



Research Article

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Information management in the Intelligence Branch of Britain's War Office, 1873-1914: 'All information flows toward it, or returns to it, in a form worked up into shape'

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Abstract: Intelligence has always been an aspect of organized warfare. It was not until 1873, however, that the British Army recognised this formally by establishing an explicitly named unit, under the auspices of the War Office, dedicated to the development of strategic intelligence: the Intelligence Branch. Based on documents held in the National Archives (UK), this study explores the ways in which the work of the Intelligence Branch developed before the First World War in response to imperial and foreign military challenges and the growing awareness of the importance of strategic intelligence and planning. The Branch's steam-age origins should not disguise the intensity and sophistication of the information management that underpinned its operations. Attention is paid to the type of information management methods that were employed. The existence of a rational system of information management is revealed, consisting of planned phases for the collection, processing, storage, organisation, analysis and dissemination of information.

Keywords: Britain, Nineteenth Century, War Office, Military Intelligence, Information Management

A progenitor of MI6 (Jeffrey, 2011), Britain's premier foreign intelligence organization, the Intelligence Branch of the Victorian War Office was established in 1873. The Branch's steam-age origins, however, should not disguise the intensity and sophistication of the information management that underpinned its operations. In a War Office assessment of the work of the Branch's central office in 1903, it was reported that 'All information flows toward it, or returns to it, in a form worked up into shape' (War Office, 1903, p. 39). This data-processing discourse – delivered a generation and many decades before such language became commonplace in the context, respectively, of the punched-card machine (Heide, 2009) and electronic computing (Aspray & Campbell-Kelly, 2004) – points intriguingly to the existence of a rational system of information management in military intelligence, one which, upon further investigation, is revealed to consist of planned phases for the collection, processing, storage, organisation, analysis and dissemination of information.

1 Information Management History

All academic disciplines or fields of professional practice have a past but not all can confidently point to a history – that is to say, a body of historical knowledge about itself that has been rigorously, systematically and extensively researched and placed in the public domain. In information management, historical perspectives have been a marginal concern. In fact, the bulk of the work on the history of information management has been undertaken by scholars outside the orbit of information management academia

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or professional practice (Beniger, 1986; Black, Muddiman & Plant, 2007; Campbell-Kelly, 1992; Krajewski, 2011; Friedrich, 2008; O’Leary, Orlikowski & Yates, 2002; Rayward, 1975; Soll, 2009; Szommer, 2018; Yates, 1989). Much of this work is based on the proposition that information management pre-dates the computer, just as commentators have also argued with regard to the information society (J. Black, 2014; Rayward, 2008; Webster, 2006; Weller, 2011). One area where the importance of information management to pre-digital information societies is clearly visible is military intelligence, including the work of the security services (Black & Brunt, 2000; Brunt, 2006; Gabriëls, 2019; Peiss, 2007).

2 The Foundations of Strategic Military Intelligence in Britain

The history of military intelligence in Britain, including that of the Branch, has been extensively researched (much of this section is based on: Andrew, 1985, pp. 1-33; Beaver, 2012; J. Black, 2014, pp. 297-299; Fergusson, 1984; Parritt, 2011; Raugh, 2004, pp. 188-190) and is reported in summary form here. Gathering information about the enemy has always been a part of warfare but the institutionally organised quest for military intelligence in Britain goes back to the English Civil War when Cromwell’s New Model Army (effectively the inception of the British Army) was served by a Scoutmaster General. In the late seventeenth century a Secret Service Fund – ‘unvouchered funds for unavowable, clandestine activities’ (West, 2014, p. 382) – was instituted, the money spent on propaganda, part-time informants and political and diplomatic bribery (though not on running any network of professional spies). In 1703 the Fund was used to establish a Decyphering Branch. In 1797 the Fund was underpinned by parliamentary sanction (the Secret Service Vote) and fell under the administrative control of the Foreign Office. Code-breaking, alongside the training of ‘exploring officers’ (the Corps of Guides), proved especially important in the campaigns against Napoleon’s forces on the Iberian peninsula (West, 2014, p. 291). After the Napoleonic Wars the Fund dwindled and in 1844 the Decyphering Branch was closed.

However, the type of military intelligence that had heretofore dominated was essentially *field*, or *tactical*, as opposed to *strategic*, intelligence, a distinction which was sometimes expressed in the use of the terms *peace* and *war* intelligence (War Office, 1913, p. 1). In the nineteenth century, apparatus for intelligence gathering and analysis regarding particular problems and in specific circumstances was set up but once the problem went away or the circumstances changed for the better it was dismantled (Ferris, 2005, p. 15). Although the value of field, or tactical, intelligence was automatically recognized once a campaign had got underway, the need for strategic intelligence – the identification of long-term aims and the means to achieve them for the purpose of military advantage – was a different matter, the culture within the Army hierarchy being hostile to information gathering by bodies that were not under direct field command. But as the nineteenth century progressed there were growing signs that strategic intelligence was being taken more seriously, as structures were gradually put in place to gather and analyse information with the future – if not the distant future – in mind. The development of a strategic intelligence infrastructure was intertwined with wars, with Britain’s changing geo-political position, and with anxieties associated with each in respect of intelligence deficiencies. In particular, information for military purposes was critical to planning for imperial expansion. Information needed to be collected not only on the military forces of imperial rivals but also on subjugated – and potentially subjugated – populations, knowledge of local culture being a prerequisite of control. Further, cultural information helped the monitoring of auxiliary native troops, something that was deemed to be of increasing importance after the Indian uprising of 1857-1859. It was also realized that information was critical to keeping military spending as low as possible, something which especially before the age of high imperialism (the period from around 1870 to 1914 which saw the formal colonization of large areas of Africa and Asia by Europe’s major powers) carried weight amongst those who were sympathetic to the claim made by British chancellor of the exchequer Benjamin Disraeli in 1852 that the colonies were a ‘millstone around our necks’ (Stembridge, 1965). Finally, intensive information gathering and analysis for military intelligence was critical to efforts to anticipate shifts in the balance of power in Europe, especially with regard to the rise of a unified Germany after 1870.

