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Airborne Communications in Operation Market Garden

David Bennett

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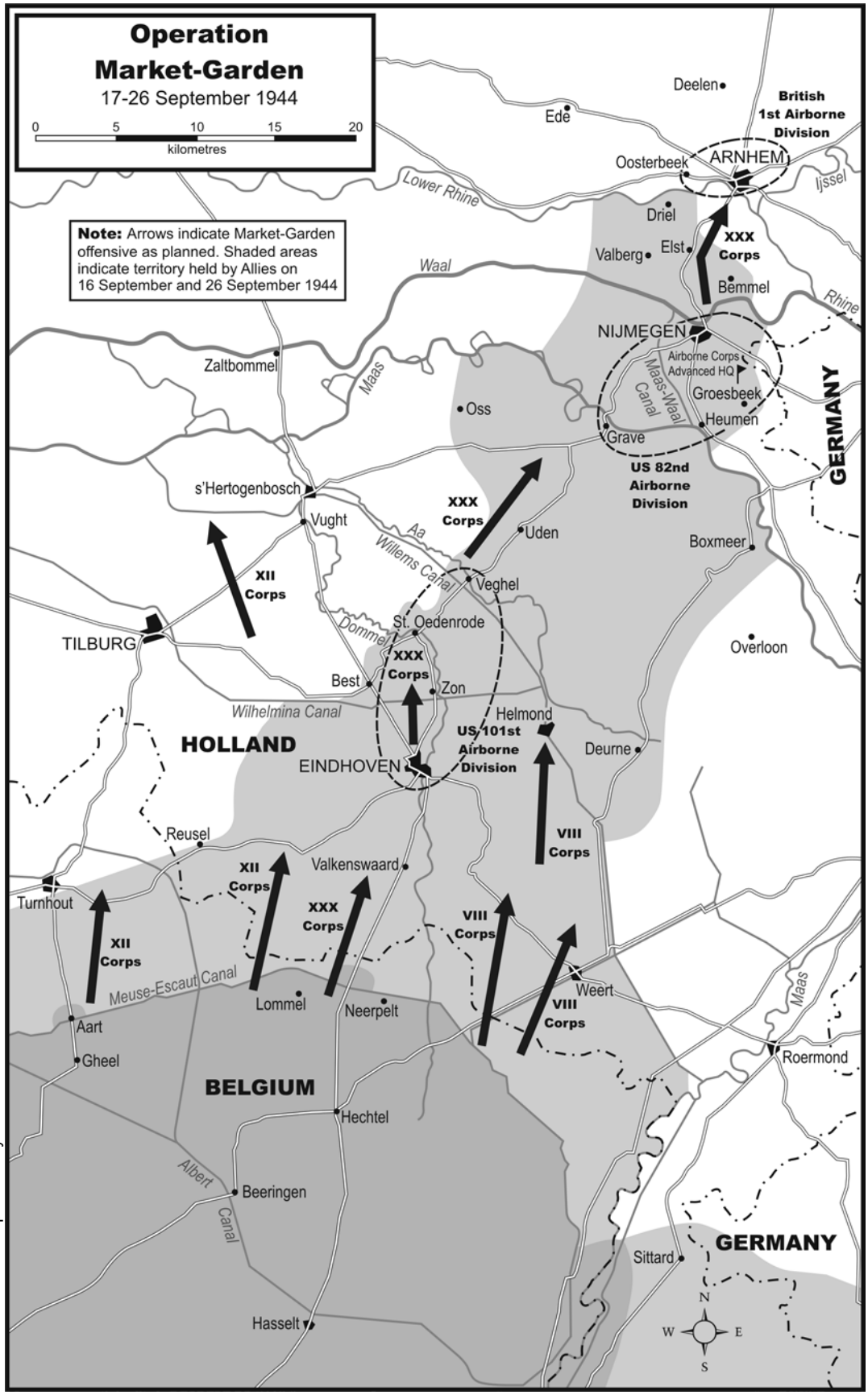
"I see we shall have to do something about your communications."
General Eisenhower to Major Brian Urquhart, 1942.[1]

Operation Market Garden, Field Marshal B.L.M. Montgomery's grand attempt to end the war in 1944, has been ceaselessly analysed in an attempt to understand the reasons for its failure. Factors such as the distance of the drop zones from the objectives in Arnhem, the delay in resupply, the presence of strong German forces in the area, as well as the slow progress of XXX Corps in linking the airborne bridgeheads, are some of the main reasons cited for the failure of the operation. Another element often raised has to do with the failure of communications equipment at Arnhem. Peter Harclerode, in his book, *Arnhem: A Tragedy of Errors*, puts it bluntly: "Much of the blame for 1st Airborne Division's demise has been laid at the door of signals failure as well as the unsuitability of the radio equipment issued to the division as well as its failure to work satisfactorily under the conditions in which it was employed."[2] Lewis Golden, the adjutant of Divisional Signals during the operation argues that this was not the case. Signals actually worked better than could be expected and that communications failure was not a principal reason for defeat at Arnhem.[3] This article attempts a comprehensive survey of the role of communications and answers the question, "How far were poor communications responsible for the failure of Market Garden?" In particular, how far did poor communications contribute to the failure of 1st Airborne Division to consolidate a bridgehead at the Arnhem road bridge?

* * * * *

In the Second World War, Operation Market Garden, 17-26 September 1944 was an attempt by Second British Army (Lieutenant-General Miles Dempsey) to advance over several Dutch rivers to establish positions around Nunspeet on the Ijsselmeer, with bridgeheads over the River Ijssel to the east. Three corps of Second Army were to conduct the ground advance, VIII, XII and XXX, from bridgeheads on the Meuse-Escaut Canal. The spearhead of the advance fell to XXX Corps (Lieutenant-General Brian Horrocks), in the centre between XII Corps on its left and VIII Corps on its right. Thirty Corps had three divisions under command, the Guards Armoured, the 43rd (Wessex) and the 50th (Northumbrian). The advance of XXX Corps was facilitated by three airborne divisions and the First Polish Independent Parachute Brigade (Major-General Stanislaw Sosabowski) under the I British Airborne Corps (Lieutenant-General Frederick Browning); the divisions were the US 82nd (Major-General James Gavin) and 101st Airborne (Major-General Maxwell Taylor) and the British 1st Airborne Division (Major-General Roy Urquhart). The 101st would land on a stretch of the route to the Ijsselmeer between Eindhoven and Uden; the 82nd, along with the Airborne Corps Advance HQ, between the rivers Maas and Waal and the 1st Airborne north of the Lower Rhine at Arnhem. The 52nd (Air Portable) Division was to be flown in to Deelen airfield, north of Arnhem, on D+5.

The assault plan for 1st Airborne was to land 1st Airlanding and 1st Parachute Brigades (Brigadiers Hicks and Lathbury respectively) on the north bank of the Lower Rhine on 17 September (D-Day), for the former to hold the landing zones while the latter advanced on the



Map drawn by Mike Bechthold ©2007

Arnhem bridges. On D+1, the 4th Parachute Brigade (Brigadier Hackett) and elements of the Polish brigade would land, all troops to move to an extensive bridgehead both north and south of the Lower Rhine, secured by 1st Parachute Brigade on D–Day. In fact, only about a single battalion had secured the north end of the road bridge and attempts by the division to relieve it failed. The balance of the Polish brigade was to drop onto the south bank of the Lower Rhine on D+2. In the event, it was delayed until D+4; the Poles dropped around Driel, further west and further from the road bridge than had been planned. Crossings of the Lower Rhine to relieve 1st Airborne in Oosterbeek were not successful and the remains of the division were evacuated across the Rhine on the night of D+8-9, mainly in the motorized stormboats of the 23rd Field Company, RCE.

