UNIVERSITY OF OXFORD

The Radcliffe Science Library Conservation Plan

Building No. 225
November 2013

Estates Services

University of Oxford

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http://www.admin.ox.ac.uk/estates/conservation/conservationmanagementplans

Abbreviations:

ESA – Estates Services Archives

OS – Ordnance Survey

OUA – Oxford University Archives

NPPF - *National Planning Policy Framework,* 2012

RCHM – *An Inventory of the Historical Monuments in the City of Oxford* (London, 1939)

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INTRODUCTION

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1 INTRODUCTION

The Radcliffe Science Library was constructed in 1898-1901 to a design by T.G. Jackson with funds donated by the Drapers' Company. It was extended northwards along Parks Road to a design by H. Worthington in 1933-4. A large underground extension, the Lankester Room, was constructed in 1970-4. The original building was designed to house the scientific collections of the Radcliffe Trustees, replacing the library in the University Museum, which itself had taken over these duties from the Radcliffe Camera in 1861. The Radcliffe Trustees donated their scientific collections to the University in 1928 and the Radcliffe Science Library became a reading room of the Bodleian Library, which it remains to this day.

1.1 The Purpose of the Conservation Plan

The University has an unrivalled portfolio of historic buildings, of which it is rightly proud. It has traditionally taken a thorough, holistic approach to building conservation, seeking to understand all the varied factors that make historic buildings significant to their diverse stakeholders, and using this to inform necessary change. It has become clear that this approach is vital to the conservation culture of an institution where so many of its historic buildings that are valued for their function also have extensive historical or architectural significance. This Conservation Plan represents the continuation of this tradition of seeking to understand what makes the University's buildings cherished assets, and of seeking ways to conserve these most important features for the enjoyment of future generations.

The success of this approach is such that it has now become codified in government policy: First in March 2010's *Planning Policy Statement* 5: *Planning for the Historical Environment* then in its replacement, March 2012's *National Planning Policy Framework* (hereafter: NPPF). NPPF provides useful guidance on approaching the conservation of heritage assets, and postdates the University's existing literature. NPPF defines a heritage asset as:

'*A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage asset includes designated heritage assets and assets identified by the local planning authority (including local listing).*'

This designation clearly applies to the Radcliffe Science Library.

The purpose of this Conservation Plan is to update the Radcliffe Science Library's conservation policy to take into account the new guidance provided by NPPF. It will be of use both for informing responsible regular maintenance and in the preparation of future planning applications, as specified in NPPF paragraph 128.

The Conservation Plan should form the basis for the Radcliffe Science Library's Conservation Policy and exists as part of an ongoing process. It will be renewed and updated at least every five years or following any major alterations or legislative changes.

1.2 The Scope of the Conservation Plan

The Conservation Plan will cover the interior and exterior of the Radcliffe Science Library and its extensions, including the former Hooke Library and the interior of the lower portion of the Abbot's Kitchen. The Radcliffe Science Library is a Grade-II-listed building in central Oxford.

The plan is not a catalogue and to facilitate its practical use will concentrate only on the most vulnerable aspects of the building's significance, suggesting how they should be approached and conserved in the future. A brief list of the most significant architectural features can be found in **Appendix 4** and should be referred to when planning any repair or alteration work.

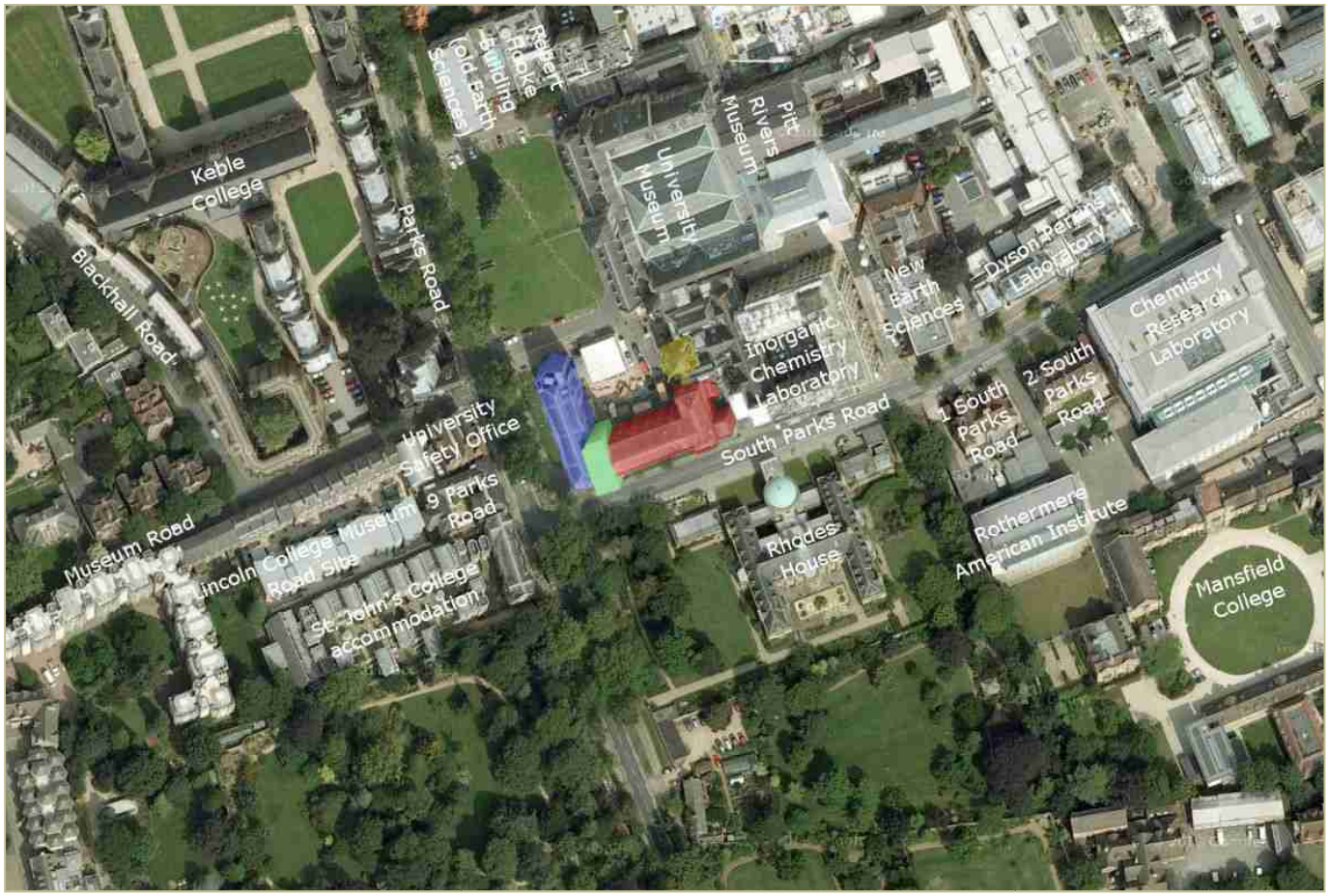

Figure 1. Satellite image of the Radcliffe Science Library and surrounding area. The original Jackson wing is highlighted in red. The 1933-4 Worthington wing is highlighted in blue. The former Hooke Library, incorporating the ground floor of the Abbot's Kitchen is highlighted in yellow. The 2006 glass connection is highlighted in green

1.3 Existing Information

There are various forms of existing information available regarding the Radcliffe Science Library:

The Oxford University Archives and Estates Services Archives contain various useful plans, correspondence, and these documents have kindly been made available for the composition of this plan. Plans and records have also kindly been made available from the University Museum Archives and the Bodleian Library Special Collections, including the records of the Radcliffe Trustees.

The original 1954 list description (**Appendix 1**) is characteristically brief for a listing of its age but does give some indication of the features that were thought to make up the particular character for which the building was originally listed.

There are various books and articles which cover the work of Thomas Graham Jackson and the development of pre-war and Victorian architecture in Oxford in general. The Radcliffe Science Library does feature in these books and articles, which also provide valuable contextual information.

Planning and listed building consent applications have been made during the building's recent history and these provide a fragmentary indication of the changes that have occurred in the building over time.

This document draws on statutory guidance from NPPF prepared by HM's Department for Communities and Local Government in March 2012.

1.4 Methodology

The Conservation Plan is a document that assesses the current and predicted conservation needs of the Radcliffe Science Library and attempts to address them with a view towards maintaining and enhancing the significance of the heritage asset. Its formulation to supersede any existing literature is a response to the requirements of NPPF, and it is prepared in accordance with the policies contained therein.

1.5 Constraints

The Radcliffe Science Library and its environs are subject to various constraints imposed by Oxford City Council:

- CP.3 – Limiting the Need to Travel: New development will be limited to accessible locations on previously developed sites.
- CS.1 – Hierarchy of Centres – City Centre Commercial Area: The city centre will be the main location for developments attracting a large number of people. In particular, planning permission will be granted for development that supports its role as a Centre for Significant Change, such as major retail, leisure, cultural and office development. Most major development will be focused in the West End of the city centre.

- HE.7 – Conservation Area: The Central (City and University) Conservation Area: Planning permission will only be granted for development that preserves of enhances the special character and appearance of the conservation areas or their setting.

- HE.9 – High Building Area: Planning permission will not be granted for any development within a 1,200-metre radius of Carfax which exceeds 18.2m in height, except for minor elements of no bulk.

- SP.60 – Sites and Housing Plan – University of Oxford Science Area and Keble Road Triangle: Planning permission will be granted for academic institutional uses and associated research at the University Science Area and Keble Road Triangle. Planning permission will not be granted for any other uses. Development must retain and enhance the listed buildings. Careful design must ensure that development proposals contribute towards the character of the conservation area and preserve and enhance nearby listed buildings and their settings.

- The City of Oxford Smoke Control Order No.2: It is an offence to emit smoke from the chimney of a building.

- TR.3, TR.11, and TR.12 – Car Parking Standards: The City Council will not allow any significant increase in the overall number of car-parking spaces in the transport Central Area or development that provides an inappropriate level of car-parking spaces. It will attempt to reduce the level of non-residential car parking.

2 UNDERSTANDING THE SITE

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2.1 History of the Site and University

The site of Oxford has had sporadic settlement since the Neolithic period. Bronze Age barrows have been found in the University Parks (linear barrow cemetery) and in the Science Area (double-ditched barrow). A series of Bronze Age ring ditches runs through University Parks at least as far west as the Radcliffe Observatory Quarter. Oxford has had a continuous history of occupation since at least the 8th Century AD. The University of Oxford itself has a long-standing tradition of exceptional education and, able to trace its roots to the 11th Century, it is the oldest university in the English-speaking world.

The site upon which the Radcliffe Science Library now stands is situated in the northeast of the city of Oxford. This area was developed in the 19th Century, notably with the construction of the University Museum in 1855-60 and Keble College on the western side of Parks Road in 1868-70.

The 91-acre site now occupied by the Radcliffe Science Library, the University Museum, the Science Area, and the University Parks was purchased by the University from Merton College in stages between 1853 and 1864. The first plans for the University Parks were presented to the University in June 1863, but these were rejected, and it was not until 1865 that £500 was allocated for the purchase of trees and shrubberies. Even before this point the space allocated to the Parks was diminished by the allocation in 1853 of four acres in its southern portion (followed by another four acres in 1854) for the University Museum (1855-60), and this southern expanse underwent near-continuous development throughout the second half of the 19th Century.

Soon after its construction the University Museum (with its attached Inorganic Chemistry and Comparative Anatomy laboratories) was extended with: the construction of the original Clarendon Physics Laboratory (now embedded within the Robert Hooke (Old Earth Sciences) Building) on its northwest side in 1867-69 (extended in 1946-58); the construction of the Pitt River's Museum on the east in 1885-86; the addition of Jackson's Radcliffe Science Library to the south in 1898-1901 (extended in 1933-34); and the extension of the Department of Zoology (now housing Atmospheric Physics) and Stevenson and Redfern's Morphology Laboratory to the north in 1898-1901.

Further science buildings were constructed in this precinct from the last quarter of the 19th Century. Many of these were originally free-standing, but continued development has created an increasingly interconnected science precinct in the area. The near-continuous history of development in the quarter around the University Museum has created a crowded space to the south of the Parks. It is the main centre for the study of sciences within the University, and is now known as the University Science Area.

2.2 History of the Radcliffe Science Library

The Radcliffe Library before 1898

The institutional origins of the Radcliffe Science Library long predate the current building and have their origins in the 1714 bequest of Dr. John Radcliffe and the original Radcliffe Camera on Radcliffe Square. Radcliffe (1652-1714), an alumnus of University College and fellow of Lincoln College, was the wealthiest physician of his age. Despite exhibiting a certain disdain for book-learning, he made it clear in the final years of his life that he intended to endow a library (a move Samuel Garth is oft-quoted with describing as analogous to a eunuch founding a seraglio).

Radcliffe died on 13th September 1714 and his will stipulated that £40,000 should be made available for the foundation of a library, payable in ten annual instalments after the death of his sisters, along with, in perpetuity, £150 *per annum* for a salaried librarian and £150 *per annum* for the purchase of books. Radcliffe's sister, Millicent Radcliffe, died in 1715, but his other sister, Hannah Redshaw, did not die until 1736. Despite this, the Trustees of Radcliffe's estate continued their planning for the construction of the library in the years immediately following the doctor's death. This library was not the current Radcliffe Science Library but rather the Radcliffe Camera, then known simply as the Radcliffe Library. This original Radcliffe Library, designed by James Gibbs, was constructed from 1737 to 1749. The Vice-Chancellor was handed the keys as part of the 1749 opening ceremony, and the original Radcliffe Library was always designed with the University in mind, not least with its location between the University Church of St. Mary and the Bodleian Library, but it was a distinct institution answerable only to the Radcliffe Trustees and not subject to University governance.

The Radcliffe Library acquired a large number of books, as well as housing coins, marbles, and statuary, well into the 19th century. The acquisition of a wide variety of books inevitably led to the duplication of collections held by the adjacent but administratively-unrelated Bodleian. Arthur Young, in his 1809 *View of the Agriculture of Oxfordshire*, was the first person to publically suggest that the Radcliffe Library should be utilised as a science library in order to avoid such duplication.[1] George Williams was appointed Radcliffe Librarian in the following year and he established a committee to purchase books for the library and it was decided for the first time that acquisitions would be confined to medicine and natural history, representing the start of the Radcliffe Library as a scientific collection.

Henry W. Acland (Reader in Anatomy and later Regius Professor of Medicine) was appointed Radcliffe Librarian in 1851. Acland was one of the major forces behind the construction of Deane and Woodward's University Museum on Parks Road in 1855-60, which was to become the new centre for the emerging scientific disciplines within the University. By the 1850s the Bodleian's reading rooms were insufficient for the needs of

[1] Young, A., *View of the Agriculture of Oxfordshire* (London, 1809) 343-4; available online http://find.galegroup.com/mome/quickSearch.do?now=1331728396851&inPS=true&prodId=MOME&userGroupName=oxford, accessed 28th October 2013.

their users and space had become a major concern.[2] With the creation of the University's new scientifically-focused site on Parks Road, Acland was strategic enough to spy an opportunity that was mutually beneficial to both the Bodleian and the Radcliffe Trustees: On 16th July 1857, he proposed that the Radcliffe Library's building on Radcliffe Square should be lent to the Bodleian to be used as a reading room and that the library itself (with its scientifically-focused collections) should be moved to the University Museum, which was still undergoing construction. The Bodleian and the Trustees accepted and in 1860 Acland was instructed to undertake the necessary steps to transfer the library. Between 5th and 10th August 1861, the scientific documents from the Radcliffe Library were transferred to the first floor of the western wing of the newly-completed University Museum. The original home of the Radcliffe Library was reopened as the Radcliffe Camera, a reading room of the Bodleian Library, on 27th January 1862.