In the eighteenth century, mapmaking, previously largely the domain of civilians, had been effectively

weaponised, becoming a prime responsibility of the military. In turn, the military was 'cartographised', the map assuming a much more important role as warfare became more mobile (Edney, 1994). The Napoleonic Wars saw the establishment in the British Army (in the Quarter Master General's Office at Horse Guards, London), in 1803, of a *Depôt of Military Knowledge*, its central concern being the making of maps. Its work on maps supplemented that of the Ordnance Survey and the Office of the Naval Hydrographer (Ritchie, 1995), established in 1795 to produce charts primarily for the navy, as well as that of the Quarter Master General Offices in Dublin (Ireland), Colombo (Ceylon) and Simla (India). Other main state map-making agencies in the Victorian age included the Royal Engineers' School of Military Engineering; the Royal Engineers' Institute; the Directorate General of Fortifications; and the Barrack Office.

Maps were of immense strategic value, but the main line of ascent to today's military strategic intelligence services began with the establishment in 1857 of the War Office, which took over responsibility for the administration of the British Army. The War Office's continued commitment to maps was demonstrated that same year when, with an eye on home defence, it amalgamated the Army's *Depôt of Military Knowledge* with the Ordnance Survey (although this was later transferred, in 1870, to the Board of Works). But under the War Office, strategic intelligence work was to broaden and deepen, moving well beyond a focus on maps. The Crimean War (1853-1856) was a factor in this regard. Arguments that evaluate intelligence performance in the Crimean War as an unmitigated failure are erroneous. There were undoubtedly shortcomings but on balance an efficient tactical intelligence system was eventually created. However, regarding long-term intelligence planning, the war brought into sharp focus the fact that Britain had 'no permanent intelligence system nor trained staff upon which to build one' (Harris, 2018, p. 405). In 1855, therefore, the Army inaugurated a Topographical and Statistical Department, which the War Office subsequently inherited two years later. Importantly, in the context of the new department's name, 'statistical work' was in fact a synonym for 'information work', to better assist the in-house production of new maps and the collection and archiving of existing maps, but also to start working towards the construction of an information infrastructure for long-term military planning.

3 The Establishment and Pre-1914 History of the Intelligence Branch

However, the Franco-Prussian War (1870) revealed continuing deficiencies in information gathering for military purposes. The professionalism of the Prussian Army, including the existence since 1814 of a General Staff with responsibility for the formulation of strategic intelligence, was starkly highlighted (a General Staff, as opposed to a Commander-in-Chief, is a corporate body, tasked with drawing up and reviewing plans as well as, importantly, contingency plans for mobilization and war). In the wake of the War, a War Office committee was convened to evaluate the role of the Topographical and Statistical Department. The investigation found that the Department had little information on the belligerents in the conflict, nor on other foreign armies and the colonies generally. It was shown that the library and map collection were deficient, few reports from military attachés had been received, officers had only infrequently been sent on information-gathering trips to the continent, and both important parliamentary and confidential papers had rarely been sent to the Department. (War Office, 1878, p. 4). The committee reported that the Department's future role should be to collect:

All possible information relating to the statistics, equipment and organization of foreign armies; the resources, railways, available means of transport etc. of Great Britain and Ireland, the colonies (excluding India) [which had its own intelligence arrangements] and foreign countries; and to prepare any information relating to foreign countries which might be required for the heads of Departments in the War Office (as cited in Beaver, 2012, p. 74).

In the wake of the Cardwell army reforms of the early 1870s, which sought to emulate those introduced in Prussia in the 1860s, including the increased focus on strategic intelligence (Wade, 2009, pp. 75-77), it was recommended that intelligence work in the British Army should be recognized in its own right, as opposed

to being a mere appendage to map making and map collecting. The Department was thus split into three sections. Firstly, a Topographical Section continued the work on maps. Secondly, a Statistical Section was charged with compiling data about the Army and, more importantly, with collecting information about foreign countries and the strength, organisation, equipment, fortifications, tactics and strength of their forces, including their progress in 'military art and science' and short biographies of foreign generals. Thirdly, a 'good military library' was to be established, with a department of military archives to be attached to it at some future point. In 1873 the re-organised unit was named the 'Intelligence Branch', the antecedent, effectively, of the Secret Intelligence Service (MI6) (Jeffrey, 2011; West, 1983), established in 1909.