The Signals Plan and Infrastructure in Market Garden

The Signals plan for Market Garden provided for communications between several headquarters:

> – Second Army and XXX Corps to British Airborne Corps Headquarters (Advance, Main and Rear) and the US 10lst Airborne;
>
> – The British Airborne Corps to the three airborne divisions;
>
> – Second Army and XXX Corps to the Airborne Corps and the three airborne divisions for air support;
>
> – From the Airborne Corps and the American airborne divisions to the base resupply organizations; and
>
> – A network for outside artillery support for the airborne divisions.[4]

The Signals Plan for the Airborne Corps entailed the establishment of communication between Corps Advance HQ near Nijmegen and Corps Rear in England. Corps Main HQ was to be cut out of the communication link until it joined Advance by road from Brussels.

Most of the communications problems of Market Garden were due to the shape and size of the operation and the great haste in which it was planned. At its most basic, the problem was that HQ First Allied Airborne Army was not an operational command so that signals had to be inaugurated by commands that varied from operation to operation. In the case of British First Airborne Corps, the Signals component had only just been established as a static formation; it had been designed for a smaller, traditional airborne operation, which was cancelled. Corps Signals had to be rapidly enlarged and improvised for the operation, in order for a signals component to go in with the Corps Advance HQ on D–Day, 17 September. The result was poorly trained and inexperienced operators with inadequate equipment and insufficient information to make contact with other units.[5] Some of the insufficiency of information was put down to the need for signals security. Overall signals planning was the responsibility of the Chief Signals Officer (CSO) Second Army. There was a large proliferation of headquarters in England, Belgium and the Netherlands, requiring detailed information on frequencies, cyphers, call signs and codes. Since the airborne force was mixed, US elements were added to Corps Signals, too hastily trained to be effective, particularly the air support parties. American High Power wireless equipment was available; but training in this was entirely inadequate and it could not in any case be transported in great numbers, since its bulk would have involved a change in the air plan, not possible in the short time involved.

Signals planning was slight. Brigadier R.G. Moberly, the head of Corps Signals, attended the first planning conference at Second Army HQ in Belgium but had no subsequent contact with his colleagues at Second Army or its three corps. All of these HQs were in the process of reestablishing their own communications after the pursuit of the Germans and the shift of XXX Corps from the Antwerp sector to Bourg Leopold, behind the start line for the ground advance.

The problems encountered by 1st Airborne were deeper than this. British Army communications had lagged behind the other two services between the wars so that the infantry had to use obsolete or sub-standard equipment. The problem was compounded when such equipment was transferred to the Airborne with special conditions and demands of its own. Divisional Signals had made repeated requests for new and better signals equipment. Several British paratroop commanders whose forces had fought as ground troops expected the signal equipment not to work.

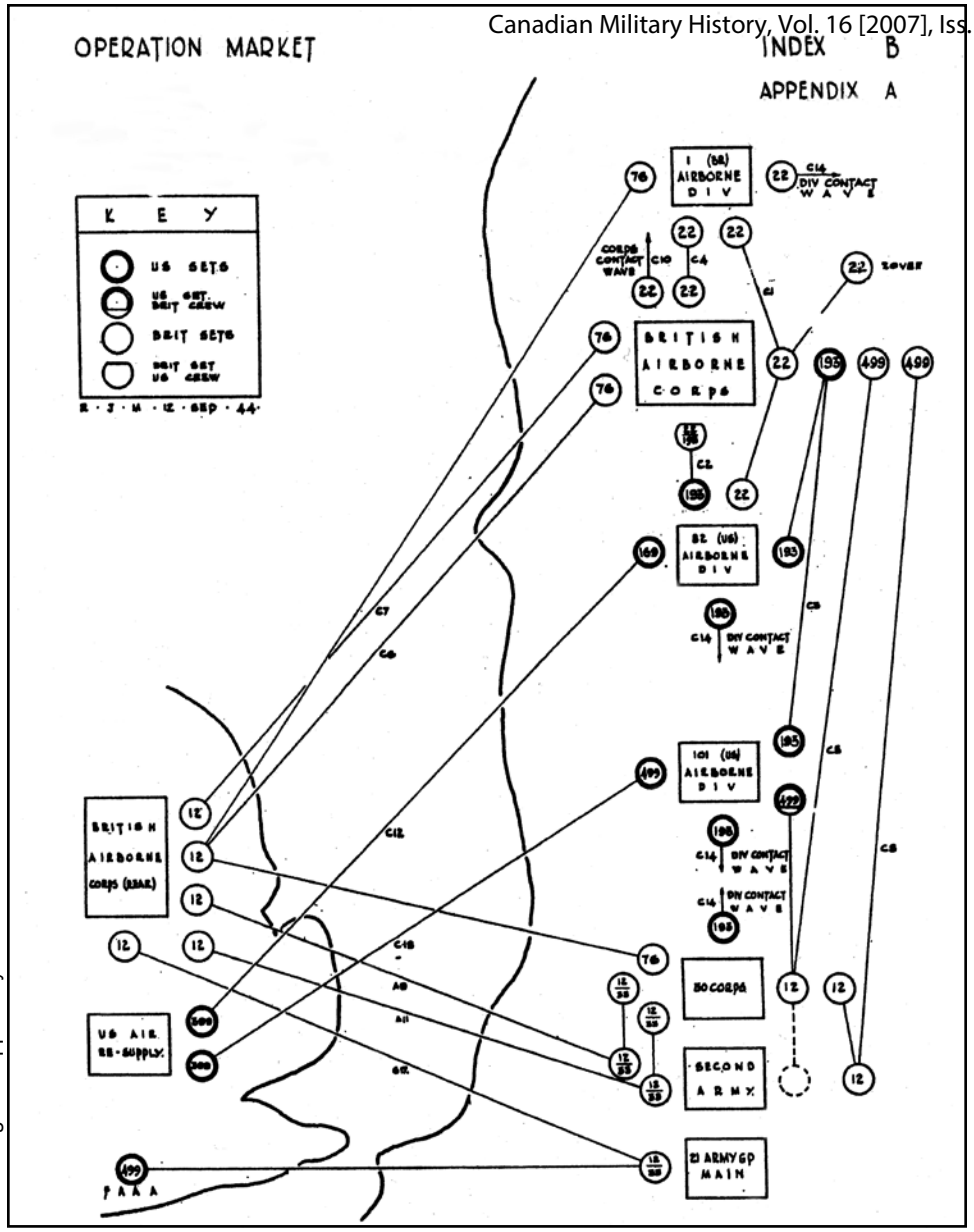


Diagram supplied by author

This wireless diagram shows Corps signals only, not the various other radio networks operating (or not) in Market Garden. There was no effective contact through Corps Signals between British 1st Airborne and the British Airborne Corps until D+3. The US 101st Airborne Division had no radio contact with the Airborne Corps and made contact with XXX Corps only on the morning of D+2.

