nearly the final design, there was an MGRA, a BGRA, an Assistant Director of Artillery, two General Staff Officers, Grade 1 (GSO1s), and a junior for each. ⁶⁰ The BGRA was almost certainly a deputy, while the Assistant Director seems to have worked with technical matters and especially heavy artillery. One of the GSO1s was responsible for liaison with the Allies; this position may have been upgraded from earlier in the war once the Americans arrived, needing all the help they could get. Three years earlier there had been only four men in the office: the MGRA, a lieutenant colonel, and assistants for each. The grading of artillery staff officers caused almost as much trouble as the position of their seniors. Sticklers for protocol insisted for several years that Royal Artillery staff officers could not be graded as General Staff (GS) officers, as they did not handle GS material and must be Deputy Assistant Adjutant Generals, even though they just as clearly did not do Adjutant General's work. Eventually, in late August 1917, they were allowed to be General Staff officers. ⁶¹

Tactical information was gathered through visits to formations, special questionnaires, and

after-action reports. The last were only sporadically used, although they were more common earlier in the war, and seem most common from Dominion formations, both corps and division. ⁶² While the Canadian Corps definitely saw itself as a unit apart, it may be tentatively suggested that ANZAC units felt a greater need to spread ideas, as their cadre of regular officers was smaller than in British units. ⁶³ Sometimes these reports were produced after operations that the formation felt were discrete: Vimy Ridge, the advance to the Hindenburg Line, Messines, or just completing their spell in the line during an attack. Cambrai was something of a special case, since there was a formal Court of Inquiry, but the Court did not focus on the artillery. More frequent was consideration of artillery in a broader after-action report, or one linking the artillery with, for instance, the RFC. Special questionnaires were used mainly in 1918 to inquire into the events of the retreat. Visits by senior officers generally took place before or during operations; visits were most likely to the scene of the action, not to formations in quiet sectors. During quiet periods, most notably winters, commanders visited units more evenly. Still, a considerable amount could be learned while operations continued, at least by those at a sufficient remove from the day-to-day concerns. There were also occasional trips by supernumerary officers to recent battlefields, as well as liaison visits to the French. Of course, conferences during operations were a way for senior officers to acquire information and spread ideas.

For GHQ to apply tactical information was relatively rare, since it was so many levels removed from the battlefield. The most common recorded advice seems to have been about which lines were most defensible from an artillery point of view. Thus Birch examined winter defensive lines as early as 15 August 1916, and the next winter he contributed some notes about holding salients that were clearly the lessons he drew from the German counterattack at Cambrai. ⁶⁴ However, this is likely a selection error in the surviving material: defensive schemes were written down, but offensive tactical advice would have been transmitted verbally at a conference. One area where GHQ's artilleryman did affect battlefield results was in the distribution of artillery. From the middle of 1916, Birch's office kept tables reflecting how many guns each army held, and not just raw numbers but their density as well. ⁶⁵ From 1917 on, there were definite rules of thumb as to how many guns would be needed for an attack and for defense. From their charts GHQ could tell at a glance how many brigades of field artillery could be removed from each army down to the minimum of 1 gun per 200 yards, what the effect of removing each brigade would be, and the effects of adding brigades. Birch would then advise the General Staff on which sectors needed artillery and which sectors could spare it—or he could answer General Staff demands for action.

Technical information naturally came up through the chain of command, since complaints (far more common than praise) about equipment could only be solved by those above the users. By 1916 munitions production had reached a reasonable rate and attention turned to quality, and in this regard GHQ served as the natural medium for communication with both the War Office and the Ministry of Munitions. Suggestions and requests from the front and London would be funneled through GHQ, subject, of course, to being quashed at any level. GHQ never conducted its own technical investigations (roughly the function of an Operational Research section in World War II), but by the winter of 1916-17 practical test results were arriving from the field. ⁶⁶ The main topic was how effective various shells were for various battlefield purposes, a crucial piece of information but one for which virtually no hard data existed up to that point. The reports dealt with the spread of shrapnel at various ranges, the fragmentation pattern of HE shells (both of which strongly affected the creeping barrage), lethal radii of shells, wire-cutting results, and performance against defenses, especially pillboxes. ⁶⁷ Meanwhile, pleas and suggestions to improve guns went to the Ministry of Munitions and manufacturers, who responded to GHQ's requests for improvements. ⁶⁸ Through all this, the job of the MGRA's staff was to stay abreast of technical developments so that tactics could be adjusted as necessary. Considering the constant tactical and technical improvements of the British artillery during the war, the job

was well done.