The increasing hegemony of Britain in the age of high imperialism (in which the British Army became, essentially, a colonial army), combined with tension between the European powers as imperial rivals and as potential belligerents in future European conflict, led to an upgrade of the Branch in 1888 to the status of 'Division' (*despite this change of name, to avoid confusion, throughout this article I will continue to refer to the Intelligence Division and its later incarnations as the 'Branch'*). The work of the Branch was proved especially important in the 'scramble for Africa', where British interests often came up hard against the interests of imperial rivals, even of future allies, such as the French.

The Boer War (1899-1902) witnessed a significant investment in tactical, field intelligence. A Field Intelligence Department (forerunner of the Intelligence Corps founded in 1914) was formed to undertake reconnaissance, draw up maps and collect local information. The reporting of information was standardized and centralized, and by the end of the war 132 intelligence officers were in place, supported by over 2000 troops devoted to intelligence tasks (Andrew, 1985, p. 29; West, 1914, p. 210). From this experience a manual, *Field Intelligence* (Henderson, 1904), which was to prove invaluable when war broke out in 1914, was produced. In terms of strategic intelligence, however, Britain was, in the words of West (1983, p. 3) 'caught napping', by the Boer War, having grown complacent while presuming the 'supremacy of her navy would maintain the Pax Britannica'. Some saw the war as an intelligence failure, and initially laid blame at the door of the Branch. But after the war, the Branch was exonerated. A report of the Royal Commission on the South African War (1903) noted that the Branch had been vastly understaffed and thus unprepared for war; but it also found that despite these structural barriers, before the war the Branch had collected, organised and analysed information with great efficiency, and had dutifully supplied the Army with the correct intelligence regarding probable attacks in South Africa and the lack of preparedness that existed (Barnett, 2000, p. 341). The information had, quite simply, not been exploited by the Army hierarchy. The Branch's excellent manual on South Africa had been discarded, for example; and Britain had underinvested in machinery for contingency and strategic planning, along the lines of a General Staff – unlike in France, Russia, Austria and Germany where for over a generation generously staffed intelligence sections had been important parts of the General Staffs located in their war ministries (War Office, 1878, p. 116). Spenser Wilkinson, Professor of War at Oxford at the time, compared the War Office's use of the Branch in the Boer War to a man who 'kept a small brain for occasional use in his waistcoat pocket and [instead] ran his head by clockwork' (quoted in Andrew, 1985, p. 28).

In 1901 the Branch became part of the newly formed Mobilization & Intelligence Department, the Intelligence Division (that is to say, the Branch) being given equal billing with the Mobilization Division and being described by Sir John Ardagh, Director of Military Intelligence between 1896 and 1901, as effectively the 'the Brain of the Army' (War Office, 1903, p. 53). This move reflected a growing recognition of the need for strategic planning and of the importance of intelligence to it. The marriage of strategy and intelligence was finally consummated with the establishment in 1904 of a Military Operations Directorate (replacing the post of Commander-in-Chief of the Army), which in 1906 morphed into a fully-fledged General Staff. While it is true that the Branch became a mere sub-committee in this new set up, this ostensibly humble status didn't reflect the much higher status intelligence work now enjoyed in the War Office, not least as a result of the work the Branch had been undertaking for over thirty years.

4 Information Management in the Intelligence Branch

As noted above, the origins and formation of the Branch and its later activities have been well documented by intelligence historians. However, none of these have concerned themselves directly or discretely with the concept of information management. Rather, beyond providing descriptive narratives of the Branch's development they have focused on its military effectiveness and matters of internal Army politics. Specifically, the spotlights of historians of the Branch have fallen on such issues as: attitudes in the Army to what was seen as an interfering extraneous body; the best place in the administrative structure of the War Office for the Branch to sit; negative attitudes in the Army to centralised, strategic intelligence and to the concept of a European-style General Staff; positive attitudes to tactical intelligence, which tended to glorify the heroic pragmatism of the battlefield commander; the role of particular personalities in furthering or blocking the fortunes of the Branch; the role played by the Branch in certain diplomatic events and campaigns; relations with other government departments; staffing arrangements, including numbers of officers serving in the Branch and the balance between permanent and seconded staff; and the enduring weaknesses of the Branch in the area of covert intelligence.

Departing from these concerns, this study highlights the Branch's management of information. The study is largely based on documents in the National Archives, especially two reports covering the first three decades of the Branch's work (War Office, 1878; War Office, 1903). Both reports contain numerous references to the word 'information' and statements about how to manage it. The reasons for the exhaustive explanations in these reports of the information management that was being operated are not stated, but some might be suggested. It could be that the Branch was trying to convey to higher authorities the seriousness and professionalism of its work. Other possible reasons fall under an associated knowledge management rubric, in that the reports may have been designed to provide a training manual for new staff or serve as a benchmark to enable improvements to the system in the future. Whatever the motives behind the production of the reports it is clear that evidence in them resonates with major elements of information management practice.