Source: Report on Operations "Market" and "Garden", Signal Report, Index A, Wireless Diagram, Operation "Market", Polish Institute and Sikorski Museum London, PI AV 20/31/6, Archive p.89.

In addition to Corps Signals, there were a number of other communication networks:

Phantom Net (GHQ Signal Liaison Regiment Detachments). This network connected Second Army with the Airborne Corps and the divisions, with limited success. It is a mark of British independence from Eisenhower's Supreme Headquarters that a mere divisional HQ, that of 1st Airborne, had a Phantom link with the War Office in London. The senior British officer who supervised the War Office connection was Lieutenant-Colonel Derek Heathcoat-Amory, a future Chancellor of the Exchequer. On D–Day, Airborne Corps made contact with Second Army through Corps Signals only by way of XXX Corps. On D+1, Airborne Corps established communication with Second Army through Phantom, which remained operating after regular contact was established through Corps Signals, on D+2.

Even then, Second Army was not happy with the state of communications. There had been no planning staff from First Allied Airborne Army attached to Second Army prior to the operation, only a liaison officer. Owing to signals congestion and the number of headquarters in England and Europe, communication with the Airborne remained poor, so that the state of paratroop operations from hour to hour was not known. This was disconcerting, but Dempsey, the Second Army commander, did not in any case have a firm grip on the airborne operations. When he met Major-General Roy Urquhart of 1st Airborne on D-11, he seemed unaware of Urquhart's battle plan and considered the isolation of the two brigades at Arnhem-Oosterbeek "almost inevitable."[6]

Phantom also had mobile patrols. One reached the Poles at Driel on D+6, initially without successful transmissions. On D+7–9, the patrol made contact with the Phantom station in Oosterbeek (Lieutenant Neville Hay) and was able to report to the Airborne Corps on the evacuation.[7] The verdict in one of the early histories,[8] that "information from the 1st Airborne, coming through well and accurately, was almost exclusively handled by Phantom" is an exaggeration of the correct point that Phantom worked better than Corps Signals.

US Air Support Signals Teams. Prior to D-Day, liaison between the Airborne and the British Second Tactical Air Force (2nd TAF) on the continent had been very poor. The divisions were, however, each provided with two air support signals teams, flown in by American Waco glider. These teams were completely unfamiliar with the equipment and as such, untrained. They were equipped to order air support from Second Army[9] and were also provided with Very High Frequency (VHF) sets to contact the overflying support aircraft. There was no direct contact between the Airborne Corps and 83 Group, 2nd TAF. The system did not work well. For much of the time, air demands to Second Army had to be relayed through XXX Corps, and no contact between the airborne and the air forces was ever made through the VHF sets. No.83 Group, getting its information from Second Army, then had to sort and prioritize air demands after many hours of delay, relying on a six-figure map reference or on coloured smoke and identification panels, not to pinpoint targets but to identify Allied troops. The airborne 75 mm pack howitzers had no coloured smoke to identify targets, so air support could not be directed in this way until red or blue smoke arrived with the 52nd Division.[10] This division was never deployed. The 1st Division was limited to target pinpointing by XXX corps artillery when that Corps had joined up with the Airborne.[11] To cap it all, 1st Airborne sets were wrongly tuned, then destroyed by artillery fire, along with the VHF equipment.[12] The system of "contact cars" and "Cabranks" of fighter-bombers, which had proved so deadly in Normandy, was largely absent from Market Garden.

6080 and 6341 Light Warning Units, RAF. These mobile radar units, to give warning of approaching German night bombers, were destined for Corps HQ but in fact went into Arnhem on the second lift. All four gliders carrying the equipment were lost and a large majority of the personnel taken prisoner. No commentator has connected the devastating German night raid on Eindhoven, D+2-3 with the lack of radar warning; the fact is that the raid was unopposed.

The Jedburgh Net. The Airborne Corps and the divisions were equipped with Jedburgh stations on the Dutch Resistance network. The 1st Airborne's Jedburgh radio team arrived at the Arnhem bridge, minus the US Technical Sergeant and the equipment, which had been lost on the landing zone. As for the two American divisions, most of their information came from Resistance runners and through the civilian phone system.

The Dutch Phone System. The corps and each of the divisions had Dutch liaison officers to facilitate contact with the Resistance. The instructions for the operation had made it clear that, while the Dutch Resistance had been penetrated by the Germans, use was to be made of the local Resistance as guides and as intelligence sources.[13] But 1st Airborne was so suspicious of the Dutch that they were very slow to use them either as para-militaries or as agents, including their greatest asset – the phone system.[14] The Dutch phone system was efficient and modern, extending to the Dutch East Indies.[15]

The Dutch were able to utilize three phone networks: the national Ryks Telefoon system; the Gelderland Provincial Electricity Board (Dutch acronym PGEM) private network with its head office in Nijmegen; and a clandestine network operated by Resistance technicians whereby they could call many places in the Netherlands without going through an operator. The Resistance thus had a comprehensive network which was very effective when all three routings were used and which could survive disruption at key points. One such disruption occurred on D+3, when the British blew up the Post Office Exchange in Oosterbeek and the Germans reoccupied the Arnhem exchanges.[16] The Dutch were still able to use the PGEM network, in some cases in conjunction with Ryks Telefoon, to reach key points in the Arnhem area such as Wageningen, Bennekom, Ede and Doetinchem. Messages sent from inside the Arnhem perimeter received, however, little response from the Nijmegen nodal point.[17] Be that as it may, 1st Airborne made no attempt to convey to corps, via the phone system, the difficulties over supply, nor the urgency of relief. The PGEM link between Nijmegen and occupied Arnhem continued until 16 November.

Dutch agents inside the 82nd Airborne Division's landing area used the phone system early on D+1 to inform the 82nd at 1040 hours[18] that "the Germans are winning over the British at Arnhem," the first indication that 1st Airborne was in serious trouble. The 101st also used the phone system: a Dutch operator heard an American voice trying to contact Valkenswaard,

when that centre was still in German hands.[19] The VIII Corps liaison officer at the 101st used the phone system to contact corps HQ when the radio proved to be unreliable.[20]

Carrier Pigeons. Each of the airborne divisions used carrier pigeons for communication, particularly 1st Airborne.[21] The birds, however, displayed a disturbing tendency to go on strike once released;[22] though one pigeon from the 1st Airborne, released on September 25th, did reach VIII Corps, presumably uninvited.[23] One pigeon was released by the 101st on D+1, stating that the gliders had landed and giving map references of the assembly area.[24] The 1st Airborne report of 10 January 1945 recorded that the division took along 82 pigeons of which 14 returned to lofts in the London area with messages, eleven without; three returned to Airborne Rear HQ. The report concluded that "It is really doubtful whether pigeons are worth taking on future airborne operations similar to this."

