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Chapter 1: Background

1 Space: the constant frontier

Libraries are perennially short of space, and the Bodleian Libraries were no exception. In 2007, the Bodleian was receiving 5000 new items to be added to the collections weekly, and archival materials being acquired through gift, purchase, and deposit strained the capacity of the principal storage facility of the Libraries, the New Bodleian Library, beyond the breaking point. Its ziggurat of eleven storeys, constructed in the 1930s with the prospect of providing growth for a hundred years,¹ was stuffed to the gills. Space that had been intended to accommodate readers had been given over to shelving, and some floors had piles of books stacked in the aisles. (Figure 1.1) In the 1970s the University had expanded its storage capability through the construction of a building at Nuneham Courtenay, a small village about twenty minutes' drive from Oxford. The building had been constructed in modular fashion over a twenty-year period, and by 2002 over 1.2 million items were housed there. The Libraries had initially planned to continue the expansion of the Nuneham Courtenay depository to channel the New Bodleian overflow. The building, however, was in a rural area with sensitive planning requirements, and when the Estates representatives explored the option of further expansion, they were advised that further planning permission was not likely to be forthcoming. Thwarted in that direction, the Bodleian actively considered alternatives.

A further complication, beyond the need for additional space to house the growing collections, was that, upon examination, the existing New Bodleian stacks proved unfit for refurbishment. The investment to bring them up to standard would have been excessive, and consequently, there was a rethinking of the appropriate programme for this Grade II Listed Building in the heart of Oxford. (Listed Buildings are considered to be important elements in the environment, and may only be altered with permission from the local authority.)

The estates development programme for the Bodleian Libraries morphed into three major strands which were reflected in the Libraries' *Vision for 2011* document,

¹ *Library provision in Oxford: report and recommendations of the commission appointed by the Congregation of the University* (Oxford: Clarendon Press, 1931), 58.



Figure 1.1 Overcrowding in the New Bodleian bookstack

approved by the Curators of the University Libraries in January 2006.² In a section entitled ‘Delivering the estates vision’, amidst a number of other objectives, were three major projects representing a bold development of the Library’s estate:

- Construct a new high-density depository at Osney Mead. Using a ‘high-bay’ design with an Automated Storage and Retrieval System, the depository

² ‘Oxford University Library Services: Vision for 2011, approved by the Curators of the University Libraries January 2006’. Accessed 28 June 2012, http://www.bodleian.ox.ac.uk/__data/assets/pdf_file/0005/22919/vision2011.pdf

would have a capacity of some 8.25 million volumes and would allow the Libraries greatly to increase the proportion of stock held in low-cost, high-quality storage (currently 11%);

- Develop plans to construct a major new library on the Radcliffe Infirmary site, when it became available for redevelopment. The new library would focus on provision for undergraduate and taught postgraduate study, as well as first level-research, in the Humanities and Area Studies, replacing up to twelve existing libraries. Library hours and services would be tailored to undergraduate and taught postgraduate needs, and collections would be stored on open access shelving;
- Secure University support for redevelopment of the New Bodleian Library as an integrated Special Collections Library (embracing Western and Oriental special collections, including manuscripts), providing new and enhanced services for Humanities research. The intention was to make progress with the design for the redevelopment such that the project could start in 2008, subject to funds being available.

The depository would be a key enabler for site rationalization and for refurbishment projects requiring major decants of material. Subject to obtaining planning permission, we hoped that construction of the depository would commence in Spring 2006 and be completed in late summer 2007.

The estates activities outlined in the *Vision for 2011* document were estimated to cost approximately £150 million and were to be completed for the most part within a five-year time horizon. This was an aggressive plan designed to address almost simultaneously in a compressed timeframe issues which had been developing over decades. The lynchpin for this complex series of estates endeavours was the construction of a book depository which would relieve overcrowding, provide for growth in collections, and permit the reconfiguration of other facilities to be more compatible with contemporary expectations of library service delivery.