Definitions of information management posit it as a multi-faceted process. Book-ended by the request for, and use of, information, descriptions of the various phases in the intermediate process are manifold: information is, in no particular order, gathered, collected, acquired, sourced, created, deposited, stored, archived, organized, arranged, controlled, ordered, indexed, named, documented, described, filtered, retrieved, distilled, collated, analysed, interpreted, disseminated, distributed and communicated (Buckland, 2017; Detlor, 2010; Wilson, 1997). Interestingly, such vocabulary is remarkably similar to that used to depict what intelligence theorists call the 'intelligence cycle', which involves the identification of requirements, followed by the planning, collection, validation, analysis, processing, production and dissemination of intelligence. (Andrew, Aldrich & Wark, 2008; Federation of American Scientists, 1996). The intelligence cycle results in the conversion of raw information into intelligence, where, like phases in the information management process, each stage adds value; as occurs, for example, in respect of the pre-analytical stages of processing and organisation which essentially filter and 'ready' information for its intellectual conversion into intelligence (Phythian, 2013).

Theoretically, phases in the information management process are separate and sequential, each phase adding value to that achieved by the phases that had preceded it. In reality, of course, the process is not quite so clean and simple. However, employing a model with discrete categories is important in facilitating investigation and interpretation. The work of the Branch will thus be examined in accordance with the following six categories: collection, processing, storage, organization, analysis and dissemination.

4.1 Collection

The information the Branch gathered was both covert and overt in nature, but the latter vastly outweighed the former. Relatively little value was attached to underground intelligence: 'it is not often that a secret

agent discovered anything of importance', claimed one high military source in 1903 (War Office, 1903, p. 55). Victorian spying has been considered to be somewhat amateurish and ungentlemanly. Little information was retrieved via what might be described as the romantic James Bond or double-agent form of spying. The exceptions in this regard were the contexts of Ireland and India (West, 1983, p. 3). In India, for example, far from being pragmatic and uncoordinated, spying and reconnaissance was conducted in a fairly professional fashion, the main agents being officers in the Indian Army, travellers of independent means recruited to the cause and highly trained 'hillmen' employed to scout the terrain and note politico-cultural conditions (Johnson, 2006; Popplewell, 1995). Information garnered from such underground sources was critical to the expansion of British power in India, as well as to the playing of the 'Great Game' with the Russian Empire which constantly threatened to push down through Afghanistan and north-west India.

A great deal of the non-public domain information gathered came from such routine activities as informal reconnaissance by Branch and other officers on informal visits, often subsidising their travel and lodging out of their own pockets – a case of 'patriotic folk' undertaking 'glorified detective work', as Andrew (1985, p. 24) has put it. Today, such information is termed 'HUMINT' (human intelligence). Of all the sources of human, covert information, the diplomatic service was the most productive, as it had been for centuries. Because of the consequences of discovery, mixing diplomacy and intelligence work has always been dangerous, but in the second half of the nineteenth century, as international tensions rose and the stakes became large, potential advantages began to overshadow risks (Jeffreys-Jones, 2013, pp. 12-13).

Of increasing importance was the work of military attachés who over the decades produced, as Seligmann (2006, p. 214) has put it, a 'torrent of foolscap' for the Branch as well as the Foreign Office. With adroit information management efficiency, they were schooled in precisely what information to root out and collect. By the early-twentieth century, upon appointment attachés were being given standardized, printed letters setting out in detail what their informational duties were. Not only this, personal information management practices for attachés were suggested: the regular taking of notes; the submission to London of information on one-sided typed paper; the keeping of a correspondence register; the lodging of correspondence, reports, cuttings and memoranda in personal files; and the production of an index to files (War Office, 1908a). Letters were also frequently written to attachés seeking the latest information and information to fill identifies gaps (War Office, 1903, p. 36).

Attachés' sources in host countries were many and varied, ranging from representatives of other foreign consulates, newspapermen of various nationalities and expatriates from Britain and other nations, to professional and social contacts with host-country officers and officials (Seligmann, 2006, pp. 81-104). As had been the case with diplomats historically (Black & Bryant, 2011), they would also have had easy access to host-nation publications – giving information about anything from new legislation and public opinion to annual military estimates and industrial developments – which might not have been so easily accessible at home. British officers obtaining information from military counterparts who were hosting them did not see themselves as spies; and nor did those hosts see them as such. Spying, after all, was an ungentlemanly pursuit. Rather, information was extracted through the natural bonds that existed between officers, even if they were on different sides. Conviviality and mutual respect were the key to unlocking secret information. As one Lieutenant-General testified in 1903: 'The qualifications chiefly requisite for a good Attaché are common sense, agreeable manners, social standing, and the possession of some private means. Great theoretical ability is a secondary consideration' (War Office, 1903, p. 49).