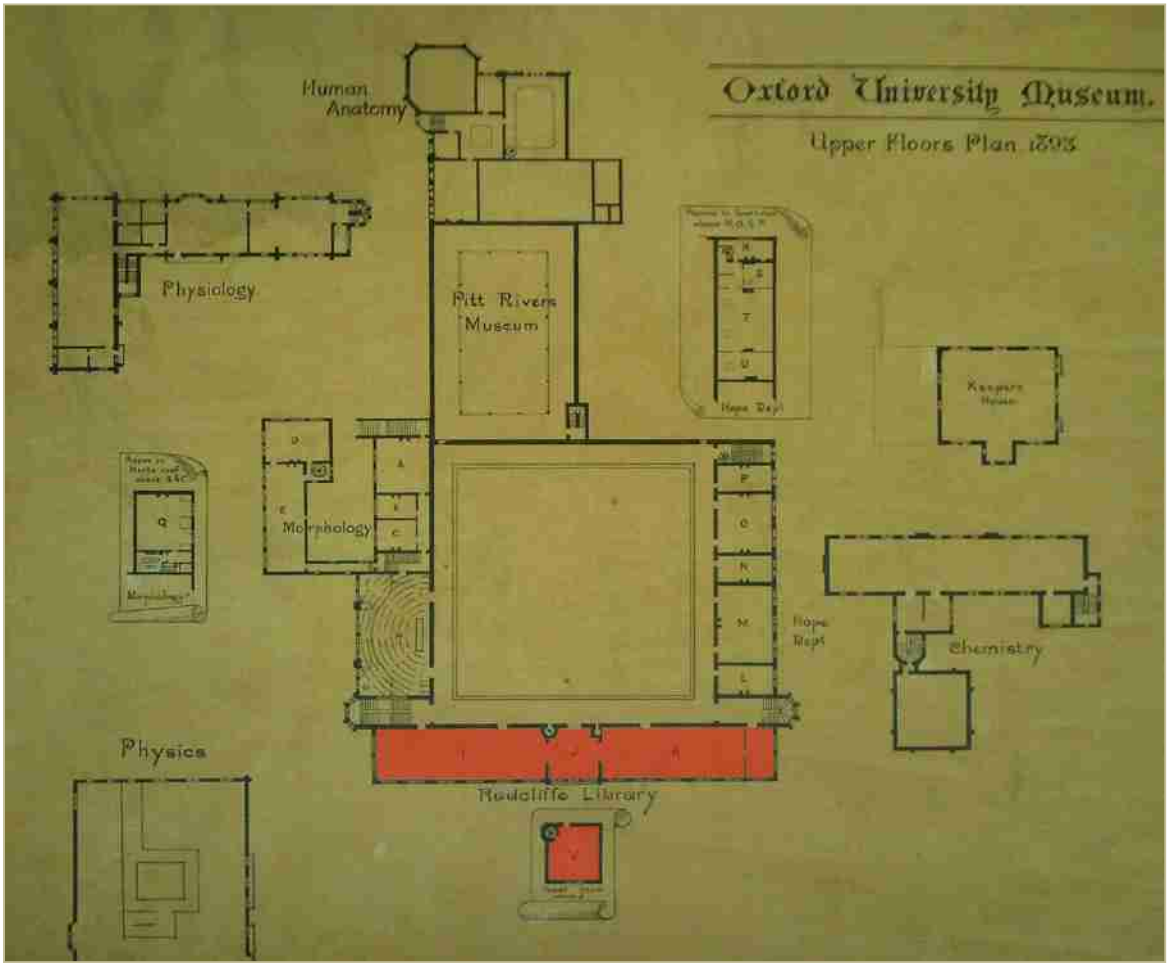


Figure 2. Plan of the first floor of the University Museum in 1893, with the area occupied by the Radcliffe Library highlighted in red. The highlighted second-floor tower room was formally occupied by the library but was used only for storage

[2] Craster, E., *History of the Bodleian Library* 1845-1945 (Oxford, 1952) 122-3.

The Radcliffe Science Library on South Parks Road

The Radcliffe Science Library's collections continued to grow during the second half of the 19th century and its quarters in the University Museum soon proved insufficient for its acquisitions. By the early 1890s the Radcliffe Librarian intended to extend the library holdings into the first floor of the southern wing of the University Museum; however, the expansion of the Hope Collections into this area in 1893 stymied these plans. In his 1894 report to the Radcliffe Trustees, the Radcliffe Librarian noted that '…various methods of extension… must be fully considered.'[3] A new building was required to house the growing collections and the funding for this was found from the philanthropy of the Drapers' Company.

By this point, Thomas Graham Jackson was established as the preferred architect of the colleges and the University of Oxford. His ties were to the progressive movements within the University, which by *fin de siècle* were in the ascendant. Jackson's first major work was also the greatest commission of his era in Oxford, the Examination Schools on High Street, which he won in competition in 1876. Jackson's success was related closely with the rise of liberal movements within the University, led by Benjamin Jowett, the Master of Balliol College 1870-93. The new schools were a thoroughly liberal project, characterised by a move away from the Gothic designs which had dominated Oxford's architecture for the preceding 30 years and had become associated with politically and educationally conservative groups within the University. Jackson's widely lauded success on the new schools precipitated a hugely successful career, with further major commissions, such as the High School for Boys (1881) and the Grove Building at Lincoln College (1880-3) being awarded whilst work on the schools was still ongoing. Jackson also had ties to the Drapers' Company, whose master in 1896 was a liberal and an associate of Jackson's: Henry Boyd, Principal of Hertford College 1877-1922. Jackson had previously been employed to remodel the Drapers' Hall and, under Boyd's leadership, his involvement was made a condition of the Drapers' subsequent benefaction to the University.[4]

Jackson was employed to undertake the construction of the new Radcliffe Library in 1897, preparing plans in July 1898.[5] In that year, W.H. Jackson, the Radcliffe Librarian, reported to the Radcliffe Trustees: 'You are aware that you will ere long be requested to leave your present library, which occupies the whole front of the first floor of the Museum for another library, built outside the present Museum, and given to the University by the Drapers' Company.'[6] This continued the strange situation, which had been in place since 1862 and would continue until 1927, where a library owned and managed by the Radcliffe Trustees was housed in a building owned by the University whilst at the same time a library owned and managed by the University was housed in a building (the Radcliffe Camera) belonging to the Radcliffe Trustees.

[3] Bodleian: Mss.D.D.Radcliffe c.37.
[4] Jackson, T.G., *Recollections: The Life and Travels of a Victorian Architect* (Jackson, N., ed.; London, 2003) 228-9; Whyte, W., *Oxford Jackson: Architecture, Education, Status, and Style* 1835-1924 (Oxford, 2006)119-21.
[5] OUA, ref. ET/2/1/2/1-7.
[6] *Supra*. n.3.

The original portion of the Museum was constructed from 1898 to 1901 by J. Parnell & Son of Rugby. The Clerk of the Works was Edwin Long. The total cost amounted to about £22,000.[7] The majority of the construction work seems to have been completed by mid 1900, as Jackson was 'scheming the fittings' in June of that year and the wall of the Abbot's Kitchen was broken through in July. In October 1900 he wrote to W.B. Gamlen, the Secretary of the University Chest, noting that no railings had been provided for the building and that he was unwilling to ask the Drapers' Company for further funds.[8] It was the northern side that lacked railings, as the southern boundary had pre-existing railings. A new road was constructed running eastwards from the Parks Road entrance to the Radcliffe Science Library's original readers' entrance (beside the Abbot's Kitchen) (**Figure 3**).

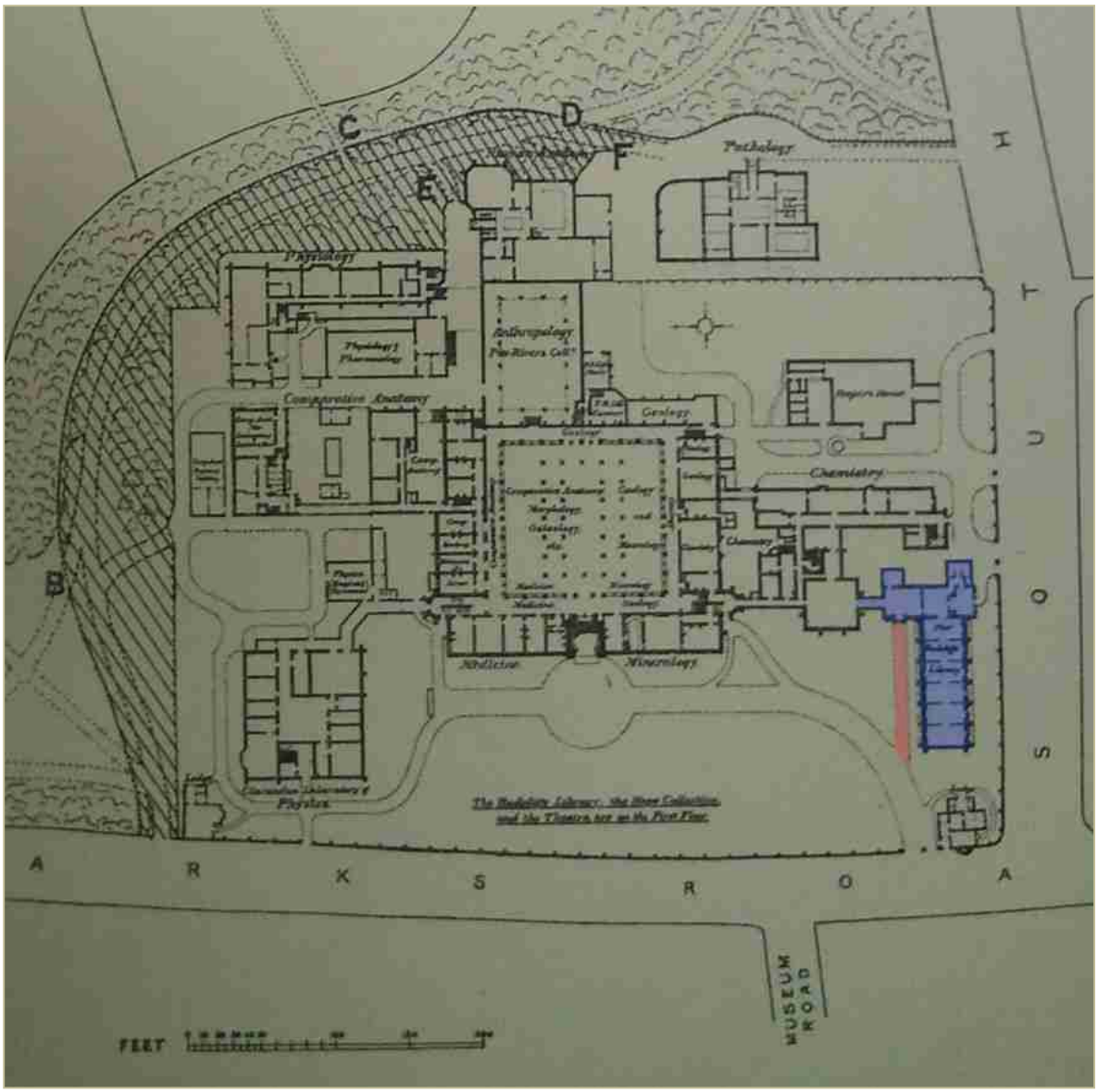


Figure 3. 1901 plan of the University Museum site. The new road is highlighted in red and the original phase of the Radcliffe Science Library is highlighted in blue. North is at the left-hand side of the image

[7] Jackson, T.G., *op. cit.*, 229.
[8] OUA, ref. UC/FF/181A/1.

Jackson's library included a corridor running into the Abbot's Kitchen, which was fitted with four iron pillars and horizontally subdivided into two floors at this point.[9]

Iron bookcases were fitted in the new building (presumably in the stacks) but wooden bookcases were also taken from the library in the University Museum and in exchange the gas fittings were left in the old library.[10] These were not required in Jackson's building as it was fitted with electric lighting in 1900.[11] As with the rest of the Science Area, the lighting in the new Radcliffe Library ran on 100V but suffered from regular losses of pressure and was apparently not very bright. In 1906 extensive repairs were carried out to the electrical installation and portable paraffin lamps were provided in order to supply additional light when browsing shelves. Additional repairs were carried out to the electrical installation in 1909, after further complaints of poor lighting caused by drops in pressure.[12]

In 1914, G. Wyatt & Son provided a quotation for fitting iron railings to the outside of the building, presumably to cover the northern or western edges, which did not benefit from the railings covering the entire University Museum area (**Figure 3**). It is not clear if Wyatt's railings went ahead or not. In 1926, the heating installation in the building was replaced by Dolby & Williamson.[13]

In 1925, there was some discussion between the Radcliffe Trustees and the University regarding the possibility of the Bodleian taking over the Radcliffe Science Library. On 19th March 1926 an agreement was reached, which came into force the following year, whereby Bodley's Librarian took over the rôle of the Radcliffe Librarian, with the Radcliffe Science Library becoming a constituent library of the Bodleian and the Radcliffe Trustees paying an annual grant of £1,500 towards its maintenance. As part of the same agreement, the freehold of the Radcliffe Camera was also transferred to the University.

Following further complaints about the poor lighting in the library, Dolby & Williamson were commissioned to produce a report on the lighting and wiring in the building. The rubber-coated wiring was found to have perished and to be at the end of its useful life. The inadequate arrangement of the lighting was thoroughly described:

'[In the basement t]he bookcases on the two grids are not lighted at all by the present arrangement of lamps down the centre gangway.

'By placing two lamps in each bay, the books on the two fixed cases and on the three movable cases can be adequately lighted by moving the sliding cases sufficiently to allow access to the books.

[9] Williams, R.J.P., Rowlinson, J.S., and Chapman, A., (eds.), *Chemistry at Oxford: A History from* 1600 *to* 2005 (Cambridge, 2009) 105.
[10] Bodleian: Mss.D.D.Radcliffe c.38.
[11] OUA, ref. UC/FF/181A/1and *Supra*. n.3.
[12] OUA, ref.UC/FF/181A/1/2.
[13] *Ibid.*

'…[The first floor] is very inadequately lighted. There is no general lighting, only twenty-four table standards, which are not fixed and which are wired by flexible cord clipped to the desks.

'…There is no lighting to enable the titles of the books to be read on the bookcase, and the standards have to be taken off the tables for this purpose.

'…[The second floor] is also inadequately lighted [by five electroliers], but owing to the high and heavily moulded ceiling, it cannot be treated in the same way as the first[-]floor library; that is to say, ceiling pendants cannot be used in the bays.'[14]

Dolby & Williamson suggested a new lighting scheme with an estimated price of £885. This was rejected as too costly, as was a second scheme estimated at £720. A much-reduced third scheme, with an estimated cost of £500, was accepted by the University. This involved five central lights in the basement, assisted by sixteen hand lamps on flexible cords to be used between the shelves, each serving up to four bays. On the first and second floor there were to be twelve pendant lights to serve twelve bays, with the electroliers being removed from the second floor. Dolby & Williamson suggested wiring floor sockets in several places, in order to fit desk lamps at a later date if funds became available, but these were disallowed due to the added cost. The new lighting work was undertaken by Hill, Upton, & Co. in 1928, with the total for the work actually coming to only £318.14.0. The work necessitated some small internal alterations including 'a very considerable length of steel conduit on the surface…and, in a large number of places, the walls…[being] made good and coloured to match the existing work.'

A cycle shed was constructed in the angle between the readers' entrance and the Abbot's Kitchen in 1929, with a further shed for staff cycles being added in 1931. The original urinals at the eastern end of the building were replaced in 1930.

By 1930, the Radcliffe Science Library had once again outgrown its premises and an extension to Jackson's building was being seriously considered. The architectural advisor of the Oxford Preservation Trust, A.S.G. Butler, was contacted at this point to provide preliminary advice. It was clear that any extension would need to extend from the western end of the building and consequently that any good-sized extension would necessitate the demolition of the old Museum Lodge (visible to the west of the library in **Figure 3**). There was some discussion between the library and the University Chest as to whether the new extension should incorporate a replacement porter's flat but this was not deemed feasible.[15]

Discussion about the extension continued into 1932 and Hubert Worthington submitted his plans for it in October of that year. Worthington's imposing, rubble and ashlar extension was to obscure the western gable elevation of Jackson's library and define the southern corner of the Science Area. Tenders for the work were accepted in February 1933 and the contract was won by a local firm, Benfield and Loxley. A new porter's lodge was constructed on South Parks Road to replace the lodge demolished as part of the extension. Construction began in

[14] OUA, ref. UC/FF/181A/2.
[15] *Ibid.*

March 1933 but was briefly slowed by the discovery of 'an ancient sewer', which had to be diverted, and of a gas main, which the corporation had to divert. The majority of the construction was complete by August 1934, when handrails and clocks were fitted and the opening was made between the new extension and the Jackson wing. The new wing was officially opened by HRH Mary, the Princess Royal, on 3rd November 1934.