Intelligence was the third function of Birch's GHQ staff, although it seems to have employed the fewest officers. At the GHQ level, artillery intelligence was nothing more than the collation and examination of reports from below, looking for patterns that had been missed lower down; GHQ had no additional sources of artillery intelligence. Birch's intelligence staff watched how far forward or back German guns were deployed, which provided clues about German intentions and tactics. Artillery intelligence was only a part, albeit a very important part, of the entire intelligence picture. Through 1917 GHQ monitored how many guns the Germans deployed against British attacks, not only to help develop attack tactics but also to ensure proper distribution of counter-battery pieces. ([Map 6](#) shows some of the information that intelligence collected on a German trench sector, and is a counter-battery intelligence map.)



When expecting a German attack in 1918, GHQ put even more effort into artillery intelligence, largely because it misunderstood German plans. The British expected German offensive methods to parallel British ones, especially concerning a prolonged preliminary bombardment. This made tracking German artillery very important at the strategic/operational level, but assumed there would still be some tactical warning. This turned out to be very wrong—the Germans did not (and did not intend to) copy British bombardment practices. Of course, things went wrong for the Fifth Army beginning on 21 March 1918, but an example of proper intelligence work and anticipation was provided only one week later when the Third Army crushed the 'Mars' offensive on the first day.

60

Later in 1918, artillery intelligence grew in importance as it became clear that surprise was critical for the prospects of a German offensive, and every GHQ intelligence summary included a section on German artillery activity. [69](#) There was not enough German heavy artillery to mount two simultaneous attacks, and German intentions could be discerned by following the reinforcing artillery as it moved from place to place. Later in the year, once the Germans lost the initiative, artillery intelligence played its role first in attrition of the German forces, then in selection of places for British offensives. For instance, the Fourth Army paid great attention to the number and types of German guns facing them at Amiens, checking for any hint that the Germans expected an attack. [70](#)

Such was the use of artillery intelligence at GHQ, but artillery intelligence work extended down throughout the BEF. [71](#) At the beginning of the war, there was virtually no structure to handle artillery intelligence, which simply did not exist as a separate category. There was no need for it: since artillery was expected to deploy in direct fire positions, artillerymen could gather intelligence by simply picking up their binoculars. When artillerymen began using indirect fire to save their lives, artillery intelligence had to be produced. At first it was the preserve of the HARGs, since they had complete responsibility for counter-battery work. [72](#) Lacking anyone officially tasked to collect and collate information, the task was handed to the group commander's

With more sources of intelligence—flash spotting, sound ranging, ground observers, RFC, and Kite Balloons—the task grew too large, and in 1916 intelligence officers were appointed to Corps Heavy Artillery HQs. [73](#) Headlam wrote, "What is wanted is an intelligence officer, not necessarily an artillery officer," and so he got men from all over the place. These included at least one cavalry officer and a subaltern from the Royal West Kents. [74](#) Perhaps Headlam did not realize what he was signing away: as soon as these officers appeared, the chief of intelligence at GHQ (John Charteris) grabbed them for *his* empire. He defined their duties and made sure their reports went to the intelligence office first and the artillery later.

It sounds like a small matter, but it meant some delay in getting the information to where it was most useful, since it was produced for the intelligence office first and then distributed to others.

The arrangement broke down in well under six months, with Rawlinson complaining that the non-gunners were technically illiterate, pointing out that "it is the artillery point of view which is paramount." ⁷⁵ Charteris put up a furious rear-guard action, fearing the loss of any part of his fiefdom and arguing that the intelligence officers had helped him greatly (whether they helped the artillery mattered less to him). Eventually Birch won the argument, and GHQ's recommendation to the War Office was that every level of the artillery staff should have an intelligence officer. This was accepted in essence, but to avoid Charteris' grasp they had to be called "Reconnaissance Officers." In January 1918, when Charteris was removed, Birch seized the opportunity. He ordered the armies to report their intelligence to him—MGRA rather than intelligence—and used his possession of the field to negotiate a better agreement with Lawrence, the new head of intelligence. Perhaps Herbert Lawrence (who was promoted to chief of staff) realized what had happened, for Birch was never able to win the next stage of his campaign, to get artillery intelligence officers upgraded to GSO3s or even GSO2s.