2 The Osney Mead saga

The plan was to consolidate in a high-density storage facility materials which were distributed across a fragmented estate: the 1.2 million lower-use items in the Nuneham Courtenay depository, which were delivered to the Bodleian daily; an estimated 600,000 twentieth-century volumes packed densely on 1912 mobile racking in the Underground Bookstore harboured under Radcliffe Square;

and the heart of the legal deposit, general and special collections in the New Bodleian Library comprising around 2.7 million items. Additionally, there were over 1.2 million maps, hundreds of thousands of music scores, and manuscript archives measured at 19 kilometres (12 miles). When the New Bodleian stacks had reached saturation without any practical options for relieving pressure internally within the Libraries' estate or without any other solutions in Oxford, the Libraries looked to commercial storage as a temporary means of managing the overflow. A contract with DeepStore, a company which rented storage space in underground salt mines in Cheshire, provided a secure and environmentally sound environment with the ability to retrieve material weekly or more frequently, if the demand was sufficient. Eventually, over a period of three years, from 2007 to 2010, almost 2 million items were boxed and transferred to these excavated caverns 150 metres below ground.

The construction of a depository to hold these dispersed collections in an efficient and safe manner was therefore urgent. The University had acquired property in an industrial estate known as Osney Mead including library administrative offices and an adjacent warehouse, and the warehouse became the preferred location to build the depository. Its principal advantage lay in its proximity to the Bodleian, about 1.3 km (0.8 miles) away as the crow flies, although in Oxford traffic, deliveries were estimated to require about 20 minutes. This factor was deemed paramount in order to limit the degradation of deliveries of books requested by users. Oxford's deficiency in access to its collections was a sore spot in its reputation, with unfavourable comparisons to Cambridge University Library, where much of the stock was available for consultation on open shelves, and even material requiring fetching is said to be delivered in as little as 15 minutes.³ Bodleian critics gibed that scholars were so put off by slow deliveries that they found it more convenient to drive three hours to Cambridge than to wait for their requests to be fetched from the bowels of the New Bodleian.

With such criticisms ringing in their ears, Bodleian staff sought to compensate for the disadvantage of the closed stack through the selection of a site within the Oxford ring road and by the introduction of robotic retrieval machinery which would significantly reduce the time fetching material over manual labour. The architect Scott Brownrigg was engaged, and plans were drawn up for a depository on Osney Mead that would employ ASRS (Automated Storage and Retrieval System) technology. To maximize efficient storage, such high-density facilities were typically 10 to 15 metres high, and in Oxford, because the footprint of the

³ '[Cambridge University Library.] Frequently Asked Questions', accessed 28 June 2012. <http://www.lib.cam.ac.uk/students/faqs.html>.



Fig 1.2 The planned Osney depository: initial design, picture courtesy of Scott Brownrigg



Fig 1.3 The planned Osney depository: revised design, picture courtesy of Scott Brownrigg

building would be constrained, the architects pushed the height still higher. (Figure 1.2) Initial consultations with city planners and other interested parties provided feedback that the warehouse was too brutal in its large rectangular domination. In an effort to mitigate this observation, the architects redesigned the building, creating an undulating roof that rose to a height of over 18 metres. This feature would result in the application of the so-called 'Carfax rule', in which buildings constructed in Oxford were not allowed to exceed the height of this thirteenth-century tower in the centre of the city in any significant way.⁴ It also compromised the efficiency of the building, as the stacks rose to irregular heights. (Figure 1.3)

The proposed building was dogged by derogatory comments, not only about its bulk, but also about its ability to protect one of Oxford's most valuable assets,

⁴ *Oxford local plan 2001-2016, adopted 11 November 2005* (Oxford: Oxford City Council, 2005), accessed 28 June 2012, http://www.oxford.gov.uk/PageRender/decP/Oxford_Local_Plan_occw.htm, specifically Section 5.0, 'Historic environment', 69, policy HE.9, accessed 28 June 2012, <http://www.oxford.gov.uk/Direct/3427105.pdf>.

the Bodleian's books. The intended location proved extremely controversial, as Osney Mead was part of a flood plain, adjacent to the Thames, and virulent objections were raised over the risks associated with placing the Bodleian's priceless collections where they were vulnerable to flooding. Satirical internet postings mocked the initiative, headlining it as *Academe's first underwater library*.⁵ A continuing saga of woe enveloped the planning, with the matter being debated by Congregation, that is, the University's governing body, consisting of the 3,000-person strong body of academics. Modifications raising the estimated cost of construction by £2 million were proposed, and consequently, University gave its approval to proceed in late 2006.