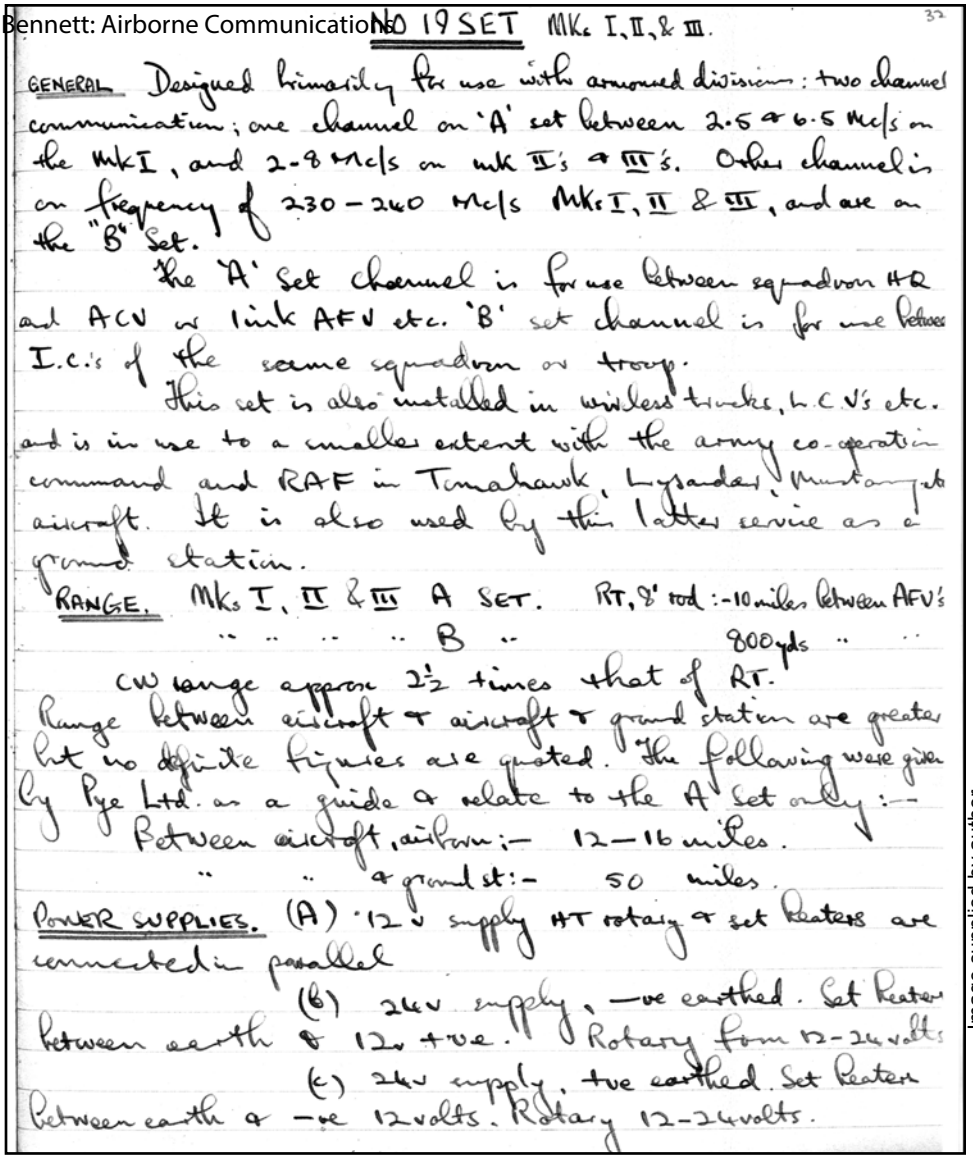
Land lines, runners and dispatch riders. Whenever wireless communications failed or were non-existent, more use would have to be made of more traditional forms of communication. The commander of the British 1st Parachute Brigade Signals Section, having experienced very poor results on signals exercises, took on a greater complement of field telephones and cable than usual, anticipating a possible failure of radio communications.[25] When the Oosterbeek perimeter was formed, a network of land lines was established; but it did not reach all companies and the cables were frequently severed by artillery and mortar fire.[26]

The Artillery Net. Artillery communications worked well in Market Garden. On the evening of D–Day, about 750 paratroopers under the command of Lieutenant-Colonel John Frost of 2nd Parachute Battalion had occupied the north end of the Arnhem road bridge but they were isolated from the balance of 1st Airborne in Oosterbeek. On the morning of D+1, the artillery link opened between Divisional HQ Royal Artillery and 3rd Airlanding Light Battery HQ at the Arnhem road bridge. Not only did Frost get artillery support but the link enabled Division to open communications with 2nd Battalion for the first time since it left the Drop Zone on D-Day. Using the powerful 19HP sets, Divisional HQ Royal Artillery then contacted the 64th Medium Regiment Royal Artillery at about 0930 hours on D+4, again resulting in very effective artillery support for 1st Airborne but also opening a relay to XXX Corps for the first time. However, this link was poor at night and had its limitations, as will be seen.

Signals in Action

Upon landing on D–Day, Corps Signals with the Advance HQ established contact with 82nd Airborne and this was soon supplemented by a land line, not without casualties. Corps contacted the 101st Airborne on the air support net, since the latter's Corps Signals unit had not arrived by glider.[27] After a brief contact with 1st Airborne, communication was essentially lost until early on D+3, when both Corps Signals and Phantom were in operation. On D+3, the British began a system of land lines between XXX Corps, which had arrived at Nijmegen in the area of the 82nd, and the Airborne Corps.

The 101st Signals plan was based on that of a previous operation, Linnet I, with additional links to XXX Corps and Second Army. A Signals Company of 31 men was established at Zon and began to lay land lines to the regiments and the Artillery HQ. Since the British Corps Signals unit did not arrive with the gliders on D+1, the signallers made contact with the divisional rear base in England, who contacted XXX Corps via Second Army, though this tortuous link was poor.[28] A radio liaison team of four men from British (Army) No.1 Commando Brigade also dropped on D–Day; the details are not well known.[29] But on the evening of D+1, General Taylor still had not made radio contact with XXX Corps, under whose command his division would come, once the ground link-up had been made. Second Army did not respond to queries about XXX Corps on the afternoon of D–Day. Distances were too great for the 101st to contact XXX Corps artillery. Calls on Phantom with Market Garden codes were not recognized and it was not until the morning of D+2, using known British codes, that the Americans made contact with XXX Corps. On D+1, the 101st made direct radio contact with the 82nd Airborne and, it is said, with 1st Airborne.[30] The 506th Parachute Infantry Regiment, entering Eindhoven on the morning of D+l, made contact at 1130 hours with their own liaison group at XXX Corps, then



No 19 SET Mks. I, II, & III. 32

GENERAL Designed primarily for use with armoured divisions: two channel communication; one channel on 'A' set between 2·5 & 6·5 Mc/s on the Mk I, and 2-8 Mc/s on mk II's & III's. Other channel is on frequency of 230 – 240 Mc/s Mks. I, II & III, and are on the "B" Set.

The 'A' set channel is for use between squadron HQ and ACV or link AFV etc. 'B' set channel is for use between I.C.'s of the same squadron or troop.

This set is also installed in wireless trucks, L.C.V's etc. and is in use to a smaller extent with the army co-operation command and RAF in Tomahawk, Lysander, Mustang & aircraft. It is also used by this latter service as a ground station.