But by far the largest amount of information gathered by Branch officers was from public-domain sources: from books, published reports, travel books, gazetteers, railway timetables, newspapers, magazines and periodicals – what in modern parlance is termed open-source intelligence, or OSINT (Mercado, 2004). Information was required not just on military matters but on logistics. One of the major concerns of the Branch's immediate antecedent, the Topographical and Statistical Department, was to locate suitable stocks of horses from around the world (Beaver, 2012, note 325). In the context of India, for example, for which a separate intelligence branch was established, intelligence work was seen to entail the laborious working out of details in the area of transport, amongst other matters. This work addressed:

the amount [of transport] required, how and from whence the men and animals are to be got, the use to be made of the permanent transport, the mode in which it is to be collected and forwarded by rail and road, the replacement of this quickly at the various stations, the previous registration of transport animals to be obtained near military and civil stations, the supplies necessary for the transport *en route* and at the points of concentration, the modes of purchase and payment, the equipment for men and animals, how to be supplied and in what quantities; and the organization of transport, officering, and selection of officers, pay (War Office, 1878, p. 1).

Linked to logistics, great store was set by accumulating information which today's intelligence community calls 'SOCINT': socio-cultural intelligence (Patton, 2010). This would include information on such matters as local customs, tariffs, currencies, religion, labour, crime, politics, racial make-up and tribal rivalries, the idea being that for a high-tech force like the British Army to fight low-tech opposition in the colonies (what's known as 'assymetric warfare') then traditional, everyday information as well as low-tech means of gathering it were at a premium (Mallinson, 2010, pp. 239-240). Although not a department of government, the Royal Geographical Society in the late-nineteenth century, apart from imparting knowledge of surveying, mapping and photography, to botany, zoology and geology, began advising and training adventurers, explorers and government and military representatives travelling abroad as to the best ways of extracting and collecting information about social, economic, cultural and political contexts, the resulting data being made available in the Society's publications – such as *Hints to Travellers*, which through several editions was transformed from an assortment of miscellaneous articles into a systematic and comprehensive 'how to' manual for the prospective overseas traveler (Jones, 2005). Such sources had significant military value.

A good deal of information was sourced from other departments of state. An obvious example in this respect was intelligence gathered by the Navy. A decade after the Branch was established, the Navy established a similar unit. In response to the growing potency of rival naval forces, including those of Russia and, especially, the France, an organized, though minimal, system of intelligence in the Navy (the Admiralty's Foreign Intelligence Committee) was established in 1883; being upgraded into the Naval Intelligence Department (NID) in 1886 (Andrew, 1985, pp. 13-14) The Navy provided lucrative information as a result of visiting foreign ports, and this was supplemented by reports from naval attachés, agents of the insurance company Lloyds and British consuls. (West, 1983, p. 4). In addition, the economic and linked data collected abroad by the Board of Trade and published in its consular reports were a valuable source (Black and Murphy, 2012), as was information obtained from the other overseas-facing departments: the Foreign Office, the Colonial Office and the India Office.

Equally, the Branch impacted information activity elsewhere. Its work served as a template not only for the above mentioned NID but also for an Imperial Institute, established in London in 1887 (Muddiman, 2011). Described by the *Times* (23 April 1887) as the 'brain centre of the empire' (as cited in Muddiman, 2011, p. 112), the following year the Institute opened an Information and Intelligence Bureau which, it claimed, was modelled on the Branch. Further, in 1903, the Board of Trade, obviously very aware of the work of the Branch, established a Commercial Intelligence Branch (Black & Murphy, 2012).

4.2 Processing

In the late-nineteenth century large, systematized registries were being developed across the government bureaucracy, such as that in the Foreign Office, which was extensively upgraded in 1905 (Royal Commission on the Civil Service, 1914, questions 36,915-36,949; Steiner, 1969, p. 79). The Branch too developed a robust registry, details of its operation being set down rigidly: for example, it was stipulated in a protocol that papers not addressed to particular officers were to be circulated at three specified times during each day, while pressing papers were placed in green jackets and circulated at once (War Office, 1878, p. 35). Upon entering the Branch, papers of confidential origin went through a methodical registration process, passing through a 'transit room', or registry, where their identity and movement (origin and destination) were logged. Along with the distribution of work and the overseeing of all correspondence, the transit room was the responsibility of the Branch's Central Section, supervised by the Branch director. The passage of documents through units in the Branch and more widely were recorded in a 'transit book' (War Office, 1878,

p. 34). The Central Section was in effect a mighty information magnet. The procedure was that, having been registered, documents were passed to other sections in the branch, each with responsibility for particular parts of the world. If these sections felt they could add value to a piece of information they could send a memorandum up the hierarchy to the Central Section, or horizontally to another section. In 1903 the Secret Section (in charge of covert information) stated that it communicated information to other sections, firstly, when asked for it, and secondly, when it seemed to concern another section (War Office, 1903, 25). Public-domain documents, such as newspapers and magazines, were dealt with in a more ephemeral fashion, with clerks taking cuttings and pasting them into large scrapbooks (Beaver, 1976, p. 210; War Office, 1878, p. 42). Not all such sources were guillotined but found their way as whole items into the Branch's library, to which attention is now turned.

4.3 Storage

A major resource for Branch officers was the Branch's library, inaugurated in 1854. It remained separate from the main and satellite libraries in the War Office until the early-twentieth century when the new, monumental War Office building was opened in Whitehall (War Office, 1906). By the mid-1880s the Branch library was stocked with over 40,000 volumes and was increasing in size by over 5,000 volumes a year. The size of the library was on a par with that in the House of Commons. True, it was only half the size of the library of the Foreign Office, but the Foreign Office was, after all, a much larger department of state. By the twentieth century the Branch library had achieved the status of 'greatest military library in the world' (Andrew, 1985, p. 23).