The next step entailed obtaining planning permission from the city of Oxford. Tainted by the spectre of waterlogged collections, the depository aroused further negative reaction. Although its surroundings included rusty unkempt sheds and an extremely large blue-clad facility housing the local newspaper, the proposed site for the Bodleian store also lay between conservation lands and the Thames river walk. It would be visible from the elevations rising above Oxford, with fears expressed that it would mar the historic views of the dreaming spires of the ancient university town. A pitched media battle ensued. The date at which planning permission was to be considered slipped from month to month, from February 2007 until July 2007. During the last week of July, torrential rains relentlessly lashed down on the UK, with the consequence of widespread, serious flooding. The road from Oxford to Osney Mead was closed, with water rising to a metre in some areas. Osney residents found the lower floors of their homes submerged and cars parked in the neighbourhood ruined. Although the particular spot designated for the depository remained dry, and in any case, the bunds designed to withstand floods were deemed to provide more protection than Westminster, the intensity of emotion made it a poor moment to seek planning permission. Oxford City Councillors entered the town hall and told dramatic tales of the destruction in their sodden homes. University members queried how books would be delivered when roads were impassable. The University strategically and sensitively requested a delay in consideration until September in order to conduct studies on the impact of the flooding.

Over the next few weeks analysts reviewed the data about the vulnerability of the site, and in September 2007, the University presented its plans to construct the depository to Oxford City Council, The City planners recommended approval, councillors spoke for and against, and in a suspense-filled vote, the

⁵ 'Welcome to Akme's bodleyworld sub-index', accessed 29 June 2012, <http://www.btinternet.com/~akme/bodindex.html>

plan squeaked through by a single vote. Before the Bodleian could uncork champagne, indeed, before the representatives of the University emerged from the hearing room, there was talk of taking the matter to consideration by the full City Council. This was not a case of a town/gown divide, but rather one in which both the academic community and local residents were split, with some sympathetic to the critical need for expanded storage, but many others suspicious of the choice of the site and antithetical to the building proposed for it on both aesthetic and engineering grounds. By November 2007, when the full Council convened, there was a full head of steam powering the opponents, and the planning application was refused.

Dejected, Bodleian staff returned to their offices to consider next steps. The University was keen to appeal, and on the advice of expert counsel, felt it had a strong chance of success. Although an appeal would require a significant commitment of funds, it seemed the most prudent course of action. Much money had already been invested in acquisition of the land, the design, and planning consultants. In a high-level meeting of senior administrators of the University and the Queen's Counsel (senior barrister) advising on the appeal, the Vice-Chancellor asked Bodley's Librarian if construction of a facility in close proximity to the central Bodleian would be the best possible scenario for the Libraries, and as phrased, the only possible answer was yes. No other solution seemed to tick all the boxes and to offer the promise of completion in time to forestall what was becoming an economic and reputational crisis. The Bodleian, already running a deep deficit of £4 million on a £30 million budget, was incurring additional costs through the use of DeepStore, and the substandard conditions in the New Bodleian were placing in jeopardy the collections housed there. Decisive and immediate action was necessary. A thorough legal preparation over the next several months ensued.

At the same time, staff and townspeople pressed for a Plan B, implying that the Bodleian leaders were insane not to have an alternative in their back pocket. Inside the Libraries and the University, staff and administrators were adamant that a repository at Osney Mead was the only workable solution. The success of the project depended on having a location inside the ring road in order to preserve timely delivery of requests. Well-meaning alumni suggested various sites sprinkled around Oxford where there was undeveloped land or property becoming vacant, but upon investigation, these parcels failed to meet the criteria for development. They were equally unlikely to achieve planning permission; their owners had other plans for them; their availability was uncertain; or the property was not suited for such a large warehouse needing a large flat area. And of course, there would be an additional outlay of funds to acquire them and almost certainly a redesign of the plans that had been customized for Osney Mead.