Thus, at the end of the war GHQ had a strong artillery staff with firm leadership, but no control over units. Birch and his officers worked through the General Staff but worked effectively and, in general, without complaint, because they were not seeking independence but rather the best way to help the combat arms.

Conclusion

65

So from bottom to top the artillery (as so much else of the BEF) had different command and staff structures at the Armistice than it had in August 1914. These changes were almost always reactive, introduced because something was not working. The one proactive exception was creating fully staffed Heavy Artillery Reserve Groups, but unfortunately the question of field artillery command was not addressed until later, until the system had clearly broken down. The key time for changes was the winter of 1915-16, and the credit must be shared between John Headlam, Noel Birch, and Douglas Haig. They built the new system that gave artillery officers enough authority to make tactical improvements and adopt new technology. Bureaucratic infighting dogged every change (those that happened and also those that were only proposed) in the artillery chain of command, and it must be said that this was a complete waste of effort. None of the artillerymen involved was trying to build an empire, to separate the artillery from the rest of the army, or even to significantly alter the role of artillery vis-à-vis other arms. Birch once protested to Horne "... I do wish other arms were not so afraid of our poor down-trodden Regiment. They are as keen if not keener than anybody else to win the war and are most anxious to do it," which may have been a bit overstated, but epitomized Birch's attitude. Since he was the senior artilleryman, his views influenced the whole BEF. ⁷⁶

Yet even those as conservative as Birch sought evolutionary improvements, adapting to the war's novel problems. The greatest change was the same as for many other units: the appearance of a slightly separate chain of command, parallel to the ordinary General Staff chain, but subordinate to it, pulling in the same direction for the same goals. Most of the organizations in charge of the new weapons (e.g. gas, aeroplanes, and tanks) obtained the same thing; senior airmen and tankmen were in touch with their juniors without going through the General Staff. However, there was more concern about the artillery. Perhaps this was an unconscious compliment to the gunners, implying that they mattered more than a few men with gas cylinders. More likely it was the difficulties always encountered in changing a bureaucracy, a process harder than creating one from scratch. The constant goal of the senior artillerymen was to use artillery efficiently to help the rest of the BEF. Their reorganizations were always directed to that end, and once their system was re-

shaped the artillery worked as well as possible, subject always to someone else's final decision.

Notes:

Note 1: Weber, "Mobile Artillery," 55, available as [Appendix 37](#). [Back](#).

Note 2: Seven of the ten HARG commanders later rose to higher levels of command; the other three continued at the same level after a re-organization in March 1916. Talented men had been identified for these commands early in the war, but conditions were not ripe for them to have much effect yet. [Back](#).

Note 3: *Rawlins, History*, 156-9. Sir Noel Birch, "Artillery Development in the Great War," *Army Quarterly* 1:1 (1920): 79-89 (available as APPENDIX 39). [Back](#).

Note 4: This is a slight exaggeration: ten other Brigades remained, an average of two per Army. These handled railway guns and other oddments, and thus eased rather than hindered standardization. See Farndale, *Western Front*, 357. [Back](#).

Note 5: As with almost everything in a BEF that peaked at over fifty divisions, this must be lightly qualified, for it was common for a division in a quiet sector to have some 60-pounders and/or 6-inch howitzers available, but to give up a battery of 4.5-inch howitzers. The division gained guns for harassing fire or minor destructive work, while corps used the field howitzers for gas shelling. [Back](#).

Note 6: Uniacke wanted to pull *all* artillery from the divisions, giving it to corps, which could have reduced the infantry's voice in planning by leaving out infantry brigades. Birch took no action; the BEF had enough re-organizations that winter, the artillery's share being RGA brigades. Uniacke Papers, RAI, U/I "Lessons from the 1917 Battle Fighting ... from an Artillery Point of View." [Back](#).

Note 7: Sometimes the AA was put in charge of the HARG (only), creating a redundant layer of command. Hussey Diary, 20 May 1915, RAI. [Back](#).

