
Information Management of British Military Intelligence: The Work of the Documentalists, 1909–1945

RODNEY M. BRUNT

ABSTRACT

After describing briefly the activities of information officers in the early decades of British security services MI5 and the Secret Intelligence Service (SIS, otherwise known as MI6), the work of these documentalists is thereafter explored in the wider context of the information manager in the knowledge organization. Early in the twentieth century, MI5 created its Registry to ensure the efficient use of the information it gathered on suspect aliens. Its equivalent in SIS, housed in Room 40 Admiralty Old Building, was concerned with signals intercepted first on cables and later transmitted by wireless. The Second World War saw similar operations, including those of the London Reception Centre (LRC) and of the Government Code & Cypher School (GCCS) in Bletchley Park. This paper describes briefly the means by which the intelligence could be put to efficient use to provide effective and efficient support to their customers, the “spycatchers,” “the watch,” and the researchers, or “back room.”

INTRODUCTION

While British military history can supply us with many illustrations of the role that intelligence might play in both strategic and operational decision making, it was not until the end of the nineteenth century that there was a formalization of this aspect of military planning and resources. The War Office established its Intelligence Branch in 1873; but it was not until 1887 that the Directorate of Military Intelligence (DMI) emerged as a major organization in the military establishment (Herman, 1996, p. 17). The documentation of intelligence, of course, has a long history. In more recent times we find, for instance, that one of the participants in the second annual meeting of the Library Association of the United Kingdom, Manchester, September, 1879, was Captain George Grover of the Intelli-

gence Department, War Office (Tedder and Thomas, 1880, p. 159). Later the intelligence services, both internal and external, were to undergo massive expansion, and with that expansion came the need for management, not only in organizational terms but also of the raw materials. *Intelligence*, of course, means *information*; and what emerged from the period just preceding the First World War was the application of various information management techniques to control the vast amounts of the raw material generated as a result of the formalization of the intelligence gathering process. Information management needs information managers and, while the term was to take some time in its coining, these managers were among the forerunners of the information officers of today. This paper explores the functions and activities of the information managers, or documentalists, of the British security services MI5 and the Secret Intelligence Service (SIS, otherwise known as MI6) in the wider context of the information officer in the knowledge organization of the first half of the twentieth century.¹

BACKGROUND

The history of the establishment of the British intelligence services is now well documented (West, 1981; West, 1986; Andrew, 2009; Jeffery, 2010) and the exploits of the different sections and departments in counter espionage and information gathering and analysis have been extensively covered over the past twenty years or so. What have been less fully explored are the information management aspects of their operations, which were concerned with the organization and retrieval of the intelligence gathered by techniques ranging from stealing documents, to eavesdropping on conversation (human intelligence, often contracted to HUMINT), to intercepting wireless signals (signals intelligence, often contracted to SIGINT).

In keeping with their functions, these organizations accumulated prodigious quantities of intelligence from a wide range of sources—information that could be controlled and made useful only by means of information management techniques such as indexing. In their introduction to *Codebreakers*, Hinsley and Stripp (1993, p. 12) observe that Ultra shortened the Second World War by two years.² It would perhaps be more accurate (and just) to say that it was the documentation of the intelligence that was responsible for that shortening, for pure intelligence out of context and unrelated is valueless. Three establishments—the Central Registry of MI5, the Information Section of the London Reception Centre (LRC), and the Government Code and Cypher School (GCCS)—provide useful exemplars.³

The Central Registry of MI5 was set up soon after the bureau was first established in 1909. Part of its brief was to ensure that “all Names, Places, and Subjects mentioned in the documents should be minutely indexed”⁴ to allow action to be “based on a knowledge of all the available facts, a knowledge which is to be obtained by consulting all relevant documents.”⁵

By the end of the First World War, a highly efficient and well-organized machine had been created under Captain Vernon Kell, the army interpreter and bureaucrat who had directed MI5 since its inception; and the potential for continuing development on the basis of lessons learned was considerable. However, improvements recommended in the historical reports were not introduced; rather, the War Office allowed the Registry to become moribund, starved of status and resources. It is hardly surprising that under the pressure of renewed hostilities in 1939, the system crashed. According to the official internal history of the Security Service,⁶ the Central Index "had been allowed to lapse into a lamentable state," a degeneration which included misplaced cards, a great lack of guide cards, and overfull cabinets. The necessary reorganization of MI5's information commenced in July 1940 when Reginald Horrocks, a specialist in business methods, was recruited from Roneo (but, it appears, no indexers, librarians, or documentalists). Opportunity was taken to work on the document files and the index, weeding, consolidating, and improving consistency. By end of the war, the very much more efficient Registry incorporated an index of over one and a quarter million entries.

