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Strategy and Counter-Surprise:

Intelligence within BAOR and

NATO's Northern Army Group

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The UK's main military role after 1945 was its commitment to NATO. The most visible contribution was the British Army of the Rhine (BAOR), a force of over 50,000 personnel, supported by RAF Germany, committed to the defence of Northern Germany. In wartime, the Commander of BAOR would have donned his NATO hat and also become Commander of Northern Army Group, consisting of four national corps from the UK, Germany, Holland and Belgium. The Commander of Northern Army Group or (NORTHAG) held responsibility for the northern half of Germany, while his American partner, the US Commander of Central Army Group, superintended the defence of Germany south of Kassel. The possibility of a surprise attack by the numerically superior Warsaw Pact forces, together with BAOR's situation within the divided state of Germany, meant that great importance was attached to intelligence, warning and rapid mobilisation. Despite the considerable attention that historians have given to Cold War espionage, we know surprisingly little about the intelligence dimension of BAOR and its interface with Allied intelligence through NORTHAG and NATO. How was intelligence configured to support these multinational NATO commands, which had only a limited peacetime existence? How would they have faired under the exigencies of surprise attack? This article attempts to address these neglected issues for the period for which recent archives are available, ending with the impact of the Yom Kippur War upon NATO thinking about warning and surprise in the period 1973-5.[1]

It is often asserted that during the Cold War the entity referred to as 'NATO intelligence' did not really exist, at least as a collection agency. In reality, NATO organisations were largely fed with intelligence by the various national components, some of whom kept the alliance on a rather meagre diet of low-grade material. In wartime, these restrictions on intelligence supplied to NATO would have been removed and the situation would have moved rapidly from famine to feast. This was certainly true at the level of the main NATO political headquarters based in Paris

and then, after 1967, at Evere on the outskirts of Brussels. Improbably, the Allied contingency plans for war involved sending a deluge of additional and unfamiliar intelligence material to NATO amid the panic caused by an impending Warsaw Pact attack. Moreover, the structure of intelligence support for NATO at its higher levels was always rather awkward. This constituted a source of growing anxiety for planners as NATO nuclear decision-making grew in importance during the 1960s.[2]

This article argues that references to 'NATO intelligence' are more plausible when we talk about its military structures and especially its regional military commands. This included SHAPE Headquarters at Mons, AFCENT Headquarters at Boerfink and notably the operational level of Army Groups - typified by NORTHAG Headquarters at Reindahlen.[3] Unlike NATO's political centre, the various national corps enjoyed considerable intelligence gathering assets of their own and were not wholly dependent on the hesitant 'feed' from national elements in the rear. Quite how effectively these NATO Army Group HQs were integrated and how good intelligence distribution would have been with the onset of war remains unclear. These are difficult questions for two reasons. First, and most obviously, war never broke out and so we have no 'living' example of BAOR or NORTHAG in action.[4] Second, the academic study of intelligence at the operational command level is often overlooked, not least because of the frequent failure to preserve records below the policy level.[5] Accordingly, the analysis of this 'mezzanine floor' within Cold War intelligence presents a difficult, yet fascinating, research problem.[6]

Throughout the Cold War, NORTHAG's main mission was to engage any Warsaw Pact incursion into the Federal Republic with the aim of halting this as far to the East as possible, reducing the enemy capacity to such an extent that the attack could not be resumed without escalation.[7] To achieve this, NORTHAG boasted four army corps: 1 Netherlands Corps (I (NE) Corps), 1 German Corps (I (GE) Corps), 1 British (I (BR) Corps) Corps, and 1 Belgian Corps (I (BE) Corps).[8] Because the Commander of the British Army on the Rhine (BAOR) also served as COMNORTHAG, some of the key HQ functions of NORTHAG and BAOR overlapped and many officers were "double-hatted". The British staff officer who served as Brigadier General Staff Intelligence and Security at BAOR also served as ACOS G-2 at NORTHAG.[9] As we shall see, this duality was important in the sensitive world of intelligence.

The danger of surprise attack meant that, for all levels of NATO during the Cold War, war warning was perhaps the most important intelligence task. Here, intelligence enjoyed something of a tripwire function, an attribute that became yet more significant with the growing importance of battlefield nuclear weapons during the 1960s. Beyond the war-warning phase, the operational intelligence priorities of NORTHAG diverged significantly from the political and strategic intelligence that was required by national capitals or by the main NATO HQ in Brussels. Operational interest was focused on deep battlefield intelligence that combined surveillance of enemy movements with meteorological and topographical information. In practice this translated into a need for intelligence over the NORTHAG front and extending beyond the forward edge of the battle area to a minimum distance of about 200 km and ideally about 500 km. During the first forty-eight hours of war, the most demanding priority would have been near real-time intelligence on enemy movements in this zone. This was essential to allow NORTHAG to concentrate its resources against enemy thrusts, rather than dispersing its forces thinly and evenly along the Inner German Border. This was also to provide current target intelligence for the tasking of artillery and air operations to slow the enemy down during the crucial early stages of an attack. Anxiety about a guaranteed flow of this sort of intelligence reflected concern that NORTHAG was under-resourced for its task, a problem that was only resolved by the loan of two American brigades in the 1970s.[10]

NORTHAG's intelligence concerns were rendered more complex by the structural changes that would have been required as a proper multinational NORTHAG Headquarters came into being on the eve of war, and then moved to its wartime 'survival' location. From 1954, BAOR enjoyed a purpose-built peacetime headquarters west of the Rhine at Rheindahlen near Mönchengladbach. However, on receipt of war warning, the inhabitants would have 'crashed out' to a secret survival location, rumoured to be in the vast forests near Aachen, meanwhile making use of an additional rear HQ in some crumbling underground caves at Maastricht. The problem of maintaining a satisfactory intelligence flow would have been repeated as the command used its mobile elements to leap-frog to new locations, in the hope of evading detection by the enemy. Confusion would be compounded by a poor communications infrastructure and an influx of reserve staff, some of whom would be unfamiliar with procedures. Intelligence mechanisms were unlikely to function smoothly or speedily in the first few days of war when they were perhaps most vital, resulting in slow target acquisition. These concerns

intensified during the 1960s because NORTHAG intelligence was increasingly conscious of the ability of Warsaw Pact forces to operate equally well by night as well as day and perhaps under a blanket of near radio-silence. In the period up to 1973, NATO commanders repeatedly identified a need for effective deep reconnaissance at night and in bad visibility, but these requirements were only met in the late 1970s and 1980s through the advent of sophisticated new technologies.

NORTHAG's wartime intelligence priorities were also shaped by political considerations. West German sensitivities over the surrender of territory during a Warsaw Pact offensive required NORTHAG to plan for a forward battle, with perhaps even West German armoured counter-thrusts into the east. In turn, this meant the forward positioning of forces, which could only be achieved with ample warning. Local German political considerations were also intimately tied to what one author has called 'NATO's nuclear dilemmas'.[11] West Germany was not keen to see the use of nuclear weapons, even of a tactical sort, on its own soil, and yet holding Warsaw Pact forces on the border seemed almost impossible without their early release. As early as 1951, the UK Chiefs of Staff had identified tactical nuclear weapons as an attractive way of 'compensating for our numerical inferiority vis a vis the Russians' and an effective way for dealing with 'Russian mass tactics' in the opening stages of an offensive. Senior UK commanders routinely assumed that they would be employed by both sides in any European ground war.[12] This sort of thinking placed a high premium on intelligence quickly locating the main enemy thrusts as targets for conventional artillery, and then perhaps as targets for tactical nuclear weapons, as well as seeking to blunt any similar Soviet tactical nuclear capability. It also raised the controversial question of 'demolitions' that were scheduled to be implemented by a shadowy mixture civilian and military of stay-behind parties at bridges and other key points. These demolitions were initially conventional and consisted of lorry-loads of high explosive, but by the 1960s demolitions were increasingly to be achieved by 'special atomic demolition munitions' or SADMs. Accordingly, the preparations for the intense first hours of war that were developed by NORTHAG planners were highly secret and connected to both intelligence and special operations.