RANGE. Mks. I, II & III A SET. RT, 8' rod: -10 miles between AFV's
" " " " B " 800 yds " "

CW range approx 2½ times that of RT.
Range between aircraft & aircraft & ground station are greater but no definite figures are quoted. The following were given by Pye Ltd. as a guide & relate to the A set only:—
Between aircraft, airborne:— 12—16 miles.
" " & ground st:— 50 miles.

POWER SUPPLIES. (A) 12 v supply HT rotary & set heaters are connected in parallel
(B) 24v supply, —ve earthed. Set heater between earth & 12v +ve. Rotary from 12-24 volts
(C) 24v supply, +ve earthed. Set heater between earth & —ve 12 volts. Rotary 12-24 volts.

This is the first page of the specification notes for the No.19 Wireless set made by Captain Ivor Green, of REME (Royal Electrical and Mechanical Engineers). The No.19 set was used by the artillery net in Market Garden, providing a link between 1st Airborne Division and Lieutenant-Colonel Frost's battalion at the Arnhem bridge. On D+4, the artillery link was established between 1st Airborne Division and the 64th Medium Artillery Regiment. Not only was this effective for artillery support but the link provided a relay to XXX Corps and to Second Army for air support to 1st Airborne.

Image supplied by author

advancing to meet them. This was achieved through Orange Net, a system using a single frequency for all levels which the signallers had worked out for the Normandy operation. They found out that XXX Corps was still five miles south of Eindhoven and encountering opposition from German 88s. General Taylor directed that the British be advised to put bridging engineers at the head of their column to repair the Zon bridge. That the British did so with commendable speed and efficiency was due to American foresight and, at last, good communications.

The aim in Market Garden was to bring responsibility for the flanks of XXX Corps "under a separate command." To this end, 50th Division of XXX Corps was brought under VIII Corps at 1200 hours on D+1, before the latter corps had even secured its bridgehead over the Meuse-Escaut Canal. The 101st Airborne had a liaison officer from VIII Corps. Radio contact between the two formations was unreliable, but this was no great loss, since VIII Corps was in no position to provide practical help and co-ordination on the right flank until D+5. The 101st Airborne in fact came under the command of XII Corps on D+6, the VIII Corps liaison officer remaining with the division. Radio contact between the 101st and XII Corps seems to have been satisfactory since there was one case of successful co-ordination of operations in the XII Corps sector on D+2.

The experience of the 101st is revealing. Where the Americans used their own communications system and their own personnel, things went smoothly. This was also true of the 101st air support prior to joining up with XXX Corps. But where there was a crossover or interface between national systems and personnel, communications were usually less than satisfactory, again an indication of hasty planning and inadequate training. The point that solely national ground-air communications systems worked well was made in the 21st Army Group report, under whose command Second Army and the Airborne Army came.[31] Air support was summoned directly from the US Army Air Forces and not via the Airborne Corps or Second Army. That things sometimes went wrong was not because of a faulty radio communications system. The P-47 Thunderbolts

Laurier Centre for Military Strategic and Disarmament Studies (LCMSDS) Photo Collection

LCMSDS Photo Collection

British 1st Airborne Division planned to use the No.22 wireless set to communicate with the British Airborne Corps. Unfortunately, the six-mile range of the set could not reach the 15 miles to Corps Headquarters. **Left**: A No.22 Set in a specially designed container for airborne drops. **Above**: A No.22 Set mounted in an airborne jeep.

started to strafe American positions before the troops laid out identification panels: the 101st had as yet no artillery to identify targets and in any case no coloured smoke shells for the howitzers.[32]

The problem with 1st Airborne was that Divisional Signals were using No.22 radio sets which had a maximum range of six miles when Corps HQ was 15 miles distant.[33] Reliable communication would only be possible when 1st Airborne HQ moved into Arnhem and thus closer to Airborne Corps HQ, after the second airborne "lift" on D+1. The No.22 sets were mobile on jeeps; they required a hefty charger for the accumulators. But the divisional HQ never did get to Frost's positions at the Arnhem road bridge. Thus Major-General Urquhart had to rely on the Phantom net. His messages were not acknowledged and he had no way of knowing whether they were received. In fact, the Jedburgh station in Ede received the news that Urquhart's Phantom connection with the War Office had been cut; this occurred on D+2 or perhaps earlier.[34] His operators were given insufficient information to contact XXX Corps, even when they were in range. He eventually established contact with XXX Corps through the artillery link, using the larger No.19HP sets with a voice range of 25 miles. This link worked well and to good practical effect. When 1st Polish Parachute Brigade landed at Driel and 130th Brigade of 43rd Division came within range, the 1st Airborne established contact with both.

Signals in Action: The Case of 1st Airborne Division

On D-Day, communications with the Airborne Corps had been almost non-existent. Though there was some contact between 1st Division and Airborne Corps Rear HQ in England[35] which has been well analysed by Lewis Golden,[36] there was essentially no contact between Urquhart and Browning until a series of situation reports were received by Browning's Airborne Corps HQ, now designated Main, at Groesbeek, starting at 0800 hours on D+3. The link was augmented through the artillery net on the following day. Urquhart attempted communications with London through Phantom and through the BBC journalists' link, but the messages were usually garbled or unintelligible, owing to competition with a powerful German station, possibly with the help of a radio jamming station in Ede.[37] This link did work occasionally because Brereton, the Allied Airborne Army commander, visiting the American Airborne in the Eindhoven-Zon area, received news of the supply situation of 1st Airborne on the morning of D+3, which had reached his HQ in England via the BBC link.[38] Even Captain

Eric Mackay's engineers besieged at the Arnhem bridge received the BBC public transmissions from London, though it was disconcerting to hear that they had been relieved!

Within the division, things were worse. Communications had broken down completely by 2130 hours on D-Day. Brigadier Lathbury of the 1st Parachute Brigade did not wait long enough for his jeep-borne No.22 rover set to open so he took off to the brigade front, then advancing on the road bridge, with a No.68P set, which had a range of three miles.[39] His battalions were equipped with such sets, which were one-man pack sets operating on two frequencies with replaceable dry cell batteries. When Major Anthony Deane-Drummond, second-in-command of Divisional Signals, had expressed concern in 1943 about the short range of such sets, he was assured that the divisional perimeter in airborne operations would be no more than three miles in diameter.[40] Since this was, conveniently, the range of the No.68P sets, Deane-Drummond thought that the figure was produced simply to shut him up.

Within the battalions, the companies and platoons used very short range SCR-536 sets. The reconnaissance squadron used its own radio net; there never was an effective link within the Squadron, with Division or 1st Parachute Brigade on D-Day.