The new extension was wired at 240V, which was now the local standard and was expected to soon become the national standard. The rest of the Science Area still relied on a 100V supply, required by much of the scientific equipment, so the original Jackson wing was rewired to 240V at this time in order to reduce the demand on the Science Area's transformer.[16]

The Bladon and Clipsham stone Worthington extension was regarded as a success, appearing in *Architecture Illustrated* in November 1934 (**Figure 4**) and being the subject of a field visit by the Oxford Society of Architects in March 1947. *Architecture Illustrated* described some aspects of the new extension:

Figure 4. The Worthington wing in 1934, looking eastwards

'The façade is faced with Clipsham stone with a local Oxford Bladon stone walling.

'The bookcases and panelling are in English oak, the concrete floors being covered with Battleship linoleum.

'The granolithic paving in the basement was carried out by Messrs. Stuart's Granolithic co., Ltd.

'The walls and ceilings are pale cream colour. English oak has been used for the panelling and the bookcases.'[17]

With the construction of the Worthington wing, the library's main entrance was transferred from the original entrance on the western elevation beside the Abbot's Kitchen to the original staff entrance on South Parks Road. The original main entrance may have been the elaborate doorway shown on Jackson's original plan (**Figure 13**) and Worthington's plans show that, whatever the form of the doorway that stood originally there, it was definitely replaced with the extant ground-floor window at this point. The small doorway on the northern elevation of this part of the Jackson wing appears as a window in Jackson's original plans and may well have been opened up at this point in order to mitigate the loss of the main doorway. The northernmost three bays of the first-floor reading room in the Worthington wing were partitioned off from

[16] *Ibid*.
[17] *Architecture Illustrated*, November 1934, 164-7 and OUA, ref. UC/FF/675/1.

the start, serving as rooms for the Institute of Mathematical Studies. This space, consisting of six rooms, a corridor, and adjacent lavatories, was accessible from the staircase and the north entrance lobby at the far end of the wing. The electricity in the building was turned off when the library closed at night, leaving the Mathematical Institute without light for night-time working. In 1947 temporary, battery-powered lighting was provided to the Mathematical Institute and in 1949 a separate electricity supply was provided to this part of the building.

By October 1939, further ventilation holes had to be cut at the base of the northern stairs because condensation was forming and the dampness had damaged some wiring which had to be replaced.[18]

The Mathematical Institute vacated the building in 1953. The need for more space in the library was acute but the funds to convert this northern first-floor area for library use could not be found until 1955. The partitions in this space had to be removed and, as this area had been partitioned off since the initial construction of the extension, it had not received the same fittings or decorations as the rest of the floor, lacking the moulded plaster ceiling, the wall panelling, and the fitted bookcases. This made the conversion a costly job, amounting to £3,250 after competitive tendering.

The Radcliffe Science Library was designated a Grade-II-listed building in 1954.

As one would expect from a university library with constantly-growing collections, space continued to be an acute issue and by the late 1950s it had become clear that either a new extension or a new library was required. In 1959 the required provision was expected to increase from 220 to 550 readers and from 415,000 to 1,000,000 books by 1965. Initial discussions within the University favoured the construction of a completely new science library on the Keble Road triangle but it was noted that the existing building was ill suited to anything but a library use and was too high-quality a building to simply demolish. Other discussed possibilities included demolishing Inorganic Chemistry, rehousing it in a new building constructed on the site of 4 South Parks Road, and expanding the Radcliffe Science Library eastwards. In 1960, Chamberlin, Powell, & Bon were commissioned by Council to produce an architectural appreciation of the possibilities for extending the Radcliffe Science Library.[19]

The resulting Chamberlin Report on the future of the library was published in 1961 and this suggested that the Radcliffe Science Library should be relocated to the main court of the University Museum, with a large bookstack constructed beneath, which would eventually connect to another subterranean stack, rising to one floor above ground, in the court of the existing Radcliffe Science Library.[20] The proposals of the Chamberlin Report were not widely accepted but the Curator of the University Chest, H.H. Keen, noted that

[18] OUA, ref. UC/FF/675/1.
[19] OUA, ref. UC/FF/181A/2.
[20] *Ibid*.

'Chamberlin's one real contribution to the planning problem was…his suggestion that the Science Library should go underground in the forecourt, because this is pure gain.'[21]

The University Surveyor, J. Lankester, produced a further report in 1962, which suggested three possible schemes for extending the Radcliffe Science Library. Amongst the suggested schemes was a plan, Scheme 1, involving '…converting the lower two floors of the Jackson wing and the top stack floor of the Worthington wing into reading rooms and building two new stack floors, each containing 424,000 volumes under the open court between the wings. The level of the court would remain as it is.'[22] He also set out two other possible proposals to build a new wing running eastwards from the northern end of the Worthington wing, replacing the Abbot's Kitchen and enclosing the library's courtyard (**Figure 5**). These two plans were identical except that in one the new wing was set on piers, creating an undercroft at ground-floor level and providing an unobstructed view across the court.

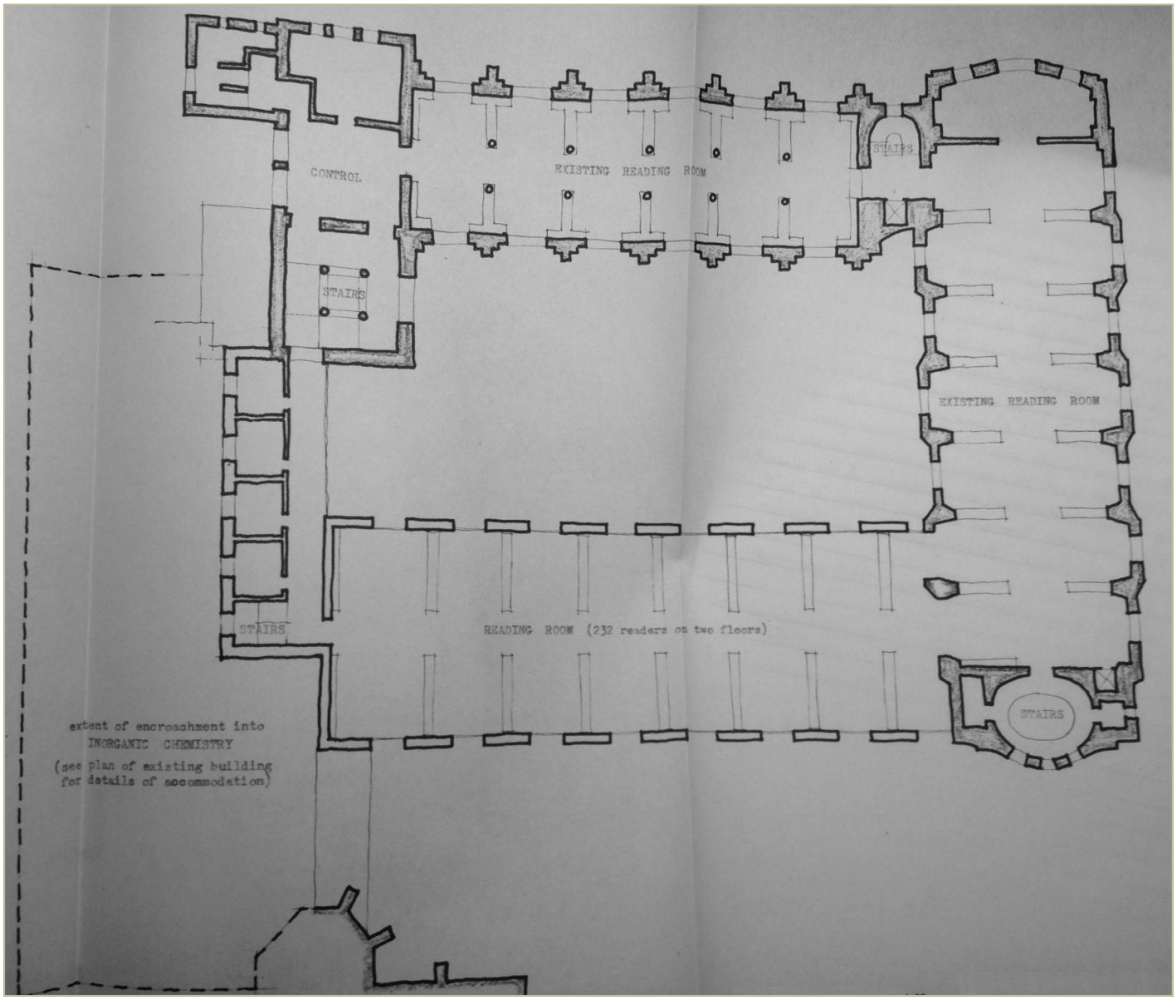


Figure 5. The first-floor plan of the unrealised Scheme 2 from Lankester's October 1962 report, orientated with north at the bottom of the image

[21] *Ibid*.
[22] *Ibid*.

Lankester favoured Scheme 3 (the same as Scheme 2 but with the piers and undercroft instead of a ground floor) whilst H.H. Keen favoured Scheme 1, on the practical grounds that the loss of the Abbot's Kitchen would reduce the space available to Inorganic Chemistry. The Victorian Society had written to the University to express a concern about the discussion of plans which involved the destruction of the Abbot's Kitchen and, partially in response to this, in 1965 Sir Leslie Martin, who was working on the Tinbergen (Zoology and Psychology) Building on South Parks Road, was appointed consultant architect on both the Radcliffe Science Library extension and the landscaping of the South Parks Road area.[23] Fortunately, Martin tended towards the view of the Victorian Society:

'Martin considers that the open view of the façade of the museum should be maintained and that the exterior of the Abbot's Kitchen is an important part of the original design. He considers that a new wing at right angles to the Worthington Building would be unacceptable because it would damage this grouping. He also doubts whether an extension to the Worthington wing followed by penetration into the Inorganic Chemistry Laboratory would create a really effective library. He suggests as an alternative that two levels of basement should be provided under the forecourt, and that these should ultimately be extended under the forecourt of the Museum.'

On 27th January 1968 the University's Building and Development Committee noted that:

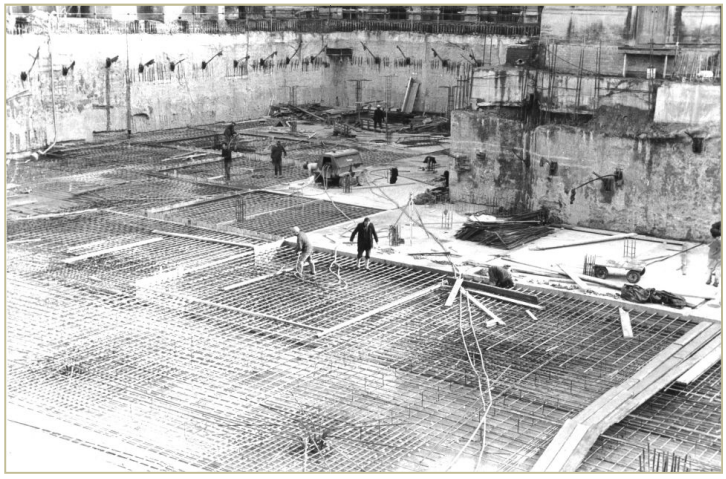
'It would…be virtually impossible for the University, having sought Sir Leslie Martin's advice, to ignore his considered view and to seek to proceed on the basis of the 1962 scheme, which would involve building in the library forecourt and ultimately redeveloping part of the Inorganic Chemistry site, without at least considering the alternative of providing the whole extension underground. Moreover, the University Surveyor (who is architect of the project) advised the committee that, given the necessary funds, the scheme proposed by Sir Leslie Martin would almost certainly be feasible and would indeed provide a better solution from the point of view of the library than any scheme involving the adaptation of part of the Inorganic Chemistry Laboratory.

'The committee has not hitherto recommended that the whole of the library extension should be built underground, firstly because of the very high cost of such construction, and, secondly, because it has hitherto been reluctant to commit the forecourt of the museum. In light of Sir Leslie Martin's report, however, and of the views expressed by Bodley's Librarian after discussion with the Radcliffe Science Library Advisory Committee, the committee considers that the question of providing 20,000 sq.ft. of reading space and stack on two basement levels in the library forecourt should be taken up as a matter of urgency with the University Grants Committee.'[24]

The 1966 Shackleton Report, which introduced a centralised strategy for library provision across Oxford, identified that the 1959 estimate of the projected needs of the Radcliffe Science Library, upon which Lankester's 1962 report had been based, had understated the

[23] OUA, ref. UC/FF/675/1.
[24] *Ibid*.

case. It noted that acquisition rates were twice what had previously been predicted and that the provision of an undergraduate lending library was a particular priority.[25] Bids for the funds to construct this underground extension were made to the University Grants Committee but delayed until 1970-1, when £140,000 was assigned. The University assigned £500,000 from its major building allocation for 1971-2. The need for additional space, and particularly for an undergraduate lending library, was so acute that in May 1970 the Radcliffe Science Library was assigned 9 Parks Road, the former Institute of Agricultural Economics, as a temporary library space until the new extension could be completed. This was used as an undergraduate lending library called the Hooke Library.



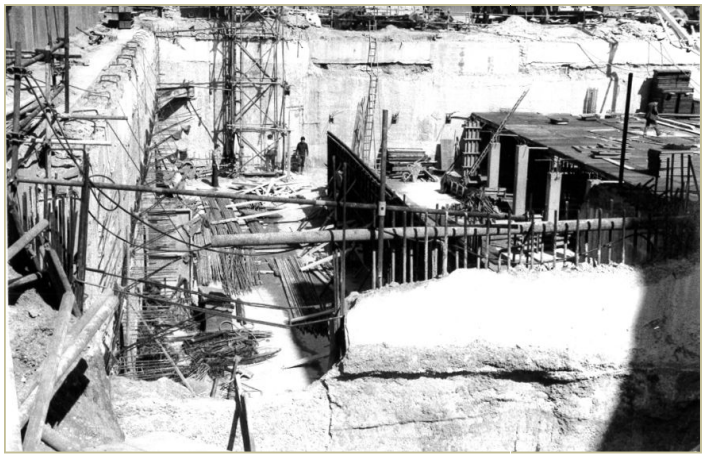


Figure 6. 6.1., top left, the excavation of the Lankester Room in the forecourt of the Radcliffe Science Library. 6.2, top right, the floor of the Lankester Room being fitted. 6.3, bottom left, later phases of the construction of the Lankester Room. 6.4, bottom right, the northern entrance of the Worthington wing being filled in

It was decided to complete a plan similar to Lankester's Scheme 1. This major work was conducted from 1971-4 and involved both new underground construction and substantial alteration within the existing wings. Two levels of basement were excavated beneath the

[25] *Ibid.*

forecourt of the library, creating a huge reading room (the Lankester Room) and stack space. A window on the ground floor of the eastern elevation of the Worthington wing was opened up as a new main entrance, with the three narrow levels of stack space at the base of the Worthington wing being gutted, horizontally subdivided into two levels, and replaced with a entrance hall on the new ground-floor level. The northern entrance to the Worthington wing was bricked up, with the staircase at this end being completely gutted and replaced with an entirely new concrete core containing a staircase and lift shaft reaching into the basement. This became the main access route to the new basement rooms. In the Jackson wing the double-height semi-basement stack was gutted and horizontally subdivided with a concrete floor, creating a new ground floor which served as office space. The Hooke Library was moved from 9 Parks Road into the eastern portion of the Jackson wing, incorporating the original eastern staircase and utilising the original staff door on the southern side as its entrance.

The modern layout of the Radcliffe Science Library was largely defined by these major developments, which greatly increased the capacity of the library whilst making only minor visible external changes and leaving the reading rooms in the Jackson wing largely unaltered. The reading rooms in the Worthington wing were also widely unaltered except for repartitioning at their northern ends.

In 1977, planning permission was granted for 'the formation of a new doorway and steps to form a new staircase for the upper level,' though it is unclear where this refers to.

In 1995, a new vertical platform lift was inserted in the main staircase at the northern end of the Worthington wing. In the same year, two doors were replaced in the ground floor of the Hooke Library, off the original main staircase at the eastern end of the Jackson wing. The following year, the Hooke Library was extended into the lower portion of the Abbot's Kitchen, which was gutted, refurbished, and reshelved. The eastern entrance lobby was refurbished, refloored, and repainted.[26] The main entrance hall on the ground floor of the Worthington wing was refurbished and fitted with a new counter and floor coverings.