The London Reception Centre (LRC) had been opened to handle large numbers of alien refugees flooding into Britain from occupied Europe. To facilitate confirmation of their *bona fides*, in 1942 the Centre's Information Section established its Information Index, which came to contain a great variety of relevant material about the countries from which they arrived along with details of methods and routes used by enemy agents or members of allied resistance movements. The Index was in two separate parts: the Name Index and the Geographical Index, and eventually contained some 100,000 cards.⁷ The LRC Information Section and particularly the Information Index were the only point at which information from MI5, SIS, and Special Operations Executive (SOE) and numerous other sources was recorded and collated for the benefit of MI5. As a result other organizations also made use of it, such as MI5 head office sections, SOE, and Supreme Headquarters Allied Expeditionary Force (SHAEP).

Soon after the establishment of GCCS at Bletchley Park, it became plain that arrangements would have to be put in place to exploit fully the intelligence it was obtaining from breaking Enigma.⁸ The lead was taken by Winterbotham (chief air intelligence officer of SIS), Welchman (a mathematician in Trinity College, Cambridge, recruited on the eve of war to reinforce the decrypting resources), Travis (deputy head of GCCS), and others who together quickly came to appreciate the need to record and index the information (Welchman, 1982, pp. 93–94).

Unlike intelligence gathered from more conventional sources such as observation and captured documents, which might be said to have a degree of context into which the information might be placed, SIGINT arrived as disembodied strings of letters. Very often the decrypts, while

having the appearance of being clear messages in a recognizable language, turned out to be constructed from jargon and contractions, and were highly specific to the knowledge and experience of the sender and intended recipient(s). Unless these nonconversational German messages could be clarified, their sharing with allied commanders in the field could range in effect from useless to dangerous.

To this end, various recording and documentation facilities were established by the units that were directly involved in the exploitation of decrypted signals. Of these the principal units were Air Intelligence (3A), Military Intelligence (3M), and General Intelligence (3G), all located in Hut 3; and Naval Intelligence located in Hut 4.⁹ The documentation of the intelligence effectively took two forms: factual indexes that recorded details relating to specific topics (such as military equipment, locations, formations) and individuals; and reference indexes that could be used to translate, clarify, explain, and conceptualize words, abbreviations, acronyms, and arbitrary strings of characters, that emerged in the decrypts (Brunt, 2004).

In addition were to be found indexes maintained by specialist research or “back room” parties such as those concerned with railways, field post offices, secret weapons, and technological developments (such as radar, directional beams, V-weapons). Traffic analysis also involved much indexing (of call signs, for instance).

THE HYPOTHESIS

Stated briefly, the central hypothesis of this paper is that the intelligence officers in these organizations were in effect information officers, carrying out the whole range of activities associated with the management of information to ensure efficient and effective exploitation in furthering the aims and objectives of their parent organizations.¹⁰ However, this hypothesis demands elaboration, since it is full of generalities, and in order to begin to argue the case, we need to be sure of the terms used in its expression. What do we mean by “intelligence officer”? Perhaps the popular view is conveyed in the books of the Dutch counter-intelligence officer Lieutenant-Colonel Oreste Pinto—*Spycatcher* (1952), *Friend and Foe* (1952), *Spycatcher 2* (1960)—which portray a character who gradually assembles the evidence to break the suspect, and having presented it in the form of an Agatha Christie denouement, forces the suspect to come clean. Perhaps he is the diligent cryptanalyst who cracks the code, as in the case of Nigel de Grey of British intelligence (who, with William Montgomery, deciphered the Zimmermann Telegram, helping to bring the United States into the First World War); or the insubordinate Harry Palmer, portrayed in Len Deighton’s book *The Ipcress File* (1962); or Leamas, in John le Carré’s 1963 novel *The Spy Who Came in from the Cold*.¹¹ All these depictions, whether based on truth or vivid imagination,

invariably omit the image suggested by the (now released) archive papers describing the work of MI5, SIS, and GCCS, which conjures up a much more prosaic, mundane existence than the exhilaration of the need to avoid the pursuing enemy authorities; but one no less frenetic because of the pressure of the amounts of intelligence, the race against time, and the need to overcome the barrier of the less than convivial surroundings in which the work took place.¹²

Some of the intelligence officers here do, indeed, reflect the sort of work portrayed in *Spycatcher*, such as those in MI5 and LRC;¹³ but alongside these were to be found the registry clerks and the intelligence officers' secretaries who turned out to be those providing the very solid foundations upon which the spy catcher could place his (and it was always "his") confidence that the necessary incriminating evidence would be available, reliable, and complete. In the work at Bletchley Park, the intelligence clerks proved to be the very dependable category of workers who ensured that the documentation was complete; and the vital connections of seemingly disconnected commonplaces and disparate snippets of information could be established and allow the fuller picture to emerge. All this, of course, is not to detract from the work of the commissioned intelligence officer who had the responsibilities associated with the prioritization and categorization and ultimate use of the intelligence.