These difficult issues first reared their head in the mid-1950s and manifested themselves as requirements for stronger intelligence and communications systems at every NATO level. Thereafter, as policy-makers engaged with flexible response in the late 1960s, the outcome was a doctrine of risk manipulation that deliberately mixed conventional forces and theatre nuclear

forces surprisingly far forward, making inadvertent escalation probable once war commenced.[13] As a result, an improved communications became paramount not only to distribute intelligence, but also assumed 'a particular importance in the light of the need for nuclear release request messages'.[14] In short, during the late 1960s, commanders were grappling with an inadequate physical infrastructure of command, communications and intelligence for NORTHAG - and indeed throughout NATO - which was some ten years behind the burdens that these new doctrines imposed. A related, but often unspoken high intelligence priority for NORTHAG was 'the acquisition of targets of the enemy's nuclear delivery means, even if the battle is at that time being fought conventionally'. Signals intelligence or 'sigint' was thought to be especially important for any attempt to locate Soviet nuclear capable elements.[15]

Alerts and associated matters of transition to war were always controversial within NATO. SACEUR enjoyed two different alert systems at this time, the first was the Formal Alert System designed for a period of gradually escalating tension that permitted full political consultation. The second was the Supreme Allied Commander Europe's (SACEUR) Counter-Surprise Military Systems, inaugurated in March 1959, which was designed for an 'acute emergency' and allowed him to take measures to ensure the survivability of his forces if confronted with a sudden attack.[16] This second system connected warning and alert systems to states of readiness, mobilisation of reserves and practical measures such as aircraft dispersal. War warning also raised complicated matters of access to national intelligence and national control over strategic intelligence assets on the brink of war. In the early 1960s there was an ongoing debate over exactly how SACEUR's Counter-Surprise Military Systems should work given that much of NATO would only receive certain types of strategic intelligence, such as high-grade sigint, after war had broken out and after some crucial decisions had been taken. These problems were very much in the minds of commanders at the operational level of command, typically NORTHAG.[17]

On 14 March 1960, General Alfred Ward, Commander of NORTHAG, wrote to the four ministries of defence of his component national corps asking for permission to agree to minimum deployments within the framework of SACEUR's new Counter-Surprise Military System. In essence he was requesting permission to respond to a SACEUR alert by moving some of his formations, which were very dispersed in peacetime, towards their deployment areas. This was intended to increase the chance of his forces being properly deployed before meeting the enemy

and, at the very least, he hoped to move units to within the respective operational boundaries of the four corps under his control. In peacetime, much of the Dutch and Belgian Corps were well to the rear and would have struggled to make their deployment areas quickly. Ward was also making a more radical request. He proposed that, should intelligence trigger either State Orange (warning of an attack within thirty-six hours) or State Scarlet (warning of an attack within an hour), then he should be allowed to 'assume his full powers as a NATO commander … and the war-time chain of command should come into being'.[18]

Ward's proposal was that under SACEUR's Counter Surprise Military System, his four corps would deploy their covering troops, their demolition task units, anti-aircraft units and guards for ammunition sites. All other units would crash out to their survival areas close to their peacetime locations. The Northern task force would move to staging areas in the forests of the Northern Army Group sector while the 1 Netherlands Corps would assemble in the East of Holland. Thereafter three Dutch brigade groups would move into Germany, four German brigade groups would move to their concentration areas west of the Weser, five British brigade groups would move to their Corps sector and it was presumed the Belgian Corps would already have reached location near their deployment area. Understandably, in all four countries there was an initial reluctance to delegate full operational command before war started, since this possibly implied the authority to open fire. However they eventually agreed to the wartime chain of command coming into being with the advent of Counter-Surprise procedures. In part, this decision reflected American pressure to provide adequate conventional forces to protect the early deployment of nuclear counter-attack units.[19]

These counter-surprise systems, which seemed rather hypothetical in 1960 and 1961, soon became horribly real. Worries over how to distinguish between real and false alerts were discussed in the wake of the Cuban Missile Crisis in 1962 and materialised again in late 1968 after NATO suffered the reverberations of the Czech crisis. NATO's various headquarters were anxious that they had received little warning of the Czech crisis. Then, almost immediately, NATO suffered a false alarm regarding what many saw as an impending Soviet invasion of Rumania. A low-grade Dutch intelligence report from Warsaw prophesying an invasion of Rumania on 22 November 1968 received high-level circulation in NATO, precipitating a degree of panic. What subsequently became known as the 'Rumanian Affair' triggered a further review of NATO command and control mechanisms, reflecting an anxiety about intelligence, alerts and

attendant crisis.[20] By the late 1960s, after a decade of alerts, NATO commands had begun to recognise and analyse the scale of the problems that confronted them, prompting new technical initiatives in the late 1970s. Indeed by the 1980s, substantially improved intelligence, primarily as the result of developments in satellites, paved the way for an entirely new NATO doctrine entitled 'Follow on Forces'.[21]

Intelligence Structures

Where did NORTHAG intelligence originate? As we have already seen, the main element was provided by BAOR intelligence and commanded by the Brigadier General Staff (Intelligence and Security) at Rheindalen. Accordingly, its origins lie with the gradual shift of UK armed forces in Germany from its occupation role to a NATO defensive role. Immediately after the war, Britain's main intelligence element in the region was the Intelligence Division of the Control Commission Germany, one of largest intelligence organisations ever fielded by the UK.[22] In parallel, the other national elements of Allied Control Commission also developed large intelligence infrastructures. In part this reflected a financial ruse, for although these occupational intelligence entities quickly shifted their attention towards Cold War issues, they continued to be paid for by the Germans under the occupation costs system. Accordingly, for the allies, this was Cold War intelligence on the cheap. However, there were two abiding problems associated with this approach. First, with the advent of full recognition of the Federal Republic in 1955, the end of the golden age of occupation subsidy for intelligence loomed all too quickly.[23] Second, with the exception of certain specialised fields such as technical and scientific intelligence, the Intelligence Division of Britain's Control Commission Germany (ID) was 'not organised for the collation or evaluation of military intelligence'. For this reason, as early as 1950, the remnants of Intelligence Division of the Control Commission Germany was being wound down and more attention was being given to the development of G (Intelligence) Branch of BAOR.[24]

Germany was a fabulous place to gather military intelligence on the Warsaw Pact. Therefore, unlike the intelligence branches of most of the UK's regional commands, which merely served to feed appreciations to senior staff officers, BAOR was a major *collector* of intelligence, making full use of its unique G (Intelligence and Security) Branch. In March 1950, Major General Arthur Shortt, the UK's Director of Military Intelligence, offered the opinion that

BAOR intelligence 'was the most important Field Agency on the Soviet Army anywhere ... It's work is not, like most other staff branches, related to the number of troops under its command.' Much of their time over the last two years had been taken up with interviewing returning German POWs. These gradually returning POWs were, he added, 'our best ground source of direct intelligence from within the USSR' and also provided an 'essential' means of cross-checking other sources. Many believed that by 1950 the flow of returning German POWs from the Soviet Union would have been slowing, but in fact there were still some 200,000 to come and the importance of the returnees was increasing, with many being ex-officers or specialists. The last POWs did not return until 1955. G (Int & Sy) BAOR had also built up a 'very close liaison' with the main intelligence element of the US Army further south at Heidelberg, who allowed the British to interrogate Soviet deserters in American hands, and indeed *vice versa*.[25] For this reason G (Int & Sy) BAOR was given special protected status from the regular staff reductions and economies that were imposed by Whitehall in the 1950s.[26]

Between 1950 and 1970, BAOR gradually expanded its collection capabilities with specialised elements, including improved military sigint and an aerial reconnaissance capability provided by the 2nd Allied Tactical Air Force (2ATAF). By the 1960s, BAOR even had its own small security service and humint collection service, known respectively as the British Services Security Organisation and the British Services Intelligence Organisation. There were also a number of dissemination units producing recognition materials and handbooks on Soviet tactics for distribution to front line units and junior commanders. However, while these specialist collection units were highly valuable and provided NORTHAG with a reservoir of excellent information about their Warsaw Pact adversary, they were not the operational core of NORTHAG intelligence.[27]

The core was a series of intelligence cells that worked closely with operations and planning sections at every level of the NORTHAG structure. During the late 1960s and early 1970s there were some efforts to undertake operational analysis on how the NORTHAG intelligence system would work under wartime pressure. The main problems that were identified related to communications and data overload. Predictably, communications above corps level (intra-NORTHAG) were bad, partly because of the complex politics of procuring NATO communications systems. Intelligence was often filtered at each HQ before being passed on, slowing the process down. Typically, an intelligence cell at the divisional level was expected to

cope with some 250 messages an hour. However, they lacked a terminal on the command net and received much of their feed from G Ops, which in practice meant they would have to sift operational material in an attempt to keep track of a fast moving battle. In short, the main problem was information overload, greatly compounded by communications bottlenecks, since much time was taken up with encypherment. In common with much of NATO, many NORTHAG intelligence elements lacked access to a secure voice system.

NORTHAG intelligence officers who ran these cells also complained that they were prisoners of outmoded procedure. During exercises, they spent much of their time compiling Intsums and Combintsums that were thought to be of limited value to commanders. They were especially doubtful that these would be read in the fast-moving context of the first few days of a conflict. In wartime, much of the work of the intelligence cells of NORTHAG's four constituent corps would have been 'pattern recognition', trying to understand the particular Soviet operational structures that were being used at any stage of the battle. Not all G Int officers were trained in this sort of intelligence work. Here the operational research teams reviewing NORTHAG intelligence identified the need for more analytical training, having found that some officers were often seriously hampered by 'preconceived ideas'. After one exercise they noted that in this instance the enemy plans remained concealed from the intelligence officer in question the end simply because 'information which did not confirm his preconceived ideas he ignored as being false'.[28]

Intelligence Collection in Peacetime

In the early years, NORTHAG commanders complained repeatedly of weak information on their adversary. Initially this charge was justified. In January 1952, General John Harding, who oversaw the creation of NORTHAG, observed that our 'intelligence cover of Eastern Germany and Poland on which we must depend for warning of attack, and information on Russian and Satellite forces is poor and deteriorating'. He urged that 'no effort be spared' to improve it. The Directorate of Military Intelligence in London readily accepted Harding's critique of intelligence, observing that this 'is realised only too well' and while work was afoot to improve matters it was expected to take 'some time'.[29] However, this comment also reflected NORTHAG's hierarchy of priorities. Although they desired intelligence on Warsaw Pact capabilities, and indeed were ever

hungry for detail on these subjects, what they desired above all was intelligence on Soviet intentions - specifically war warning. Forty-eight hours warning meant a reasonable chance of survival, while only a few hours warning spelled almost certain disaster. Throughout this period there was a prevailing paranoia that, despite a complex range of warning indicators, the Soviets would somehow manage a sneak attack.