The library contained not just books (including those authored by Branch staff) but also periodicals, newspapers and maps. By 1903, the map section, now separate from the library, stocked over 200,000 maps (War Office, 1903, p. 24). It is unclear, however, if the library housed the more ephemeral materials (such as reports, letters, notebooks and scrapbooks) which officers also used to write their distilled accounts. In short, it is difficult to see where the Library ended and the document repository began, or whether documentary work took place in the library itself. Throughout most of the period being considered here, the Branch and its library were located in terraced houses of modest size in Westminster, away from the main War Office building. Space was at a premium, so documentary and traditional library functions could easily have become intertwined.

The ephemeral, non-traditional and sensitive nature of much of the material in the library was commented on by one officer in 1902. The library contained, he observed in a memorandum, 'Books and papers of a confidential nature, such as reports of Committees, Secret Memoranda etc.'. There was, he continued, 'No great accumulation of these is desirable and only the higher officials should have access to them'. The library had a large stock of foreign military and geographical periodicals. Once read and noted, these, it was thought, were 'scarcely worth the cost of finding [and thus keeping]'. Regarding 'secret documents (obtained heaven knows how) concerning foreign armies, fortresses etc., these are obviously not for circulation beyond the officers immediately concerned with them (War Office, 1902).

It is not clear where material that had outlived its short- and medium-term usefulness was stored or archived, nor how such material was weeded and destroyed. We do know, however, that for short-term storage material was deposited in boxes of strong millboard with the standardized dimensions of 18 (and three eighths) inches long, 13 inches wide and 5 inches deep. The boxes were placed in presses divided into compartments (or pigeon holes), one box to each compartment. The presses were open at the front but vertical pieces of wood hinged between each compartment and fitted with a lock prevented anyone without a key from removing the boxes. Each box had a label indicating country and the range of documents, by accession number, residing in the box. In addition, there would be a letter indicating the general nature of the documents (in this case M for miscellaneous; D for Foreign Office dispatches) followed by the box number (in this case 6 & 1). We also know that periodicals perused and kept in the Central Section were eventually bound and placed in the library (War Office, 1878, p. 42).

Over the years many argued for the establishment of a historical section, along the lines established by

the General Staffs of countries on the Continent (Germany and France were said to have excellent historical sections) (War Office, 1903, p. 38). 'The study of military history should prove of great value to our officers', testified a high-ranking officer to the 1903 Committee (War Office, 1903, p. 55). But ultimately, although some accounts of past military campaigns were worked up (War Office, 1878, p. 43), no such special section appears to have been created, beyond the historical materials which obviously resided in the library over the long term.

4.4 Organisation

An important task of the Statistical Section, part of the body – the Topographical and Statistical Department – that immediately preceded the Branch, had been 'to preserve ... information in such a form that it can be readily consulted, and made available for any purposes for which it may be required' (Andrew, 1985, p. 11). This 'information retrieval' requirement, which continued after the formation of the Branch, placed a premium on the efficient organization, classification, cataloguing and indexing of documents. Materials' metadata was recorded in printed ledgers. Plans of fortresses, for example, were logged in a seven-field database requiring entry of:

- the document's accession number
- the name of the fortress or the town in which it was located
- the number of sheets in the document
- date
- name of publisher or compiler
- scale used
- additional data, or remarks, if needed

Something of the 'documentary' work of the Branch is clearly visible in the description made in the 1878 report regarding the indexing of material for the purpose of precis, or report, writing on individual colonies. Each country, or colony, was given its own ledger, or part of it. Leaves in the ledger were divided alphabetically according to a list of *main* headings (or key). Letters of the alphabet denoted particular concepts, for example:

- Geography (letter A)
- Communications (letter C)
- Climate (letter G)
- History (letter K)

In the event of more pages being required, blank pages at the end of the book could be taken up.

Main headings were sub-divided into minor headings, and numbered. Thus, under A, for Geography, the following categories operated:

- Physical = 1
- Political = 2
- Maps, plans and sketches = 3
- Geology = 4
- Miscellaneous = 5

The ledger contained multiple identical pages, in tabular form. Columns in the table called for the:

- the document's number (information was entered under the appropriate letter of the alphabet in the order it came to hand – that is to say, chronologically)
- minor subject heading, determined by a control vocabulary (including the name of a region)
- date
- from whom received
- where deposited

- subject (narrative description of contents)
- remarks (including cross-references – because an item of information could sometimes be classified under more than one letter)

The mock example given in Figure 1 depicts an entry in the Geography section (that is, pages headed ‘A’) of a ledger devoted to Australia. The meaning of the entry is as follows. The document, which was produced in 1868 and which relates to the geology of New South Wales, was provided by a Colonel Roberts and has been given the accession number ‘6’. It was deposited in a box with the serial number ‘103/24’ (or if bound or pasted into a scrapbook, the volume and page numbers would be recorded). The document is about the discovery of copper ore and because there are transport implications it has been cross-referenced in that part of the ledger, or an overflow ledger on Australia, where information is recorded on Communications/Railways (on pages headed ‘C/6’).