Bodley's Librarian was new to Oxford, having arrived from the USA in February 2007. There were many things she did not know. During her tenure at Cornell University a high-density storage facility had been built, although not one that used ASRS. By comparison, the proposed Oxford warehouse seemed expensive, the fact that there were no plans to barcode the collections being transferred was puzzling. Experienced staff explained that since much of the collection had been organized into categories of size since her predecessor Nicholson's time in the nineteenth century, the plan was to move books in shelfmark order, retaining their Bodleian organization. It was thus not feasible to separate individual high-use items from low-use ones as it would leave gaps in the shelfmark array. Groups of low-use material would be sent to storage. The use of ASRS was also perplexing to a newcomer, as it normally was employed to compensate for the loss of immediacy when consulting open-access collections, substituting speed of retrieval for direct access. Generally facilities with ASRS were located adjacent to the main library, although in the UK, it was being specified for the British Library's new Additional Storage Building.⁶ ASRS would accelerate the retrieval from the shelf to the bench for pacing in the delivery tote, but in Oxford this was only a small part of the workflow.

Bodley's Librarian spent much of 2007–08 learning about procedures in the Bodleian and preparing for the appeal which was ultimately scheduled for a hearing in mid July before an inspector assigned by the Secretary of State. Confidence was high that the University would win its appeal, and planning consultants felt strongly that any discussion of alternatives to the Osney Mead depository would provide opponents with ammunition that the Oxford plan did not absolutely need to prevail. Consequently, no effort was made to consider other options.

On 9 September 2008 Bodley's Librarian travelled with other University colleagues to Cambridge to visit a number of university buildings which might serve as models for another planned construction project, the Humanities Building and Library on the Radcliffe Observatory Quarter (ROQ). Returning that afternoon to Oxford, she listened to a garbled voicemail, of which the only distinguishable word was 'Depository', and the voice speaking did not sound elated. We soon learned the results of the appeal had just been announced, and the inspector had determined that the depository would indeed mar the view and could not go

⁶ Dawn Olney, 'A UK first: an automated, high-density storage solution for the British Library', [paper presented at] Where shall we put it? Spotlight on collection storage issues, NPO conference, London, 2004, accessed 28 June 2012, <http://www.bl.uk/aboutus/stratpolprog/ccare/pubs/2004/DOlneyNPO%20Conf2004.pdf>

forward as planned.⁷ When a sympathetic Vice-Chancellor enquired about her response to the news Bodley's Librarian reassured him that this was, in her view, an opportunity.

3 The new Academic Strategy

How might one move millions of volumes outside of Oxford proper and not have disastrous results for readers? From Bodley's Librarian's perspective as a librarian whose career had been shaped in the USA over more than three decades, the Bodleian's services laboured under crippling conditions. Library services were fragmented, with almost 40 different libraries providing the services. More than half the collection did not circulate. As a legal deposit library, the Bodleian has the right to receive free copies of works published or distributed in the UK and Ireland. This has the advantage of creating a superb collection without requiring as much university contribution to its acquisitions budget as international peers, but it also meant that the Bodleian lacked the resources to reallocate from print to electronic. A specially commissioned consultant's report in 2005 had highlighted the Bodleian's need to enter the electronic age more decisively, and University funding to acquire electronic journals had improved the Bodleian's position substantially, but print was still the dominant force.⁸ With a fragmented estate, the cost of remaining open was high and there was a greater need for duplicate copies of texts and reference books.

We began to ask new questions. Might it be possible to speed up deliveries by allowing the vans to unload directly at the Old Bodleian? Part of the old-fashioned charm of the central Bodleian was the conveyor that connected the New Bodleian stacks with the Old Bodleian for distribution of books to the Upper and Lower Reading Rooms, Duke Humfrey's Library, and the Radcliffe Camera. As cases of requested and returned books rattled their way over a series of rollers, it created a rhythmic mechanical sound as comforting as train rolling along a railway. Yet delivery from remote store to the New Bodleian and subsequent transfer to the conveyor added time and complexity to the work. We could see, however, that Bodleian vans penetrating the sanctity of the space defined by some of Oxford's

⁷ Appeal Decision: Appeal Ref: APP/G3110/A/08/2063341, 9 September 2008. Bristol: The Planning Inspectorate, 2008. Accessed 28 June 2012, <http://www.pcs.planningportal.gov.uk/pcsportal/fscdav/READONLY?OBJ=COO.2036.300.12.133683&NAME=/DECISION.pdf>

⁸ Mel Collier and Derek Law, *ELISO: an electronic library and information service for the University of Oxford* (London: Electronic Publishing Services Ltd., 2005).

and England's finest architectural specimens would be a sacrilege. Over and over we traced the flow of material to readers, trying to eliminate a step and reduce the time it took to process a request and get the item in the hands of the reader. The anticipated number of requests from closed stacks was 450,000 per year-- not so many when set against the total use of materials of the collections, calculated at around 2 million.