NORTHAG received only limited intelligence from UK national sources, including human intelligence and signals intelligence. There were also a small number of German, Dutch and Belgian officers at Rheindahlen receiving feed from their national sources. Britain's much vaunted Secret Intelligence Service (SIS) or MI6 enjoyed several large stations across Germany, and a large establishment in Berlin based at the former Olympic stadium.[30] However, SIS had been a somewhat moribund organisation during the war and failed to modernise itself sufficiently during the immediate post-war period. Only with the advent of Dick White as Chief of the Service in the late 1950s did serious reform begin, assisted by the luminary Harold Shergold. One indicator of this was the lack of officers with university degrees and it was not uncommon for diplomats to refer to SIS as 'the failed BAs'.[31] More importantly, all allied clandestine human operations into the Communist bloc proved difficult with a high rate of compromise and agent loss. This was especially true of the Soviet Union, China and Korea. The communist countries invested vast sums in internal security procedures of labyrinthine complexity, such as internal passports for moving from one locality to another. The sheer terror of attracting the attention of the security authorities led to suspicious characters or new arrivals being reported by the local population. Although operations into East Germany, mostly from Berlin using former Wehrmacht personnel as agents, were relatively successful as first, they became progressively more difficult, partly because of the erection of the Berlin Wall in 1961.[32]

Although SIS began the Cold War with relatively few officers with a university background, they did enjoy the services of the brilliant Cambridge-educated officer Kim Philby. Groomed for rapid for promotion, we now recognise Philby as one of the most important Soviet spies of the Cold War. Immediately after the war he headed the new SIS anti-Soviet section (R5) and in the late 1940s headed to Washington to become SIS liaison with the fledgling CIA. By the mid-1950s Philby had fallen under suspicion, but the damage inflicted by this long-term agent was already enormous.[33] Perhaps even more important with regard to Germany was a further penetration agent, the SIS officer George Blake. Unbeknown to his superiors, he was influenced

from a young age by members of his family who were committed communists. Stationed in Seoul, he was taken prisoner by the North Koreans in 1950 and during his confinement he volunteered to work for the KGB. After his release, he served as a senior officer in the SIS Berlin station where he provided details of perhaps 400 western agents to the Soviets. Blake remained active until he was he was exposed by Michael Goleniewksi, a defecting Polish security service officer, who came over to the CIA in 1959.[34] The equivalent German service, the BND, seems to have faired little better. In November 1961, Heinz Felfe, a senior BND officer was arrested after it was discovered that he had been a double-agent for the Soviets for many years. Felfe had been a senior wartime SS security officer and was first recruited by the British SIS in 1946 and operated in Muenster. By the 1950s he was working for the BND and inflicted serious damage on their operations in the East. The communists enjoyed detailed knowledge of German intelligence structures, staffs and agents. Accordingly, many agents that had been recruited by SIS and the BND were arrested and later executed.[35]

What then of signals intelligence or 'sigint'? Although this is a complex subject and hard to summarise, Soviet communications security improved markedly after 1948 and thereafter Soviet high-grade communications proved difficult to read until further breakthroughs in the 1970s. Instead, much Western sigint conducted against the East during the period discussed in this article took the form of medium or low-grade systems or even the monitoring of voice traffic. Notwithstanding this, sophisticated traffic analysis and direction finding ensured a flow of useful product. In theory at least, this material would provide NORTHAG with war warning, since any deviation in normal patterns of signals traffic (even signals traffic that could not be read) would alert the west to the possibility of attack. Although front line units might adopt radio silence, war preparations were presumed to require many activities, such as unusual movements of railway stock, which could be tracked through the interception of open communications. Sigint also contributed heavily to Western knowledge about the Soviet Order of Battle and in particular about the locations and habits of key units. Innumerable personnel from the West spent years along the inner German border listening in to the habits of Soviet fighter aircraft as they communicated with their ground controllers, or mapping the effectiveness of Soviet air defence radar systems.[36]

Although the most daring of these sigint operations, the Berlin Tunnel, was compromised by George Blake, it remained effective for some time since the KGB did not inform their

compatriots for fear of compromising their well-placed agent.[37] Moreover, the British, American and Germans all operated further sigint operations along the inner German Border, also at RAF Gatow in Berlin and after 1957, from Teufelsberg, the highest point in Berlin. This salient location was designed to offer line of sight interception of VHF communications. However, the biggest problem for the dual-hatted intelligence chief at NORTHAG, who was also BAOR's intelligence chief, was access to UK product. The best technical intelligence systems were national assets. So tasking was at best indirect and distribution of product was limited to what London thought advisable. A local Government Communications Unit (GCU) distributed medium grade sigint to the Commander of BAOR and his senior staff officers.[38] However, only low-grade sigint could be circulated to and from NATO partners through multinational Special Handling Detachments (SHDs). Order of Battle material provided to NORTHAG (constructed largely from low-grade sigint) was excellent, but access to other material was intermittent. Problems of access were evident for subordinate elements such 2ATAF. Although much intelligence work in Berlin was undertaken by RAF sigint units in Berlin, often the product was not passed to the frontline customers in RAF Germany for security reasons. Even the NORTHAG commander was not in receipt of really high-grade sigint during peacetime.[39]

Accordingly, commanders in Germany were always anxious to expand their own considerable peacetime collection and analysis resources. An early development was the Scientific and Technical Intelligence Bureau, which was perhaps the most important intelligence unit within the Intelligence Division of Control Commission Germany. This unit was responsible for interrogating returning Germans POWs and civilians who has been in the East. Because the Soviets retained German POWs for more than a decade after the end of the war and used them extensively on military and industrial projects they provided an invaluable source of intelligence on a vast range of Soviet projects, including atomic programmes. The volume of these activities was vast and the quality of the product was high. Indeed, during the 1950s, in terms of military intelligence that was of direct value to NORTHAG, these activities were probably as valuable as the material provided by BND and SIS.[40]

The other major collection asset was the British Commander-in-Chief's Mission to the Soviet Forces in Germany (BRIXMIS). This was initiated on 16 September 1946 under the Robertson-Malinin Agreement. The agreement called for an exchange of liaison missions, (effectively teams of roving military attachés) whose task was to encourage good relations

between the two occupation zones. In 1947, parallel agreements for smaller missions were concluded by the Soviets, French and American commanders in Germany. These missions remained in being until October 1990.[41] Inevitably, the ability of the BRIXMIS missions to drive around relatively freely within the GDR was quickly turned to address the task of gathering intelligence on Warsaw Pact forces. The BRIXMIS mission had several intelligence tasks. It provided the premiere source of technical intelligence on new Soviet equipment, examples of which were often 'liberated' and spirited back to the west. Quite often this meant copies of field manuals, but even included examples of live artillery shells stolen from training areas. They provided invaluable material on Order of Battle and troop movements that could be cross-checked with sigint. Finally, and perhaps most importantly, it provided a reliable source of war warning - since BRIXMIS were 'eyes on the ground' - and could not be spoofed by techniques such as radio silence. Their missions were subjected to continual hostility from both Soviet Forces and the East German Stasi during this period, which even extended to the ramming of mission cars by Soviet lorries. BRIXMIS also worked closely with signals intelligence and atomic intelligence units, placing specialist monitoring equipment in the East on behalf of national agencies. While much has been made of the semi-covert activities of BRIXMIS, its greatest value remained direct liaison between the British and Soviet commanders in Germany. Although all sides kept the military missions separate from CSCE arrangements, they nevertheless provided an important means of defusing tensions and also of directly testing the temperature of East-West military relations.[42]

One of the greatest BRIXMIS coups was only revealed in 2004 and involved precisely this curious mixture of intelligence and liaison activity. On 6 April 1966, a new and highly secret Soviet Yak jet fighter crashed into the Havelsee, a large body of water located between the Soviet and British control sectors of Berlin. The incident was first detected by British sigint specialists from the RAF's 26 Signals Unit based at Gatow airfield, whose task was to listen in to fighter ground control stations. Overtly, the task of BRIXMIS was to handle the business of a complex salvage operation that would return the aircraft and the remains of the two dead pilots to the Soviet authorities. However, beneath the surface of the lake, they were also managing a complex technical intelligence operation. The aircraft's radar and engines were removed, quickly flown to the UK for inspection, and then returned to wreckage with 48 hours. Meanwhile,

BRIXMIS spun out the 'recovery' operation. The prize was access aircraft's revolutionary new radar system and the possibility of developing effective counter-measures.[43]