AUSTRALIA [Ledger]: A [Geography]

Document No.	Minor Heading	Date	Whence Received	Where Deposited	Subject	Remarks
6	New South Wales Geology	1868	Col. Roberts	Section B 103/24	Discovery of copper ore	See C/6 [Communications/Railways]

Figure 1. Mock example of an indexed entry in a Branch ledger on the subject of mineral desposits in Australia.

The fundamental purpose of this system was the working up of information about each colony in the form of a precis. Important precis were printed to a high professional standard (more about these below), but the majority were kept in manuscript, and in such a form that corrections and alterations, which were continually necessary, could be made. The revision of precis was a constant aspect of the documentary work undertaken. The Branch also had its own lithography and printing room (War Office, 1878, p. 65).

As noted above, it is difficult to discern where the Branch’s documentary work ended and its library work began. Beaver (1976) has implied that the former was subsumed within the latter. It is true that library staff were certainly involved in examining and indexing newspapers and periodicals (War Office, 1894). But whoever it was who did such work, the work itself was clearly that of the documentalist (or information officer/manager) rather than the librarian. In order to compile lengthy printed reports and books material had to be guillotined from whole documents and subjected to ‘an elaborate system of indexing’ (War Office, 1903, p. 21). Information from newspapers, for example, was said to be organized in a ‘classified form’ (War Office, 1878, p. 8), and to this end in 1878 the library adopted a form of the Dewey Decimal Classification (DDC). The first edition of the Classification had been introduced to the world in 1876. In 1877, the first international conference of librarians took place in London, and it was at this conference that one of its delegates, Captain Grover, Librarian of the Intelligence Branch, would have heard Melvil Dewey, designer of the DDC, speak (Nicholson and Tedder, 1878). The Branch also looked at the classification schemes of other specialist libraries before adopting the adaptation of the DDC they required (War Office, 1878, pp. 83-84). What was borrowed from the DDC, however, appears to have been the basic facets of subject, geographical area and country (as seen in Figure 1) as opposed to anything akin to the system’s numerical classification (Beaver, 1976, p. 209).

4.5 Analysis

The fundamental purpose of such manual, yet sophisticated, information management protocols was to organize raw data so it could be easily accessed for analysis and for subsequent re-packaging into distilled and digestible documents, print and non-print. The aim was to achieve a ‘complete, concise, and

accurate compilation, classified and arranged in such an order that the information required may be at once accessible; consequently, the various items must be examined and sifted, their relative importance must be determined and the deductions to be drawn from them be clearly specified' (War Office, 1903, p. 37). Most of the work undertaken by officers consisted of 'clearly and accurately digesting the great mass of miscellaneous information' (War Office, 1903, p. 6). The revision of documents was a constant task. It was reported that there was 'no finality in the work' for 'conditions change so rapidly ... that a book or paper requires revision almost directly after it has been written'. There was 'a tendency to under-estimate the time, labour and skill required for an efficient performance' of collation work; the writing of papers, it was observed, 'took far more time and thought than is generally supposed'. Officers tasked with writing had to have 'the highest military attainments, and [be] well acquainted with the military conditions of the particular country under consideration' (War Office, 1903, p. 37). They also needed foreign-language and traditional scholarship skills. It was recognized that distilling material required 'experience, linguistic attainments, and sound judgement', and there were continual requests for staff with such skills to be appointed long-term to improve productivity (War Office, 1903, p. 6); for officers were 'so fully occupied with mere reading and translation that they had not time to digest their information, or to write handbooks' (War Office, 1903, p. 21). Officers, on secondment from their units for an average of five years, and thus able to become proficient in their duties, were often drawn, through meritocratic selection, from the scientific branches of the Army, such as the Royal Artillery and the Royal Engineers (Beaver, 2012, p. 15). Training additional to that received on the job didn't arrive until the twentieth century (War Office, 1908b).

The analysis and writing which officers undertook – and in which countries like Germany and France had many more officers engaged (War Office, 1903, p. 38) – was part and parcel of the gradual shift towards a broad acceptance of the importance of strategic intelligence. In 1857 it had been reported that the job of the Topographical and Statistical Department, the forerunner of the Branch, was to be 'something more than a mere depository of statistical information, but that officers should, in reporting on countries, study their practical strategy and resources' (War Office, 1878, p. 3). This analytical role, taking account of geography and culture and not just military strength in potential theatres of conflict, was boosted by the inception of the Branch in 1873. Long-term strategic planning was also underlined by the recommendation made in 1875 that the Branch be required to address the question of the 'best mode of rendering assistance to Belgium, Holland, etc., in case of their independence being threatened' (War Office, 1878, p. 8). On-going analysis of material was critical to contingency planning for war, including in respect of home defence (War Office, 1908b, pp. 10-11).

4.6 Dissemination

The main purpose of the Branch was seen to be the dissemination of 'packaged' information to the army and other departments of government. The output could also be disseminated to parties, including Parliament, that were considering such matters as Army re-organisation. Maps produced by the Branch were often included in Parliamentary Papers. It is understood that Queen Victoria received some of the Branch's shorter papers (Beaver, p. 210).