All staff—commissioned, NCO, or civilian—dealt in, and with, information, be it material of immediate and crucial operational importance, which had to reach commands *post haste*, or intelligence of longer term potential, such as that associated with railway movements that, in conjunction with order of battle (OB) information,¹⁴ could indicate the movement of a formation and a possible massing of forces for a new campaign. All was based on a solid foundation borne out of meticulous, accurate, painstaking work.

Looking at the phrase "management of information," we may define it as would any text on library and information science, documentation, or abstracting and indexing (Lancaster, 1998, pp. 1–4). Librarians of course have been managing information for millennia (Casson, 2001), but with the emergence of developed economies came the need for expansion and increased sophistication in the tools and systems used. Thus were developed bibliographic standards, thus secondary publications, thus the provision of special intelligence arrangements in industrial and commercial concerns (Barbour, 1921) and research institutions.

And so, to repeat the hypothesis in the specific context: intelligence staff of all ranks and categories in the likes of MI5, SIS, and GCCS were engaged in the tasks now accepted as belonging to the corporate information officer: obtaining intelligence, organizing it for retrieval, displaying relationships, extracting the useful kernel, and transmitting it to customers, or users, for direct action based on it.

THE EVIDENCE

If the hypothesis is to be accepted as proved, it must be clear that the work of the intelligence organization fits in with that now accepted as the work of the information officer. The approach will be to look at the following aspects, drawing on the experiences of the intelligence officers in different units to provide the illustrations:

- Information handled and material forms
- Processing problems and remedies
- Customer service
- Recruitment and training
- Effectiveness

Information handled and material forms

The nature of the information to be handled has a bearing on the processes devised and implemented in each case. While it might at first be assumed that the data gathered for internal security (MI5, LRC) would be essentially personal (which indeed was where the business started, given the concern for spies), it soon emerged that intelligence personnel would have to contend with “subject” data; and, as it turned out, these data could span the entire universe of knowledge. There could be no exclusion of facts and details of the most minute and diverse kinds, since anything could influence the progress of a case and provide evidence for conviction.

The reverse is true when we consider the SIS side of the picture. Where interception of SIGINT could rightly be regarded as being focused on nonpersonal data such as OB, supplies, strengths, movements, and morale, it soon emerged that the details about a single individual could indicate something crucial about his or her unit or the establishment of a new organization. These types of information throw up a number of different indexing problems, and these are exacerbated by the nature of the information’s acquisition and the fact of their very ordinariness.

One of the principles on which the work was based was the need to index the common in addition to the uncommon, on the assumption (and the experience of the unit, Naval Section VI, Technical Intelligence) that it was impossible to recognize the unusual without the reference marks provided by the ordinary. This reflects practice in the LRC Information Index of carding “the sheep and the goats,”¹⁵ and Jones’s (1990) inclusion of the obvious and the obscure.¹⁶ An example is the commonplace abbreviation “ggf” (*gegebenfalls*, i.e., “if need be”). This cropped up everywhere and was included in the file (assumed to denote some piece of equipment) until its true significance was appreciated.¹⁷

Unlike the work of libraries, where author (as personal) information could be tied neatly to context and data linked to other bibliographic and biographical machinery, the “authorship” of intelligence can be obscure

(purposefully or otherwise) and the subjects of the “biographies” uncertain even as to their existence, let alone the veracity of the claims about them. Subjects (i.e., factual data) might be more easily handled in that information about a weapon or a formation relates to tangibles; but as the early experimentation with subject catalogues showed, it is difficult to establish universal headings or even generally acceptable methods to ensure efficiency (and consistency) in handling and retrieval (Brunt, 2006a, p. 580). It fell therefore to the staff of these organizations to devise their own methods and develop them to meet changing circumstances as different and new types of information presented itself. What else were they doing, therefore, but acting as information scientists and information officers?

Processes, problems, remedies

Processes. The creation of the MI5 Registry involved first the making of files for every suspect after which the Personal File and Subject File sections were responsible for the indexing of every paper that came into the Bureau from whatever source. Indexing machinery to facilitate *look-up* “had been evolved as the occasion arose.”¹⁸ When MI5 first started, “there were comparatively so few files that they were known individually to the staff, who found no inconvenience in the fact that there were two files under the name ‘Smith’ (no Christian name) one being described as Smith of Norwich and the other Smith of Amsterdam.”¹⁹ This soon proved unworkable, as the amounts of intelligence expanded. Remedies were thus sought resulting in revised procedures described below. It is interesting to note the observation that what evolved “was possibly more cumbersome [sic] than if a scheme had been formulated early in the war to embrace all the unforeseen contingencies which afterwards occurred.”²⁰ A greater awareness of library and other indexing methods might have inspired such a scheme.