For NORTHAG, the activities of BRIXMIS brought additional value. Their existence owed everything to direct agreements between the Commander in Chief of BAOR and his opposite number in Soviet Zone and therefore Rheindahlen 'owned' BRIXMIS completely. Accordingly, while BRIXMIS often worked with London and UK national agencies, it was very much a creature of BAOR and tasked by them. Relations between the BRIXMIS Chief of Mission and the BGS Int & Sy at Reindahlen were exceptionally close. This was reinforced by the fact that the Mission officers, including its chief, were regular Army officers and not specialist Intelligence Corps personnel. They related immediately to the practical intelligence needs of NORTHAG. BRIXMIS staff deliberately gave their material the lowest classification possible to ensure its wide circulation throughout BAOR and NORTHAG. All these missions served not only as an important intelligence gathering system, but also as genuine crisis prevention mechanism.[44] Additionally, BRIXMIS had managed to escape the financial problems imposed on SIS by the advent of the Federal Republic in 1955. BRIXMIS was paid for by the Berlin Senat and effectively enjoyed an unlimited budget that allowed it to purchase the very latest equipment.[45]

Overall, UK national agencies do not seem to have accorded frontline forces in BAOR much priority. Whitehall was the preferred customer and whole architecture of the intelligence machine was anything but forward-leaning. It is hardly surprising that UK commanders in Germany were keen to develop their own resources. With the depletion of the human clandestine networks run by BND and SIS during the late 1950s and early 1960s, BRIXMIS became ever more important to them. This in turn led to a divergence of view. BRIXMIS paid particular attention to Warsaw Pact deployment patterns and were notably pessimistic about the chances of detecting the early stages of a surprise attack using technical means such as imagery or sigint. Their roving patrols were increasingly conscious of operational break-out drills conducted by entire divisions under radio silence. BRIXMIS teams discovered that the GDR had also installed elaborate networks of landlines that provided for communications to remote locations that were immune to interception. Exactly how much warning of the coming of war NATO would receive was a matter of constant debate at all levels of command. The lower the command echelon, the more gloomy the prevailing opinion tended to be.

Intelligence Collection and Special Forces in War

Although the British, French and American military missions provided a fabulous source of both operational and technical intelligence for NORTHAG, these were peacetime missions. While a few SAS personnel serving with BRIXMIS were preparing for stay-behind activities, in reality most of BRIXMIS expected to be rounded up perhaps twenty-four hours before any military action took place. This in itself might have provided an indicator of impending crisis. However, thereafter, with NORTHAG's main eyes and ears inside the GDR gone, what would have been the main source of intelligence in the first hours of a hot war in Europe? At Army Group level the primary need was to try to track the movement of the main enemy thrusts, together with reinforcements and logistics anything up to 500km behind the front line. Commanders needed to discern the Warsaw Pact's emerging battle plan and to disrupt its momentum in a timely way. Therefore, the most demanding task was long-range surveillance. Long-range intelligence for NORTHAG was expected to be provided by a mixture of air reconnaissance, sigint and above all stay-behind parties.

Remarkably, during the 1950s and the 1960s NORTHAG commanders seems to have placed the greatest emphasis on the least technical of these options, human reconnaissance from stay-behind patrols. This was often referred to in local parlance as 'the Mk.1. eyeball'. From the onset of war, intelligence inside the Soviet occupied areas would have been provided by dedicated stay-behind parties from NATO special forces. Prevailing doctrine suggested that these special forces had several deep penetration roles in wartime:

(a) Collection of intelligence by active or passive methods

(b) Offensive operations by small parties

(c) Co-operation with partisans or guerrillas

(d) Assistance to combat survivors, and other operations connected with evaders and escapers [downed pilots]

However, in the context of global war, intelligence collection was deemed to be the predominant task of SAS-type units. It was also emphasised that they should give particular reference to enemy atomic systems and the only coup-de-main type activities that were considered important

were likewise attendant efforts to 'destroy enemy nuclear weapons or missile sites'.[46]   This reflected a growing recognition that Warsaw Pact forces might move too fast to allow air reconnaissance to provide effective targeting intelligence for NATO artillery. It was also recognised that NATO commanders would press for early release of nuclear weapons for fear that Warsaw Pact units would deliberately 'hug' their opponents, making the use of tactical nuclear weapons increasingly difficult as the battle developed.[47]

By 1962, NORTHAG was busy developing a new force for this important role. This involved adding a Special Reconnaissance Squadron (SRS) from the Royal Armoured Corps to strengthen 23 SAS. During the initial alert, SRS were expected to hold the fort until the arrival of 23 SAS who would be flow in from UK.[48] Thereafter 23 SAS and SRS were to operate as a single unit giving priority to sightings of 'nuclear units, formation HQs, armour, and bridging and ferrying equipment.' Their main task was to provide the target intelligence for the Honest John missile systems and heavy artillery.[49] These special units were based at Padeborn and were equipped with HF morse to provide long range and, hopefully, continued communications even in an EMP environment. Because the expected rapid rate of advance by Warsaw Pact force there was no need for these units to practice exotic skills to penetrate the enemy front line. Instead the drill was to move forward quickly, usually by any available soft transport such as a 3-ton truck. Special forces would eventually meet the units tasked as the rearguard or delaying force and as these elements withdrew, the special forces would stay behind. Preparations for this activity had become quite elaborate by the late 1960s with pre-identified hides and some pre-positioned SAS stocks buried underground. Much of this activity was focused on what commanders referred to as the 'demolition belt'. These were zones some way east of the Rhine where it was hoped that bottlenecks would occur amongst aggressor forces some twenty-four hours after the Warsaw Pact forces had attacked.

All the component national corps of NORTHAG recognised the value of stay-behind operations. The Germans created the "Fallshirmjäger Fernspähkompanie" while the Belgians boasted two companies of para-commandos dedicated to this role. To the south, each American Corps developed its own ranger-type companies dedicated to Long Range Reconnaissance Patrols. Eventually NATO set up its own International Long Range Reconnaissance Patrol School run by German officers at Weingarten in Bavaria.[50] It is widely accepted that some of the American special forces units were equipped with Atomic Demolition Munitions (ADMs) in

an attempt to slow the advance of Soviet armour.[51] Although ADMs posed serious problems of contamination because they would have generated a great deal of fallout, they were nevertheless popular with military planners since they were considered to be more defensive and less escalatory than other types of tactical nuclear weapons.[52]

Although kept highly confidential, the use of demolitions by joint teams of engineers, sappers and special forces, had long been part of Western plans to slow an advancing enemy in the first few hours of war. In the 1950s the emphasis was on conventional demolitions. As early as July 1950, General Lawton Collins, the US Army Chief of Staff wrote to his British counterpart, William Slim explaining that he was 'thoroughly convinced of the great value of carrying out these strategic demolitions' and urging the allocation of more engineer teams to the task.[53] In 1952, UK commanders in Germany were also arguing for 'the most extensive use of demolitions' in war planning for Europe.[54] All these commanders gave importance to co-ordinating demolition activities across Germany - and indeed even into Austria. In April 1952, the UK Chiefs of Staff had initiated discussions with the Austrian Chancellor on the matter and had agreed to send an 'M.I.6. technical adviser to advise the Austrian authorities on strategic demolitions there in the event of war'.[55] Indeed, by this point there was clearly a co-ordinated allied plan for a chain of demolitions extending on through southern Europe, the Mediterranean and the Middle East, where the CIA seem to have had the majority of the responsibility for oil denial.[56]

By the early 1960s there was growing emphasis was upon atomic demolitions. During 1963, NORTHAG were planning to deploy two types of ADMs, one with a yield of 2 kt and one with a yield of 10 kt, the latter primarily with a view to bridge demolition.[57] From the mid-1960s specialist ADM sappers from the UK were attending training courses at Fort Belvoir in the United States and appear to have been the only European country offered this facility. UK planning scales suggested that BAOR would eventually have 25 ADM specialists available at one time.[58] However, throughout the 1960s NORTHAG remained dependent on American ADM teams lent by EUCOM at Heidelberg. In September 1965, it was reported that 'all ADM's in Germany are American devices which are allocated to SACEUR to Northern Army Group and are emplaced and fired by US personnel'. This reflected a 1962 decision, taken by the British Prime Minster, Harold Macmillan, not to procure a separate UK stock of these weapons on cost grounds.[59] However, by 1965 there was clearly a growing UK interest in developing their own

devices.[60] This reflected anxiety in NORTHAG about delays in deployment due to the possibility of complex political restrictions, custodial arrangements and arguments over available numbers of weapons. By 1967, UK Army Engineers were in discussion with the UK Atomic Weapons Research Establishment at Aldermaston about a weapon that could be 'carried man-pack in sections by a few soldiers' of which two or three hundred were expected to be acquired.[61]

ADMs were a sensitive area where intelligence, strategy and alert measures came together. The specific role of the Commander of NORTHAG was to review ADM targets submitted by the various Corps for inclusion in a regional priority programme, to allocate nuclear weapons to Corps, to maintain a reserve, to delegate authority for firing once received from SACEUR and to allocate the available ADM teams. During peacetime the US teams were located in the CENTAG area and would have move into NORTHAG under SACEUR alert measures. However, NORTHAG were increasingly anxious about the fact that they could only detonate once direct US approval had been received.[62] In 1967, with the advent of flexible response, ADMs acquired a yet higher profile.[63] Accordingly, by 1971 the UK appears to have been moving ahead with its own ADM programme with a primary focus on NORTHAG requirements. This was designated 'Project Clipeus'.[64]

