Review of International Studies (2009), 35, 957–969 Copyright © British International Studies Association
doi:10.1017/S0260210509990386

Imagery in the UK: Britain's troubled imagery intelligence architecture

PHILIP H. J. DAVIES*

Abstract. This article examines the status, role and development of imagery intelligence in the UK government. It is argued that imagery intelligence occupies a subordinate and marginalised position compared to other forms of intelligence, chiefly from human sources and the interception of communications. The origins of that position are recounted, and the problems arising from internal struggles over control of imagery examined. It is concluded that the existing approach to imagery represents a serious problem and that a substantial restructuring and upgrading of imagery intelligence is essential if UK foreign policy decision-making is to be properly informed in the 21st Century.

Introduction

There exists a certain 'whiggishness' in how we in the UK perceive the working of our intelligence community. According to the prevailing orthodoxy, the UK intelligence system is coordinated with enviable effectiveness and consistency[1] through the collaborative and collegial workings of the Joint Intelligence Committee within the Cabinet Office. The JIC is an executive-level committee that lies at the hub of a wider national intelligence machinery or Joint Intelligence Organisation. The rest of the JIO consists in an Assessments Staff that drafts interdepartmental intelligence analyses for the JIC to approve and circulate; an assortment of working-level JIC sub-committees called Current Intelligence Groups that review Assessments Staff papers before they go forward to the JIC; a small Coordinator's Group which manages things like the national intelligence budget (the Single Intelligence Account or SIA) and national Requirements and Priorities for Secret Intelligence (RPSI) which fund and task the national agencies respectively; and finally the Intelligence and Security Secretariat which staffs for the

* I am profoundly indebted to students on the Brunel University MA in Intelligence and Security Studies who assisted in this research and located much of the archival material employed in this article. Acknowledgement is also due to comments and observations on the original version of this article made by my colleague at the Brunel Centre for Intelligence and Security Studies Dr. Kristian Gustafson. Research for this article was made possible in part by a 2004 Leverhulme Research Fellowship. All archival references are to the UK National Archives (TNA).

[1] A number of US commentators have looked on the British system with something akin to envy because of the strife-prone history of their own intelligence community. See, for example, the report of the Aspin-Brown commission Harold Brown, Warren Rudman et al, 'Preparing for the 21st Century: An Appraisal of US Intelligence', 'The Need for Policy Guidance', downloadable {http://www.fas.org/irp/offdocs/int007.html}, accessed on 27 November 2007.

https://doi.org/10.1017/S0260210509990386 Published online by Cambridge University Press

JIO. And at the top of the system the JIC draws it all together, and is made up of a JIC Chairman and a Coordinator (sometimes with the two consolidated as a single post), the heads of the national intelligence and security agencies, and representatives from the policy departments such as the Foreign and Commonwealth Office, Ministry of Defence, Home Office and Treasury. And all of this works to bind the UK's national intelligence effort into a coherent whole because of an almost peculiarly British ethos of collegiality and collective common effort.[2]

For the most part this appears to be a reasonably accurate portrayal of how the national intelligence machine works. To be sure, certain old canards linger in the popular imagination such as the mythical rivalry and antipathy between the Security Service (MI5) and the Secret Intelligence Service (MI6) which sometimes crops up in the most unexpected places,[3] easily debunked in the light of the long-standing SIS-MI5 joint operating sections[4] and the composition and operation of units like the Joint Terrorism Assessment Centre (JTAC) and the Joint Narcotics Assessment Centre (JNAC) which bring representatives from across the UK government as well as the intelligence community into collaborative, real-time analysis and warning units.[5] Unfortunately there exists a very important exception to the otherwise apparently seamless of the governance of intelligence in the British government. That troubled exception is the collection, management and exploitation of intelligence information from *imagery*, or imagery intelligence (IMINT).

Generally speaking, raw intelligence can be said to be drawn from three main collection methods or in American parlance collection *disciplines*.[6] Human intelligence (HUMINT) is reporting from informants, usually but not always covertly, ranging from the debriefing of refugees from civil wars through defectors who abandon country or cause to 'agents in place' who can remain inside a target state or organisation sometimes for decades. Signals intelligence (SIGINT) is the interception of (usually) electromagnetic emissions, either in the form of communications (COMINT) or non-communicative emanations such as radar or radio telemetry (ELINT). SIGINT is typically the largest bulk producer of intelligence.[7] The third main collection discipline is the acquisition of information from various methods of imaging an object. Imagery intelligence was originally termed

[2] For the accepted accounts see, for example, Cabinet Office *Central Intelligence Machinery* (London: HMSO, 1993) *passim*; Michael Herman 'Assessment Machinery: British and American Models' *Intelligence & National Security*, 10:4 (1995), pp. 21–31.

[3] Oddly enough, the MI5-MI6 rivalry has appeared most recently in Crispin Black, *7-7: What Went Wrong?* (London: Gobson Square, 2005), pp.41–2, which is surprising given Black's substantial intelligence community experience.

[4] Philip H. J. Davies, *MI6 and the Machinery of Spying* (London: Taylor & Francis, 2004), pp. 275–78.