The eureka moment came when we realized we were trying to solve the wrong problem. The challenge was not how to deliver books faster, but rather, how to connect readers with the information they needed. It was not about 450,000 requests for items from the closed stacks, but about managing the information needs of a clientele that used a diverse set of resources. Two areas which users of US academic libraries rated highly on LibQual+™ surveys, measuring the degree to which libraries met their ideal, were access to electronic resources and the provision of services in which the readers were empowered to help themselves. If users of the Bodleian also valued these elements of library service, one could resolve the conundrum of slow delivery either by placing more high-demand books on open shelves for direct access or by meeting more of the demand through electronic provision. Both of these approaches combined would have the effect of reducing the number of items requested from storage whilst simultaneously offering the user immediate access.

If the number of items requested from the depository were about 250,000, that would be in the range of US storage facilities, where a rule of thumb was that they were efficient to operate if demand were about 3% of stock requested annually. Such a ratio would enable the Bodleian to locate its operation outside the ring road, perhaps as far as an hour away. That thinking opened up a vast array of possibilities for sites in areas where warehouse construction would not be as sensitive as in congested, historic Oxford, and where open land was more plentiful and more affordable.

Providing direct access to high-demand materials was dependent upon meeting two conditions. We had to be able to identify or predict which books would be requested frequently and we needed accessible space where users could consult them. The Bodleian had circulation information on items, and it could readily define one broad category of material that accounted for a high proportion of requests: English-language monographs published within the last 3 to 5 years. With that target in mind, the next step was to decide where to put them. At the centre of Oxford was Radcliffe Square, under which had been excavated a two-level underground bookstore that was connected to the Radcliffe Camera and via a tunnel to the Old Bodleian. Opened in 1912, it was a storage innovation in its time for its employment of mobile racking, suggested by William Gladstone, Victorian Prime Minister, as an idea to overcome the scarcity of space to

accommodate burgeoning book collections.⁹ In the literature promoting it, the Underground Bookstore was reported to have the capacity of a million volumes, although Bodleian staff calculated the stock at less than two-thirds of that.¹⁰ In the business plan supporting the depository at Osney Mead, the Libraries had planned to transfer those materials to the depository and abandon the space as unusable, in order to reduce space charges. The new plan proposed that the space should not become derelict, but rather open-access shelving for users to consult at their convenience books which they had previously had to request to be fetched. This kernel of an idea remained at the heart of the development of the Gladstone Link, although like most of the initial ideas presented following the loss of the appeal, it was transformed and improved as other members of the staff and the University contributed to its development and implementation.

The second strand of mitigation related to the increased access to electronic resources. For many scholars and students, e-resources are a superior way of accessing information, since they allow 24/7 consultation and are not place-limited. The ability to drill down into texts and to search across multiple documents enhances discovery. Even for those who wish to work with the original print publication, they are an electronic filter which can make research more productive. In the context of the rethinking of the depository, the Libraries proposed buying electronic backfiles of a significant number of periodicals, thus enabling the transfer of large swathes of the print collections to storage. Evidence of the decline in the use of materials from the Radcliffe Science Library stacks indicated that e-journal access was a substitute for use of paper copies. This trend at Oxford was supported by studies conducted in the USA of material identified for transfer to remote storage. Items in electronic form supplanted use of paper publications.

Another very critical factor in the loss of the appeal was the ticking time bomb in the continued storage of the largest concentration of Oxford's most valuable assets in the New Bodleian Library. Whilst many people had been agitated about the potential dangers of flooding for collections housed at Osney Mead, they were mostly oblivious of the less visible threats posed by the antiquated structure of the New Bodleian, a forest of steel columns supporting eleven floors of books which, in the intense heat of a fire, might pancake down, creating rubble and ashes of centuries of recorded knowledge. (Figure 1.4) Sludge-filled pipes

⁹ Edmund Craster, *History of the Bodleian Library, 1845-1945* (Oxford: Clarendon Press, 1952), 234–35.

¹⁰ *The new underground book-store of the Bodleian Library* (Oxford: W. Lucy & Co., 1914), [5]; *Library provision in Oxford*, 20.