In the LRC the Name Index and the Geographical Index comprised the Information Index. The former was a single sequence of cards, each containing the full name and all relevant details regarding history and circumstances, and the latter, a more complex index, was arranged first by countries with each country subarranged by addresses, towns, and subjects. Every entry on each card referred to a source, much in the same way as in an abstracting publication. Officers in charge of investigations were responsible for marking their reports for “carding,” i.e., indexing. However, considerable discretion was left to the “carders” themselves. Indexing policy was plainly driven by the use made of the Information Index. The Index was principally used by staff for checking names on arrivals lists and as part of report writing, with officers visiting with their notes to check details before writing up.²¹

At Bletchley Park, as each message was translated and its contents used, it was passed to the indexing watch, which identified the words and

phrases to be indexed. All the details to be indexed were underlined in red, and before the cards were written, the work was checked by the head of the Index who would supplement, or draw attention to, unnecessary or inaccurate work. In Hut 3, for instance, the Air Index had five main sections: Units, Locations, Personalities, Equipment, and General Subjects; the Military Index had six. According to Calvocoressi (1981, p. 73), the list of interesting details was endless, as might have been expected in a process that was indexing, in effect, the entire universe of military knowledge and much else.

Problems. In MI5, difficulties were ascribed principally to the sometimes fragile methods of acquisition (over the telephone; from illiterate informants; from partially overheard conversations). Two great problems were identified: first, the determination of the correct forms of the names in the information, so that they might be properly indexed; second, the recognition of the same names should they again be brought to the notice of the Bureau, so that they might be correctly “looked-up.” These were exacerbated by the need to handle names in a number of languages. Many examples are given, including, for example, seventy-three variations of Smith or Schmidt; forty-eight possible spellings for Eriksen, fourteen of them having occurred.²² These, of course, are the classic problems addressed by cataloguing codes—but the indexers were not dealing with names conveniently presented on title pages but supplied by many different sources of variable quality.

Frequently, investigations depended on “the tracing of a connection between isolated scraps of information;” yet this information was often “very meagre and of doubtful authenticity.”²³ Names passed to MI5 were not always accurate, a grotesque example being the recording of “Toe-knee-oh” as a suspect who eventually turned out to be called “Antonio.”²⁴

Other problems were remarkably similar to those that confront librarians and bibliographers. A standing rule was that surnames should be spelled in upper case, and Christian names in lower case. It was acknowledged, however, that “even this rule breaks down when one is dealing with oriental, or other, peoples among whom the European system of nomenclature does not prevail;” and so to help solve this problem, at “examination posts” (such as permit offices), certain classes of people were asked to sign their names in native and in Roman characters.

The LRC Index would have suffered the same sorts of problems regarding names found in MI5; but the great complexity of the Geographical sequences opened it up to all sorts of additional dangers of misfiling and duplication. The Address Index was first sorted by towns in alphabetical order, then by further location devices such as telephone numbers, PO Box numbers, streets in alphabetical order, hotels, and restaurants. Subject Index material was assigned to broad areas such as Organizations, Intelligence Services, Authorities, and Welfare organizations.²⁵

Each of these categories covered several subcategories; e.g., organizations included pro-allied organizations, resistance movements, escape routes, Communist Party, and passwords. They seemed not to be subject headings in the conventional indexing sense but guidance on what should be indexed. Thus while "Resistance movements" appears as a category, the heading on the card itself was "Resistance organisations." This of course opened up dangers of inconsistency.

At Bletchley Park the major problems resulted from the great and unexpected successes in breaking Enigma. This produced overwhelming quantities of information and thus increased the speed at which the analytical work had to be done. The Air Index grew from four inches of cards in a shoe box in mid-1941 to a room full of trays and special racks containing half a million cards by the end of hostilities, each card holding several "entries" or abstracts of intercepted messages. As a result there could be scatter of related material until some message drew together different cards that related to the same topic. For instance, the city of Zagreb was treated in the Military Index for some time as being different from Agram.²⁶ The problem of the occurrence of the same character string in different contexts was also recognized and addressed (e.g., "TAURUS" might be a covername, a type of aircraft, or a detachment, and the term would appear in all the appropriate sequences).²⁷

Remedies. As the accession rates in MI5 grew to two thousand new files per month, procedures were tightened up, and by 1914 some codification of practice was established. A document published internally as *Office instructions* was "intended to give such information regarding the registration, filing and indexing as will enable new members of the staff . . . to obtain a general idea of the mechanism at their disposal."²⁸ In 1918 the practice of indexing the various spellings of a name under its most common form was established. Thus the entry for "SCHMIDT, Johann" would be a reference to "SMITH," and "Johann Schmidt" would be found in the "SMITH" sequence.²⁹

While this approach is effective and efficient in closed systems such as union catalogues and the Registry, it is not so convenient for the non-experienced, and this perhaps explains why intelligence officers generally left consultation to the Registry staff rather than doing it themselves.³⁰

During the Second World War, a similar and more specific manual was issued, which had the appearance of the sort of codification found in libraries. Included in the file "Arrangements of Security Service Central Indexes including carding and amending procedures" is a series of documents (each headed "Registry Instruction . . .") that relate to the preparation of index cards.³¹ Accompanying "Registry Instruction no. 72" is a chart "issued with the object of ensuring the greatest degree of uniformity in the placing of material upon Index cards and in the actual arrangement of the typescript." On the chart are illustrative examples of the han-

dling of personal names and other details; and instructions for indexing information about corporate bodies such as firms, societies, and ships. Other documents in the file refer specifically to the problems of handling Spanish names along with exhortations that indexers pay particular attention to their forms and filing conventions. There is, however, little by way of guidance on authority control to indicate, for instance, the forms in which, say, escape routes, fishing regulations, or labour conditions might be prescribed as terms for headings.