Note 8: OA2/11D, 26 February 1915, WO158/275. The Second Army took their time in implementing the order, almost six months. V Corps CHA diary (WO95/757), 3 August 1915. [Back](#).

Note 9: *Rawlins, History*, 5; this section draws heavily upon Rawlins, 5-10. [Back](#).

Note 10: Undated memo (but mid August 1915), extracted in *ibid.*, 7. [Back](#).

Note 11: Gough, at this time commander of I Corps, blamed GHQ for taking three weeks to actually issue this letter. Rawlinson Diary, CCC, 1 September 1915. [Back](#).

Note 12: Rawlinson Diary, CCC, 3 August 1915. [Back](#).

Note 13: Hussey Diary, 28 October 1915, RAI. Hussey was downgraded to CRA of the 5th Division, his post until the armistice. [Back](#).

Note 14: "Instructions Issued to IVth Corps Artillery by Brig-Gen CED Budworth," 21 September 1915, Montgomery Massingberd Papers, LHC, file 6/4. [Back](#).

Note 15: C. E. D. Budworth, "Remarks Based on Recent IVth Corps Artillery Operations," 6 October 1915, Montgomery Massingberd Papers, LHC, file 6/4. Budworth's Somme experiences reinforced his views on centralized control: "Some Artillery Lessons of the

battle of the Somme," Montgomery Massingberd Papers, LHC, file 48. [Back.](#)

Note 16: Memorandum, 4 March 1916, WO158/19. [Back.](#)

Note 17: Conference notes, 6 April 1916, Fourth Army Operations Papers v. 6, IWM. It is not clear what steps Gough took, but Uniacke, his MGRA, is unlikely to have looked kindly on CHAs or BGRAs who kicked up a fuss about their official position. [Back.](#)

Note 18: *Rawlins, History*, 10. Letter, Holland to Birch (Rawlins Papers, RAI), 24 August 1916. The Canadians claim to have always used a GOCRA, avoiding these troubles. Nicholson, *Gunners of Canada*, 242-3. [Back.](#)

Note 19: Uniacke, "Lessons of 1917," 34-5. [Back.](#)

Note 20: Mr. A. Simpson is researching the broader question; I try to restrict my remarks to the artillery. [Back.](#)

Note 21: C. N. F. Broad, "The Development of Artillery Tactics, 1914-1918," JRA 49:2 (1922): 77. [Back.](#)

Note 22: Rawlins Papers, RAI, 1162/12a c. 23 August 1916. At about this time the Fourth Army began setting an army-wide pace for the creeping barrage. [Back.](#)

Note 23: Weber, "Mobile Artillery," 55. [Back.](#)

Note 24: Nicholson, *Gunners of Canada*, 242-3. The Canadian Corps had some organizational advantages over British corps, some of which operated under much the same system while not claiming superiority. [Back.](#)

Note 25: Headlam Papers, RAI, 21 January 1916. [Back.](#)

Note 26: E.g. VI Corps CHA (WO95/784), c. 4 April 1916; X Corps BGRA and CHA, (WO95/862 and /866), 5 November 1915, 2 March 1916. [Back.](#)

Note 27: H. O. Vincent of X Corps was replaced two weeks after a new Corps commander, who arrived in July 1918. However, Vincent had held the post for 31 months and may have been worn out. [Back.](#)

Note 28: Haig Diary, WO256/3. The absence of an MGRA bothered nobody; the First Army's did not arrive until six weeks after the Army's formation. WO95/154, 16 February 1915. [Back.](#)

Note 29: *Rawlins, History*, 1. [Back.](#)

Note 30: Idem. [Back.](#)

Note 31: Nor was there much addition to their staffs until September 1918, which led to poaching officers from batteries as needed, to the detriment of staff work and the batteries concerned. *Rawlins, History*, 16-17. [Back.](#)

Note 32: Montgomery was an artillery officer, and may have given Rawlinson artillery advice. If so, there is no record of conflict between Budworth and Montgomery. Budworth was a horse artillery officer and spent most of the war as MGRA of the Fourth Army. Before the war he had written enthusiastically of artillery becoming a combat arm by shared effusion of blood in the front lines. He was a skilled officer who learned from operations, weeded his subordinates, and did not rage against the status quo, but when in 1918 the whole BEF changed, he was ready. Like Uniacke at the Fifth Army, while Budworth did not try to make fundamental changes in the relationship between artillery and infantry, under his leadership the Fourth Army were significant innovators in artillery methods. [Back.](#)