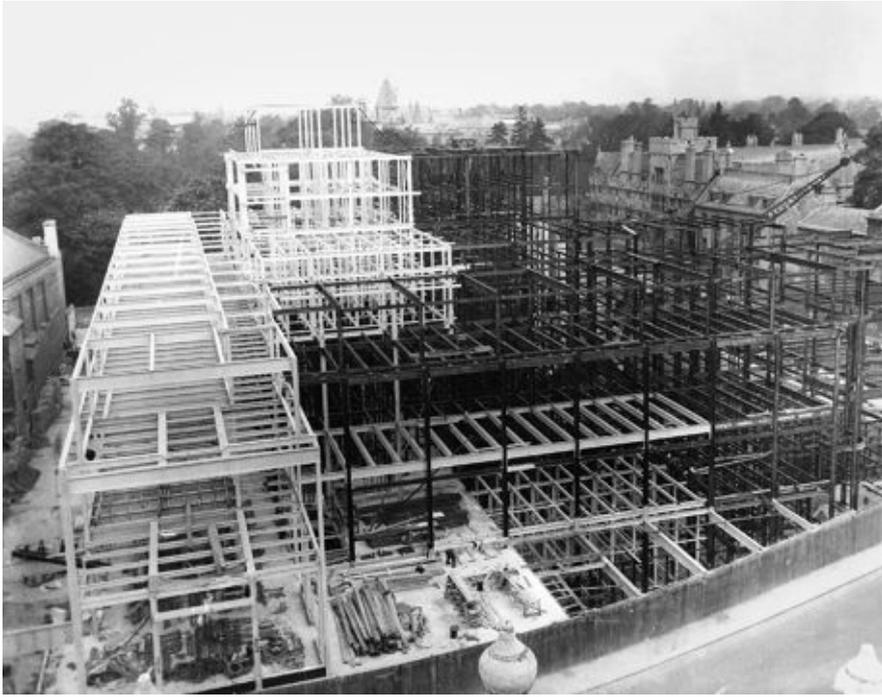


Figure 1.4: The New Bodleian under construction showing the steel frame

traversed the stacks; a broken seam might spew foul contents over sixteenth-century royal bindings or obliterate the ink on letters penned centuries ago. The inevitable delay in completing the construction of the depository and the ambiguity about when that completion would occur left the Bodleian's collections highly vulnerable to a number of high risks. Decisive action was needed.

With the imperative to relocate the rare and unique collections to a safer location as a priority, the Bodleian moved to decouple the protection of its special collections from the plan for a storage facility, at least in the immediate future. It proposed to create an interim space that would be compliant with the national standards for the storage of archival collections (British Standard BS5454), thus addressing the concerns of The National Archives, and removing the most egregious risk the Library faced. Initially, plans focused on Nuneham Courtenay, but as its isolation posed security challenges as well as logistical delivery issues, staff were inspired to consider another option, one made possible by the proposed acquisition of electronic journal backfiles: the basement of the Radcliffe Science Library. Here, at the heart of Oxford, only five minutes away from the central



Figure 1.5 The Lankester Room in the Radcliffe Science Library (picture by Greg Smolonski)

libraries of the Bodleian system, was a copious stack which could be upgraded to BS5454.¹¹

And, in the spirit of teamliness and support of larger institutional goals, staff at the Radcliffe Science Library agreed to vacate a large portion of an underground reading room, the Lankester Room, in order to create a space for readers consulting special collections. Underneath the Lankester Room, a reading room dating from the 1970s resembling a space ship or perhaps a cruise ship, (Figure 1.5) a far cry from the medieval Duke Humfrey's Library, lay a vast store. Housed in these subterranean stacks were hundreds of thousands of scientific periodicals alongside important treasures such as an Audubon elephant folio. Over time, as the Bodleian purchased backfiles of journals, the use of the printed periodicals had declined sharply. We took the decision to transfer these titles to DeepStore, a commercial storage option taking advantage of the naturally constant temperature and humidity found in salt mines in Cheshire.

The next question to be considered was access to the collection. Some research libraries, such as the Vatican Library, had been known to close during periods of renovation, even for periods as long as three years.¹² The British Library, faced

¹¹ *BS5454:2000 Recommendations for the storage and exhibition of archival documents* (London: BSI, 2000).