Initially, the Branch was assigned little more than the task of presenting information on request (Gooch, 2016, pp. 9-10). Before the twentieth century and the rise of the German threat, this was especially true of information arriving from Africa and Asia which, once collated, was heavily requested by the Foreign Office and the Colonial Office (Andrew, 1985, p. 27). However, in what was to be a tradition that marked out the documentalist from the librarian, assistants began to *pro-actively* bring publications and other materials to the notice of officers whom they thought would need them (War Office, 1903, p. 25)

Branch officers spent some of their time generating precis documents in manuscript. One such documentary series was entitled *Field Notes*. These were envisaged as publications in time of war, to be printed when conflict had broken out or when it was deemed imminent. In the interim, the data were kept in manuscript, abbreviated form (Seligmann, p. 218). However, the main and most impressive information that returned 'worked up into shape' – to invoke the sub-title of this article once again – were the distilled,

printed accounts, or books, written by officers for relatively wide distribution within the Army and to interested political and civil-service parties. Unlike other Branch outputs, these have in many instances remained intact, available for the historian to consult. Printed books began to appear in the closing decades of the nineteenth century (for example, the first edition of the *Handbook of the Russian Army* was first published in 1882). A significant proportion of printed books found their way into the public domain, some being available through booksellers. Many were marked ‘for official use only’ but such was the increasingly long print runs ordered by the authorities that certain titles inevitably leaked out of the military and official circles for which they were intended. Printed books were produced both annually and on an ‘as and when required’ basis. Annual books included the series *Reports on Foreign Manoeuvres* and *Reports on Changes in Foreign Armies*. By the early-twentieth century, 400-500 copies of each title were being printed. There were two major kinds of non-annual books: the *Military Resources* and *Handbook* series. The *Military Resources of the German Empire* (1911) ran to 342 pages and had a print run of 750 copies – an astonishing amount for a heavyweight internal publication (Seligmann, pp. 217-218). The *Handbook of the German Army* (1897) ran to over 200 pages.

5 Conclusion

In the evaluative report on the Branch produced 1903, one high-ranking contributor stated that:

Less than 20 years ago Germany had no colonies; France had [far] fewer than now, and her colonial military position was decidedly weak; Russia was far less threatening than she is now; [and] the United States had no army worth the name and no colonies. All this has been changed, and while our own Empire has expanded, it has also become more vulnerable to attack. The result is that we require more and better information than before, while there is greater necessity for keeping it up to date and available for immediate use’ (War Office, 1903, p. 37).

Growing international tensions in the age of high imperialism had placed a high premium on good military intelligence and, in turn, on the information management practices required to deliver it. Originally viewed by the rest of the Army as a pariah unit, the Branch, through its professional work and far-reaching outputs eventually began to make an impact on policy. Increasingly, the Branch was consulted by the military, political and civil service hierarchy, not least because when it ‘did propose courses of action, it did so with evidence not usually available to others’ (Beaver, 2012, p. 13). The Branch’s great achievement was that it ‘injected a new technocratic intellect, planning and vision into the realm and service of diplomacy and operations which had not existed before’ (Beaver, 2012, p. 15).

According to Christopher Andrew, by the turn of the century it was the War Office Intelligence Branch which possessed the British state’s ‘best developed intelligence department’. (Andrew, 20), matched only, according to West (1983, p. 4), by the Admiralty’s Naval Intelligence Division. On the surface, judging by their relatively long history, the efforts of these agencies would appear to tell a story of intelligence competence. However, in 1907, aware anecdotally of troubling weaknesses in intelligence, the Committee of Imperial Defence undertook a review of the country’s intelligence capabilities. Amongst other things, it found that there was not a single British agent on the continent of Europe. (West, 1983, p. 4) Then, in May 1909, typical of the partly amateurish approach to covert intelligence, two British naval officers were arrested and imprisoned when undertaking a photographic survey of German coastal forts. This shook the British intelligence authorities out of their complacency and by July a Secret Service Bureau, with “home” and “abroad” sections had been formed. These became what we today refer to as MI5 (Andrew, 2012) and the descendant of the Intelligence Branch of the War Office, MI6 (Jeffrey, 2011; West, 1983).

It would be possible to argue, of course, that this significant upgrading of Britain’s intelligence infrastructure is proof of prior intelligence deficiencies and failures. But it is difficult to apply this conclusion to the Branch. In terms of recognizing the importance of the systematic and diligent collecting of information and the subsequent collation, or analysis, of it to produce intelligence, the Branch had kept pace with, or even outstripped, developments in the wider world of information management in Victorian administration. Even if its information retrieval practices did not match those established by Paul Otlet’s International

Institute of Bibliography (Rayward, 1975; Wright, 2014) or formulated by Julius Kaiser (Dousa, 2013; Kaiser, 1908, 1911), its information management systems certainly matured in parallel with the rise of the science of management and the associated widespread revolution in information management techniques and technology – from the vertical file and calculating machine to the Gant chart and in-house organizational magazine – that swept through business and state office organization in the decades immediately prior to the First World War (Beniger, 1986; Galloway, 1918; Leffingwell, 1917; Orbell, 1991; Yates, 1989).

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