In the Air Index at Bletchley Park, a continuity book was maintained that recorded, among other aspects of the work, decisions on indexing procedures. Its counterparts were to be found in the log book of the Military Index and the diaries maintained in the Naval Section records parties. However, the sorts of authority-control devices common in libraries (such as inverted files of references and subject indexes) were not in place; the functions of these being, in effect, discharged by the very characteristics of the organizations such as the closed systems, apprenticeship training, ready sharing of problems, and, in MI5, feminine qualities.³²

Solutions were the results of continuous reaction to problems as they presented themselves; the remedies were found on the hoof and were reflective of the early days of library catalogue codification and the case-based—as opposed to the post-Lubetzky principles—approach (Brunt, 2006a). The indexes were in constant flux, with segments being moved or hived off as exigencies demanded (e.g., the abbreviations sequence in the Air Index was relocated in the Abbreviations Index maintained by Jones in 3G) (Brunt, 2006b).

These are all the functions of information officers, not only in the documentation processes but also in the development of procedures, experimentation, and the working of vocabulary control.³³ The main difference from civilian practice lies in the lack of stability—where conventional information officers could enjoy the luxury of the long-term view and little chance of catastrophic change in materials or change in direction, the pressures of work under war conditions meant that changes not only had to be appropriate and effective but also taken at pace in order to meet the needs of their customers operating under perhaps even greater pressures on the watch and at the front.

Customer service

While the customers of MI5 and LRC were case officers essentially assembling information to support decision making regarding spies and saboteurs, or the *bona fides* of refugees and others landing at ports, those in Bletchley Park represented a very much wider range of clientele. GCCS staff discharged many responsibilities, ranging from the elucidation of messages of extreme urgency that had to be paraphrased accurately prior to dispatch to commands, to the relatively long-term project aimed, for

instance, at assessing new secret weapons that might pose threats some months into the future.

Customers in MI5 included the registry clerks themselves who did the “looking-up” for the intelligence officer to locate the set of files relevant to the case in hand, which might include material about other personalities or subjects referred to such as equipment or routes. MI5 papers also mention the vital work done by intelligence officers’ secretaries who at times could be expected to deputize for their officers, and it is fair to infer that this group of workers too were customers of the Index and the registry clerks. LRC Information Index was used by both the indexers on behalf of the officers and the officers themselves, possibly an indication that the Index was easy to use. This contrasts with the observation that in the First World War intelligence officers tended to lack confidence in such use, and this enhanced the role of the clerks.³⁴ It is not clear whether things improved in the Registry during the Second World War to enable intelligence officers to make direct use, or whether these officers were more competent than their First World War counterparts.

The wide variety of indexes was available to, and in constant and rigorous use by, different groups of staff in GCCS: the indexers themselves, the translators and emenders of the decodes, and the “advisers” who were responsible for creating and dispatching what would have been the essence of each enemy signal to the appropriate command. Researchers (often referred to as “back room”) who were working on specific projects concerned with more elaborate and in-depth analysis also made great use of the indexes. In this they were used to spot trends, to paint the wider picture of enemy developments and movements, and to illuminate and explain obscure data that might or might not have a bearing on the war effort. For instance, Professor Norman acted almost as Dr. Jones’s personal researcher looking for references to technical developments and secret weapons. Indexers in the Air Index were asked specifically to ensure that any intercept referring to Peenemunde³⁵ go to Norman directly.³⁶

The relationship between the documentation staff and their intelligence officer customers was different in many ways from that which existed in civilian information bureaux and libraries, principally in the fact that the customers were not external to the information system. Close relationships generated by war, esprit de corps, and democratization—the shop girls dressed like the debs (Sieff, 1988, p. 233, cited in Hennessy, 2007; Howard, 1987)—and the sharing of the same harsh conditions and emotional and other stresses, meant that there was a much more intimate relationship between provider and customer. In the Military Index, “each indexer marked and indexed at her own discretion,” and “a large amount of discretion on the part of each indexer was inevitable and encouraged.”³⁷

There was an expectation that the registry clerks and the intelligence clerks would offer opinions, based on their knowledge of the indexes,

to those involved in the decision-making and executive processes;³⁸ and it was observed that “a good indexer had the qualities of an intelligence officer in that the capacity to spot and remember detail and make connections was vital to the effectiveness of the work.”³⁹ In this respect they were customers of their own businesses since they were also charged with developing an expertise in specific topics and subjects with a view to being able to give more substantial support than merely finding the right card: “each indexer became an expert in her own particular sphere.”⁴⁰