A new riser was fitted beside the lift in the Jackson wing in 2001. The Worthington wing was rewired in 2006.

The 1934 staircase link between the Jackson and Worthington wings was demolished and replaced with a new glass link in 2006-7 (**Figure 7**). The architects for the glass link were Pringle-Richards-Sharratt and the project received a 2009 Oxford Preservation Trust Award. The new link included stairs and a lift. The staircase link obscured the gable of the Jackson wing and its removal revealed parts of this, with the replacement glass link leaving them more visually accessible. The window in the western elevation of the Worthington wing, which had been converted into an entrance in 1974, was reinstated and a new main entrance fitted in the new glass link between the two wings. The entrance hall on the ground floor of the Worthington wing was retained but was refurbished. Unisex disabled toilets were fitted on the basement, ground, first, and second floors and a new lift was installed in the

[26] ESA.

Worthington wing. The Worthington wing was rewired and services were generally upgraded at this time. In 2009, external decoration and repairs were conducted, including repainting widows and general cleaning and repointing.

In 2013, listed building consent was granted for the removal and replacement of electrical services and lighting units, including emergency lighting on the ground floor of the eastern stairwell in the Jackson wing.

The Radcliffe Science Library continues to serve as the primary science research and lending library for the University of Oxford.

Figure 7. 7.1, left, the 1934 Worthington link c.2005. 7.2, right, the 2006-7 link corridor

3 SIGNIFICANCE

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3 SIGNIFICANCE

NPPF paragraph 128 specifies that in assessing planning applications:

'*Local planning authorities should require an applicant to provide a description of the significance of any heritage assets affected including any contribution made by their setting*.'

The significance of the Radcliffe Science Library has been publically recognised by its designation as a Grade-II-listed building in 1954 (see **Appendix 1**) and its inclusion in Oxford City Council's designation of its Central (City and University) Conservation Area in 1971, and in its subsequent revisions in 1974, 1981, 1985, and 1998 (see **Appendix 2**).

3.1 Significance as part of Parks Road, South Parks Road, the University Science Area, and the Central (City and University) Conservation Area

The Radcliffe Science Library contributes significantly to the character of Parks Road, South Parks Road, and the University Science Area. Barely away from the splendour of Broad Street, Parks Road and South Parks Road form a pleasant, tree-shadowed precinct, marred only by its often-busy motor traffic. The austere majesty of its grand 19th and early 20th-century buildings creates a character of serious academic rigour, venerable rather than pompous. The more significant buildings in this area are the University Museum and Keble College, which define the character further up Parks Road, but, along with Rhodes House, the Radcliffe Science Library is the defining feature at the corner of Parks and South Parks Road and forms the southern boundary of the Science Area at this point.

Figure 8. The western façade of the Worthington wing, visible from Parks Road from the south

Approaching along Parks Road from the south, the Radcliffe Science Library first becomes discernable opposite the rear entrance to Rhodes House. The ground-floor rustication of the western elevation of the Worthington wing is the first visible sign of the Science Area when travelling northwards from the city centre (**Figure 8**).

From slightly further north, roughly opposite the side gate to Rhodes House, the western elevation of the Worthington wing is more fully visible, the rubble stone of the upper floors now becoming clear, whilst the buttresses and window

arches of the Jackson wing can be glimpsed through the tree cover.

The imposing bulk of the Worthington wing becomes clear as one reaches the junction with South Parks Road. The contrast between the two wings is clearest at this point, where the protruding gable end of the Worthington wing and the 2006 link glass link extend outwards from the southern elevation of the Jackson wing.

The combination of the two wings creates a successful, monumental configuration at this corner and running along South Parks Road. The newly-cleaned façade of the 1950s Inorganic Chemistry Laboratory, immediately to the east, adds a sense of conformity at this junction, mirroring the broad proportions and rubble facing of the Worthington wing, the Jackson wing being squeezed between the two (**Figure 9**).

Figure 9. The south-western corner of the Radcliffe Science Library, looking eastwards from the junction between Parks Road and South Parks Road

As one moves further north along Parks Road, the Worthington wing serves to frame the imposing gothic façade of the University Museum. It almost forms a framing pair with the rusticated stone and rubble elevations of the Robert Hooke building to the north of the Museum.

As one moves as far north as the southern end of Keble, the 1949 link between the University Museum and the Abbot's Kitchen becomes an obvious feature. The Worthington wing stretches out into this space, creating a forecourt to the Radcliffe Science Library. Viewed from the north, the Radcliffe Science Library and the Abbot's Kitchen, arranged as a small

quadrangle, create a configuration almost separate from the University Museum, though the renaissance detailing of the Jackson wing does stand out against the gothic of the University Museum and the Abbot's Kitchen (**Figure 10**).

The infilled void where the northern entrance of the Worthington wing was originally situated is discernable as a section of squared blocks in the otherwise rusticated ground floor.

From the courtyard itself, both wings are imposing structures, with the Jackson wing looking in need of a good clean. The Jackson wing, covered on the east and west by projecting buildings, is the more sheltered of the two wings and has less chance to make a visual impact from the north.

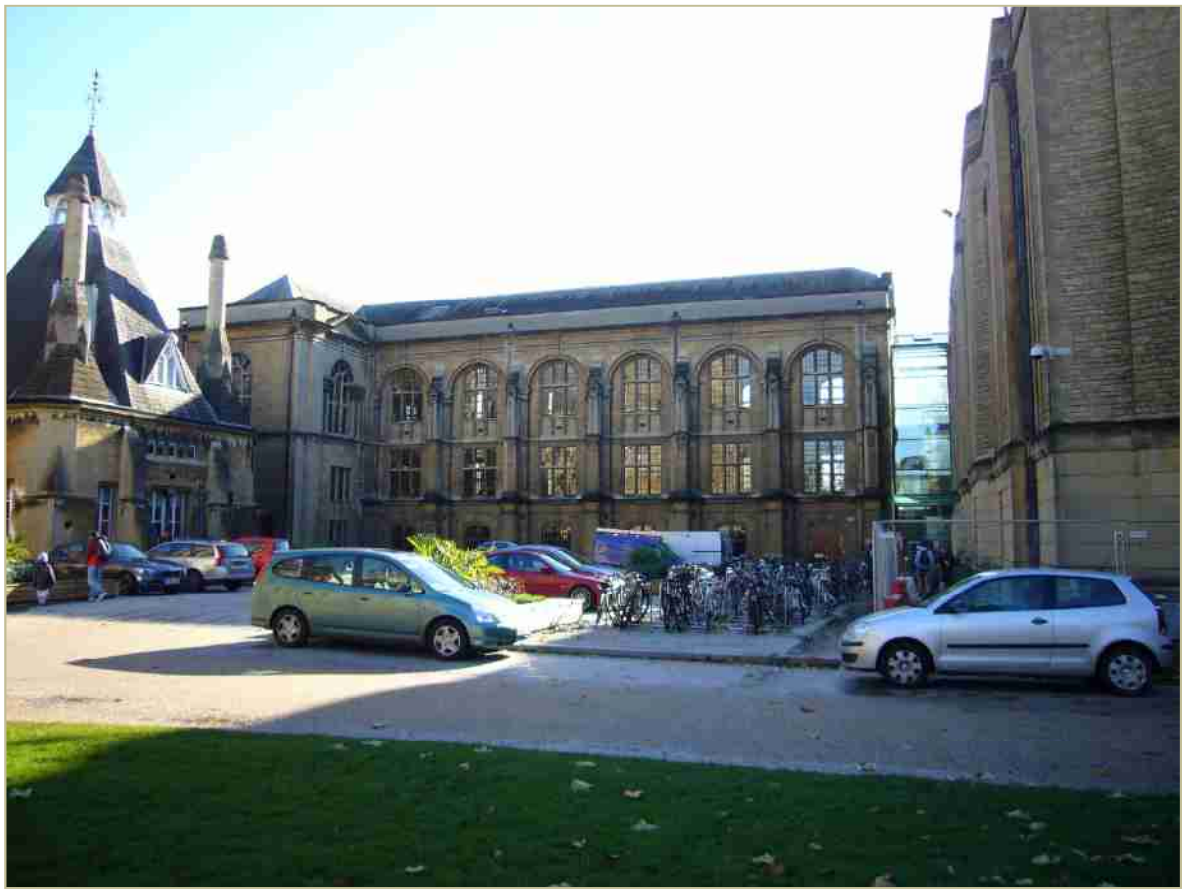


Figure 10. The courtyard outside the University Museum looking southwards towards the Jackson wing, with the Worthington wing on the right and the Abbot's Kitchen on the left

The courtyard is a shared space and recently refurbished. It serves as a car park and pedestrian waiting area. It meets the Radcliffe Science Library with a series of lightwells, except for: at the eastern end, where the cross-wing of the Jackson building meets it directly; at a staff entrance in a former window on the northern elevation of the Jackson wing; and at the 2006 glass connection.

Coming from the east, along South Parks Road, the Radcliffe Science Library first becomes visible roughly level with the Chemistry Research Laboratory. As one comes level with 2

South Parks Road, from the southern side of the road, the Radcliffe Science Library comes into view and whilst the Jackson wing can be spied, it is again the protrusion of the Worthington wing which initially stands out. As one moves further up the road, roughly level with 1 South Parks Road, the Radcliffe Science Library becomes clearer. From here, the composition of the Jackson wing has more integrity, with the butt of the Worthington wing feeling tacked on. As one moves westwards, as far as the eastern perimeter of Rhodes House, the bulk of the building becomes clear and the Worthington wing presents itself as a second gable end, counterbalancing Jackson's protruding gable, with the buttressed central range sandwiched between (**Figure 11**).

Figure 11. The Radcliffe Science Library looking north-westwards along South Parks Road. The projecting wing of Inorganic Chemistry can be seen at the right-hand side of the image

The composition and configuration of the two wings is strongest from outside Rhodes House and along this stretch of South Parks Road (**Figure 12**). Here Jackson's detailed gable, complete with Doric pilasters and engaged Ionic columns supporting a Serlian arched window, can be enjoyed. This works well with the buttressed range but less so with the plain block protruding to the east. The glass link and Worthington wing, whilst perhaps incongruous, do not detract from the effect, and if anything the Worthington wing adds to the imposing impact of the building, feeling bold but not rough against the finer detailing of the

Jackson wing. Mirroring Rhodes House to the south, it is certainly the best use of squared rubble with ashlar dressings in the University Science Area.

Figure 12. The southern elevations of the Jackson and Worthington wings viewed from outside Rhodes House

3.2 Architectural Significance

3.2.1 External Elevations

The external elevations of the Radcliffe Science Library can be clearly divided into 3 phases: the original Jackson wing (1898-1901); the Worthington wing extension (1933-4); and the 2006 glass link between the two. The Jackson wing is the most significant phase, representing one of the later Oxford commissions of Oxford's most significant 19th-century architect, as well as being of substantial aesthetic value. The Jackson wing is constructed in Doulting ashlar and from the south its form reads almost as that of a basilica, evoking Oxford's oldest library design, the Divinity Schools on Broad Street. Along the basilical range, the narrow buttresses rise to the springing of the round arches, which delineate bays dominated by the mullioned and transomed first- and second-floor windows. The original double-height stack of the now-subdivided semi-basement can be traced in the extant double-height windows at this level. The elaborate western gable end facing onto Parks Road was obscured and damaged by the construction of the Worthington wing (with its Serlian window turned into a doorway), though surviving elements at the top of the elevation were uncovered by the

construction of the glass link in 2006. The gable end of the cross wing facing onto South Parks Road remains the architectural focus of the Jackson wing. This is a simpler version of the western elevation's frontispiece, with Doric pilasters supporting a segmental pediment and engaged Ionic columns supporting the arch of the central Serlian window on the second floor. The original staff entrance on the ground floor was converted into the main entrance with the construction of the Worthington wing in 1933-4 and the lettering above was carved by Eric Gill at this time.[27]

Figure 13. Jackson's original plan for the western elevation of the Radcliffe Science Library. Note, the elaborate doorway on the left-hand side of the image (on the western elevation of the eastern cross-wing), was replaced with the extant window into the stair lobby in 1933-4. The corridor on the left-hand side of the image, leading to the Abbot's Kitchen, was provided with a first-floor addition in the 1950s or 60s

The northern elevation of the main range, viewable from the courtyard, is much the same as the southern elevation, though it also includes a plaque commemorating the beneficence of the Drapers' Company on one of the buttresses. The western face of the eastern cross-wing

[27] Pevsner, N., and Sherwood, J., *Buildings of England: Oxfordshire* (Harmondsworth, 1974) 277.

serves the purpose of the southern elevation on South Parks Road. The Serlian arch is repeated, though this time with two blind bays and a greater gap between the arch and the frieze, and a simple rather than a segmental pediment. The consistency of this western elevation has been damaged by the replacement in 1934 of the large original entrance with simple windows, which lack the detailing of many of the other Jackson windows, being closest in form with the first-floor windows elsewhere on the Jackson wing. William Whyte describes the Radcliffe Science Library, along with the 1908-10 commission of the Electrical Laboratory (Clarendon-Townesend building) to the north as representing '…the culmination and quintessence of his [Jackson's] career. They show him as the architect of choice for reformers, and the arbiter of the university style.'

Figure 14. The western elevation of the Worthington wing looking south-eastwards from Parks Road

The Worthington wing is also of both aesthetic and illustrative value. It was the first and best use of squared rubble with ashlar dressings in the University Science Area, and was clearly influenced by the success of Sir Herbert Baker's Rhodes House, completed directly to the south in 1928-9. This style was used in other prominent buildings in Oxford, most notably Sir Giles Gilbert Scott's New Bodleian Library in 1937-40. It was widely used in the University Science Area from the late 1940s into the 1950s, examples including the Forestry and Botany building of 1947-50 (also by Worthington), the Robert Hooke Building (formerly Earth Science) constructed around the original Clarendon Laboratory in 1946-58, and the Inorganic Chemistry Laboratory constructed on South Parks Road in 1954-60.

The Worthington wing is both imposing and attractive. It consists of a range of 7 bays, the odd numbers projecting outwards, with convex projections on the north and the south (matching in plan the window arches), which house a stair/lift tower and additional rooms. The ground floor is in rusticated ashlar, punctuated with regular sash windows, and there are taller, narrower sashes running vertically from the first to the second floor. These are framed with simple detailing (**Figure 14**). Pevsner describes the building as having 'squared-up outlines but Georgian proportions and a kind of ornament of a non-period character, inspired probably by Østberg's Stockholm City Hall and the Paris Exhibition of 1925. Worthington's door and window arches are especially weak.'[28] The original northern entrance was bricked up when the northern end of the building was fitted with a new core, with its staircase and lift providing access to the basement extension.

The 2006 glass link is of no particular significance but it does not detract from the other elevations, providing a distinct transition between the two. It allows some elements at the top of the original southern elevation of the Jackson wing to be exposed, though a render has been applied over the majority of this, where the stone was too damaged by the addition of the Worthington wing. The exposed gable bears the coats of arms of both the University and the Drapers' Company.