[5] On JTAC see, for example, Intelligence and Security Committee *Annual Report 2003–2004* (London: TSO, 2003), pp. 27–8. Far less remarked is JNAC which is actually a combined US-UK enterprise, see for example, *House of Commons Daily Hansard* Written Answers for 28 November 2006 Column 624W.

[6] In recent years, a fourth discipline, Measurements and Signatures Intelligence has often been included but this is less a single discipline than a catch-all for a range of techniques not covered in the HUMINT-SIGINT-IMINT triad; see Jeffrey T. Richelson, 'MASINT: the New Kid In Town', *International Journal of Intelligence and Counterintelligence*, 14:2 (2001). A nominal fifth discipline is the use of open sources (OSINT), but the inclusion of open sources as *intelligence* as opposed to being supporting information is far from universally accepted.

[7] By some estimates, SIGINT contributes '80% of all raw intelligence collected', see, for example, W. Laqueur, *A World of Secrets: The Uses and Limits of Intelligence* (New York: Basic Books, 1985), p. 31.

https://doi.org/10.1017/S0260210509990386 Published online by Cambridge University Press

photographic intelligence (PHOTINT). However, during the Cold War the range of sensors and portions of the electromagnetic spectrum outside that of visible light increased steadily is it was found that various frequencies of infrared radiation not only allowed night vision but also betrayed information about an objects physical and even chemical composition and radar was able to penetrate even the most inclement atmospheric conditions.[8] As a general rule, imagery can be said to run a close second to signals intelligence in terms of the total volume of product it is capable of generating.[9]

Although imagery intelligence is usually viewed as being most useful to defence intelligence needs[10] it nonetheless plays, and has played, a critical and sometimes decisive role in wider national security and foreign policy. The potential impact of overhead reconnaissance and surveillance imagery was arguably most dramatically indicated by the role it played in revealing the deployment of Soviet medium and intermediate-range ballistic missiles in Cuba in 1962. That significance has not diminished. It is imagery that is often a key input to assessing foreign nuclear programmes by providing information about the state of development of reactors and nuclear fuel processing facilities. After all, while one might be able to distribute the production of fuel – or weapons-grade uranium amongst thousands of centrifuges scattered and concealed across a country (as has been reported of Iran)[11] it requires large, complex, centralised manufacturing facilities to turn the resulting fissile materials into pits for nuclear warheads or fuel rods for energy production. Consequently, imagery intelligence is a vital input to national strategy at a time when key national and international security concerns pivot around matters like Iran's or North Korea's nuclear capabilities and intentions. And, of course, it was stretching judgements based on imagery reporting beyond what the actual product could reasonably sustain that contributed in a significant part to governmental and public misperceptions of the threat from Iraq's non-conventional weapons programmes prior to the 2003 invasion of that country.[12] On such balance-of-power issues, therefore, imagery intelligence is a core input to decisions that affect the state and stability of the entire international system. Of course, far less well known is the role that national imagery intelligence agencies played in support of international relief efforts such as the 2004 Asian tsunami.[13]

In the UK, only two of the three principal collection disciplines are represented at the JIC level: HUMINT and SIGINT. Human intelligence[14] is divided along

[8] On multispectral sensing see, for example, William E. Burrows, *Deep Black: The Startling Truth Behind America's Top-Secret Spy Satellites* (New York: Berkely Books, 1988), pp. 224–5, 260–3; G. J. Oxlee, *Aerospace Reconnaissance* (London: Brassey's, 1997), pp. 89–104, 130.

[9] Michael Herman, *Intelligence Power and Peace and War* (Cambridge: Cambridge University Press, 1996), p. 73.

[10] M.Herman, *Intelligence Power in Peace and War* (Cambridge: Cambridge University Press 1996), p. 73.

[11] See, for example, D. Albright, P. Brannan and J. Shire, 'ISIS Report: Can Military Strikes Destroy Iran's Gas Centrifuge Program? Probably Not.' (Washington DC: Institute for Science and International Security, 2008).

[12] See, for example, 'The Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction (WMW Commission)', *Report to the President*, (Washington DC: US Government Printing Office, 2005), pp. 164–5.

[13] Private information. See also National Geospatial Intelligence Agency, Media Release 04-14, NGA Assisting U.S. Agencies in Tsunami Disaster Assessment, 19 December 2004.

[14] This is along with closely related activities such as local physical and audiovisual surveillance.

https://doi.org/10.1017/S0260210509990386 Published online by Cambridge University Press

constitutional lines[15] between domestic and overseas activities between the Security Service operating at home and the Secret Intelligence Service. The Director General of the Security Service and Chief of SIS or 'C' are both core members of the JIC and have been so since the 1940s. Signals intelligence is represented by Government Communications Headquarters whose Director sits on the JIC alongside C and the DG/SS. Imagery, however, has no direct Cabinet Office representation. Instead, it is but one of several functions represented by the Chief of Defence Intelligence (CDI) who heads the Defence Intelligence Staff. Consequently, imagery intelligence sits several echelons below JIC representation. Moreover, DIS's traditional 'core business', however, is not intelligence collection but all-source analysis. Finally while the heads of the national intelligence agencies hold Permanent Undersecretary civil service grades,[16] in military terms the equivalent of four-star rank, the CDI is appointed at only 3 star rank or the equivalent of a Deputy Undersecretary.[17] Consequently one of the most important intelligence sources occupies both a subordinate and marginal position within the UK intelligence community.