Whether conventional or nuclear, a substantial part of the demolition effort by NORTHAG's special forces and sappers would have been water-born. In the late 1940s, BAOR had operated a Royal Marine Demolition Unit manned by former members of the Special Boat Service based at HMS Royal Prince at Krefeld on the German-Dutch border. They were equipped with fast and efficient German Torpedo-Recovery boats and rescue craft. In 1949 this had been renamed the Royal Navy Rhine Flotilla - a veritable inland navy - which was upgraded in 1950 to a peacetime strength of some thirty craft.[65] At the same time, the personnel from the Royal Marines Demolition Unit, many of whom were trained frogmen, were re-organised to form 2 and 3 Special Boat Service squadrons who were given designated demolition and stay-behind roles on the Rhine. In war they would have been joined by 4 and 5 Special Boat Service squadrons which were territorial units. This flotilla co-operated with US Navy's Rhine River Patrol at Karslruhe and the French Forces Maritimes du Rhin based at Koblenz. A key role for these units was using demolition munitions to destroy bridges over rivers, not only on the Rhine but also the Weser and Elbe.[66] They were also tasked to sow the more attractive crossing points with thousands of mines and to destroy craft that might assist the enemy with river crossings.

The commander of RN Rhine Flotilla noted that demolition was 'really the main and most difficult problem'. As well as attacking various bridges, they were required to sink or severely damage some 1500 to 2000 vessels in 'an incredibly short space of time'. This was thought to be between three to five days. Whatever had not been done by then would have to be finished off by the Special Boat Service 'in territory occupied by the enemy'.[67] As early as 1950, a requirement for some 18,000 limpet mines for the Allied Rhine Flotillas and associated commando units had been raised.[68]

The dependence upon a few soldiers for the targetting of nuclear artillery and key battlefield missile systems such as Corporal and Honest John was an obvious weakness in NORTHAG plans for the first few hours of war. During the late 1960s and early 1970s NORTHAG became increasingly concerned about the potential vulnerability of stay-behind parties and began to carry out research on their capability and survivability. An extensive programme of research was carried out during the 23 SAS annual training exercise held in Germany during October 1973, codenamed 'Badger's Lair'. Eight SAS teams were deployed on the Soltau training area. BAOR signals teams conducted elaborate tests to investigate their vulnerability to intercept and Direction Finding (DF) procedures. RAF units examined concealment procedures by over-flying the SAS hide locations with thermal cameras, infra-red systems as well as monochrome photography. Vulnerability to searches with dog patrols were also examined. To the dismay of the SAS, during these tests some 39 hides were created but 37 were found within the first six hours by the patrols and dogs were 'highly successful' throughout the trials. Even more remarkable was success with electronic warfare sensor vehicles. To the surprise of the research teams, these intercepted not only hand-speed morse but also, burst-encrypted traffic. DF bearings were achieved at ranges of up to 12 kilometres and accurate bearings using triangulation between three vehicles were achieved at ranges of 5 kilometres. By contrast, airborne systems whether deployed by aircraft or helicopter revealed almost nothing. These tests prompted a decision to try to develop better communications equipment for stay-behind parties, which were now recognised as highly vulnerable.[69]

Partly because of the problem of moving special forces forward at short notice and getting demolitions into place in time, further undercover plans had been formulated by commanders. From the outset NORTHAG had also counted on an additional secret force of civilians who would conduct a mixture of intelligence reporting, sabotage and demolition work.

One of the originators of this activity appears to be General John Harding, who oversaw the emergence of NORTHAG in the early 1950s. He observed:

> Our chances of imposing effective delay on the enemy's advance east of the Rhine will depend largely on the success of our demolition plans. All practicable preparations must be made beforehand to make the plan effective, including the organisation of a German manned stay behind sabotage organisation. A great deal still requires to be done in these respects.

Harding saw this civilian organisation carrying out demolitions in order to give his defensive forces time to get into position in the opening few hours of the campaign during which the 'time margin will be very narrow'. Thereafter he saw them as attacking targets such as enemy fuel supplies. He repeatedly emphasised that to 'pay the highest possible dividend such an organisation should be German manned'.[70] By the end of the 1950s such an organisation had come into being. Often referred to by its code-name 'Gladio' it was controlled by the Allied Clandestine Committee at SHAPE and was active throughout the Cold War.[71]

NORTHAG's heavy dependence on SAS-type activities also raises interesting questions about sigint, which had been a key source of real-time operational intelligence during the Second World War and had continued to be so in various low intensity conflicts such as Aden and Borneo. NORTHAG certainly enjoyed its own significant sigint and electronic warfare capability which was presided over by the NORTHAG Intercept Control Centre (ICC). In time of war it would have also received additional national sigint from airborne collection. This included specialist Canberra and Comet aircraft from 51 Squadron, albeit their main role would have been to support the UK airborne deterrent. Fortunately, ICC also enjoyed its own sigint and electronic warfare resources in the form of units such as the UK's 225 Signals Squadron which was tasked to support BAOR. At Corps level there were also Electronic Warfare Control Centres that worked as subordinate units to ICC. The tasks of these tactical sigint centres included direction finding or position fixing against enemy HQs and radio jamming. These units had proved an invaluable intelligence contribution to NORTHAG in peacetime through their work on the Soviet Order of Battle. Over years particular operators learned the signature of Soviet bloc forces allowing them to learn a great deal about each distinct formation. However, these tactical sigint

units themselves felt that this very success in peacetime had perhaps led to a dangerous over-estimation of their likely contribution in wartime. They observed:

> In a war of limited duration in NW Europe, if the standard of security in WP [Warsaw Pact] communication links is good, the timely intelligence and useful steerage that 225 can provide will be very small … The problem … is not so much one of equipment quantities but rather the difficulty of conducting EW in a highly mobile tactical environment … The wartime limitations of 225 Signal Squadron are not widely known as a result the squadron's capabilities are overrated.

This was worrying because electronic warfare was one of the few planned intelligence sources for determining the location of enemy headquarters. Sigint specialists feared that the Soviets might be routinely 'remoting' the radios associated with their major headquarters at distance of 2 km in which the effectiveness of NORTHAG's direction finding efforts would be 'drastically reduced'. Their only hope was that under the stress of war, Warsaw Pact communications security might lapse, but this was by no means certain. Indeed, some predicted that for the first twenty-four hours the Warsaw Pact might advance on pre-designated lines and keep near-radio silence.

NORTHAG's senior offices clearly had high hopes that their tactical EW/Sigint organisation would provide a continual flow of information on enemy deployment patterns as well as intentions in the first few hours of war. They also desired information on the 'location of enemy headquarters and missile launching sites'. However, in reality only FROG missile launching sites were likely to within range, while the more important SCUD missile sites would have been outside the typical operating range of tactical sigint, which was widely thought to be only 40-50km. NORTHAG was intrigued by the American decision to introduce airborne tactical sigint systems, but were sceptical about its ability to perform given that they would have to fly well back from the battle area in order to survive, perhaps picking up mostly allied transmission and background noise.[72] In fact, these sorts of systems - known as 'Guardrail' - were introduced in the 1970s by the US Army in CENTAG and proved highly effective.[73] It is likely that the arrival of these valuable operational sigint collectors for the US Army reflected good previous

experiences during the 1960s with the U-2 aircraft which had undertaken regular perimeter sigint flights around the Eastern Bloc.[74]

The biggest limitation on NORTHAG's own local ground-based sigint capability was range of intercept. The primary mode of Warsaw Pact command and control was VHF radio and the range over which this could be intercepted was 40-50 kilometres. This reflected both transmitter power and also the need for line of sight interception. Accordingly, it was possible to meet Divisional Comint requirements, but problems would have occurred at the level of Corps and above who needed to see further behind the front line. Accordingly, intelligence would only be gained from ground based VHF intercept on Warsaw Pact reserve divisions when it was too late for the Corps HQs, or Northag HQ to react. Limitations of range also required sigint collectors to be based as far forward as possible, exposing them to risk and forcing them to move frequently, which was not 'conducive to the best COMINT collection'.[75] Pessimism was reinforced by the knowledge that at the level of Divisional HQ and above Soviet communication security was good. In 1969, UK officials conceded that while monitoring recent large scale exercises they had found that the Soviet ability to 'successfully use communications security measures results in lean intelligence collected by the SIGINT organisation'.[76]