3.2.2 Internal Spaces

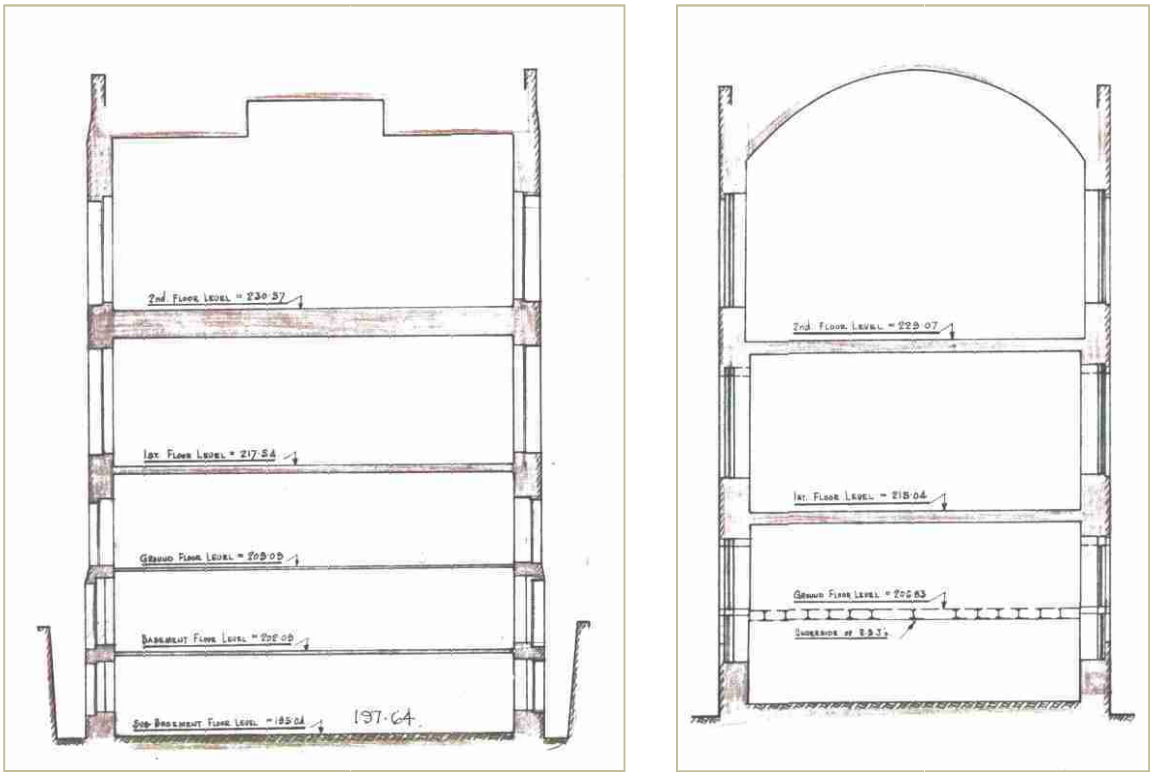


Figure 15. 15.1, left, section through the Worthington wing c.1970, showing original stack levels. 15.2, right, section through the Jackson wing c.1970 showing the original floor heights and the projected level of the extant ground floor

[28] Pevsner, N., and Sherwood, J., *op. cit.*, 65.

The interior spaces of the building have experienced extensive alteration since their construction, most notably on the ground floor (level 4), which in both wings is a 1970s insertion: the Jackson wing previously had a single double-height level of stack whilst the Worthington wing previously had 3 narrow levels of stack (**Figure 15**). The Worthington wing has also suffered the loss of its original northern staircase and the loss of its connecting corridor with the Jackson wing in 2006-7. The original first- and second-floor reading rooms in both wings have been remained mostly unchanged (excepting repartitioning in the Worthington wing). In many places original arches, doorcases, and window settings are extant. The lower portion of the Abbot's Kitchen is included in the functional space of the Radcliffe Science Library and this is much altered from its original form. The Lankester Room is a later addition, installed after the building was listed, but is of some interest. The northern stair tower in the Worthington wing is a modern concrete core, which replaced Worthington's original spiral stair in 1974.

3.2.2.1 Technical Services (Jackson wing level 4)

Technical Services occupies the ground-floor level of the Jackson wing. This floor was inserted in 1974 and this space, along with the space (level 3) below, is of some illustrative value regarding the configuration of the original double-height stack space in this area. The original window settings in this space are of aesthetic significance. Otherwise, this is an unadorned modern office space of no heritage significance.

Figure 16. A technical services work space

3.2.2.2 Eastern entrance lobby (Jackson wing level 4)

The entrance lobby at the eastern end of the Jackson wing is of some aesthetic value. It originally served as a lobby to the staff entrance to the south (and the original staff staircase to the east) and as a lobby between the old original entrance at the base of the eastern staircase and the original stacks. When the main entrance was transferred to the former staff entrance in 1934,

Figure 17. The entrance lobby looking north-westwards

this area served as the main lobby of the building. The decoration in this area is substantially different and less detailed than that elsewhere in the Jackson wing and may well date to its 1934 conversion into a main entrance. The space also served as the entrance lobby to the Hooke Library from 1974.

The area includes marble facing to walls, pilasters, engaged piers, and piers. There are modern carpets over a similar marble floor. There is plaster coving and a meander pattern on the ceiling.

3.2.2.3 Lower Abbot's Kitchen (level 4)

The bottom portion of the Abbot's Kitchen is used as a training room for the Radcliffe Science Library. This was constructed in 1860 as the University's original Inorganic Chemistry Laboratory and was horizontally subdivided in 1901, creating the current configuration. The connecting corridor was constructed as part of the Radcliffe Science Library in 1898-1901 and the Abbot's Kitchen originally provided direct access between the library and the University Museum. The room has modern fittings but is dominated by the 4 iron pillars supporting the floor above and dating from the 1901 division. The original window settings on the western wall are of aesthetic significance, though they have unfortunately been truncated by the floor above. Blocked windows are discernable on the other walls.

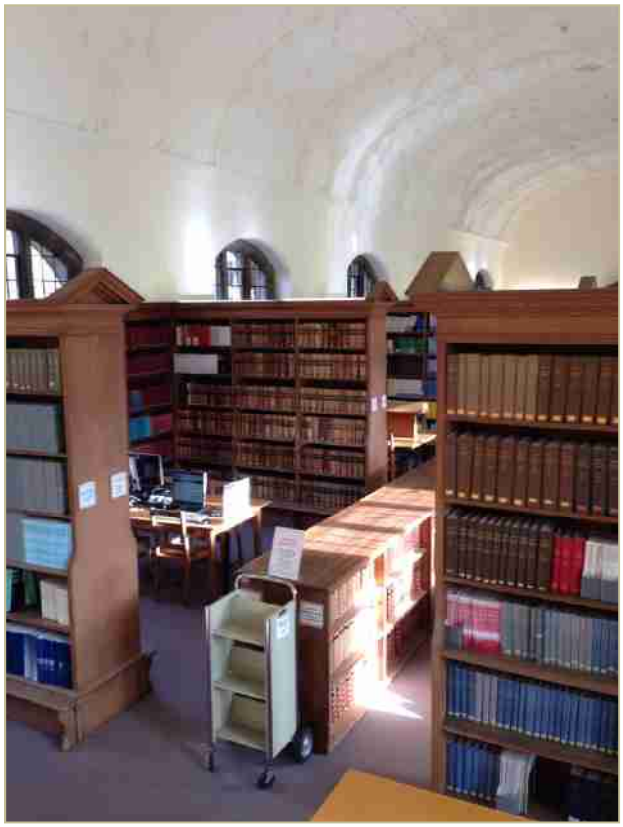
Figure 18. The Abbot's Kitchen training room facing south-eastwards

Figure 19. 19.1, top left, stairs, arches, and screens on the eastern staircase. 19.2, top right, looking down the eastern staircase. 19.3, bottom left, doorcase to upper reading room (level 7) from eastern staircase. 19.4, bottom right, western window and ceiling on eastern staircase

3.2.2.4 Eastern staircase

The eastern staircase is one of the most impressive spaces in the building. This was an integral part of the original entrance experience as planned by Jackson and is of great aesthetic significance. The arches of the staircase, with their naturalistic iron screens, are typical of Jackson's work (**Figure 19.1**), and similar examples can be seen at the Clarendon-Townesend Building, the Ruskin School of Drawing and Fine Art, and the Examination Schools. This is replaced with a stone screen after the first floor and a portion of this on the second-floor level has been substantially repaired at some point. The ceiling in this area has elaborate naturalistic moulding, which is of some aesthetic value, as is the monochrome patterned floor (**Figures 19.2** and **19.4**). The elaborate stone setting of the primary western window is attractive and of some significance (**Figure 19.4**). The joinery of the doorcases leading to the reading rooms (**Figure 19.3**) is also of some significance and is again typical of Jackson's work for the University.

Figure 20. The lower reading room of the Jackson wing (level 5) 20.1, left, the anteroom to the reading room looking north-westwards. 20.2, right, looking westwards down the reading room



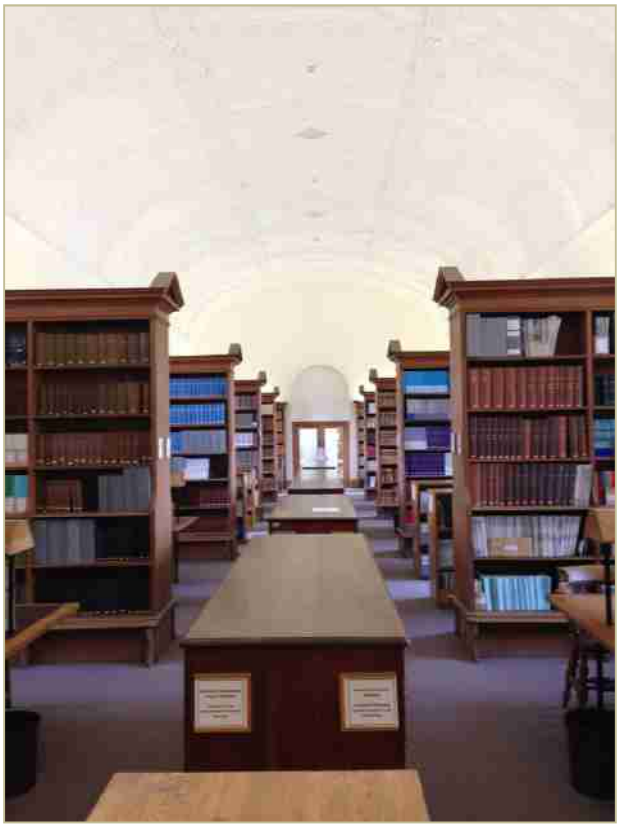


Figure 21. The upper reading room of the Jackson wing (level 7). 21.1, top left, looking north-eastwards across the reading room. 21.2, top right, looking westwards down the length of the reading room. 21.3, bottom left, the moulded ceiling. 21.4, bottom right, the doorcase at the eastern end of the reading room

3.2.2.5 Lower Reading Room (Jackson wing level 5)

Level 5, the lower reading room in the Jackson wing, is accessed via an anteroom with modern shelving and another elaborate doorcase (**Figure 20.1**). The anteroom originally had two entrances from the eastern staircase but at some point the easternmost of these was blocked up and its doorcase removed. The reading room itself is of some aesthetic and illustrative value, having changed little since its original construction. It is a long room supported by a series of columns, which are incorporated into the design of the original bookcases (**Figure 20.2**). The original leaded, mullioned, and transomed windows are extant throughout this room. The heating and ventilation grates are attractive iron designs, akin to those used by Jackson in the Examination Schools. The doorway at the western end of the room is a modern addition, replacing the original first-floor window (visible in **Figure 13**).

3.2.2.6 Upper Reading Room (Jackson wing level 7)

Level 7, the upper reading room of the Jackson wing is a significant internal space of some aesthetic value. It is a double-height space with a barrel-vaulted, moulded plaster ceiling (**Figure 21.3**). The banding has the same pattern as the ceiling in the eastern staircase but in the reading room the panels also have moulding. Every other central panel has a central ventilation grille. The room is long and light, being amply served by its large, original windows (**Figures 21.1** and **21.2**). These are again leaded, mullioned, and transomed. The shelving in this space matches that in the lower reading room but as there are no columns in the upper room it does not incorporate these.

This room is also served by an anteroom from the eastern staircase. Unlike the anteroom level 5, which is now part of the library but originally formed an anteroom to the Librarian's Office as much as to the reading room, this area was originally used as a library space. The partitioning in the northern part of the anteroom matches the configuration of the original partitioning in the anteroom directly beneath but actually dates from the 1970s.

3.2.2.7 Entrance Hall (Worthington wing level 4)

Like Technical Services in the Jackson wing, the main entrance hall dates from the 1970s, sitting on a floor which replaced the original stack spaces. It is of little aesthetic value but is of high value to the proper functioning of the building. Its entrance is via a former window beside the 2006-7 glass extension.

3.2.2.8 Lower Reading Room (Worthington wing level 6)

The lower reading room of the Worthington wing (level 6) is an attractive space of some significance. As with the reading rooms of the Jackson wing, there is an anteroom at the southern end of this space, though this is a result of modern partitioning. The southern wall of this anteroom is an original partition and contains carvings by the controversial artist Eric Gill (**Figure 22.1**), which are of aesthetic value and of illustrative value to those interested in Gill's work. The carving was originally a sliding grille, with 2 panels with 3 unique carvings on each side. The area behind the grille has since been blocked to create a private office behind. The western and northern walls are modern partitions, as originally this formed part

of the reading room. The reading room itself is a pleasant and attractive space. It follows the model of the lower reading room of the Jackson wing, with a series of bays defined by integral bookcases (**Figure 22.2**). The desks are original (those in the northern 2 bays dating from c.1955) but have been fitted with modern lighting and electrical sockets around the original privacy boards (**Figure 22.3**). The oak panelling on the outer walls is of aesthetic value, though it has suffered from a great deal of surface-mounted cabling. The panelling on the modern partitions is also attractive and does not detract from the space. The lighting scheme is modern, with the original lighting consisting of a single fitting in the centre of the ceiling of each bay.

Figure 22. The lower reading room of the Worthington wing (level 6). 22.1, top left, Eric Gill's carvings on the door to the original rare books room (now the office of the Keeper of Scientific Books). 22.2, top right, view southwards down the reading room. 22.3, bottom left, the reading room in 1934. 22.4, bottom right, view northwards across the reading room

As with the anteroom, the current layout of the reading room is quite modern. The original 1934 reading room consisted of the current anteroom plus the next southernmost 3 bays of the wing. The northernmost 3 bays served as the Mathematical Institute and were partitioned into 6 rooms and a corridor. The Mathematical Institute left the building in 1953 and in 1955 the partitioning was removed and the reading room was extended into these bays, with a new ceiling and furniture fitted to match the original. At this point the reading room extended from the southern end of the current anteroom to the northernmost bay of the wing. When the new lift and staircase were fitted in 1974, the northernmost bay was partitioned in order to create a lift lobby. Since then the anteroom has been partitioned off, as has the next southernmost bay to create a photocopy and breakout/study space. The extant reading room consists of four bays, the southern 2 of which formed part of the original reading room and the northern 2 of which originally formed part of the Mathematical Institute.

3.2.2.9 Upper Reading Room (Worthington wing level 8)

Unlike the lower reading room on level 6, the upper reading room on level 8 was originally a single space, incorporating all 7 bays of the Worthington wing. As with the room below, the southernmost bay has since been partitioned off to create an anteroom and the northernmost bay has been partitioned to create a lift lobby. Otherwise the room is much as it was originally designed and built (**Figures 23.1** and **23.2**). It follows the model of the room below and the Jackson reading rooms, with bays divided by integral oak bookcases, but in this space they support a series of arches, forming a barrel vault over each bay and a central arcade. Due to the arcade, the modern partitions at either end of the room feel more abrupt than those on level 6, though the lost original partitions probably also had a similar effect. The joinery throughout is of aesthetic value, especially the window cases (**Figure 23.3**). Some joinery has been lost by modern partitioning, for instance the carved arch over the panelling at the end of the room (**Figure 23.1**). The desks have been replaced since the straight-legged desks which filled the room in the 1970s but match the original designs in the room below

3.2.2.10 Lankester Room (level 2)

The Lankester Room on level 2 is the Radcliffe Science Library's basement reading room (**Figure 24**). It was fitted in 1974 and currently also houses the Bodleian's Special Collections Reading Room on a temporary basis. There is also a subbasement beneath the Lankester Room. The Lankester Room is of substantial illustrative value, representing a serious attempt in the late 1960s and early 1970s to address the issue of library overcrowding within the confines of a congested but architecturally-significant city. The pursuit of this underground scheme allowed immediate space concerns to be met whilst maintaining the architectural integrity of the Radcliffe Science Library, the Abbot's Kitchen, and the University Museum. Other schemes suggested at the time would have demolished the Abbot's Kitchen and destroyed the architectural composition of the area. The underground reading room is illustrative of an innovative response to the problem, first suggested by Peter Chamberlin and later highlighted by the concerns of the Victorian Society about the loss of the Abbot's Kitchen. The decision to retain the Abbot's Kitchen and to house the extension underground was confirmed by Sir Leslie Martin whilst he served as consultant architect.