Two things were essential. The first was a link between 1st Parachute Brigade heading for the Arnhem bridge and divisional HQ. This broke down soon after 1545 hours, when 1st Parachute Brigade moved off to Arnhem; it was not reestablished on D-Day. The second was a link between the brigade and its three battalions. Lathbury was separated both from Frost and his own Brigade Major on the bridge. The brigadier was with 3rd Battalion; he made contact with Frost's 2nd Battalion on the bridge and by 2130 hours both Lathbury and Urquhart, who was with him, learned that 2nd Battalion was on the bridge, which was intact.[41]

It might seem that poor communications were responsible for 1st Parachute Brigade's failure to arrive at the Arnhem Bridge in strength. Major-General David Belchem[42] blamed communication breakdown for the failure of 1st and 3rd Battalions to concentrate for the advance. The SCR-536 sets seem also to have been ineffectual, since companies made no use of information to communicate successful routes to the bridge.[43] Major Tatham-Warter of "A" Company, 2nd Battalion, for example, had no confidence in such sets and used bugle calls instead – to good effect.[44] In 156th Battalion of 4th Parachute Brigade, which had arrived on D+1, the walkie-talkies worked intermittently over short distances in the daytime and not at all at night.[45]

Below: The SCR-536 was a short-range walkie-talkie that did not work effectively during Market Garden. **Right**: One of the ad hoc signals links used by 1st Airborne to communicate with the outside world included sending messages to the War Office through the BBC net, which used morse keys and the No.76 Set.

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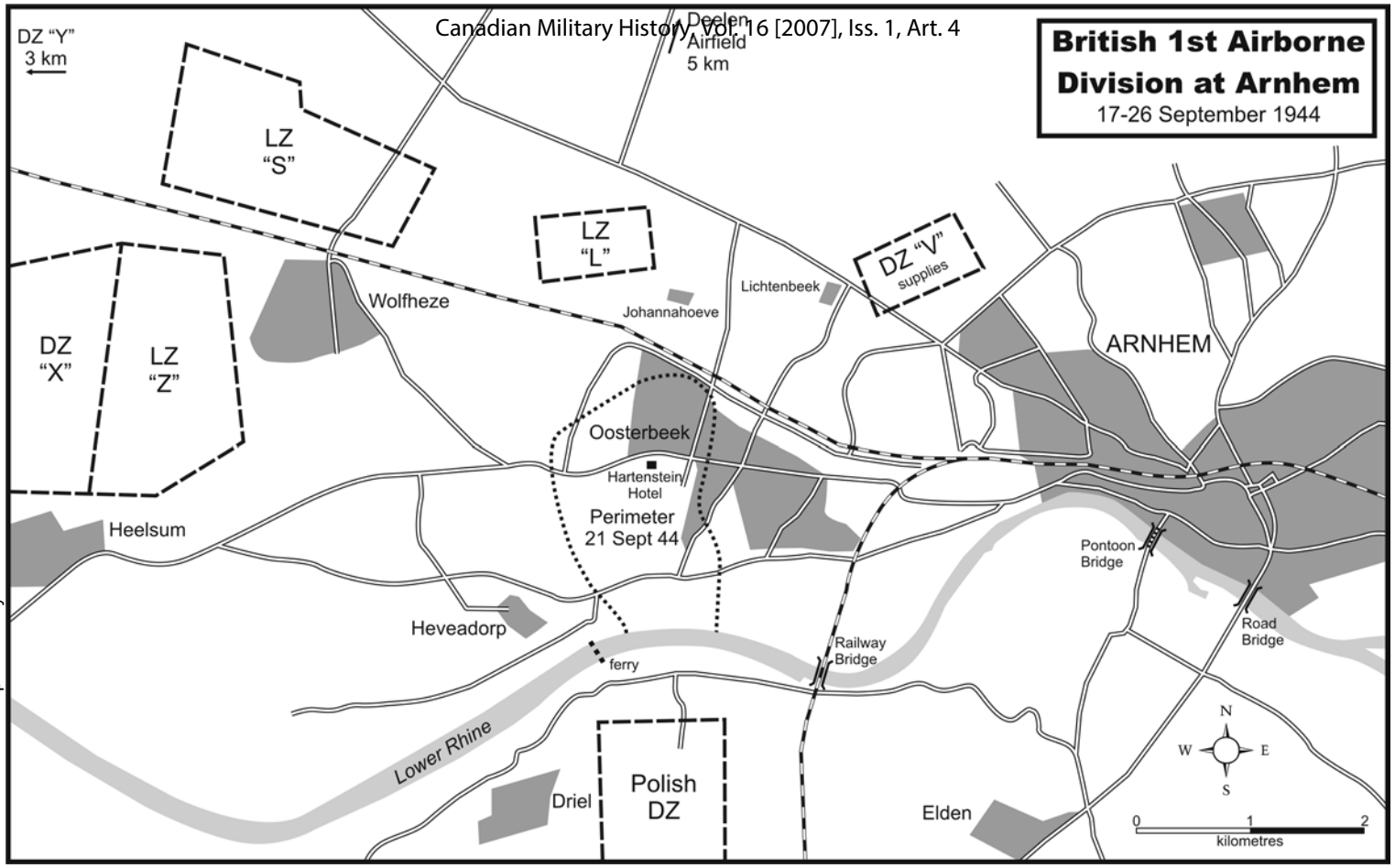
LCMSDS Photo Collection



Map drawn by Mike Bechthold ©2007

The truth is multi-faceted. First, there would have had to have been enough information passed to ascertain that Frost's route, while difficult, was still open. It was in fact still open, albeit very tenuously, on the morning of D+1 because Major Munford made the trip from the bridge to divisional HQ and back. Frost contacted Lieutenant-Colonel Dobie of Lathbury's 1st Battalion in the evening of D-Day, telling him that he needed reinforcements. Dobie then made the correct decision to abandon his assigned northern route to the bridgehead and move south-east "to help Johnnie at the bridge."[46] Lathbury with Lieutenant-Colonel Fitch at 3rd Battalion HQ was in touch with his brigade major at the bridge. Tony Hibbert, the brigade major, told Martin Middlebrook in the early 1990s that he had informed Lathbury that 2nd Battalion's route had been clear a short time earlier. This, together with the news that the road bridge was intact, took place at about 2130 hours, just before the radio failed.[47] But Lathbury declined to switch his axis of advance, nor did he follow up "C" Company's route to the bridge, which had been reconnoitred and found to be clear as far as the reconnaissance went. Instead, 3rd Battalion halted until 0430 hours on D+1.[48] If 1st Parachute Brigade had arrived in strength at the bridge, 1st Airborne would still have had to keep the route open until after the second lift on D+1, which brings us back to an old controversy of whether it was a landing too far from the bridge, the absence of a second lift, or German opposition that caused the failure. Though there were serious communication difficulties in 1st Parachute Brigade on D-Day, the facts and indications seem to bear out Lewis Golden's contention that signals were not to blame for the failure to get to the bridge in strength. Similarly with 4th Parachute Brigade, where communications with divisional HQ, using No.22 and No.68P sets, broke down during the Brigade's retreat back to Oosterbeek on D+2: orders were given by Urquhart in person or Hackett acted on his own initiative. Any errors were not due to the signals failure.[49]

The Critique of Signals at Arnhem

Lewis Golden, who had been adjutant of divisional signals, produced a definitive critique of signals at Arnhem in l984, on which much of the preceding rests. Golden made two principal contentions, both contrary to previous accounts: that signals actually worked better than could be expected and that communications

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failure was not a principal reason for defeat at Arnhem.[50] As for the contention that signals worked better then could be expected: the division was using unsuitable equipment, with rough handling owing to constant loading and unloading; the hazards of dropping and landing; the difficulties of tuning sets under battle conditions and battle damage itself. The iron in the sandy soil at Arnhem, buildings and trees impeded both transmission and reception. Shortage of the replaceable batteries for the 68P sets was also a problem.[51]