Recruitment and training

In the First World War, the MI5 officer was often a man invalided out from the front; there is evidence of the recruitment for the duration on service commissions from the knowledge industries such as librarianship, the law, and the universities (Jones, 1990, p. 115). Registry clerks were essentially socially well-placed women, many of whom were university trained.⁴¹

Second World War service intelligence officers were recruited from academic and civilian backgrounds (Erskine, 1986) and given nominal ranks; they included the likes of Pilot Officer Cullingham who never saw a cockpit and Cdr. Tandy who never stood on a warship’s bridge. Women, principally linguists and often graduates or university trained,⁴² made the bulk of the Bletchley Park intelligence units staff; they included the respectable society types who had been “finished” in Germany and Austria and so had fluent German.

Training was by apprenticeship to the most experienced officers, and in the Air Index it was expected that trainees would become independent in four to six weeks, though it would take many more months for them to become fully fledged.⁴³ In this there was probably not a lot of difference from contemporaneous library and information bureau training. There were very few opportunities for formal training (there was only one library school in the UK, at University College London) and professional qualifications of the Library Association would have been gained by correspondence augmented by knowledge gained on the job, from “sitting next to Nellie.” The Association of Special Libraries and Information Bureaux (Aslib) was formed in 1924, and it had a major influence on training via its conferences and publications (Muddiman, 2005). However, there seems to be little evidence of any interest in such training as preparation for work in the Registry or Government Code and Cypher School, probably because these organizations would have followed civil service procedures and depended on general in-service training.

While mathematicians and crossword puzzle enthusiasts were recruited for cryptology, and linguists were sought for translation and the watch, none was recruited expressly for his or her experience in documentation. Joyce Thomas, a part-time librarian while a languages undergraduate at Durham, was recruited for her German, and no interest was shown in her

other strength.⁴⁴ Cullingham, later to be the founder of the Air Index itself (as opposed to the organizational unit the AIR INDEX), was more likely to have been recruited for his fluency in German gained as Hamburg representative of *Kelly's Directories* than for his expertise in indexing.⁴⁵

When de Grey grasped the need for indexers to handle the increasing amounts of Ultra, he found only two members of the unit familiar with card indexing (and it is conceivable that he was one of them).⁴⁶ He observed that there was difficulty in trying to find people to keep the Index current; it seemed not to occur to him that the resources offered by the civilian indexing community might have been tapped. All this was despite the fact that a memorandum by one MI5 officer, Captain Holroyd, clearly indicated the need for lessons in indexing to be learned from the experiences of the First World War.⁴⁷

Not only did the indexers train themselves but also the newly appointed advisers (Howard, 1987) who invariably, at the start, were drawn from the universities and who, while in many cases of high academic standing, were understandably clueless about the military matters.

The indexers were recognized as fulfilling valuable roles additional to the (presumed at the time) lowly clerical duties associated with carding—and they were acknowledged to be crucial in the intelligence operation.⁴⁸ Plainly this contribution was viewed as valuable as it led to what was regarded as promotion—thus for example, Jean Alington was moved from the Air Index to a key coordinating unit 3 L (Hut 3 Liaison). Military indexers were also promoted away from the Index to posts more conventionally regarded as intelligence work;⁴⁹ and in Naval Section, Sarah Norton was promoted first to translation and then to the Naval Intelligence Division in the Admiralty in London (Baring, 2000; Smith, 1998, p. 115). DN of the Air Index recounted that as head of the Index, she constantly lost her indexers as they were moved to other work considered more “intelligence”-focused.⁵⁰

Effectiveness

There is no doubting the effectiveness of all these information retrieval machines in meeting the needs of their customers. Generous is the testimony to their efficiency in supplying the required intelligence in a timely fashion to case officers, intelligence analysts, and research parties in both MI5 and SIS. The historical reports produced by H branch after the First World War recount in considerable detail the ways in which the women of the Registry supported their intelligence officers and include the recipients of letters of commendation and honors bestowed in recognition of work well done.⁵¹

Sir Dick White (the only person to have directed both MI5 and SIS) wrote in highly complimentary terms about the performance of the Information Index in facilitating the work of the LRC. Its effectiveness was de-

scribed in the following terms: "The outstanding importance of the Information Index arose from the fact that it made all this information readily accessible; and the skill, care and thought with which it was compiled was a remarkable achievement."⁵² The very minute and eclectic information gathered purposefully by LRC for its Information Index proved highly effective. Compared with the Central Registry and other indexes (limited in that they could give information only on specific names and addresses) the LRC Information Index could use vague indications such as Christian names or unnumbered addresses in a particular street in some town.⁵³ 33,000 aliens passed through LRC, and as far as is known, only three enemy agents with missions got through without detection (Curry, 1999, p. 227).