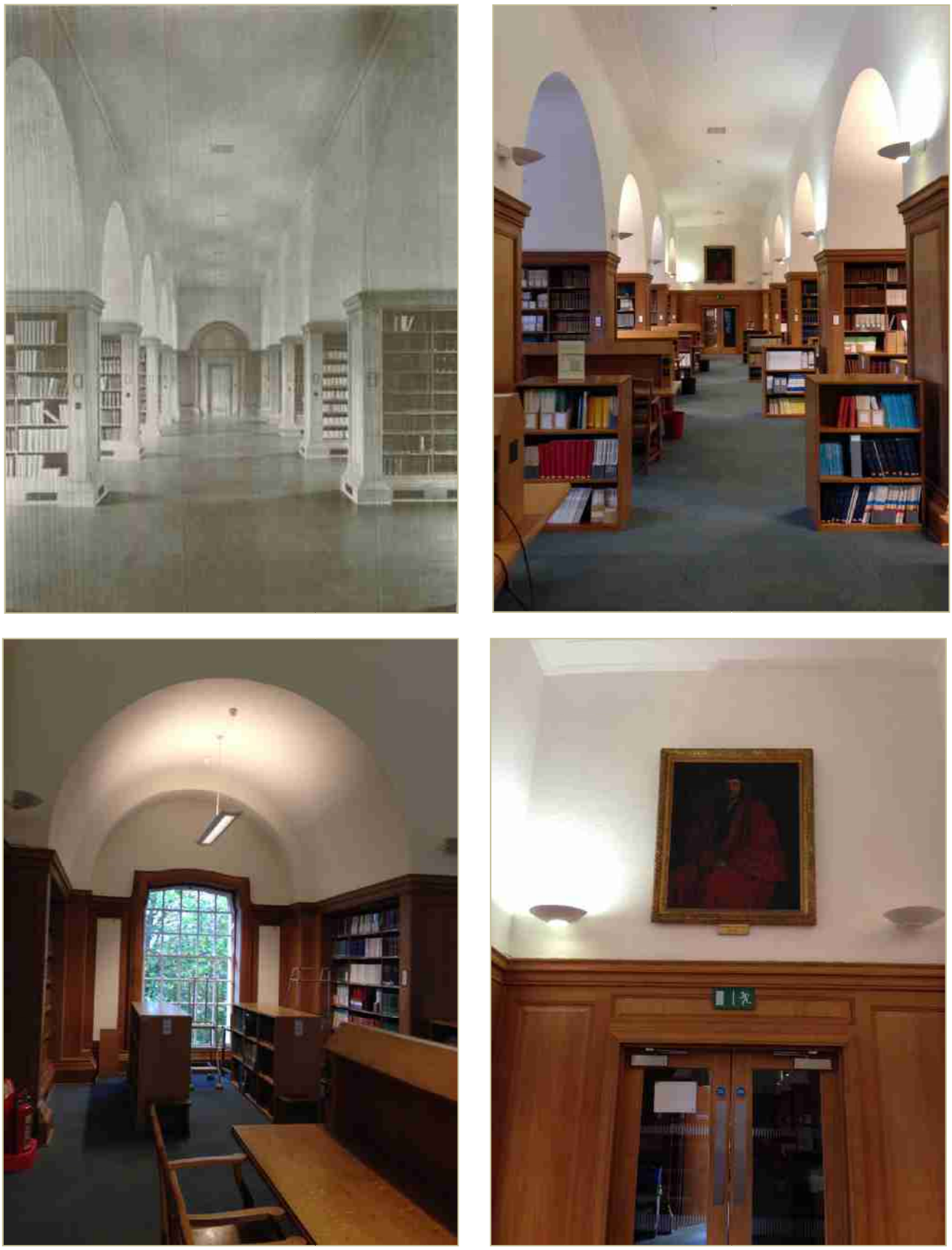


Figure 23. The upper reading room of the Worthington wing (level 8). 23.1, top left, the Worthington wing in 1934 (direction of photograph unclear) showing original battleship linoleum floor covering. 23.2, top right, view southwards down the reading room. 23.3, bottom left, window and arch in a bay on the western side of the room. 23.4, bottom right, panelling on the modern partition at the southern end of the room

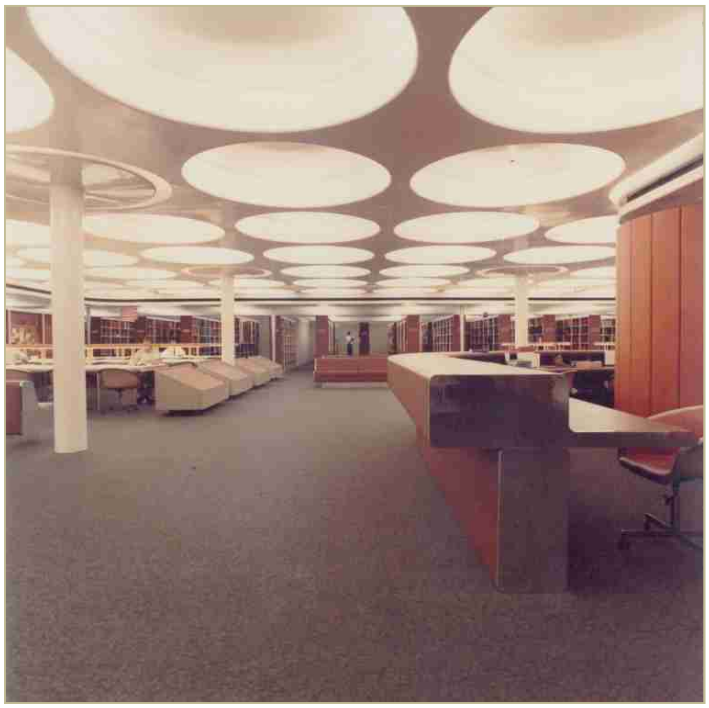


Figure 24. 24.1., left, the Lankester Room in 1975. 24.2, the Lankester Room in 2013. For orientation, the pillar on the left-hand side of 24.1 is the pillar in the centre of 24.2

3.3 Archaeological Significance

The site of the Radcliffe Science Library is of some archaeological significance, being situated in an area of intensive Romano-British rural settlement, as well as sporadic prehistoric use and close to the 17th-century Civil War earthworks. Whilst no archaeological material could be preserved in the area of the underground extension, there may be extant material beneath the shallower basements of the Worthing and Jackson wings, as well as in the surrounding area.

The excavation for the construction of the underground extension in 1970-4 extended to the depth of the natural Oxford clay and destroyed any archaeological material in this area. Watching briefs during this extensive excavation revealed ditches probably related to the Civil War earthworks, as well as prehistoric ditches, a Roman burial, and several undated inhumations. There was also a large Roman ditch, probably a boundary ditch, running north-to south through the site, possibly extending beneath the Jackson wing. This was presumably related to the Roman rural settlement immediately to the east of the Radcliffe Science Library.[29] Roman occupation in this area certainly extended as far east as the Chemistry Research Laboratory where, during its construction in 2001-4, a Roman field boundary and inhumation, as well as Neolithic/Bronze Age ditches and pits, were found.[30] The site of the University Parks immediately to the north formed part of a monumental Bronze Age ritual

[29] Hassall, T.G., 'Roman finds from the Radcliffe Science Library Extension, Oxford, 1970-71' in *Oxoniensia* 37 (1972) 38-41.

[30] Bradley, P., Charles, B., Hardy, A., and Poore, D., 'Prehistoric and Roman activity and a Civil War Ditch: excavations at the Chemistry Research Laboratory, 2-4 South Parks Road, Oxford' in *Oxoniensia* LXX (2005) 141-151.

landscape, containing 6 ring ditches and as Bronze Age activity certainly extended as far as the southern side of South Parks Road, it may well extend into the site of the Radcliffe Science Library.

3.4 Historical Significance

The Radcliffe Science Library is illustrative of the involvement of historic institutions such as the Radcliffe Trustees and the Drapers' Company in the promotion of scientific studies in the late 19th/early 20th century.

The building has been central to the study and research of science in Oxford since 1901, and as much retains some association value with the plethora of scientific discoveries that have been made in the University during this period, as well as the lauded scientists, such as Dorothy Hodgkin or Cyril Hinshelwood, who made them. Since 1921, scientists who studied or worked at Oxford have been responsible for 11 Nobel prizes in Chemistry and 5 in Physics, with the Radcliffe Science Library providing the library setting for much of this work.[31]

The Lankester Room in the basement is the only major building or extension in Oxford to bear the name of Jack Lankester, the University Surveyor responsible for much of the expansion of the University estate in the 1960s and 70s.

3.5 Functional Significance

Whilst at the time of its construction the scientific collections were owned by the Radcliffe Trustees, the Radcliffe Science Library was constructed in order to serve as the primary science library of the University of Oxford. All its subsequent extensions, including the Worthington wing, have been designed to further facilitate this function. It remains the primary reading room for undergraduates studying scientific disciplines as well as research students and staff. The library's collections cover a vast range of subjects including, though certainly not limited to, Biology, Chemistry, Physics, History of Science, Geography, Healthcare and Medicine, Mathematics, and Zoology. The building also provides teaching and training spaces in the basement and in the Abbot's Kitchen.

The building was designed to serve as a scientific library related to the University of Oxford and has always done so. This rôle is central to its character and its significance.

[31] http://www.ox.ac.uk/about_the_university/oxford_people/oxonian_award_winners/#aphysics, accessed 12th November 2013.

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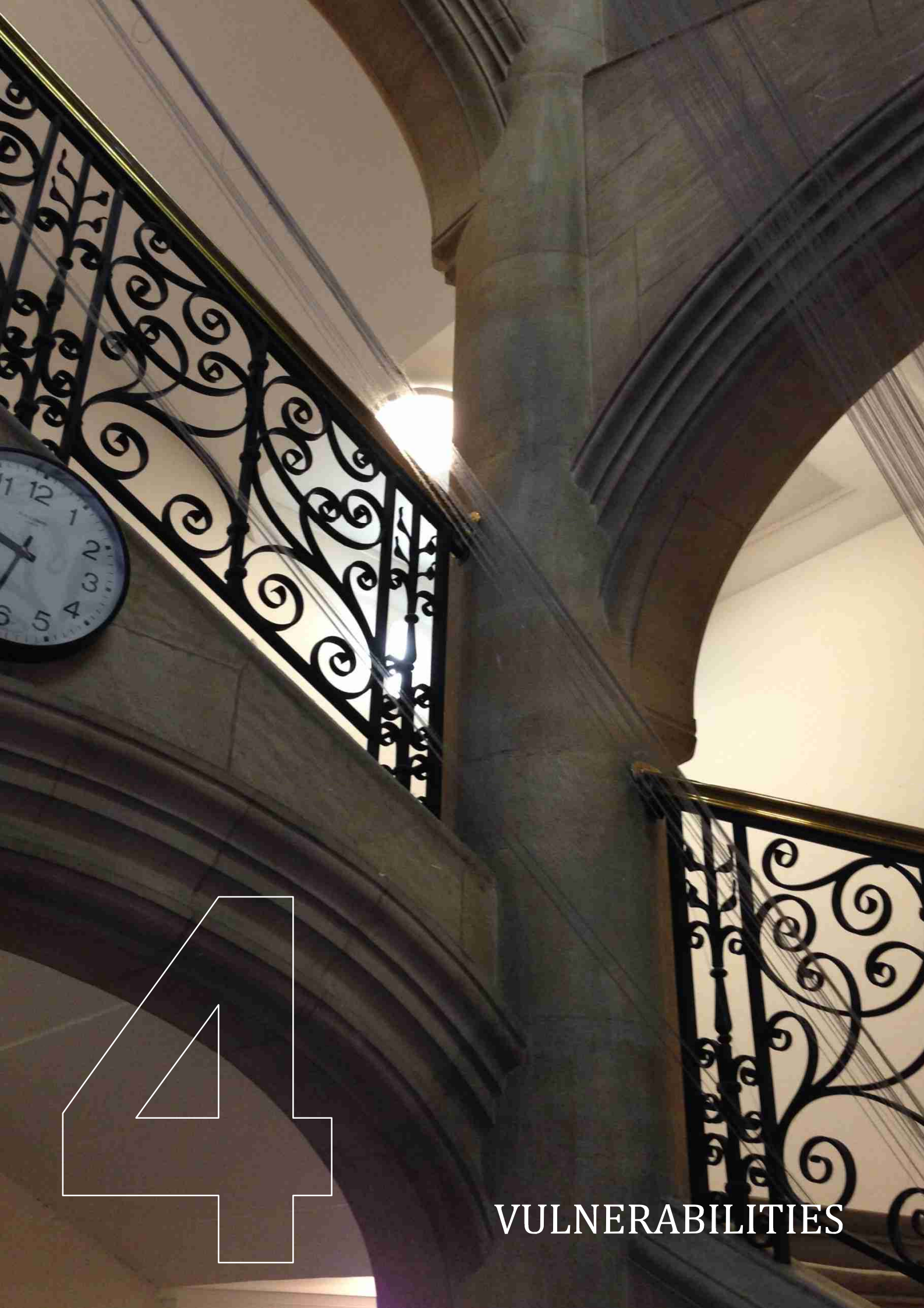

4

VULNERABILITIES

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4 VULNERABILITIES

The ability of the Radcliffe Science Library to fulfil its current function

The Radcliffe Science Library's continues to fulfil its original rôle as the primary scientific library of the University of Oxford and this is of central importance to its character. The original building and all of its subsequent extensions have been designed to fulfil this rôle: There were discussions in the 1960s about building a replacement library elsewhere but these fell through because the Radcliffe Science Library was not well suited to any other use.

As with all library buildings, there is an issue of capacity but the reading rooms continue to fulfil their original functions admirably, with only minimal alterations having been required for power, data, and lighting provision. The building has retained its significant character because it has remained in use and has been maintained and cared for, aided by its early listing in 1954.

The building is significant but has never been a static monument. By retaining its original use, the upkeep and conservation of the heritage asset is funded and its continued existence and significance ensured. Under the current usage, the significance is not threatened, and its listed status ensures that any further alterations operate within the constraints of an accepted understanding of the building's significance as a heritage asset.

4.1 Accessibility

The ability of the Radcliffe Science Library to be accessed and enjoyed by anyone who has a legitimate right to use the building is important to its significance. The significance of the heritage asset is lessened if any person who wishes to legitimately use and enjoy the building is hampered in doing so by inadequate access provision.

Primarily as a result of the 1974 lift and the 2006 glass link extension (which also incorporates a lift), access provision in the Radcliffe Science Library is admirable for a building of its age. The main entrance has level access and automatic doors and there is level access to every level within. The floor levels in the Worthington wing differ to those in the Jackson wing but lift provision allows level transit

Figure 25. Stair and lift access between levels 5 and 6 in the 2006 link

between these as well as between the major floors. The only areas without easy access for readers are the buttery at the base of the eastern staircase and the Abbot's Kitchen, which require a staff escort through Technical Services, which is a closed space. The doors throughout the building have glass windows for hazard-free opening but some of the original doors can be quite heavy for users with strength or dexterity issues. The reading rooms can be relatively cluttered, creating obstacles to mobility. There are 4 disabled lavatories in the building.[32]

Access provision within the building is now of a high standard and admirable for a building of this age. It should remain a priority in any future plans for the heritage asset.

4.2 Maintenance

4.2.1 External elevations and setting

The external elevations of the Radcliffe Science Library, both the Jackson and Worthington wings, are amongst its most significant features. They are a defining factor in the character of South Parks Road, Parks Road, and the southern portion of the University Science Area. The external appearances of both wings have changed little since their initial constructions, the main changes being: the loss of the western elevation and the original main doorway at the base of the eastern staircase and the addition of the inscribed letters above the southern doorway on the Jackson wing; and the loss of the link corridor and northern doorway on the Worthington wing. The external features are generally in an attractive state; however, the Jackson wing appears noticeably less clean than the Worthington wing. This stands out more so since the recent stone cleaning on the Inorganic Chemistry Laboratory to the east, with the wing looking somewhat dirty from South Parks Road, being wedged between the buildings on either side. That being said, the Worthington wing itself is somewhat stained at the parapet level. The difference is less marked on the more-sheltered courtyard elevations.

The passage to the Abbot's Kitchen, which forms part of the original structure of the Jackson wing, has been substantially altered by the addition of a floor above, which is related to the Inorganic Chemistry Laboratory.

The roof of the Jackson wing is visible from ground level and is a key component of the character of the external elevations. The roof of the Worthington wing is not visible from ground level and makes no discernable impact on the character of the building. The roof material is primarily Westmoreland slate on both wings, with small areas of lead.[33]

Generally the external elevations are in a good state of repair due to high specification construction, continuous use, frequent repairs, and a good maintenance regime. That being said, the external features of the heritage asset, especially the more exposed elevations facing the roads, remain open to weathering and erosion, potential vandalism, and pollution; damage which could detract from their significance in the future.