¹² David Willey, 'Vatican Library closure irks scholars', accessed 29 June 2012, <http://news.bbc.co.uk/1/hi/6901606.stm>

with moving large portions of its collections to storage, embargoed materials being relocated to Boston Spa from London for up to six months.¹³ The Bodleian leadership was committed to maintaining access to its collections during the transition, ideally without major degradation of service. An element of the new plan was to allocate funds to support innovative approaches which would mitigate any disruption.

The final element in the new plan was much less visible to users of the Libraries, but essential to its success: the modernization of collection management in the Bodleian. Books in the Bodleian closed storage were for the most part organized by shelfmark and by size. Permanent barcodes linked to bibliographic records in the online catalogue were not a feature of Bodleian inventory management, in contrast to other libraries which had adopted high-density storage facilities as an approach to shelving large collections. Yet evidence from these models in place throughout the USA and elsewhere pointed in the direction of automated control as an essential ingredient in effective management. Barcoded collections were standard, and they were multiples faster to scan in when transferring holdings and automated readers of barcodes produced a higher quality, more accurate result than manual handling. Nonetheless, there was reluctance to adopt barcoding in the Bodleian, and costs were predicted to be prohibitive, with calculations of as high as £2 per item proving chastening to planners. Although Bodleian leadership was uncertain about how the full collection could be barcoded, it was determined to automate, and we bid for £1.5 million in funding from the University to embark on an automated inventory of its collections.

These plans were developed and presented to the University as a new Academic Strategy in six short weeks after the final failure of the plans for the Osney Mead repository.¹⁴ The Libraries' agility in responding to this perceived disaster, and the focus on new ways of meeting the needs of the academic life of the University, won immediate favour and did much to restore their reputation.

¹³ *British Library collection moves (Reader news bulletin, Issue 02 - December 08)*, accessed 29 June 2012, <http://www.bl.uk/collectionmoves/pdf/readernewsdec.pdf>.

¹⁴ 'Academic Strategy for Oxford University Library Services', *Oxford University Gazette* (26 June 2009), accessed 29 June 2012, <http://www.ox.ac.uk/gazette/2008-9/weekly/260609/notc.htm#5Ref>.

4 Putting the strategy into effect

The material we intended to move from the Radcliffe Science Library to make way for the special collections would ultimately have to be moved a second time to the completed Book Storage Facility, but we deemed that the additional expense of a double move was justified by the urgency of our need to rescue the New Bodleian special collections from risk. The preparation, undertaken hurriedly, provided a number of lessons to the Bodleian that were valuable in improving workflows and processes for future moves. In this initial trial of a large-scale move, staff learned, often the hard way, the importance of good communication with affected parties, the need to have a strong and well identified project manager, the requirement for a well developed risk management strategy, the critical value of having adequate bibliographic description, and the essential need to exercise care in negotiating contracts. Despite many tense moments and a series of problems, the principal goal was achieved. The RSL stack, its scientific holdings transferred to DeepStore, offered its void to be upgraded to BS5454 to contain many of the Bodleian's most precious assets as well as special collections and rare books that would form the mainstay of the materials used in the temporary special collections reading room over the next four years. The project met its budget and kept to its deadline. It was messy, fraught with conflict and uncertainty, but ultimately a success, and perhaps most significantly, it forged a resolve to learn from harsh lessons to build an improved project management strategy.

Concurrently with the preparation of the RSL space for the temporary special collections service, there were activities under way to organize the move of the rare and special collections to the RSL once it was ready to receive them. With the benefit of an experienced hand who had played a major role in the relocation of archives and manuscripts when the British Library moved into its St Pancras location, the Bodleian special collections transfer was well organized, with the security and safety of its priceless heritage documents of paramount concern.