Many are the positive comments on the value of the indexes in Bletchley Park in the historical memoranda and other contemporary sources. Perhaps the strongest, though, are the understated observations of people such as Bennett (1989), Calvocoressi (1981), and Lewin (1978)—as well as others, such as by Edward Thomas who observed that Professor Norman did not receive due recognition for his index from Jones (Hinsley and Stripp, 1993, p. 44)—that testify to the importance of the documentation system in the prosecution of the war. And the strongest of all, perhaps, is the deafening silence in the major studies of intelligence in the Second World War: failing to acknowledge the indexes' role effectively indicates their value in just being there when needed—had they been less so there might well have been produced more (and adverse) comment.

The evidence here presented justifies the hypothesis that to a great extent the intelligence officer of whatever grade or status discharged the functions of information officers or information scientists. Black and Hoare (2006) and Black, Muddiman, and Plant (2007) have written about "hidden libraries," and this term might well be applied to the units that managed military intelligence in the first half of the twentieth century. If this is accepted, then how else might their staff be described than as "special librarians"; or, as members of Aslib would have it, "information officers"; or, as the Institute of Information Scientists would prefer, "information scientists"?

CONCLUSIONS

With the advantages of hindsight and the perspective of library and information science, it is easy to see that the workers in the military intelligence units discharged the functions of information officers. It was true at every level: commissioned intelligence officers such as Calvocoressi; registry clerks; MI5 registry secretaries; Bletchley Park intelligence staff—all were involved in the accumulation of information, its organization for later retrieval, and the extraction and assembling of discrete pieces of information from diverse sources to facilitate the development of the fuller story.

What emerges, though, is a picture of uninformed groping toward ap-

propriate and efficient information management systems, which often entailed reaction to, rather than control of, information management problems as they cropped up. Thus we find the lack in the MI5 central Registry of a systematic approach felt to be necessary if the information system was to function efficiently,⁵⁴ as will we find the fluid nature of the Air Index and Naval Section Index, where parts of the indexes could be hived off to others.

While Holroyd made recommendations that guidance might be taken from practices in the likes of the *Encyclopaedia Britannica* and the London Library,⁵⁵ we find that by the outbreak of war in 1939, none of the lessons of the First World War seems to have been applied. Evidence in the Curry report (1999) produced at the end of the Second World War testifies to this for MI5; and observations such as those of de Grey in his manuscript memoirs speak to the same for Naval intelligence.⁵⁶ When GCCS suddenly was faced with the problems brought about by the success of breaking Enigma (Welchman, 1982, pp. 93–94), it was only then realized that a documentation system was going to be needed to capitalize on the fruits of decryption.

Nonetheless, what systems did emerge proved crucially effective in their different contexts, and while it might be argued that drawing on civilian indexing practice as it had developed in the special library and information bureau sector might have prepared both the security service and SIS for that particular aspect of their work, it has been argued elsewhere (Brunt, 2005) that the peculiar circumstances and contexts meant that only the homemade and flexible methods developed in their closed systems could have met the challenges their parent organizations had to face.

NOTES

1. MI5 was concerned with counterintelligence at home, SIS (MI6) with external security matters.
2. Ultra was the designation given to high-grade intelligence, specifically that gained by breaking messages encrypted by Enigma.
3. For consideration of the first two of these in a wider context, see Black, A. and R. Brunt (2000).
4. National Archives. KV1/53 annexure 1. *Notes on the general organisation of a counter espionage bureau.*
5. National Archives. KV1/53 annexure 8. *Notes on records, methods of filing and registration.*
6. National Archives. KV4/1-3. *History of the security service: Its problems and organisational adjustments. 1944–46.*
7. National Archives. KV4/2. *History of the security service: Its problems and organisational adjustments 1941–1945 and arrangements for its compilation, 1944–1946.* Vol. 2, p. 202.
8. The Enigma machine, used by German naval, army, air force, and other organizations to encipher and decipher messages, was patented by Scherbius in 1919 as a security device for commercial communications (Hinsley and Stripp, 1993, p. 83).
9. While these designations were based on their original locations, the sections housed in them retained the identities after they had been moved into other buildings, thus “Hut 3” remained the label for air and military intelligence after relocation to “Block D,” and “Hut 4” remained that for naval intelligence even after its relocation to “Block A.”