[32] The Estates Services Access Guide for the building is available at: http://www.admin.ox.ac.uk/access/libraries/radcliffesciencelibrary/, accessed 12.11.2013.
[33] Estates Services, University of Oxford, 2005 roof survey.

The landscape setting of the heritage asset has changed somewhat since its initial construction (e.g. **Figure 26**). The most obvious change is the construction of the Worthington wing and the associated demolition of the original Museum Lodge. Equally, the rear of the building has become more crowded by the expansion of Inorganic Chemistry. The original grass courtyard is now a paved carpark, something no provision was made for in 1901, but it is pleasant enough space which provides some seating. The landscaping of the University Museum immediately to the north has recently been greatly improved and the original railing design has been reinstated. On the southern side, the building has always faced onto South Parks Road and the paving here has recently been improved.

Figure 26. The modern Science Area and surrounding University estate (19th-century buildings are highlighted in light blue, 20th-century buildings in dark blue, and 21st-century buildings in purple) superimposed upon the 1921 OS map for Oxford. © Crown Copyright and Landmark Information Group Limited (2013). All rights reserved. (2013)

4.2.2 Internal Spaces

The building contains internal features of illustrative and aesthetic value, most notably the joinery including carvings by Eric Gill. The joinery in the reading rooms is in many cases original, though some are high-quality replacements. The doorcases in the Jackson wing are of particular aesthetic value. Cornices and other plaster detailing are preserved in many spaces, notably in the eastern staircase and the upper reading room of the Jackson wing (level 7).

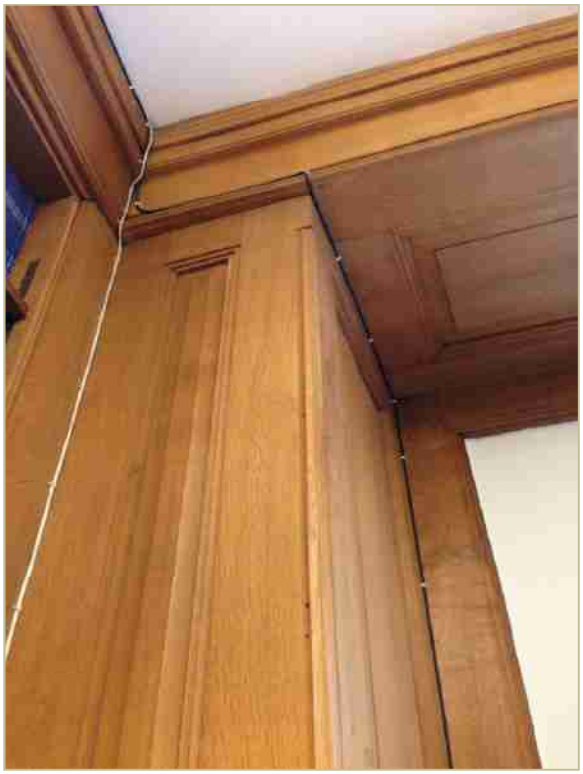

Figure 27. 27.1, left, surface-mounted cables in the lower reading room of the Worthington wing (level 6). 27.2, right, clutter at the top of the eastern staircase

In some areas, including reading rooms, surface mounted cables and trunking do detract somewhat from the aesthetic value of the spaces. This is most pronounced in less significant areas, such as the former stack spaces in the basement (level 3). Equally, there is a tendency towards cluttered spaces (e.g. **Figure 27.2**) and a high volume of *ad hoc* signage, which are perhaps inevitable in a busy functioning library, with ever-increasing pressures for seating and shelving. The northern staircase of the Worthington wing is a 1970s addition, replacing the 1930s spiral stair, and it does feel distinct from the rest of the building, lacking in character. The 1970s basement extension is prone to leaking.

As the interior features are in regular use and of less permanent construction than the external structure of the building, they are vulnerable to vandalism, accidents, and general wear and tear. Some of these issues should be mitigated assuming adequate security and maintenance regimes are in place, but ultimately these significant elements will have limited lifespans.

These lives can be lengthened as much as possible through regular, adequate monitoring and maintenance.

As a Grade-II-listed building, any alterations, or repairs made with non-original materials, will require listed building consent.

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CONSERVATION POLICY

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5 CONSERVATION POLICY

Having established the significance of the Radcliffe Science Library as a heritage asset, and having identified ways in which the significance of the Radcliffe Science Library is vulnerable to harm, it is necessary to recommend policies to reduce the probability of such harm occurring, and thereby conserve the significance of the site. In essence, these policies set out parameters for managing the fabric of the building.

The Conservation Plan is intended as an active tool for the regular maintenance and long-term management of the Radcliffe Science Library. It needs to be reviewed regularly, and revised as appropriate to take into account of additional knowledge and changing priorities. Through a process of regular review it should continue to act as a useful resource.

5.1 The Radcliffe Science Library's continued use as a scientific reading room affiliated to the University of Oxford is important to its historical and continued significance. Permit, in line with NPPF paragraphs 131, 132, 133, and 134, alterations intended to facilitate its continued use in this way

The Radcliffe Science Library has served as the primary scientific reading room of the University of Oxford since its construction in 1898-1901 and all subsequent extensions have been designed to facilitate this continued usage. The continuation of this function is important to the continued maintenance and significance of the building and, as has occurred throughout its life, limited alterations may be required in the future to maintain this usage in light of the needs and expectations of a modern, world-leading university. If alteration is required in the future it should be permitted with the following provisos:

- Any alterations must be sympathetic to the Radcliffe Science Library's significance as a heritage asset and, in line with NPPF paragraph 134, any proposals that involve 'less than substantial harm to the significance' should deliver 'substantial public benefits.' In line with NPPF paragraph 132, any proposals that involve 'substantial harm or loss' should be 'exceptional.'

- Any changes should: '…preserve those elements of the setting that make a positive contribution to or better reveal the significance of the asset' (NPPF paragraph 137).

5.1.1 In order to ensure that the Radcliffe Science Library can operate to modern standards, and that its significance can be maintained by making access as wide as possible, special concern should be applied to ensuring that disabled access is adequate

Ensuring that the heritage asset can be enjoyed as widely as possible will have a major positive impact on its significance. As noted in **Section 4.1**, access provision in the heritage asset is admirable for a building of its age and use. Ensuring that access provision remains good in line with changing standards and expectations will remain a concern in any future

plans developed for the building, with the University seeking to exceed its statutory obligations and always viewing this as part of an ongoing process.

5.2 Note that the Radcliffe Science Library is a Grade-II-listed building and ensure that appropriate consents are obtained for any alteration works to the interior or exterior of the building

In order to ensure the heritage asset's significance, alterations may be required in the future, and due to the listed status of the building even minor routine repairs in significant spaces may need consent. Caution should be applied in order to ensure that any statutory duties are fulfilled. In cases of doubt **Estates Services should be contacted in the first instance**, and if necessary they will refer enquiries on to Oxford City Council.

5.3 Ensure proper consultation in advance of any work to the building with the Local Authority Conservation Officer (through Estates Services) and any other interested parties

It is important to guarantee that the best advice is obtained at an early stage of any proposal to alter any part of the building in order to ensure that the significance of the building is respected.

5.4 Refer to this Conservation Plan when considering repairs or alterations in any space

The Conservation Plan gives an overview of which aspects of the building are significant or vulnerable. Where original or significant material is extant, repairs should be carried out using the same materials and techniques and should not affect the significance of the asset without providing substantial public benefits in line with NPPF paragraph 134.

5.5 Any alterations or development must respect the character of Parks Road and South Parks Road, and the Radcliffe Science Library's close proximity to several listed buildings (e.g. Keble College, the Inorganic Chemistry Laboratory, the University Museum, Rhodes House, 1 and 2 South Parks Road, and 9 Parks Road) as well as its close proximity to undesignated heritage assets (e.g. 8 and 10 Parks Road)

The Radcliffe Science Library is an integral part of a significant grouping of listed buildings of various periods clustered at the southern end of the University Science Area and the junction between Parks Road and South Parks Road. The Radcliffe Science Library's prominent position on this junction is important to its overall significance.

5.6 Conservation of specific factors contributing to overall significance

The Radcliffe Science Library possesses various external and internal features of some significance (**Section 3.1** and **3.2**). An effort should be made to identify and conserve original or significant architectural features and keep them in use in line with **Section 5.1**; however, it is accepted that all materials have a natural lifespan and some degree of change is permitted

to keep the building safe, usable, and generally fit for function. Some materials will have a very long life expectancy if given routine maintenance; others are impermanent and may need periodic replacement. Within the framework of understanding and valuing what is present in the building, a degree of ongoing change is inevitable.

5.6.1 The external elevations of the Jackson and Worthington wings will remain substantially unchanged

The exterior elevations are the most significant elements of the building. The external elevations of the Jackson and Worthington wings will remain substantially unchanged. The eastern elevations of the Jackson wing, which are less accessible and are mostly obscured by later development, have less impact on the surrounding area and are less sensitive to change. The 2006-7 glass link is of no significance in itself and is less sensitive to change except for how it impacts upon the elevations to either side.

The external elevations of the Jackson and Worthington wings will remain substantially unchanged. If any alterations to the external elevations are considered these should only be undertaken with a full understanding of and respect for their character and the impact they make on the surrounding area, in line with **Section 5.1**, **5.1.1**, and **5.5**.

5.6.2 Any alterations to be made to the eastern entrance lobby will respect the significance of both the individual elements and the building as a whole

The former entrance lobby at the eastern end of level 3 in the Jackson wing is an area of minor aesthetic value.

Any alterations planned in this space in the future should only be undertaken with a full understanding of and respect for the character of the space in line with **Section 5.1** and **5.1.1**.

5.6.3 Any alterations to be made to the Abbot's Kitchen training area will respect the significance of both the individual elements and the building as a whole

The lower portion of the Abbot's Kitchen has been subject to substantial alteration, originally serving as the University's inorganic chemistry laboratory. It retains significant elements such as the 1901 iron columns and the original stonework. It is less sensitive to change than portion above (administratively part of Inorganic Chemistry) but any internal alterations planned in the future should only be undertaken with a full understanding of and respect for the character of the space in line with **Section 5.1** and **5.1.1**.[34]

[34] University of Oxford, Estates Services, *Inorganic Chemistry: Conservation Plan* (April 2012) 32, 39, available online: http://www.admin.ox.ac.uk/media/global/wwwadminoxacuk/localsites/estatesdirectorate/documents/conservation/Inorganic_Chemistry.pdf, accessed 13th November 2013.

5.6.4 Any alterations to be made to the eastern staircase will respect the significance of both the individual elements and the building as a whole

The eastern staircase is amongst the most significant internal spaces in the building. It was the original entrance hall of the building, with the only major alteration being the loss of the main entrance, converted into the lowest western-facing window, in 1934. The space is typical of Jackson's work and is of extensive aesthetic value, including the stonework, iron and brass screens, windows, moulded plaster ceiling, and the joinery of the doorcases. The ground floor of this area now serves as a buttery, with seating, a television screen, and vending machines in a separate alcove.

Any alterations planned in this space in the future should only be undertaken with a full understanding of and respect for the character of the space in line with **Section 5.1** and **5.1.1**.

5.6.5 Any alterations to be made to the Lower Reading Room of the Jackson wing (level 5) will respect the significance of both the individual elements and the building as a whole

This is a significant space and its current state is visually similar to when it was originally constructed. It is most notable for its integral joinery and columns. The doorcases in its eastern anteroom are particularly attractive.

Any alterations planned in this space in the future should retain the joinery and general character and should only be undertaken with a full understanding of and respect for the character of the space in line with **Section 5.1** and **5.1.1**.

5.6.6 Any alterations to be made to the Upper Reading Room of the Jackson wing (level 7) will respect the significance of both the individual elements and the building as a whole

This is one of the most significant internal spaces in the building and it has also remained relatively unchanged since its original construction. As with the Lower Reading Room, its joinery is of significance, as is its moulded plaster ceiling.

Any alterations planned in this space in the future should retain the joinery and general character and should only be undertaken with a full understanding of and respect for the character of the space in line with **Section 5.1** and **5.1.1**.

5.6.7 Any alterations to be made to the Lower Reading Room of the Worthington wing (level 6) will respect the significance of both the individual elements and the building as a whole

This is a significant space. It has been subject to substantial alteration, especially various changes in partitioning, but despite these changes retains the character of a large, well-lit reading room. The joinery in the space is of aesthetic value and the Eric Gill carvings on the wall of the Keeper of Scientific Book's office should remain unaltered, though the partition and door behind them could be removed, returning the carvings to their original grille function, without causing them harm.

Any alterations planned in this space in the future should only be undertaken with a full understanding of and respect for the character of the space in line with **Section 5.1** and **5.1.1**.

5.6.8 Any alterations to be made to the Upper Reading Room of the Worthington wing (level 8) will respect the significance of both the individual elements and the building as a whole

This is a significant space. The joinery, especially the window cases, is of substantial aesthetic value. The central arcade, creating a series of barrel-vaulted bays, is an effective conceit and is integral to the character of the space.

Any alterations planned in this space in the future should only be undertaken with a full understanding of and respect for the character of the space in line with **Section 5.1** and **5.1.1**.

5.6.9 Any alterations to be made to the Lankester Room will respect the significance of both the individual elements and the building as a whole

The Lankester Room is of lower aesthetic significance than the other elements of the building and less sensitive to change, but it remains an authentic example of an early 1970s subterranean reading room. Despite some changes in furnishings, its character has changed little since its original construction.

This area is less sensitive to change than other reading rooms but any alterations planned in this space in the future should retain the broad character of the space in line with **Section 5.1** and **5.1.1**.

5.7 In conformity with NPPF paragraph 110, efforts should be made to ensure that the Radcliffe Science Library contribution to climate change is as minimal as is feasible for a building of its age, size, materials, and use. Any proposals for alterations should assess the feasibility of incorporating low and zero carbon technologies

Ensuring that the building is sustainable will be crucial to its long-term survival and significance. As stated in NPPF paragraph 110, development should seek to 'minimise pollution and other adverse effects on the local and natural environment.'

5.8 If during any subsequent renovations or alterations any excavation work is carried out beneath the Radcliffe Science Library or the surrounding area, an archaeological assessment will be made of the potential for significant finds, and if appropriate an archaeologist will be given a watching brief as excavation takes place

The heritage asset is located in an area of substantial archaeological significance and whilst development, notably the construction of the Lankester Room extension in 1970-4, has destroyed a great deal of material, there is the potential for surviving archaeological material in the surrounding area, especially prehistoric and Roman features. Should any excavation work be carried out in this area, an assessment of the archaeological potential should be made. This should include at least a desk-based assessment, but possibly geophysics and trial trenching. A watching brief will almost certainly be required for any excavation.

5.9 A good practice of routine recording, investigation, and maintenance will be enacted and sustained. Such an approach will minimise the need for larger repairs or other interventions and will usually represent the most economical way of maintaining an asset

5.9.1 Estates Services (or its agents) will ensure that a senior member of staff has responsibility for the administration and recording of a routine maintenance programme for the building

All buildings need to routinely be maintained if they are to stay in good condition. This requires a detailed maintenance programme and, critically, someone who is responsible for ensuring that routine operations are carried out. A proper record of the repair and maintenance work in a maintenance log is a useful management tool. Such information will be recorded in the estates management software package *Planon*.