There is one area, however, where Golden seems to have overstated his case. Over the dearth of air support for 1st Airborne, he advanced the usual explanations of bad weather and the prohibition of air support during airborne operations and supply. But the tone of his remarks, that air support was "apparently…not available" and that the air force "apparently found themselves able to help"[52] indicates that he wanted to blame the RAF for poor air support. The US Air Support Signals Teams' equipment had been destroyed, placing reliance on a "circuitous radio route in the absence of a direct air support link." This, Golden claimed, was "clearly" not responsible for the withholding of air support until D+6. Golden, who had researched the signal logs exhaustively, cited only four examples of air support requested through the artillery link, one from Airborne Corps on D+2; one on D+4 from 1st Airborne; and two more from the same source on D+8. For the first and second, there was no response; the third was refused and the fourth was honoured. From this, it can hardly inferred that it poor air support was the fault of the RAF. The second signal is intriguing. The request was made at 1700 hours on D+4 for air support at 1830 hours; if not then, it was not wanted at all. Consider the route. The 64th Medium Artillery link was already overloaded with messages other than those concerning artillery support. The message would then have to go to XXX Corps, then to Second Army, thence to 83 Group, 2nd TAF, then to the airfields, with allowance for take-off and flying time. It is not reasonable to deny that the circuitous radio route was responsible for the unavailability of air support 90 minutes after the request. Even with ideal communications, the turnaround time for air support from request to delivery was one hour.[53]

On the Phantom net, four further requests can be identified. The first of these was a general request, without map references, on the morning of D+1; this was passed to Second Army. The second, on the afternoon of D+3, specified four six-figure

The fighting around the Arnhem bridge was vicious, as witnessed by this oblique air photo which shows the burnt-out vehicles of the German SS unit which attempted to cross the bridge.

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Left: A British paratrooper at Arnhem attempts to make use of a No.68P set. This set proved largely inadequate as it had a range of only three miles and suffered from shortage of batteries.

Right: Paratroopers of "C" Section, 1st Airborne Divisional Signals, gather on DZ "X" shortly after their drop at Oosterbeek on 17 September 1944. The soldier in the centre is using the SCR-536 walkie-talkie.

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map references; Second Army acknowledged and promised air support. The third was an urgent request, without map references, on the morning of D+4 for "maximum air support"; this message was possibly identical to the one sent at 1700 hours via the artillery link. The fourth, with three sets of map references, was late in the morning of D+5; this was quickly acknowledged by Second Army and turned down on account of the weather.[54]

Golden's second contention, that communication breakdown was not a principal cause of the failure at Arnhem, was also correct. The only reservation concerns the supply run on D+2, when Urquhart was unable to get a message through, advising that the drop zone was in enemy hands. This has been challenged by John Baynes, who quotes the 1st Airborne Divisional Signals Report which recorded that links were open to the War Office via the BBC net, with 1st Airborne Corps using No.76 sets with morse keys and with Second Army through Phantom. This, however, does not prove the messages were received, especially as messages the next day were received, *and* acted upon. The fact that Urquhart seems not to have been advised of the two final supply runs from Brussels was not because of a communications failure. The reason for the failure of the supply runs was partly that the drop area was so small and partly because the Germans had latched on to the British supply plan and laid out identification panels at the right time and place each day.[55] The supply pilots were instructed to ignore ground signals other than those designated. It is also possible that the Germans used captured Rebecca-Eureka radio beacons. When the retired Dutch Artillery Colonel Boeree interrogated the German commanders after the war, both Rauter, the SS Security chief for the Netherlands, and one of the officers of Helle's Dutch SS battalion at Arnhem told him that a British officer was captured on D-Day with the plans for the ground markers and smoke signals.[56] The Germans also listened in to British radio signals on No.68P sets which captured paratroopers had not destroyed.

The failure of supply to 1st Airborne was not essentially due to the failure of radio communications, though the British communication system for supply was still not good. Because the American divisions had a direct radio link to England, they could quickly call upon supplies to be landed in the right place and by units immediately available on the continent, namely the US 8th Air Force. Urquhart, however, had no direct radio link to the supply bases in England, a fact that Golden did not mention.

The Improvement in 1st Airborne Communications on D+3

A great improvement in communications between 1st Airborne Division and the outside world started on D+3. This was also the day on which the Oosterbeek perimeter was formed, which reduced the importance of radio communications within the division. An attempt to improve 1st Airborne Division's internal

communications had begun on D-Day. In the afternoon, the second- in-command of Divisional Signals, Major Anthony Deane-Drummond sent out a jeep with a No.22 set to try to establish a relay between the moving 1st Parachute Brigade HQ and the signals base. Some faint signals faded away altogether. At 1730 hours, a despatch rider was sent out to notify 1st Parachute Brigade "to change over the command net frequency to the frequency allotted to the 76 set group, known as the B wave, which was to be established between the headquarters and the brigades for the passage of cypher traffic by morse code."[57] This expedition failed, so Deane-Drummond himself set out at 0715 hours on D+1; he joined up with 1st Battalion. In his own account, he made radio contact with Major Hibbert at the bridge and told him of the frequency change. But since there was no contact between Hibbert and the division, he elected to move forward to the bridge to supervise the radio connections with the divisional HQ. In doing so, he had to take command of some 1st Battalion troops whose company commander had been killed. Deane-Drummond was eventually captured after attempting to return to his signals base.[58] Contact with the bridge on the B wave was eventually established at 1000 hours on D+3; meanwhile, the artillery link was used. Frost did get a message to XXX Corps at about 1000 hours on D+2, stating his position and receiving a reply that the Nijmegen bridge would be attacked at 1200 hours, with no time of relief estimated.[59] The assaults on the Nijmegen bridge later that day were unsuccessful.

There were several unsatisfactory contacts between 1st Airborne and Corps Advance, Main and Rear HQ prior to D+3 but none resulted in significant information being exchanged. The first definite contact between 1st Division and Airborne Corps Signals was at 0300 hours on D+3, when Urquhart advised Browning's HQ of the change in the Drop Zone for the Polish paratroopers south of the Lower Rhine and of a new drop zone for the day's supply run. Both messages got through to the airfields in England. The Poles' drop was again cancelled while the supply aircraft were directed on a zone 200 yards west of Urquhart's HQ at the Hartenstein Hotel.