Ironically, imagery is so marginalised precisely because of its importance. Retaining control of it has become a matter of importance for DIS which is otherwise in a comparatively weak position on the JIC as compared with the national agencies. As a result, the history of imagery intelligence in the UK differs profoundly from that of the other disciplines. Instead of a narrative of jointery and collegiality it is a history of turf-wars over its control both between elements of the defence community as well as between the civilian and defence communities, inadequate and unsatisfactory attempts to compromise over the balance between civilian and defence needs and recurrent, even frequent ineffectual bouts administrative chopping and changing. As Michael Herman has recalled critically of his own Cold War experience in the UK intelligence community, imagery was one of a range of single-source assets 'which DIS steered as national assets, *or should have done*.'[18] Despite a great deal of tinkering, the management of IMINT did not improve after the Cold War either. The result is a cautionary tale of conjoined conflict and neglect that not only puts some measure of a lie to the conventional wisdom of how intelligence is managed in Britain but also raises serious questions about the quality of the UK's intelligence arrangements in an increasingly unpredictable and challenging 21st century international arena.

The UK imagery intelligence architecture

The UK's imagery architecture currently consists of three organisations, all currently under the DIS, two at the strategic level and one tactical. The tactical element is a former reconnaissance and mapping element of the Royal Engineers current designated the Joint Aeronautical and Geospatial Organisation (JAGO),

[15] In British parlance this refers to the distinction between different aspects of Royal Prerogative, specifically domestic governance under the authority of the Home Office and foreign relations under that of the Foreign and Commonwealth Office (FCO).
[16] Private information.
[17] Herman *Intelligence Agencies in an Information Age* (London: Frank Cass, 2001) p. 84, emphasis added.
[18] Ibid., p. 191.

https://doi.org/10.1017/S0260210509990386 Published online by Cambridge University Press

based on what was originally called the Geographical Engineering Group (GEG). This element's main function is the gathering and collation of geographical information required for the operations of elements like the Royal Engineers such as undertaking military earthworks.[19] Its work is purely at the battlefield level, and has a minimum of impact in terms of the national intelligence machinery at the interdepartmental and Cabinet Office levels. The two strategic level elements are what is now called the Defence Geographic Centre (DGC) and the Joint Air Reconnaissance Intelligence Centre (JARIC), the latter also being officially designated the National Imagery Exploitation Centre.[20]

DGC was originally called the Military Survey, the armed services' (originally Army) map-making organisation which can trace its history back some two hundred and fifty years.[21] It gives its current mandate as being to '[d]eliver GEOINT [geospatial intelligence], Geospatial information, services and liaison to Defence, including deployed forces and to OGD [other government departments] and international partners, underpinning strategic to tactical level decision-making and action, in order to support the achievement of Defence objectives'. In other words, it is the contemporary, technology-intensive evolution of the Military Survey's original cartographic role during the Napoleonic wars. DGC's staff has varied between 1,150 and 1,500 since the Second World War, and at it is currently based at RAF Feltham.[22]

JARIC has its roots in interservice photographic intelligence machinery of the Second World War Allied Central Interpretation Unit. Regularised originally as the Joint Air Photographic Intelligence Centre in 1947, the Centre was renamed the Joint Air *Reconniassance* Intelligence Centre in 1953 when its work moved beyond visible spectrum photography to include 'exploitation of Radar Scope photography for intelligence purposes.'[23] JARIC was established from the outset on a joint service basis much as the wartime Central Interpretation Unit had been. That is to say, imagery analysts, research and development staff and other operational personnel were provided by the three armed services and a civilian component made up of Civil Service employees. The Centre's manpower has been relatively stable throughout its existence being between 475 and 500, with a 1996 Ministry of Defence review confirming a normal complement of 500.[24] By the end of the 1990s, roughly two thirds of JARIC's complement of imagery analysts were drawn from the armed forces, the remainder being

[19] See, for example, the JAGO website at: {http://www.mod.uk/defenceinternet/aboutdefence/whatwedo/securityandintelligence/dis/icg/jointaeronauticalandgeospatialorganisation.htm} accessed on 21 October 2008.

[20] The JARIC website is at: {http://www.mod.uk/DefenceInternet/AboutDefence/WhatWeDo/SecurityandIntelligence/DIS/ICG/JaricTheNationalImageryExploitationCentre.htm} accessed on 21 October 2008. and DGC at: {http://www.mod.uk/DefenceInternet/AboutDefence/WhatWeDo/SecurityandIntelligence/DIS/ICG/DefenceGeographicCentre.htm} accessed on 21 October 2008.

[21] UK Select Committee on Defence *Fifth Report*: *The Defence Geographic and Imagery Intelligence Agency* HC100 (London: TSO, 1999), para. 2.

[22] Ministry of Defence, 'Memorandum from the Ministry of Defence: JARIC and Military Survey and their Proposed Merger', appended to House of Commons Select Committee on Defence *Fourteenth Special Report* HC930 (London: HMSO, 2000).

[23] 'Charter for the Joint Air Reconnaissance Intelligence Centre (United Kingdom)' but foliated with a covering note from J. D. Orme, 17 December 1953, AIR 2/12744.