Note 33: See R. MacLeod's letter to Edmonds, 5 May 1937, CAB45/136. [Back.](#)

Note 34: Broad, "Artillery Tactics," 80. Broad was a staff officer to Herbert Uniacke, and the Fifth Army was one of the first to have a winter artillery program. [Back.](#)

Note 35: WO95/168, 26 March 1917. [Back.](#)

Note 36: Rawlinson Papers, NAM, file 7, "Note on the Attack of Neuve Chapelle, 18-2-15". [Back.](#)

Note 37: French Diary, IWM, 10 December 1914; III Corps Diary (WO95/668), 11 December 1914. [Back.](#)

Note 38: Lindsay to von Donop (MGO), 10 November 1914, WO159/15 (von Donop correspondence with various officers in the BEF, November-December 1914). [Back.](#)

Note 39: The Royal Artillery Regimental List has him only as a "Commander," meaning of something like the Harwich Defenses. He retired in late 1917, being kept on only a few months beyond statutory age. [Back.](#)

Note 40: Du Cane had staff experience from South Africa and various pre-war staff posts but was not Staff College trained. [Back.](#)

Note 41: E.g., Director of Ordnance Stores, 30 July 1915, 5 October 1915 and 1 June 1917. WO95/58. [Back.](#)

Note 42: Du Cane went on to command XV Corps and in April 1918 became liaison officer with GQG. His stint as corps commander was relatively undistinguished. [Back.](#)

Note 43: Barring an appointment from outside the BEF, Headlam was the best option. The First Army's MGRA had declined command of a division, and the Third Army's had only two months experience. [Back.](#)

Note 44: Second Army RA letter 763, "Organisation of Heavy Artillery", 30 November 1915: V Corps CHA diary (WO95/757). Second Army had been discussing the re-organization of heavy artillery since the beginning of the month: Corps Commanders' Conference, 1 November 1915, Headlam Papers, RAI, 183/8. [Back.](#)

Note 45: Second Army Conferences, 22 November 1915, Headlam Papers, RAI. [Back.](#)

Note 46: Headlam to Secretary of Royal Artillery Institution, 15 July 1940, in A. F. Becke Papers, RAI military document 1115. [Back.](#)

Note 47: Conference of Major-Generals RA, 24 December 1915, Headlam Papers, RAI, 183/8. [Back.](#)

Note 48: Headlam spent some time in untraced posts, then served in the War Office, including trips to Russia and America (on his passport giving his profession as Major-General), and eventually with the Ministry of Munitions. Inexplicably, his papers at the RAI include many of GHQ's artillery files for 1918. [Back.](#)

Note 49: Birch's career closely parallels another of Haig's protégés, Hubert Gough. Birch was an artillery brigade commander in the Cavalry Division, then Gough's CRA, Gough's BGRA, and advanced to GHQ at about the same time Gough was given command of Reserve Corps. Birch is less well known presumably because he did not fail, but it is worth giving Haig the credit for picking talented subordinates when he did so. [Back.](#)

Note 50: Birch to Maxse, 3 November 1918, Maxse Papers, IWM, file 66/1. [Back.](#)

Note 51: Uniacke Papers, RAI, U/III/13, memos to Kiggell of 8 June 1916 and 29 July 1916, attached as Appendix 17. Birch was not a trained staff officer, and may not have realized all the implications. He was not, however, a disorganized man, and selected a good staff and then worked them hard. [Back.](#)

Note 52: Part of the troubles about recasting the role of the MGRA may have been concern over weakening corps vis-à-vis army once corps had been decided upon as the main echelon of operational command. [Back.](#)

Note 53: Birch, "Artillery Development." [Back.](#)

Note 54: Anstey Galley Proofs, 193; letter Birch to Furse (Director of Artillery, War Office), no specific date given but between January and August 1917. [Back.](#)

Note 55: *Rawlins, History*, 3-4, and Appendix A. [Back.](#)