During the late 1960s, American and French units to the south acquired effective ground surveillance radar systems, however equivalent radar equipment did not enter service in the NORTHAG sector until the 1970s. NORTHAG were also impressed by the US Army's Mohawk OV-1B aircraft equipped with Sideways-Looking Airborne Radar which offered a night-time and near all-weather capability. These aircraft had demonstrated remarkably good performance in Vietnam and had provided the main source of intelligence on night movement by enemy vehicles. It could detect lorries at ranges of up to 70km and NORTHAG hoped that the Luftwaffe units in 2ATAF might decide to acquire it. Although demonstrator aircraft flew in both German and French colours this useful aircraft was never acquired by European forces.[77] Only during the mid-1970s did new technology begin to provide alternative sources for NORTHAG. Unattended Ground Sensors (UGS), initially trialled in Vietnam as the 'Igloo White' programme began to become available in Europe. By the early 1980s, UGS had become a formidable intelligence instrument for NORTHAG. Many of the early models - nicknamed 'bump-counters' - were tested during real Warsaw Pact exercises in the east, having been put in position by BRIXMIS personnel.[78]

Had war broken out prior to 1970, NORTHAG would have turned to traditional air reconnaissance with cameras by 2ATAF for longer-range intelligence.[79] However, both 2ATAF and also 4ATAF (who supported CENTAG) had limited reconnaissance resources in Germany. Moreover this source of intelligence would have diminished quickly because an aircraft casualty rate of some 60% was expected over the first 7 days of any engagement with the Soviets. Attrition rates were much debated by senior commanders with some pessimists suggesting a 'Pearl Harbor' type scenario in which a high proportion of NATO airfields might be eliminated in series of early and successful pre-emptive strikes which 'could result in few aircraft surviving to carry out reconnaissance'. Most observers agreed that once battle commenced, aircraft vulnerability would require low flying which in turn would limit the area that could be surveyed by airborne sensors. Effectiveness was also hampered by a tendency to retain aircraft under centralised control, which meant that requests for reconnaissance had to travel through several commands before being met. By 1969 this problem was being addressed with plans to allocate some reconnaissance aircraft directly to individual Corps within in NORTHAG and to give more helicopters to armoured reconnaissance units.[80]

Finally, in previous wars, both captured enemy documents and POW interrogation had proved to be a valuable source of intelligence and those interested in learning the lessons of the past were determined to put an elaborate NATO systems in place to address this.[81] During 1954 considerable attention was given to the creation of a NATO Captured Enemy Documents Organisation (CEDO) which advised Standing Group and was intended to partner a POW Interrogation Organisation and also a NATO Technical Intelligence Agency (SGTIA). The intention was that at the operation level, NATO would field a number of Regional Document Units at Army Group level.[82] However, by the 1960s commanders were increasingly convinced that few Soviet prisoners or documents would be taken during a rapid Warsaw Pact advance and in any case the fluid situation would render any intelligence gained from interrogation all but useless. Accordingly, while NATO procedures for POW interrogation were standardized, the emphasis was increasingly on local exploitation of prisoners by tactical units.[83]

Conclusions

During the 1950s, the North German plains seemed like the Cold War's frozen front with little likelihood of real conflict. However, by the early 1960s a number of crises had created a climate of growing anxiety. Confrontations over Berlin and Cuba, together with an escalating war in Vietnam made war seem somewhat closer. The Six Day War in 1967 and the Czech coup in 1968 were also unsettling for commanders. Moreover, throughout the 1960s there was growing awareness that NATO's conventional inferiority in numbers, especially in the NORTHAG region, might call for the early use of nuclear weapons to stem the tide of a Warsaw Pact attack. All this generated considerable strain, not only on the systems that supplied intelligence for warning, but also on the command and communications network that supported SACEUR's Counter-Surprise System and would have brought NATO's multi-national commands such as NORTHAG to life.

With this in mind, in May 1968, London and Washington began considering up-grading the flow of signals intelligence to the new NATO political headquarters that had just moved from Paris to the outskirts of Brussels. Bill Millward, Director of Requirements at GCHQ, had already been out to Brussels for talks with the UK Military Representative on this subject. However, these plans were plagued by repeated espionage flaps. In the autumn of 1968 a Turkish Colonel, Nahit Imre, NATO's financial controller was revealed to be an agent working for the Rumanian intelligence service.[84] In London, the Imre case caused real consternation. Ronnie Burroughs in the Foreign Office immediately saw the connection between this case and the recent decision to improve sigint for NATO. He wrote to Senior UK representative on the North Atlantic Council asking 'whether we are right to proceed with our plans to set up an all-NATO GCHQ cell at Evere'?[85] London eventually decided to press ahead with developments, but was clearly unsettled.[86]

During 1969 NATO was shaken again by the unravelling of the Roussilhe Case. Francis Roussilhe was a French employee of the International Staff who had worked for NATO since 1952 and had gradually risen to be Chief Clerk of the Document Translation Centre. Since 1963 he had provided the Rumanian intelligence service with at least 5,000 NATO documents including Cosmic Top Secret material. As with Imre, he was caught as the result of information from a high-level Rumanian defector secured by the Americans.[87] The UK Chiefs of Staff now took a 'very grave view' of developments and were anxious to make sure that issues arising from

it were not 'swept under the carpet'. There were many voices in London who now argued that the UK was putting its own forces at risk 'by passing too much information to NATO'.[88]

Notwithstanding all this, the development of a GCHQ cell for NATO at Evere still went ahead. One may well ask why, given the repeated security breaches in the late 1960s? The answer probably lay in the modest nature of the proposal for improved sigint that had emerged from the Working Group set up by NATO's Special Committee. This was narrowly focused on intelligence that might influence 'a timely decision to release nuclear weapons'. It was specifically about intelligence during the critical period between consultation on a developing security situation and request for the release or use of nuclear weapons. In other words, there was never any intention to supply NATO's political machine with sigint on a regular basis under normal peacetime conditions. Instead it only sought to regularise the position that had occurred during Middle East War of 1967. During this earlier crisis, the UK and the USA had provided NATO with most of its intelligence, based largely on sigint, requiring the laborious production of 'specially tailored' documents that provided detail on the situation without compromising sources.[89]

No less important during the late 1960s was the recognition of the need for higher-grade command and communications links between NATO and its constituent commands.[90] The ability of SHAPE, AFCENT, NORTHAG and their constituent Corps to communicate was notoriously weak and had little redundancy. Accordingly, in 1970, NATO began a serious effort to address its communications problems. Member states signed up to a large-scale programme to provide a modern communications system entitled the NATO Integrated Communications System (NICS). Alongside this they initiated a NICS Management Agency, NICSMA, with the task of planning and implementing the system. The long-term objective was to afford rapid, secure and survivable communications to NATO's senior political and military echelons.[91]

If NATO intelligence officers were unsettled by international events at the end of the 1960s then worse was to come. By October 1973 they found themselves operating under the shadow of the Yom Kippur War which delivered many unpleasant surprises. Although regular exercises were a feature of military life in Europe, most component elements of NATO had not been involved in a major war since Korea. Accordingly, all eyes were on Yom Kippur to see what could be learned. The surprise attack that the Arabs inflicted upon Israel in October 1973 only served to provoke new levels of anxiety in NATO about intelligence, warning and

communications. This Middle East episode witnessed excellent Arab deception, poor Israeli intelligence analysis combined with anxiety and indecisiveness about whether to mobilise or not. It also provided evidence of good Arab signals intelligence and weak Israeli communications security. In Europe, observers were not slow to realise that the same underlying problems would be faced by NATO in Germany, compounded by the need for complex inter-Allied consultation on the eve of war. Commanders noted:

> NATO is confident of and requires 48 hours warning of an attack in Europe because of the scale of preparations necessary for even a limited attack. However, in a situation similar to the Central front, the Israeli's vaunted intelligence system noted all the indicators and failed to construe them correctly. NATO might do no better, and a close and careful reappraisal of our intelligence collection methods and analysis procedures is indicated.

There was an increasing appreciation that, for the Warsaw Pact, their large standing forces made 'surprise attack an attractive option'. What would happen if the Soviets traded the cost of limited preparations and reserve mobilisation for the advantage of complete surprise? It was conceded that although the NATO procedure worked reasonably well during exercises based on adequate warning time, 'it has yet to be exercised against a surprise attack'.[92]

Off-setting some of these anxieties, the early 1970s saw improving East-West relations. The Soviets had become embroiled in border clashes with the Chinese and, together with Nixon's decision to play the 'China card', this had prompted Moscow to seek Détente with the West. An agreement that defused tensions over Berlin was signed in March 1970. More important was the treaty signed between East and West Germany in December 1972 which allowed both to members of United Nations.[93] All this was accompanied by arms control agreements and confidence building measures that were underpinned by verification. Improved satellite systems supported these agreements and also went some way to addressing anxieties about warning and surprise. Arguably, the emergence of CSCE, with its emphasis on the avoidance of crisis and surprise, also reflected a growing recognition that the command and control systems on both sides were fundamentally ill-suited to rapid decision making under pressure.