[24] Ministry of Defence, 'Memorandum from the Ministry of Defence: JARIC and Military Survey and their Proposed Merger', appended to House of Commons Select Committee on Defence *Fourteenth Special Report* HC930 (London: HMSO, 2000).

https://doi.org/10.1017/S0260210509990386 Published online by Cambridge University Press

civilians.[25] Although housed and supported by the Royal Air Force, it was mandated to act as the national centre for imagery intelligence expertise, successive charters designating it the 'recognised authority for photographic intelligence'.[26]

One of JARIC's most important functions is exploitation of imagery provided by the United States from their substantial reconnaissance satellite capability. The steady increase in the dependency on satellite imagery rather than what are known as 'air-breathing platforms' (such as aircraft and unmanned aerial vehicles) since the 1960s can be indicated by the changed impact of imagery from the UK's own overhead reconnaissance from platforms like reconnaissance version of the Canberra bomber, the PR9. Prior to the emergence and pre-eminence of America's satellite systems and their products handled under the cryptonym TALENT-KEYHOLE (TK) in the second half of the 1970s,[27] the PR9 was the main source of UK strategic overhead imagery. JARIC's access to TALENT-KEYHOLE product is secured through a series of agreements with the US imagery organisation, the National Geospatial Intelligence Agency. The longest standing aspect of the exchange is the UK permitting the USA to fly U2 reconnaissance aircraft from sovereign bases such as that in Cyprus.[28] However, the UK appears to have secured a role in the new US overhead surveillance programme, the Future Imagery Architecture (FIA), by providing a portion of the investment in the new programme. In exchange for which, it has been reported the UK will be able to task the new systems in proportion to that investment.[29]

Despite the national intelligence significance of imagery intelligence, however, JARIC is not tasked directly under RPSI nor is it funded directly from Single Intelligence Account under JIC authority as are the national intelligence and security agencies. Instead, its requirements are within the Ministry of Defence by the Defence Intelligence Staff through the 'Collection Coordination and Intelligence Requirements Management' (CCIRM) process.[30] CCIRM is the UK implementation of NATO's armed service intelligence tasking procedures[31] and is oriented in the first instance towards the strategic and operational needs of the armed forces. Consequently, despite the importance of imagery to national

[25] Group Captain Stephen Lloyd, Evidence to the House of Commons Select Committee on Defence, 8 December 1999, question 119; downloadable http at: {http://www.parliament.the-stationery-office.co.uk/pa/cm199900/cmselect/cmdfence/100/9120801.htm} accessed on 21 October 2008.

[26] See, for example, the charters issued to JARIC in April 1952, July 1952, and December 1953 in AIR 2/12744.

[27] Strictly speaking, TALENT-KEYHOLE is a codeword designating a level and type of access to a particular intelligence product, in this case overhead reconnaissance; however, individual collection systems such as CORONA or ARGUS will have Keyhole or 'KH' numbers as well as platform-specific 'Byeman' code names and serial numbers; Burrows *Deep Black* pp. 20–1. In the UK 'TK clearance' is considered a vetting grade *above* the Developed Vetting standard required for constant and regular access to top secret codeword materials.

[28] Lloyd, 'Evidence to the House of Commons Select Committee on Defence', questions 56 and 57; although Lloyd's replies are redacted, the language of the successive questions posed by the Committee indicate much of what Lloyd confirms about the practice. See also Michael Smith, *New Cloak Old Dagger: How Britain's Spies Came in From the Cold* (London: Gollancz, 1996), p. 199.

[29] Jeffrey T. Richelson, *The US Intelligence Community* (Boulder Colorado: Westview Press, 1999), p. 86.

[30] UK Select Committee on Defence *Fifth Report: The Defence Geographic and Imagery Intelligence Agency* Session 1999–2000, HC 100, fn.48, downloaded http from: {http://www.publications.parliament.uk/pa/cm199900/cmselect/cmdfence/cmdfence.htm} accessed on 2 February 2007.

[31] Herman, *Intelligence Power in Peace and War*, p. 289–90.

https://doi.org/10.1017/S0260210509990386 Published online by Cambridge University Press

intelligence it is managed, funded and directed at a purely departmental level. And much of imagery's difficulties in the UK can be traced to that basic, unreconciled tension between national and departmental intelligence needs.

Turf wars in the Cold War

The initial thinking on a post-war system for imagery intelligence was articulated in a 1945 review of the wartime system conducted by JIC Secretary Denis Capel-Dunn. The Capel-Dunn report acknowledged that 'the principal part in aerial photographic reconnaissance must [. . .] be taken by the Royal Air Force, since it is they who operate the aircraft.' On the other hand, it argued that 'the interest of the consumers is so considerable that we do not believe any one Ministry should be burdened with exclusive responsibility for general control and direction of this branch of intelligence.' There was even the possibility that photoreconnaissance might enter 'the commercial field' for urban and industrial planning[32] on a basis similar to Royal Ordnance Survey mapmaking. In any event, because of its broad, multi-departmental relevance, it was essential that PHOTINT continue to be directed by a JIC Photographic Reconnaissance Committee.[33] In other words, while any new arrangement might be quartered by the Royal Air Force, its work would be directed at a national level by the JIC and its attendant machinery.