And simultaneously, the foundation on which the future of the Bodleian's collection management would be based, the creation of the Book Storage Facility, was being shaped. The key requirement for the depository had been that it be as close as possible to the centre of Oxford so as not to further compromise deliveries of requested items. Now, with decisive steps being taken to rebalance the load and to reduce the total number of fetches predicted to be required for delivery by fulfilling requests through a combination of electronic delivery and direct access, the Bodleian could be more flexible in its requirements. Working with the University's Land Agent and the Estates Directorate, the Bodleian began almost immediately, in October 2008, to seek parcels of land that were within one hour's travel time of the centre of Oxford, that were already in possession of planning

permission for the construction of a large warehouse, and which were geographically configured to permit the erection of a high-bay facility. By December 2008 the field had been narrowed from 64 prospects to two sites that merited a visit by the Vice-Chancellor and Bodley's Librarian, and by January 2009, representatives of the Curators of the University Libraries had satisfied themselves that the location in South Marston, near Swindon, would be a suitable plot on which to build. Within the various committees of the University of Oxford, the plans were moving forward and being approved at every stage. This venerable institution, known for its deliberate pace – a place where the old joke about how many dons it took to change a light bulb concluded with the punch line: 'Change?' – was moving at the relative speed of greased lightning. Funds to acquire the land, sufficient to construct three depositories, allowing room for expansion, were voted by University Council in January 2009, and by March the exchange of the property took place.

In parallel, a redesign of the structure of the depository was under way, taking advantage of the larger footprint the Swindon site provided, and moving away from the automated storage and retrieval system: an ASRS did not represent value for money when the number of items being fetched dropped below a certain threshold., making the speed of delivery a lower priority. The ASRS, with a predicted lifespan of twenty years and an annual maintenance cost expected to be £800,000, was replaced by the less glamorous, but tried-and-true 'Harvard-style' high-bay shelving system pioneered at Harvard University in the 1980s. As a consequence of removing the ASRS from the specifications, of developing plans for a more straightforward 'shed' without the architectural embellishment of the undulating roof introduced to mitigate the criticism levelled in Oxford about the ugliness of the building originally proposed, and of the fact that a bund to protect collections from flooding was no longer necessary in the new location, the cost of construction dropped by 10%, and the Bodleian was able to return over £3 million to the University's capital fund.

The introduction of Harvard-style shelving with barcoded stock required a compatible warehouse management system, so the procurement of such a system became part of the strategy. The warehouse management system had to talk to the integrated library system. Coincidentally – and some might say with some foolhardiness! – the Libraries were also replacing the integrated library system at the same time. This had been planned for some years previously – the current system was no longer supported - but unforeseen circumstances had led to a series of delays and the need to start the process again in 2008. This meant that the warehouse management system would have to talk to both the current and the new library systems. To ensure that the projects did not unwittingly diverge, we appointed a single project manager to oversee the implementation of both the warehouse system and the new library system.

The Bodleian's application for planning permission for the South Marston site was unanimously passed by the Swindon Borough Council in May 2009, and construction commenced in August. A year later, in September 2010, with the project on time for completion and on budget, the Bodleian took possession of its new Book Storage Facility, a building with a capacity of 8.4 million volumes, and began its commissioning phase. Staff to process collections being transferred to the BSF were hired and trained in the months preceding November 2010, when, on 8 November, the anniversary of the opening of the Bodleian Library in 1602, the first book was ingested into the BSF.

Clever development of the barcoding workflows, and a flexible approach to the allocation of costs, stretched the £1.5 million sum allocated so that it covered twice as many items as had been originally envisaged; and over the lifetime of the initiative to transform the Bodleian, savings in other areas were channelled to barcoding, with the end result that £3.6 million supported the barcoding of almost 7 million volumes including the creation of bibliographic records and item-level records.

In the fourteen months that followed the commissioning of the Book Storage Facility, over 7 million volumes and over 1.2 million maps were relocated from the New Bodleian Library, Nuneham Courtenay, the Underground Bookstore, DeepStore, and other scattered sites where the Bodleian's vast and overflowing resources had been crowded onto shelves and into boxes. Their position on the gleaming steel racking installed in the Book Storage Facility was a triumph of team work and planning.

These various strands formed the Academic Strategy of the Bodleian Libraries. The Academic Strategy was developed in the Bodleian and communicated to the members of the University through a cascading series of committee meetings, town meetings, and other sessions with the very large community of Bodleian users who were passionate about the libraries and their collections. The rethinking of scenarios for service was considered to be uniquely agile for Oxford, where decisions are taken only after much careful deliberation. The Bodleian benefited from a supportive administration, a team of dedicated managers who went into overdrive to grapple with multiple challenges of enormous proportions, and from the ability of staff to think creatively to develop solutions that were persuasive in testing certain assumptions about the way people thought the library should operate and which, in the end, were pragmatic and achievable, as well as audaciously ambitious.