Despite the centrality of this subject, our knowledge remains incomplete and many questions remain to be answered. Did intelligence help to stabilise the situation in Western Europe, or was it a potential source of provocation? One the one hand, we might argue that both NATO intelligence on the East - and also Warsaw Pact intelligence regarding NATO - contributed to some improvement in relations. Complex warning indicators at least gave each side the hope of 48 hours notice of attack. Some Eastern bloc espionage against NATO headquarters also had the effect of calming nerves. During the 1960s, East German penetration of the NATO registries was so complete that the Warsaw Pact seems to have been largely convinced that the intentions of West European countries were genuinely defensive and benign.[94] Yet these assessments were offered as probabilities, rather than certainties, since no amount of intelligence ever provided complete confirmation. Meanwhile, somewhat perversely, the onset of Détente and Ostpolitik, with its flurry of new embassies and consulates, presented fresh opportunities to accelerate the intelligence war. Intelligence assessments may have been reassuring, but intelligence collection operations themselves could be destabilising. Ironically, it was an espionage case that trigged the resignation of Chancellor Willy Brandt, the author of Ostpolitik. Accordingly, there was no let up for the intelligence agencies supporting NATO in Northwest Europe and they remained busy for another two decades until the end of the Cold War.[95]

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[1]   The Middle East War of October 1973 helped to trigger a wave of international relations scholarship on surprise attack, see especially, Richard Betts, *Surprise Attack: Lessons for Defense Planning*. (Washington, DC: Brookings Institution 1982); Ariel Levite, *Intelligence and Strategic Surprise,* (NY: Columbia UP 1987); Ephraim Kam, *Surprise Attack: The Victim's Perspective* (Cambridge, MA: Harvard UP 1988).

[2] Little has been written on NATO intelligence during the 1960s and 1970s, however for an excellent analysis of intelligence during the 1980s see, P.B. Stares, *Command Performance: The Neglected Dimension of European Security* (Washington D.C: Brookings Institution 1991). Also useful is P.J. Bracken, *The Command and Control of Nuclear Forces* (New Haven: Yale UP 1983).

[3] See also the comments of Colonel L. William Cracken, an intelligence officer who served at AFNORTH in *Between the Lines: Reflections on War and Peacetime* (Dallas: Taylor Publishing 1998), 161-80.

[4] General John Hackett, who had served as COMNORTHAG (1966-8) wrote a fictionalised version of such a conflict, *The Third World War* (London: Sidgwick and Jackson 1978).

[5] For an example of an excellent archaelogical investigation of this difficult subject see Kevin Jones, *Intelligence, Command and Military Operations: The Eighth Army Campaign in Italy, 1943-45* (London: Routledge 2007).

[6] This is classic interview territory. On the related research problems see R.J. Aldrich, 'Grow Your Own: Cold War Intelligence and History Supermarkets', *Intelligence and National Security*, 17/1 (Spring 2002), pp.135-52.

[7] NORTHAG Operational Instruction No 1 - GDP 70.

[8] However, there were many other nationalities, typically between 1963 and 1970 many of NORTHAG's signallers were Canadians. See Canadian National Archives, RG 24-G-13-19.

[9] For example, between 1971 and 1973 this role was fulfilled by Brigadier Sir James Gow.

[10] Under the 'Flashpoint Plan' the UK expected it to take a full week to mobilise reserves and get BAOR up to its wartime complement, see DEFE 7/1821, UK Public Record Office, memo. to Dell (MoD), 'NATO Alert Measures', 25 Sept. 1961, (all file references are to the PRO unless otherwise stated).

[11] D.N. Schwartz. *NATO's Nuclear Dilemmas*, (Washington: Brookings 1983).

[12] DEFE 2/2079, Confidential Annex to COS (51) 140th mtg. (6), 'Tactical Use of Atomic Weapons', 4 Sept. 1951.

[13] J.E. Stromseth, *The Origins of Flexible Response: NATO's Debate over Strategy in the 1960s*, (New York: St Martin's 1987); Ivo H. Daalder, *The Nature and Practice of Flexible Response: NATO Strategy and Theater Nuclear Forces since 1967* (NY: Columbia UP 1991).

[14] DEFE 48/496, DOAE Project 147, 'The NATO Intelligence System', Jun. 1969.

[15] ibid.

[16] DEFE 13/14, Draft memo. by Minister of Defence for Cabinet, 'SACEUR'S Counter-Surprise Military System', 9 Mar. 1961. This memo shows that in fact 'under a secret agreement in another context

between ourselves, the U.S Government and SACEUR', authority has already been given to SACEUR to order key elements of RAF Bomber Command to take the air in order to ensure their survival, ibid.

[17]   ADM 1/27842, D (61) 5th Meeting (3), 'SACEUR's Counter Surprise Military System', discussing D (61) 19, 27 Apr. 1961.

[18]   FO 371/154587, WUN11914/36/G, COMNORTHAG letter N 7985 G-3 Ops 1 of 14 Mar. 1960 to Ministries of Defence, Annex A to COS.923/14/7/60, 'SACEUR'S Counter-Surprise Military System', 14 Jul. 1960.

[19]   ibid.

[20]   FCO 41/389, Peck (FCO) to Burrows (UK NAC Rep), 13 Dec. 1968. The 'Rumanian Affair' was fully narrated in JIC (68) 119, 13 Dec. 1968.

[21]   Office of Technology Assessment, *Technologies for NATO's Follow-On Forces Attack Concept*, (Washington DC: OTA Jul. 1986).

[22]   The best account of this subject is offered in Paul Maddrell, *Spying on Science: Western Intelligence in a Divided Germany, 1945-61* (Oxford: Oxford University Press, 2006), pp.32-9.

[23]   On the end of subsidy see R.J. Aldrich, *Hidden Hand: Britain American and Cold War Secret Intelligence* (London: John Murray 2001), pp.416-8.

[24]   WO 216/943, 'Note for VCIGS on Intelligence organisation BAOR', Feb. 1950. ID CCG was passed from Foreign Office to military control in the early 1950s.

[25]   Short (DMI) minute to DSD, 16 Mar. 1950, ibid. For a detailed account of these important activities see Maddrell, *Spying on Science*, pp.103-118.

[26]   WO 216/943, DCIGS minute to VCIGS, 26 Apr. 1950.

[27]   On BSSO and BSIO see R.J. Aldrich, 'British Intelligence, Security and Western Co-operation in Cold War Germany: The Ostpolitik Years', in Beatrice de Graaf, Ben de Jong, Wies Platje (eds.) *Battlegound Western Europe: Intelligence Operations in Germany and the Netherlands in the Twentieth Century* (Amsterdam: Uitgeverij Het Spinhuis 2007), pp.134-7.

[28]   DEFE 48/817, DOAE M500, 'Int. cells and Int. Functions in 1(BR) Corps', Jan. 1971.

[29]   WO 106/6051, Harding to War Office, 'The Situation of BAOR', 17 Jan. 1952. Minute by DMI's office, 'General Harding: Appreciation', 11 Mar. 1952, ibid. Harding was Commander of BAOR in the months prior to the creation of NORTHAG in late 1952.

[30]   There were also many small stations, Hamburg for example boasted only two or three SIS officers. Private information.

[31]   Private information.

[32]   P. Maddrell, 'The Western Secret Services, the East German Ministry of State Security and the Building of the Berlin Wall', *Intelligence and National Security*, 21/5 (2006), pp.829-47.

[33]   C.M. Andrew, *The Sword and Shield: The Mitrokhin Archive and the Secret History of the KGB* (NY: Basic Books 1999), pp. 398-401.

[34]   G. Blake, *No Other Choice*, (London: Cape 1990), pp.165-9, 206-8; O. Kalugin, *The First Directorate* (NY, St Martin's 1994), pp. 141-2.

[35]   S. Shapiro, 'Intelligence Services and Foreign Policy: German–Israeli Intelligence and Military Co-operation', *German Politics*, 11/1 (Apr. 2002), pp.33-4

[36]   L. Woodhead, *My Life as a Spy* (London: Macmillan 2005).

[37]   D. Stafford, *Spies Beneath Berlin* (London: John Murray 2002). Tunnels were not a western monopoly. Reportedly, the East Germans constructed several tunnels under the Inner German Border that allowed them to move agents and even clandestine patrols into West Germany.

[38]   GCUs were, in some ways, the successors to wartime Special Communications Units which had distributed Ultra material to regional commands. I am indebted to the late Peter Freeman for information on the development and operation of GCUs and SHDs.

[39]   Aldrich, 'The Ospolitik Years', p.129. This problem was eventually addressed in the 1980s.

[40]   P. Maddrell, 'Operation "Matchbox" and the Scientific Containment of the USSR ', in P. Jackson & J. Siegel (eds.), *Intelligence and Statecraft: The Use and Limits of Intelligence in International Society* (Westport , CT: Praeger 2005), pp. 173-206.

[41]   The final phase is dealt with in S. Gibson, *The Last Mission* (Stroud: Sutton 2005).

[42]   N. Wylde (eds.), *The Story of Brixmis, 1946-1990* (Arundel: BRIXMIS Association 1993); T. Geraghty, *Beyond the Front Line: The Untold Exploits of Britain's Most Daring Cold War Spy Mission* (London: Harper Collins 1996).

[43]   M. Smith, 'How the West Stole the Secret in the Lake ', *Daily Telegraph*, 24 Jan. 2004.

[44]   D. Ball, 'Controlling Theatre Nuclear War', *British Journal of Political Science*, 19/3 (Jul., 1989), pp.303-327. On the US mission see J.A. Fahey, *Licensed to Spy* (Annapolis: Naval Institute Press 2002).

[45]   I am indebted for this point to Colonel Roy Giles, who gave an excellent presentation on BRIMIS at the University of Nottingham in May 2006.