Once the wartime Allied Central Interpretation Unit was shut down most of its UK personnel demobilised and released to civilian life. The residual component was regularised and re-designated the Joint Air Photographic Intelligence Centre (UK) (JAPIC (UK)) in 1947. JAPIC(UK) was placed under exactly the dual-control arrangement proposed in the Capel-Dunn report. Administration and quartering for the Centre was given to the Royal Air Force's Coastal Command. This appears to have been chiefly on the grounds that JAPIC (UK) operated within mainland Britain which placed it in Coastal Command's theatre of operations. Within Coastal Command, JAPIC(UK) was managed on a day to day basis by an element called the Central Photographic Establishment.[34] As a result, it could be tasked by both CPE for Air Force requirements and the JIC's Joint Air Photographic Intelligence Board (JAPIB) for national and interdepartmental needs. This arrangement lasted barely five years however. In March 1950, CPE was disbanded and Bomber Command secured control of JAPIC(UK) as part of an overall consolidation of strategic photoreconnaissance and photographic interpretation activities nominally on efficiency grounds.[35] This made a degree of sense because Bomber Command was one of JAPIC's largest consumers in the RAF because of its production of bombing target intelligence. Moreover, Bomber Command also controlled the country's principal overhead reconnaissance platforms such as the then-newly developed PR9 version of the Canberra

[32] Denis Capell-Dunn, 'The Intelligence Machine', 10 January 1945, p. 10, CAB 163/6, TNA, hereafter referred to as 'The Intelligence Machine'.
[33] Capell-Dunn, 'The Intelligence Machine', pp. 10, 18.
[34] Air Chief Marshall H. P. Lloyd to J. S. Orme, Undersecretary of the Air Ministry, 22 May 1952, AIR 2/12744.
[35] H. P. Lloyd to J. S. Orme, 22 May, ibid.

https://doi.org/10.1017/S0260210509990386 Published online by Cambridge University Press

bomber.[36] But it also marked the start of a series of tugs of war for control of imagery intelligence in Britain.

Besides the establishment of JARIC, 1947 also witnessed the first post-war review of the UK's intelligence system led by Air Chief Marshal Sir Douglas Evill. Evill's review briefly examined the difficult position JARIC in the UK's intelligence community. Besides struggling to process and exploit a very large volume of captured Axis reconnaissance photography, the Centre was also undergoing both the transition from peace to war and restructuring as a post-war interdepartmental enterprise. On the one hand, he noted, there was already work in hand to reconstitute JARIC as an 'integrated, interservice' operation under 'RAF administration.' On the other, however, he warned that there was also an urgent need for better facilities and additional expert technical staff including 'draughtsmen, photographic interpreters and model makers.'[37] While the administration appeared to be on course, imagery intelligence was already significantly under-staffed and under-resourced.

Despite Evill's confidence about the prospects for JAPIC(UK)'s establishment on an 'integrated, interservice' entity in 1947, by 1950 at least one of its most important consumers was dissatisfied enough to make the case for a new round of review and reform. In December that year the War Office formally complained, as one Air Force official put it 'to the effect that the JAPIC was not under proper Joint Intelligence Services [sic] control.'[38] In response, an Interservice Working Party was convened to review the unit's direction and management. The Working Party reported in the spring of 1952, by which time JAPIC(UK) and CPE had been transferred to Bomber Command.

Whatever scale economies might have accrued to the RAF from consolidating imagery collection and analysis under Bomber Command, the change went no further towards addressing dissatisfaction with the JARIC's joint and national duties. Consequently the Working Party concluded that CPE should be abolished and all tasking placed on a national basis under JAPIB. The Working Party's findings were reviewed and approved by the JIC, at which point Bomber Command was notified that while it might retain administrative control of JAPIC(UK), operational control was now a JIC concern. The point was made somewhat firmly to Bomber Command by the Air Ministry that '[i]t has now been decided that [JAPIC(UK)] shall in future be responsible to the Joint Air Photographic Intelligence Board [. . .] for the performance and maintenance of its tasks, and that these tasks and priorities form them shall be laid down by the Board.' As if the loss of operational control was not already sufficiently clearly articulated Bomber Command was placed on notice that '[r]equests for the assistance of [JAPIC] [. . .] should be made to the Air Ministry (ACAS(I) [Assistant Chief of Air Staff (Intelligence), the Air Ministry member of the JIC] for *coordination by JAPIB with the needs of other users*.'[39]

[36] The PR9 would remain in service as a UK imagery platform until 2006, by which time UAVs were moving into the prevalent air-breathing tactical reconnaissance and mapping role occupied by the PR9s at the end of their operational livelihood.

[37] Douglas Evill, 'Review of Intelligence Organisations, 1947: Report by Air Chief Marshal Sir Douglas Evill', Misc/P(47)31, 6 November 1947, p.2, CAB 163/7, p. 23.

[38] 'Control of JAPIC(UK)', 19 May 1952, AIR 2/12744.