10. Aslib (Association for Information Management) defines information management thus: "an imprecise term covering the various stages of information processing from production to storage and retrieval to dissemination towards the better working of an organization; information can be from internal and external sources and in any format." Retrieved February 19, 2013, from http://www.phac-aspc.gc.ca/csc-ccs/pdf/phis/phis_%20product_plan_v4.pdf
11. Paradoxically, Leamas found refuge as a library assistant.
12. Correspondence from DN, 2002; and from the mass of reminiscences, e.g., Hill (2004).
13. It is likely that Pinto worked for LRC and his prodigious memory was in fact the Information Index of that organization. His memory is described in "With My Little Eye" (1952).
14. Order of Battle (OB) was the structure of military forces showing formations and strengths and could include non-combatant units.
15. National Archives. KV4/2. *History of the Security Service*. Vol. 2, p. 202.
16. National Archives. HW3/120. *The history of Hut 3*. Vol. 2, p.436.
17. National Archives. HW3/137. *The history of N.S. VI (Technical Intelligence)* (Naval Section historical memorandum no. 33.
18. National Archives. KV1/50. *H Branch report. First supplement. Report on women's work*, §63.
19. *Ibid.*, §55.
20. *Ibid.*, §63.
21. National Archives. KV4/7. *London Reception Centre*. Chap. 2, p. 10.
22. National Archives. KV1/53 annexure 8. *Notes on records*.
23. *Ibid.*
24. *Ibid.*
25. National Archives. KV4/7. *London Reception Centre*. Chap. 1, pp. 22–23.
26. Interview with Joyce Thomas, 2002.
27. National Archives. HW3/119. *The history of Hut 3*. Vol. 1, p. 166.
28. National Archives. KV1/56. *Organisation and administration: annexures; office instructions, 1916*, pp. 31–52.
29. This resembles Berghöffer filing, devised for the Frankfurter Sammelkatalog, 1891, as modified for the Swiss Union Catalogue.
30. National Archives. KV1/50. *H Branch report. First supplement. Report on women's work*, §96.
31. National Archives. KV 4/152. *Arrangements of Security Service Central Indexes including carding and amending procedures*.
32. National Archives. KV1/50. *H Branch report. First supplement. Report on women's work*, §96.
33. Joyce Thomas (interviewed in 2002) described the process of establishing new cards or headings.
34. National Archives. KV1/50. *H Branch report. First supplement. Report on women's work*.
35. Peenemunde was where the V1 was being developed.
36. Correspondence from DN, 2002.
37. National Archives. HW3/119. *The history of Hut 3*. Vol. 1, pp. 111, 118.
38. National Archives KV1/50. *H Branch report*; National Archives HW3/119. *The history of Hut 3*. Vol. 1, pp. 111, 118.
39. National Archives. HW3/119. *The history of Hut 3*. Vol. 1, p. 118.
40. National Archives. HW3/119. *The history of Hut 3*. Vol. 1, pp. 111, 118, 166.
41. National Archives. KV1/50. *H Branch report. First supplement. Report on women's work*.
42. That is, in Oxford and Cambridge, which did not admit women to degrees until after the Second World War.
43. National Archives. HW3/119. *The history of Hut 3*. Vol. 1, p. 169.
44. Interview with Joyce Thomas, 2002.
45. Interview with P. Calvocoressi, 2001.
46. National Archives. HW3/95. *De Grey's History of Air Sigint (Drafts): Chapter II, Sitz and Blitz: 1939–1940, work of the Air Section and Huts 3 and 6 at BP*, p. 106, pencilled marginalia.
47. National Archives. KV1/53 Annexure 11. *Suggested memo on subject-index* [by Capt. Holroyd].
48. National Archives. HW3/119. *The history of Hut 3*. Vol. 1, p. 118
49. *Ibid.*
50. Personal communication from DN, 2002.
51. National Archives. KV1/50. *H Branch report. First supplement. Report on women's work*, §83, 85, 86, 96.

52. National Archives. KV 4/2. *History of the Security Service*. Vol. 2, p. 204.
53. National Archives. KV4/7. *Report on the operations of BID and BID-UK (London Reception Centre)*, p. 18.
54. National Archives. HW3/120. *The history of Hut 3*. Vol. 2, p. 502; KV1/53 annexure 11. *Suggested memo on subject – index*.
55. National Archives. KV1/53 annexure 11. *Suggested memo on subject – index*. Evidence strongly suggests that Holroyd turned up in 3G (a section of Hut 3) running the Railway index having been in MI5 registry 1915–1920: see Richmond (2001).
56. National Archives. HW8/21. *Naval Miscellaneous Papers 1939*.

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Rodney M. Brunt graduated in modern history and politics from, and completed his graduate diploma in library and information studies at, the Queen's University of Belfast. He took his doctorate at Leeds Metropolitan University. After a short career in practice, he was appointed to a lectureship in the Department of Library and Information Studies in Queen's University. From there he moved to the Department of Information Studies at Leeds Polytechnic (subsequently Leeds Metropolitan University) from which, as principal lecturer, he retired in 2008. He is author of numerous articles and contributions to books in both the cataloguing and indexing disciplines in librarianship and on the indexing of military intelligence; and for some years edited *Catalogue & Index*. He served on cataloguing standards committees at both national and international levels, representing the UK Library Association (subsequently CILIP) on the Anglo-American Cataloguing Rules Steering Committee.