From 0800 hours, Urquhart was able to send a series of situation reports to Airborne Corps HQ. One message was received by Browning at 0950 hours, stating that 1st Airborne required "immediate relief." Again, Urquhart signalled at 1505 hours saying that the situation was serious for 1st Parachute Brigade at the bridge, that he was forming a perimeter and that "relief essential both areas earliest possible." He also reported the ferry crossing held. By the evening, it was known by all commands that 1st Parachute Brigade was isolated at the bridge and could not be resupplied. It was also known that the resupply zones for the division were almost entirely in enemy hands, that the fighting was intense and the position of 1st Airborne was not good. At 0900 hours on D+4, Horrocks got a message from Urquhart's HQ via the 64th Medium Artillery Regiment that the north end of the road bridge was still held, and reiterating that the Driel-Heaveadorp ferry was in British hands. Neither was in fact correct. The previous message on D+3 had said that Driel-Heveadorp was a Class 24 ferry capable of carrying six tanks per load, a great exaggeration. At 2045 hours on D+3, Airborne Corps Rear HQ in England sent a message to Exfor Main, Eisenhower's HQ, stating that the British retained control of the ferry.[60] For this reason, Sosabowski's Polish brigade prepared to aim for the ferry crossing rather than trying to fight their way along the south bank of the river to the road bridge. Sosabowski was in fact informed after dawn on D+4, the day the drop finally took place, that the ferry was intact. The ferry was still in use during daylight on D+3, being moored at Heveadorp when not in use.[61] Two patrols that night reported to Urquhart's HQ that the ferry was either disabled or gone.[62] However, the 1st Airborne war diary, records the return of one of the patrols at 0340 hours on D+4; but not the loss of the ferry.[63] The Poles on the south bank in the evening of D+4 saw no sign of the ferry.

In a Phantom message sent at 0515 hours on D+4, Urquhart reported that troops north of the ferry had been withdrawn, an understatement of what his patrols had reported during the night. This message was, however, not logged until 1415 hours, the time that the Poles took off from their bases in England. In his memoirs, Urquhart strongly implies that he knew the ferry had been lost before about 1715 hours on D+4, the time of the Polish parachute drop.[64] Urquhart reported the loss of the ferry in two Phantom messages, at 0830 hours and at 0931 hours on D+5.[65] At 1900 hours on D+5, Airborne Corps Rear reported the ferry's loss to Eisenhower's

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Long after Operation Market Garden was over, the evidence remained. Those gliders that survived the landing and were not burned by the Germans lay in Dutch fields for months after the fighting had ended.

HQ and the British War Office. This news had come both from Urquhart and via both the Poles and Lieutenant-Colonel Mackenzie, Urquhart's Chief of Staff, on the radio of the troop of the 2nd Household Cavalry in Driel.

Within the division, Urquhart got a radio message from 4th Parachute Brigade soon after 0730 hours on D+3, stating that the brigade would be unable to reach the divisional HQ and so take part in 1st Parachute Brigade's continuing efforts to reach Frost at the road bridge. Both brigades had in fact been virtually destroyed the day before. So when Major Freddie Gough at the road bridge contacted Urquhart on the civilian phone line shortly after 0800 hours, he was told that he could expect no relief from the division, only from XXX Corps coming up from the south.[66] After that, two-way radio communication seems to have broken down. One message from the bridge, received in the evening, suggested continuing resistance. The result was that both Urquhart and Horrocks at XXX Corps could only assume that the north end of the bridge was still held; Urquhart told Airborne Corps in the evening of D+4 that there had been no news from the Arnhem bridge for 24 hours.[67]

Conclusions

There has been intense debate as to how far poor communications contributed to failure at Arnhem. So far as the relief of 1st Airborne by XXX Corps is concerned, there are two issues: (1) knowledge by the two units of the situation at the north end of the Arnhem road bridge; and (2) knowledge on the part of the relieving force of the state of the Driel-Heveadorp ferry. When the advance of the Guards Armoured up the Nijmegen-Arnhem road was stalled on the afternoon of D+4, Horrocks ordered a move along an alternative route through Oosterhout and Valburg to Driel. The purpose of the offensive was still to move "in the direction of Arnhem"; the state of the ferry was not a consideration. The Poles' parachute drop the same afternoon was in the vicinity of Driel. The occasion for this choice of drop zones was not the state of the ferry but the fact that the original drop zone further east was occupied by the Germans. Sosabowski was somewhat reassured that his parachute drop had sound tactical purpose when he learned in the morning that the ferry was intact. However, it had in fact been lost the night before. The first thought of the first unit of XXX Corps to arrive at Driel in force on D+5, the 5th Battalion, The Duke of Cornwall's Light Infantry, was to move east to the road bridge, but this was not possible due to the strength of the German blocking line. Crossings of the Lower Rhine were to be at Driel with assault boats and not via the road bridge, a fact that was conveyed to Urquhart in Arnhem on D+5. So the presumptions conveyed to XXX Corps on the condition of 1st Division at the road bridge and the state of the Driel-Heveadorp ferry had no practical effect on tactical planning. The Allied troops in Driel could be employed in crossing the Lower Rhine or in reaching the road bridge. There never was any attempt to reach the road bridge from Driel, nor did the supposed holding of the north end of the bridge dampen the plan to cross the Lower Rhine at Driel.

Within the 1st Airborne Division, it has been seen how poor communications in 1st Parachute Brigade on D-Day cannot be held responsible for the failure of 1st and 3rd Parachute Battalions to reach the 2nd at the Arnhem road bridge. After that, inadequate communications within 1st Airborne Division certainly had a detrimental effect on operations. When Brigadier John Hackett arrived with 4th Parachute Brigade on D+1, he found Brigadier Hicks of 1st Airlanding Brigade commanding the division in the absence of Urquhart, who was out of touch with his headquarters until the morning of D+2. Hicks told Hackett that the battalions of 1st Parachute Brigade, still heading for the road bridge were "fighting on their own." This was part of the mess that Hackett considered the division to be in, but Hicks cannot be blamed for the fact that communications with the battalions of 1st Parachute Brigade continued to be problematic. Hackett's 10th Parachute Battalion was added to those of 1st Parachute Brigade advancing on the road bridge. But Hackett, evidently, wanted his battalion back. Urquhart, now returned to his HQ, sent a radio message to 10th Battalion at 0900 hours on D+2, ordering it not to advance on the road bridge but to assemble for a move north. (Whether this was good tactics, need not concern us.) An advance, to form a bridgehead with its perimeter well north of the Arnhem bridge, had been the original mission of 4th Parachute Brigade. This message was not received. Sometime before 1100 hours, the 10th Battalion received a message to advance north west in support of its parent 4th Parachute Brigade, still a mile to the west. The battalion was caught by the Germans while forming up for the foray, one company having been shredded in 1st Parachute Brigade's advance, in which it was not supposed to take part. The 10th Battalion, in Urquhart's words, "disintegrated." It was arguably poor communications that were responsible for the loss of the bulk of 10th Battalion. At the same time, one company of the 7th Battalion, King's Own Scottish Borderers was captured when, evidently out of radio contact, it retreated in the wrong direction and was forced to surrender.

Apart from this, it has been contended, faulty radio communications were not responsible for the virtual loss of 4th Parachute Brigade. Poor communications caused heavy and avoidable casualties in 1st Parachute Brigade since the battalions and companies were unable to co-ordinate their advances, sometimes running into the same opposition which had frustrated an earlier unit advance. Yet this was not the cause of failure. By the time the German opposition had solidified on D+1, with mortars, light flak and armoured vehicles, there was really no chance of relieving Frost at the bridge, even with communications at their best.

Notes

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26. G. Powell, *Men At Arnhem* (London, 1986), pp.172-3.
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29. Sergeant Robert Taylor, Chelsea Pensioner, conversation with author, 16 September 2004.
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31. TNA PRO AIR 37/1249, Part II, Sec. II, Important Lessons, Para. 22.
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35. Deane-Drummond, p.207.
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