[39] J. S. Orme to Commander in Chief, Bomber Command, 16 April 1952, ibid. Emphasis added.

https://doi.org/10.1017/S0260210509990386 Published online by Cambridge University Press

Bomber Command was less than receptive to the new arrangements. They had had control of IMINT for less than two years, and Commander in Chief Bomber Command protested the decision on a number of grounds. In the first place, he argued, CPE had been shut down and JAPIC(UK) moved to Bomber Command precisely because 'it was decided that overall efficiency could not be achieved unless Operational [sic] and Administrative [sic] control were exercised through a common channel.' Subordinating JAPIC(UK) to the JIC meant that the control of imagery collection and analysis would be decoupled, a development he considered 'fundamentally wrong in principle'. It would 'act as a serious deterrent to progress' in the 'common' photographic collection and interpretation 'field' which 'might well have disastrous consequences in the event of war.' Consequently, '[u]nless control of these resources continues to be exercised through this headquarters it will not be possible to obtain optimum benefit from them.' He also warned that the emergence of radar imagery as a new field would be significantly hampered by separating imagery analysis from collection. Concluding the case by expressing serious doubts about the practicality of trying to use an interagency committee that met weekly to 'exercise day to day functional control of the tasks which it allocates or the supervision of the policies which it directs' he pressed for the JIC's decision on JAPIC(UK) 'be reconsidered.'[40]

In July 1952 Bomber Command got its way. Under a revised charter for JAPIC(UK), the Centre in principle remained tasked by the Joint Air Photographic Intelligence Board in principle, but in practice its was to be 'responsible *through* HQ Bomber Command' to JAPIB.[41] Under the new scheme, a senior Air Ministry official noted to Bomber Command, JAPIB would be 'the co-ordinating authority for Naval, Army and Air Force air photographic requirements and will issue directions to you periodically.'[42] Bomber Command and the RAF now became the gatekeepers on how national requirements would be implemented by JAPIC(UK). Under the new charter the Air Ministry also secured the right to appoint the Officer Commanding JAPIC(UK). The only real compromise to joint requirements and joint interests in what was supposed to be a national centre was a provision for the War Office to appoint the Deputy Officer Commanding.[43] Significantly, under both the July 1952 and December 1953 Charters for the Centre – the latter changing JAPIC(UK)'s name to JARIC(UK) and the JIC subcommittee's name to the Joint Aerial Reconnaissance Committee or JARIB – the Air Ministry was to 'be responsible to the Chiefs of Staff *through* the Joint Intelligence Committee' for JARIC(UK) performance and for seeing that requirements laid down at the joint level were actually carried out by the RAF-controlled Centre.[44] In response to such an ambiguous solution, Bomber Command adopted a persistently obstructive on administrative matters of detail that was described by one official at the time as 'a little bit naughty' and another as 'nit picking'.[45]

[40] H. P. Lloyd to J. S. Orme, 22 May 1952, ibid.
[41] 'Charter for the Joint Air Photographic Interpretation Centre (United Kingdom)' no date, but foliated with a covering note from J. D. Orme, 30 July 1952, AIR 2/12744. Emphasis added.
[42] J. D. Orme to H.P. Lloyd, 20 July 1952, AIR 2/1274.
[43] 'Charter for the Joint Air Photographic Interpretation Centre (United Kingdom)' no date, but foliated with a covering note from J. D. Orme, 30 July 1952, AIR 2/12744.
[44] Ibid., 17 December 1953, AIR 2/12744.
[45] M. H. O'Grady, 25 February 1954; J. M. Freeman, 9 December 1955, AIR 2/12744.

https://doi.org/10.1017/S0260210509990386 Published online by Cambridge University Press

By 1955 a palpable tension was beginning to develop over the tension between civilian and service demands for IMINT being articulated through JARIB. Concerns were raised by members of the Air Ministry Establishments Committee about the degree to which JARIC was able to meet the full range of demands laid upon it. After an inspection of JARIC by members of the Committee, it was found that JARIC generated imagery product for a range of 'civilian purposes both for Government departments and for commercial bodies sponsored by civil departments' and this raised questions about how it was tasked compared with its resources. It was noted that the existing practice of JARIB simply inviting bids for JARIC product created the 'theoretical risk' that in such an approach 'capacity creates demand rather than being determined by it.' Despite assurances that the demand expressed on JARIB would be 'severely pruned to bring it within available capacity' concerns over whether JARIC could be expected to meet civilian demands 'beyond what may be possible with an establishment based solely on Joint Service needs'.[46] Indeed, another official noted that, because of the volume civilian demand in addition to that from the armed services, the requirements articulated 'at any one weekly meeting' of JARIB 'may be far in excess of the whole weekly capacity of JARIC.'[47] There simply was not enough imagery capability to go around.

The status of imagery intelligence in the UK was further hampered by the fact that the Joint Intelligence Committee did not appear to know quite what to do with the discipline. The JIC view of imagery and the work of JARIC were as 'a subject which does not really fall within any of the three categories of work of the JIC defined as collation (assessments), organisation (coordination and management) and security'. Seemingly unaware of the levels of demand for imagery already presenting a challenge to the existing system, the JIC confined itself to the 'coordination and supervision of demands for photographic and radar reconnaissance and photographic intelligence and the allocation of priorities.'[48] Consequently, the JIC was far less 'hands-on' in supervising imagery than in overseeing other areas of intelligence activity. All but overlooked by the JIC, therefore, JARIC did not significantly benefit from the JIC's 1957 move to the Cabinet Office. And despite a decade's development in the field, it did not figure at all in Sir Burke Trend's reforms to the JIC system during the 1960s either.[49]