[46]   WO 32/19472, DMO memo, ''Future Requirement for SAS Type Operations', 14 Jul. 1958. See also memo. by Lt Col. Pat Hart , 'The Special Air Service', 1958, McLeod papers, 2/5, Liddell Hart Centre for Military Archives, Kings College, London.

[47]   257 Signals squadron provided the communications links from NORTHAG HQ to UK and German missile batteries.

[48]   These particular units were on short readiness times. The unofficial motto of soldiers performing this spotting role was 'wait and fly - dig and die'. Private information.

⁴⁹   WO 32/19472, 'Operational Directive to 23 SAS and Special Reconnaissance Squadron RAC', Annex to B 2014/10 G (Ops & Plans) 11 Sept. 1962.

⁵⁰   DEFE 48/496, DOAE Project 147, 'The NATO Intelligence System', Jun. 1969. Also private information.

⁵¹   The US special atomic demolition munitions programme appears to have been code-named 'Green Light' and was active from the mid-1960s to the mid-1980s. Sergeant Major Joe Garner was probably the first person to make a parachute jump with an atomic weapon strapped to his body in 1960, see J.R. Garner, *Codename Copperhead: My True Life Exploits as a Special Forces Soldier* (New York: Simon and Schuster, 1994), pp.19-25.

⁵²   CAB 163/38, NATO Special Committee - Nuclear Planning Working Group: Role of Tactical Nuclear Weapons, (paper by the UK), 12 Apr. 1966.

⁵³   WO 216/346, Collins (US Army COS) to Slim (CIGS), 10 Jul. 1950.

⁵⁴   WO 106/6051, Harding to War Office, 'The Situation of BAOR', 17 Jan. 1952.

⁵⁵   DEFE 11/433, Reilly min. 3 Apr. 1952, ZC/52/54.

⁵⁶   CIA responsibilities for demolitions and oil denial in 'the Sheikhdoms' are discusses in DEFE 11/433, G. McDermott (PUSD) to W. Armstrong (Treasury), JPA 7, 28 Jul. 1951.

⁵⁷   WO 32/21603, NA/174/06, 'The Application of ADMs to Bridge Demolition', staff mtg., 18 Feb. 1963.

⁵⁸   'ADM Training', Annex A to RSME S/21/4, 17 Jun. 1965, ibid.

⁵⁹   PREM 11/3990, PM/62/46, 'Atomic Demolition Munitions', 23 Mar. 1962.

⁶⁰   WO 32/21603, 57/Engrs/6047, Engineer-in-Chief memo, ' Tactical Doctrine - Employment of Atomic Demolition Munitions', 5 Oct. 1965.

⁶¹   Bolton memo to DGGS (MoD), 'ADMs', 10 Feb. 1967, ibid; see also 'Outline of Requirements for a UK manufactured ADM', 10 May 1967, ibid.

⁶²   Tuzo to Robertson (DAEP/MoD), 28 Jun. 1967, enclosing Annex A, 'Atomic Demolition Munitions', ibid.

⁶³   NATO guidance was encapsulated in STANAG 2130 - Employment of Atomic Demolition Munitions - Implementation, 13 Oct. 1967, ibid.

⁶⁴   ES 4/1372, AWRE Report 012/73, 'Clipeus Reference Documents and the UK ADM Policy 1953-1971'.

⁶⁵   DEFE 2/1706, COS (50) 192, 'Royal Naval Rhine Flotilla', 6 Jun. 1950.

⁶⁶   J. Ladd, *SBS The Invisible Raiders. The History of the Special Boat Squadron From World War Two to the Present* (London: Arms & Armour Press 1983); Private information.

[67]   DEFE 2/1706, Commander, RN Rhine Flotilla (Krefeld) to Combined Operations HQ, 17 Apr. 1950, and attachment.

[68]   Adm. Mackintosh memo., 'Royal Naval Rhine Flotilla - Special Demolition Charges', 25 Jul. 1950, ibid.; ADM 1/21549, minute by Director of Torpedo, Anti-Submarine and Mine Warfare, 26 Oct. 1950.

[69]   DEFE 48/279, DOAE M7404, 'Exercise Badger's Lair: The Detectability of Stay-Behind Parties', Jun. 1974.

[70]   WO 106/6051, Harding to War Office, 'The Situation of BAOR', 17 Jan. 1952.

[71]   Few documents have surfaced on this subject but see D. Ganser*, NATO's Secret Armies: Operation Gladio and Terrorism in Western Europe* (London: Frank Cass 2005).

[72]   DEFE 48/294, DOAE M7424, 'An Assessment of the Value to 1(BR) Corps of ESM Provided by 225 Signal Squadron', Jan. 1975.

[73]   What NORTHAG lacked was a local equivalent of the American Guardrail system. In response to a USCINCEUR request for a signals intelligence (SIGINT) system that could provide near-real-time tactical intelligence information directly to combat units, the US National Security Agency (NSA) developed an experimental system in 1971 known as GUARDRAIL I. The lessons learned during this 1971 testing were to be applied to the follow-on, operational system known as GUARDRAIL II. W.W. Stacy, *US Army Border Operations in Germany, 1945-1983* (Headquarters US Army, Europe and 7th Army, Military History Office, GSM 5-1-84), p.243 available online at -http://www.army.mil/cmh-pg/documents/BorderOps/content.htm

[74]   C. Pocock, *The U-2 Spyplane: Toward the Unknown* (Atglen PA: Schiffer Military History 2000), p.81. I am indebted to Chris Pocock for his comments on U-2 sigint systems.

[75]   DEFE 48/806, DOAE Study No 229, 'The Communications Electronic Support Measures Provided by 225 Signal Squadron to 1 (BR) Corps in War', Oct. 1975.

[76]   DEFE 48/496, DOAE Project 147, 'The NATO Intelligence System', Jun. 1969.

[77]   ibid.

[78]   DEFE 48/318, 'Experiments on the use of information gained from remote sensors on the battlefield', 1976; John S. Nicholls, 'Unattended Ground Sensors, *Field Artilleryman*, Mar. 1971, 6-11. Also private information.

[79]   2ATAF was comprised of squadrons from the Belgian, Netherlands, German and Royal Air Forces.

[80]   DEFE 48/496, DOAE Project 147, 'The NATO Intelligence System', Jun. 1969.

[81]   In 1954 the UK Cabinet Office still boasted an Enemy Documents Section.

[82]   CAB 103/469, JIC/1625/54, memo by Pearson, 'Organisation Within NATO for Processing Captured Enemy Documents', 9 Jul. 1954. The JIC noted that 'cryptographic documents will almost certainly have to be considered non-military' and therefore would fall outside the remit of NATO.

[83]   DEFE 73/12, JSP 120 (5), *Manual of Service Intelligence Volume 5: North Atlantic Treaty Organization Standardization Agreements (Stanags) Intelligence*, Nov. 1973. See especially Ch.3. Interrogation of Prisoners of War and Ch.6. Handling and Reporting of Captured Enemy Equipment and Documents.

[84]   FCO 41/441, Burroughs (UK FCO) to Stewart (Secretary UK JIC (A)), 'NATO Security - Nahit Imre', 28 Jan. 1969. See also DPS 1006/22/1/69, 'Assessment of Military Damage Done to the UK as a Result of the Imre Affair', Jan. 1969, ibid.

[85]   FCO 1116/39, Burroughs (UK FCO) to Burrows (UK Rep NAC), EJC 10/579/4, 18 Feb. 1969.

[86]   Pemberton-Pigott (UK NATO Deleg.) to Burroughs (FCO), 7 Mar. 1969, ibid.

[87]   Pemberton-Piggot (UK NATO Deleg.), memo., 6 Aug. 1969, ibid.

[88]   FCO 1116/40, Frank Cooper (UK MoD) to Bernard Burrows (UK Rep NAC.), DSS (P)/7779, 'The Roussilhe Case', 21 Nov. 1969.

[89]   FCO 41/146, Parsons (FCO) to Bushell (UK NATO Deleg), 31 May 1967.

[90]   See for example FCO 41/387, Burrows (UK NAC Rep) to Hood (FCO), 'Secure Voice Link NATO H.Q. to SHAPE', 11 Nov. 1968.

[91]   L. Wentz & G. Hingorani, 'NATO Communications in Transition', *IEEE Transactions on Communications*, 28/9 (Sept. 1980), pp.1524-1539.

[92]   AIR 20/12671, MISC 71/763, 'Lessons of the Middle East War', enclosing 1077/3/7, Annex B, 'Lessons Relearned', 5 Feb. 1975.

[93]   John Young, *International Relations Since 1945*, (Oxford: Oxford UP 2004), pp.406-23.

[94]   V. Mastny, *A Cardboard Castle: An Inside History of the Warsaw Pact, 1955-91* (Budapest, Central European UP 2005), pp.404, 522.

[95]   The broader question of the impact of intelligence on the Cold War has rarely been addressed, but see the insightful remarks in Michael Herman, 'The Cold War: Did Intelligence make a Difference?', in M. Herman, *Intelligence Service in the Information Age* (London: Frank Cass 2001), pp.159-163.