Note 56: After the war, the Report of the Committee on Staff Organisation noted, "the senior artillery and engineer officers with formations are rightly appointed as Commanders and advisers with power of inspection. They cannot be Staff Officers, and their orders to lower formations must go through the Staff. On purely technical questions they should be entitled to correspond with their opposite numbers in the lower formations...." Boraston Papers, IWM. Essentially the British Army operates under the same system today: M. J. Tomlinson, "Handling Artillery Within the Corps," *v*British Army Review 75 (1983): 5-15. [Back.](#)

Note 57: I am grateful for the comments of the late Mr. P. G. W. Annis, author of the *Dictionary of National Biography* entry on Birch. Birch viewed a staff as decentralizing, not like the previous personality-run system. Birch, "Artillery Developments." [Back.](#)

Note 58: WO32/5152, draft letters from WO to French March 1915; French to WO 27/3/15. The British army had the polite, if frustrating for historians, habit of solving problems with unofficial, private, or 'demi official' correspondence, leaving little controversy evident in the official files. [Back.](#)

Note 59: *Composition of Headquarters British Forces in the Field* (titles varied slightly), various editions. [Back.](#)

Note 60: Interestingly, almost all anti-aircraft work (supervised by a Brigadier-General, General Staff with a GSO2 and GSO3) was part of the Staff Duties section at GHQ, not on the MGRA's staff. *Rawlins, History*, 14-16, covers some of the changes to GHQ's artillery staff, including its reduction by one in early 1915, as the Director of Ordnance Services fought bureaucratic battles, if not the Germans. [Back.](#)

Note 61: *Rawlins, History*, 13-14. [Back.](#)

Note 62: IV Corps wrote a report after Loos, the Fourth and Reserve Armies after the Somme: Montgomery-Massingberd Papers, LHC, files 6/4 and 7/4; WO158/344. Vimy and Messines were both followed by reports, being very much set-piece battles. On the Canadians, see Bill Rawling, *Surviving Trench Warfare: Technology and the Canadian Corps, 1914-1918* (Toronto: University of Toronto Press, 1992), especially 85, 132-3 and WO95/1059-60. [Back.](#)

Note 63: According to information kindly supplied by Dr. John Bourne, Australian CRAs had such martial pre-war careers as carpenter, pharmacist, and architect. They were reservists, doubtless keen ones, but they did not have the military experience that full-time professional soldiers did. [Back.](#)

Note 64: Rawlins Papers, RAI, 1162/12a; 1162/12b, 10 February 1918. [Back.](#)

Note 65: Rawlins Papers, RAI, file 13, "Calculations on and Records of Allotment of Artillery." [Back.](#)

Note 66: A tiny amount of testing had been done early in 1916, clearly preliminary to the Somme offensive, about how prolonged firing affected guns. Unfortunately, I have found no copies of this research (the predecessor to SS114, "Notes on the Care of Guns During Prolonged Bombardment," March 1917). [Back.](#)

Note 67: Pillbox tests gave information that worked both ways. Based on the tests, British pillboxes were designed to protect the occupants against shells up to six inches in diameter. The tests had shown that men who survived larger-caliber hits were too addled to be effective, so—to be brutal—there was little point in protecting against heavy shells. Peter Oldham, *Pill Boxes on the Western Front* (London: Leo Cooper, 1995), 113. [Back.](#)

Note 68: See I. V. Hogg and L. F. Thurston, *British Artillery Weapons & Ammunition 1914-1918* (London: Ian Allen, 1972), for the progressive improvements in ordnance. [Back.](#)

Note 69: See the summaries in the G. P. Dawnay Papers, IWM. [Back.](#)

Note 70: Fourth Army War Diary, WO95/436. [Back.](#)

Note 71: This section draws heavily upon *Rawlins, History*, 20-27. [Back.](#)

Note 72: Intelligence and counter-battery work went hand-in-hand, except at the rarefied level of GHQ. See APPENDIX 40. [Back.](#)

Note 73: However—the British army being as practical as it is—at least some corps already had an unofficial detachment of an intelligence officer to handle the artillery. III Corps BGRA diary (WO95/689), 14 November 1915. [Back.](#)

Note 74: VIII Corps (WO95/825); IX Corps (WO95/841). [Back.](#)

Note 75: *Rawlins, History*, 22. [Back.](#)

Note 76: Birch to Horne, 19 October 17, Anstey Papers, RAI. [Back.](#)

["The Infantry cannot do with a gun less": The Place of the Artillery
in the British Expeditionary Force, 1914-1918](#)