In early 1957 an attempt was made to try and rationalise JARIC's tasking through the creation of a Central Reconnaissance Establishment (CRE).[50] The new mechanism was supposed to create a single, centralised tasking element for all of the UK's air reconnaissance assets, including the RAF's air reconnaissance units as well as JARIC and its associated training facility, the Joint School of Photographic Interpretation (JSPI). Far from rationalising IMINT the CRE formula complicated it. Under the new scheme, Bomber Command retained managerial control. CRE controlled most but not all operational tasking because a separate element, No.3

[46] M. McF. Davis, 3 November 1955, AIR 2/12744.
[47] Group Captain J.M Freeman, 'JARIC(UK) Photographic Section', 11 November 1955, AIR 2/12744
[48] Joint Intelligence Secretariat, 'History of the Joint Intelligence Organisation' JIC/1/56, 31 December 1955, CAB 163/8.
[49] Imagery is notable chiefly by its absence in the papers detailing the Trend reforms in CAB 163/124.
[50] Air Commodore S. C. Widdows, Assistant Chief of Air Staff (Operations) to C in C Bomber Command 'Central Reconnaissance Establishment', 12 February 1956 AIR 29/3310.

https://doi.org/10.1017/S0260210509990386 Published online by Cambridge University Press

Section, was sequestered specifically for RAF needs and subject to direction from the Assistance Chief of the Air Staff (Intelligence). Even with this restructuring, CRE still acted as an intermediary for national requirements articulated by the JIC air reconnaissance subcommittee meaning that the RAF kept control of how and in what measure national requirements would be addressed by JARIC.[51]

Coupled to a wider reorganisation of the RAF at the end of the 1960s CRE was disbanded,[52] and JARIC was subordinated to a new line management under the recently created Defence Intelligence Staff. Under the new scheme, JARIC continued to be supported administratively by Bomber Command's successor Strike Command. But operational control of its actual work and product was routed through DIS's Director of Management and Support of Intelligence (DMSI), one of four principal directors under the DIS's head, the Director General of Intelligence (DGI) and his deputy. Increased DIS control led by 1970 to national tasking under JIC being completely eliminated. The Joint Air Reconnaissance Board was reconstituted as a purely Ministry of Defence body under DIS authority with a much reduced remit. In parallel, a new Joint Targeting Board took over the production of targeting information for air strike operations and a Joint Exploitation Board managed broader imagery production and analysis.[53] The central, civilian authority of the Joint Intelligence Committee had been virtually eliminated. Subsequent reforms to the Defence Intelligence Staff after the Falkland Islands War in 1982 would serve only to tighten DIS control with the abolition of the three joint requirements boards in favour of central DIS tasking under CCIRM.[54] Imagery intelligence in the UK would languish in much the same state until the end of the Cold War.

Institutional flux in a time of strategic flux

JARIC's status has fluctuated continuously throughout the post-Cold War era. Like much of the UK defence community, it had felt the impact of the military side of the post-Cold War 'peace dividend' which culminated in the 1994 *Front Line First* Defence Cost Study. Despite the reduction in intelligence funds during that decade, requirements for intelligence actually multiplied with the deteriorating state of Soviet strategic and nuclear forces requiring continuous monitoring and a succession of peace support operational needs in the former Yugoslavia and elsewhere. With the increasingly forward leaning strategic posture of the Labour government elected in 1997, the demands on the agency increased still further. JARIC noted in its annual report that 'operational imagery tasks' had increased between 1997 and 1999 from 450 to approximately 700.[55] The Commons Defence

[51] 'Charter for the Central Reconnaissance Establishment and the Joint Air Reconnaissance Intelligence Centre', 16 November 1962 AIR 2/12744.
[52] 'Proposed Reconnaissance Staff Establishment for the Control of UK Reconnaissance Forces on the Disbandment of CRE', CRE/S553/4/Org, no date, but foliated with covering note from K. C. Giddings, CRE, to OC JARIC Group Captain J. S. Hart, 25 January 1968, AIR 14/4103.
[53] 'The Joint Air Reconnaissance Intelligence Centre (United Kingdom) JARIC(UK)' DS16/JSE/6 July 1970; Group Captain J. S. Hart OC JARIC 'JARIC(UK) – Revised Organisation' JAR/S1/Air, 4 November 1969, AIR 14/4103.
[54] Private information.
[55] Quoted in UK Select Committee on Defence *Fifth Report* para. 13.

https://doi.org/10.1017/S0260210509990386 Published online by Cambridge University Press

Committee further observed of this jump in requirements that '[t]he additional workload of the Kosovo campaign meant that for a brief time JARIC could not meet one of its non-operational '"priority three" targets'[56] although it was likely to make up the shortfall later in the year. One immediate consequence was a strengthening of JARIC's position in defence expenditure under the a new Strategic Defence Review (SDR) which commenced in 1997 and aspects of which were still under way when the terrorist attacks on the United States occurred in 2001.

In May 1999, the government announced its intention to merge JARIC with the Military Survey Agency. The amalgamation, effective on 1 April 2000, combined the two into what was originally designated the Defence Geographic and Imagery Intelligence Agency or DGIA. To some degree the move was seen as intended to bring the UK's imagery intelligence architecture more closely into line with America's recently established national imagery agency, the National Imagery and Mapping Agency (later renamed the National Geospatial Intelligence Agency).[57] However, the decisive motives were the expected scale economies of administration and technology that it was thought the merger would bring about. The move had originally been suggested during the 1994 Defence Cost Review under the previous Conservative administration of John Major. It received further support four years later in a report produced as part of Labour's SDR. According to a Ministry of Defence minute provided to the Parliamentary Defence Committee, the 1998 review concluded that 'a number of business areas across [JARIC and Military Survey], if brought together, would provide operational benefit, in terms of effectiveness gains and improved customer service, and possible efficiency savings'. Admitting that 'a large proportion of the current core processes were assessed to be too different to justify merger on that basis alone', there was a compelling case for 'convergence' that would 'allow a common tasking and production managements function to better control all available resources, giving improved surge capability in crises and improved responsiveness in tasking [. . .] facilitate interoperability of softcopy products and information [and] allow rationalisation of Agency overhead functions.'[58]

Although the creation of DGIA was welcomed by parliamentarians on the Defence Committee, their counterparts on the Intelligence and Security Committee were less enthusiastic. JARIC was, they argued 'a national resource and could be better tasked from the national level' as a consequence of which 'the JIC National Intelligence Requirements paper would act as the prioritizing document and [. . .] JARIC would then serve the national requirement and have its performance assessed by the JIC.' The ISC were convinced not only that this would *not* compete with or degrade JARIC's fulfilment of the DIS requirements process but moreover that such a change 'opens the way for JARIC to be funded in part from outside the MOD budget'[59] – in other words at least in part under the JIC-managed national intelligence budget or Single Intelligence Account. The CDI and DIS were, however, firmly unwilling to lose control of JARIC as a service enterprise[60]

[56] UK Select Committee on Defence *Fifth Report* para. 13.
[57] ICHR. Lloyd Evidence to the House of Commons Select Committee on Defence, q.2.
[58] Ministry of Defence, 'Memorandum from the Ministry of Defence: JARIC and Military Survey and their Proposed Merger'.
[59] ISC *Annual Report 1999–2000* paras. 24–25.
[60] Private information.

https://doi.org/10.1017/S0260210509990386 Published online by Cambridge University Press

and the government flatly rejected the proposal on the grounds that CCIRM already took place under the overall terms of national priorities and therefore 'the JIC's requirements already guide JARIC's work.'[61] The prospect of funding JARIC independently under SIV, the thin end of a wedge that could eventually imply autonomous status for JARIC as a national agency, was not even addressed.

On 1 June 2006, the collection side of DIS under went a re-organisation (the second in barely twelve months).[62] Amongst other changes, Defence Geospatial Intelligence was abolished, and the Military Survey and JARIC became separate entities once again. While JARIC retained its original identity, what had been the Military Survey Agency became the Defence Geographic Centre. The entire experiment of a consolidated imagery intelligence agency had been abandoned after barely half a decade's effort and expense.

Conclusion: UK imagery intelligence for the 21st century

There can be very little doubt, therefore, that if imagery intelligence in the UK is going to thrive and contribute to the level that it should theoretically be able to it cannot continue as it has. It has not, of course, been a complete failure in the narrative of joint intelligence governance and management in Britain. It has been staffed and operated collaboratively by the three armed services and the Civil Service for 62 years. It is highly regarded for its competence in the 'four eyes' intelligence alliance of Britain, the USA, Canada and Australia, punching well above its numerical and budgetary weight. Moreover, JARIC's small size and comparatively small budget belies the associated investment that has gone into successive generations of strategic reconnaissance and surveillance systems, including the no doubt substantial expenditure of the UK's contribution to the US Future Imagery Architecture.

Nonetheless the conclusion has to be drawn that, for imagery intelligence to both reach its potential and provide the contribution to UK national security, it should it must be placed on a footing comparable to the other collection disciplines of human and signals intelligence with its own voice on the Joint Intelligence Committee, funded from the Single Intelligence Account and tasked in the first instance under RPSI. Whether such resulting national imagery architecture would take the form of a free-standing JARIC on its own or a reconstituted Defence Geospatial Intelligence Agency established at a national level, and to which Secretary of State such an arrangement would be answerable, are matters that require closer deliberation than is possible here. But whatever formula might be adopted, imagery intelligence in the UK cannot and should not be allowed to continue to languish in the future as it has in the past. Imagery intelligence in the British government must have a status and resource base proportional to its real value and impact on foreign policy and, thereby, wider international affairs.

[61] Cabinet Office, 'Government Response to the Intelligence and Security Committee's Annual Report 1999–2000', CM 5013.

[62] The previous such restructuring had been in December 2005; Defence Intelligence Staff, *The Defence Intelligence Staff* downloaded pdf from {www.mod.gov.uk} accessed on 10 January 2006, p.8; Ministry of Defence, 'About Defence: Defence Intelligence', downloaded http: {http://www.mod.uk/NR/exeres/DEA75B45-FFCF-411C-8F86-E0EEAF023BB7.htm} accessed on 4 May 2007.

https://doi.org/10.1017/S0260210509990386 Published online by Cambridge University Press