5.9.2 The Conservation Plan will be circulated to all senior staff who work in the Radcliffe Science Library and to all other members of the University who have responsibility for the building

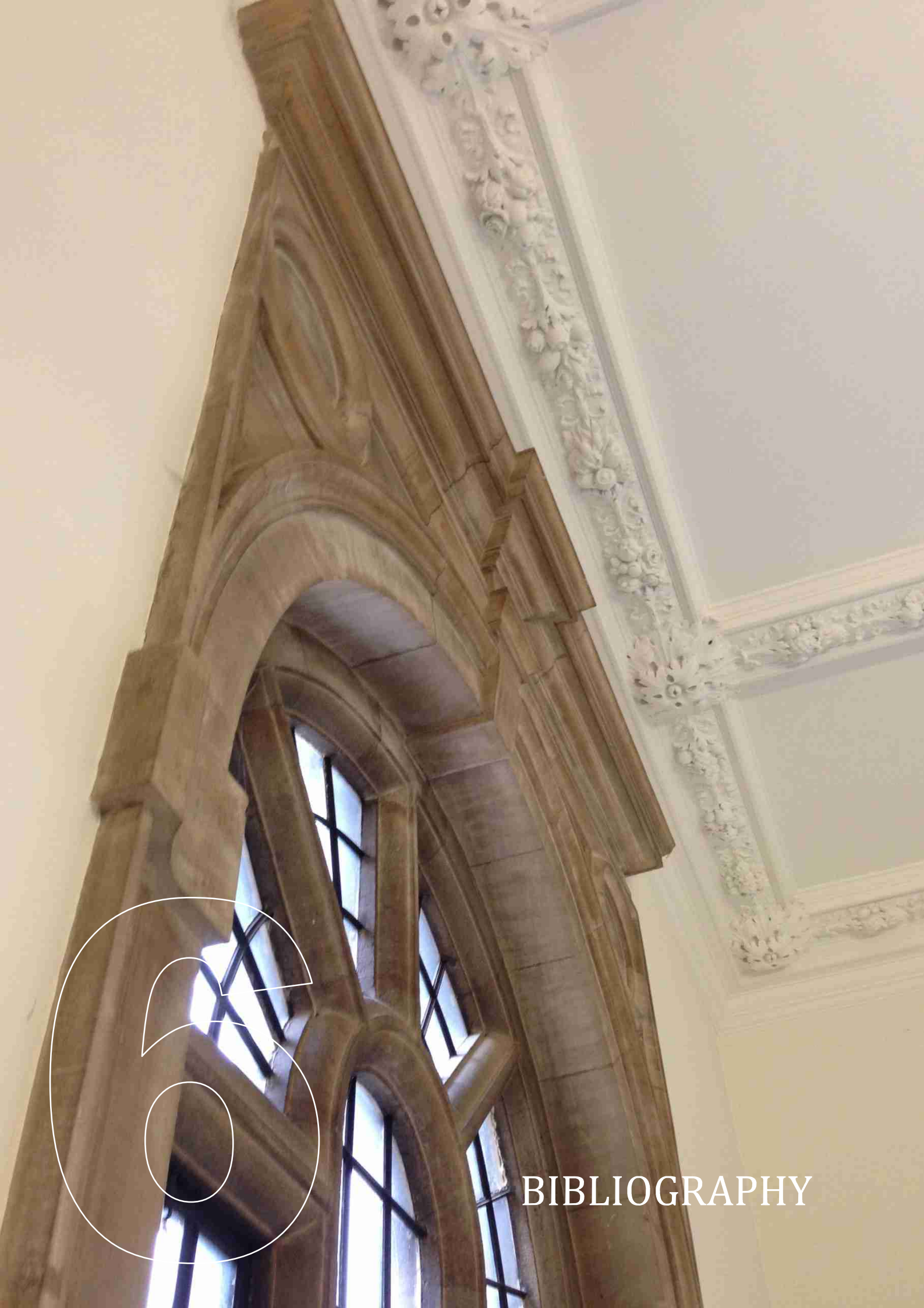
The value of the heritage asset needs to be appreciated by all senior staff managing or working in the building. Only in this way will the heritage asset be properly treated, repaired, and maintained.

5.9.3 The Conservation Plan will be made available to Oxford City Council, English Heritage, and any other party with legitimate interest in the building

The Conservation Plan is intended to be a useful document to inform all parties with a legitimate interest in the building.

5.10 The Conservation Plan will be reviewed and updated from time to time as work is carried out on the building or as circumstances change. The recommendations should be reviewed at least at five-yearly intervals

Policy changes, building alterations, or other changes of circumstance, will affect the conservation duties and requirements of the building. The policy recommendations in the Conservation Plan will inform the future of the building and should be a useful tool for people carrying out maintenance work or where more significant alterations are being considered. The recommendations need to be kept up to date if they are to remain relevant.



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- Oxford City Council: http://public.oxford.gov.uk/online-applications/, accessed 30th August 2013.
- Oxford Urban Archaeological Database: http://archaeologydataservice.ac.uk/archsearch/, accessed 30th August 2013.
- University of Oxford Nobel Prize Winners: http://www.ox.ac.uk/about_the_university/oxford_people/oxonian_award_winners/#aphysics, accessed 12th November 2013.

6.7 Image Credits

- **Cover and chapter covers**: Photographs by author for Estates Services.
- **Figure 1**: Adapted by author from Google Maps (see **Section 6.6**).
- **Figure 2**: Adapted from 1893 University Museum plan, OUA ref. MU 4/3/28.
- **Figure 3**: Adapted from 1901 University Museum plan, OUA ref. MU 4/22/5.
- **Figure 4**: From *Architecture Illustrated* November 1934 164.
- **Figure 5**: From Lankester's 1962 report, OUA ref. UC/FF/675/1.
- **Figure 6**: Estates Services archive photographs, ref. 225.
- **Figure 7**: Estates Services site photographs, ref. 225.
- **Figures 8-12**: Photographs by author for Estates Services.
- **Figure 13**: T.G. Jackson's original plans, OUA ref. ET 2/1/2/5.
- **Figure 14**: Photographs by author for Estates Services.
- **Figure 15**: 1970s plans from Estates Services Archives, ref. 225.
- **Figures 16-25**: Photographs by author for Estates Services, except for **Figures 22.3** and **23.1**, which are from *Architecture Illustrated* November 1934 167, and **Figure 24.1**, which is an Estate Services Archives photograph..
- **Figure 26**: Adapted by author from 1921 OS map.
- **Figure 27**: Photograph by author for Estates Services.

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APPENDICES

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7 APPENDICES

7.1 Appendix 1 Listed Building Description

List Entry Summary

This building is listed under the Planning (Listed Buildings and Conservation Areas) Act 1990 as amended for its special architectural or historic interest.

Name: RADCLIFFE SCIENCE LIBRARY

List Entry Number: 1047093

Location

RADCLIFFE SCIENCE LIBRARY, SOUTH PARKS ROAD

The building may lie within the boundary of more than one authority.

County: Oxfordshire
District: Oxford
District Type: District Authority
Parish:

National Park: Not applicable to this List entry.

Grade: II

Date first listed: 12-Jan-1954

Date of most recent amendment: Not applicable to this List entry.

Legacy System Information

The contents of this record have been generated from a legacy data system.

Legacy System: LBS

UID: 245905

Asset Groupings

This List entry does not comprise part of an Asset Grouping. Asset Groupings are not part of the official record but are added later for information.

List Entry Description

Summary of Building

Legacy Record - This information may be included in the List Entry Details.

Reasons for Designation

Legacy Record - This information may be included in the List Entry Details.

History

Legacy Record - This information may be included in the List Entry Details.

Details

SOUTH PARKS ROAD
1.
1485
(North Side)
Radeliffe Science Library
SP 5106 NW 5/114D 12.1.54.
II
2.
The main block, facing South Parks Road, was built in 1901 to the design of Sir T G Jackson at the cost of the Draper's Company in Doulting ashlar. The new wing, facing Parks Road, was built in 1933-34 in Bladon stone with Clipsham stone dressings, by Sir Hubert Worthington.

Listing NGR: SP5141906966

Selected Sources

Legacy Record - This information may be included in the List Entry Details.

Map

National Grid Reference: SP 51465 06843

The below map is for quick reference purposes only and may not be to scale. For a copy of the full scale map, please see the attached PDF - 1047093.pdf

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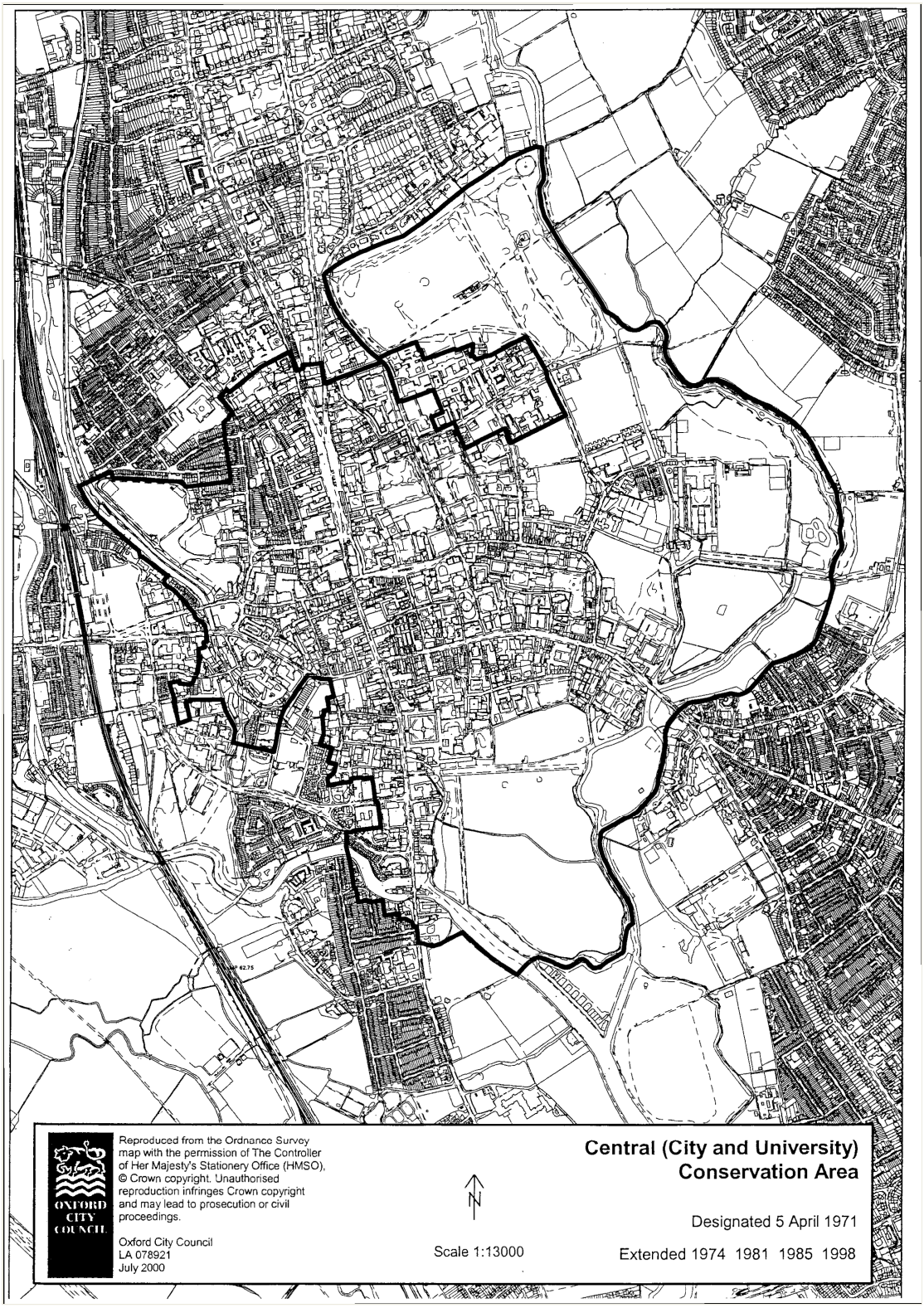
7.2 Appendix 2 Conservation Area Description



Central Conservation Area, No. 5

The historic centre of Oxford forms one of the masterpieces of European architectural heritage. It is also a major regional commercial centre. Many of its historic buildings still function for the purpose for which they were built, and provide accommodation for the University of Oxford and its colleges.

From small beginnings as a settlement in the Saxon period, Oxford grew by the 11th century into one of the largest towns in England and a major trade centre. The Norman conquest brought the construction of the Castle and the establishment of major religious houses. The infant University arose in the 12th century and gradually grew into a major force in the city's life. The Saxons' rigid street layout and the fixed line of the 13th century defensive walls, together with the floodable river valleys, largely determined the plan of the historic centre as it is today. The gentle curve of the High Street, the great market place of St Giles and the older churches, together with the post-medieval timber-framed houses, belong to the town rather than the gown.

The University as it expanded, colonised the eastern half of the town with colleges and halls, building quadrangles of medieval and post-medieval gothic buildings, both within and without the walled town. The growth of the University's central institutions is well shown by the magnificent group of buildings situated between Broad Street and St Mary's Church. This group began in the 15th century with the building of the Divinity School and the Duke Humfrey's Library, a nucleus which expanded in the 17th century with the addition of the Schools' Quadrangle, Convocation House and Sheldonian Theatre. The group was further extended in the 18th century by the addition of the Old Clarendon Building and Radcliffe Camera to form a sequence of buildings and spaces of the highest architectural and historic interest, that today form the visual heart of the conservation area. Aspects of Oxford's 19th and 20th century change and growth may be illustrated by the considerable additions made to University and College buildings in Victorian and recent times, by the vigorous commercial and shopping centre, and by the welcome fact that the presence of the University ensures that many upper floors of buildings in the conservation area are in use for residential purposes, rather than unoccupied as in some historic towns.

Thomas Sharp, in his report to the City Council, published in 1948 as *Oxford Replanned,* set out and defined Oxford's special physical and architectural character and stressed its virtues and problems in a 20th century context. The Council, in its Review of the Development Plan, approved in 1967, approved much of the central area as an area of great historic value, and since 1962 the Council has protected the prospect of the city's unique skyline with its high buildings policy. The complementary views out of the city to its open country background have been similarly protected by the Green Belt and other policies.

The Council designated a large part of the central area as a conservation area in 1971. An extension taking in the Folly Bridge riverside was designated on 28th May 1974, a second extension covering part of Walton Street, Fisher Row and lower St

Aldate’s was designated on 23rd February 1981, while a third covering Cornmarket and Queen Street was designated on 29th April 1985. On 9th December 1998, a fourth extension was made to the conservation area taking in part of the St Thomas' area, the University Observatory adjacent to University Parks and Magdalen College School playing field.

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7.3 Appendix 3 Chronology of the Radcliffe Science Library

Date	Event	Reference
1749	The Radcliffe Library is established in the Radcliffe Camera	
1811	The intake of books to the Radcliffe Library is limited to medicine and natural history	UC/FF/181A/2
1861	The entire medical and scientific book collections from the original Radcliffe Library are transferred to the new University Museum, occupying the first floor of the western wing	
1893-4	The growth of the scientific collections necessitates extension of the Radcliffe Science Library. Initial plans for expansion within and an extension of the southern wing of the University Museum are stymied by the growth of the Hope Collection in this space	
1898-1901	The original Jackson wing is constructed by J. Parnell and Son of Rugby to a design produced by Thomas Graham Jackson in 1897	ESA
July-August 1900	The construction of the Radcliffe Science Library breaks through the wall of the Abbot's Kitchen	OUA UC/FF/181A
August 1900	The Oxford Electric Company agrees to provide electric lighting to the Radcliffe Science Library. Gas fittings from the old library are left in the University Museum in exchange for some shelves that are taken out to the new library	OUA UC/FF/181A, DD.Radcliffe c.37 (Radcliffe Librarian's Report to the Radcliffe Trustees for 1901)
October 1900	Jackson notes that no railing is being provided around the building due to a lack of materials. He is unwilling to ask the Drapers' Company for further supplies. This must refer to on the north and western sides, as there is already a railing to the south along South Parks Road	OUA UC/FF/181A
April-May 1901	The entrance road running along the old museum lodge to the University Museum is extended eastwards to run along the northern elevation of the Radcliffe Science Library to the original entrance beside the Abbot's Kitchen	OUA UC/FF/181A/1/1
1906	Repairs are conducted to the electric lighting and portable paraffin lamps are provided for use in the winter evenings	OUA UC/FF/181A/1/2
1909	There are further problems with the electric light installation, with a drop in pressure leading to low light levels	OUA UC/FF/181A/1/2
1914	G.Wyatt and Son provide a quotation to provide the iron railings left out in the original construction	OUA UC/FF/181A/1/2
1925	There is some discussion of the Bodleian taking over responsibility for the Radcliffe Science Library from the Radcliffe Trustees	OUA UC/FF/181A/1/2
1926	Dolby and Williamson provide a quotation for replacing the heating installation	OUA UC/FF/181A/1/2
1927	The University takes over the running of the Radcliffe Science Library	DD. Radcliffe

	from the Radcliffe Trustees, the agreement having been reached on 19th March 1926. Bodley's Librarian becomes the Radcliffe Librarian (at no extra pay)	c.38
1927-8	Following complaints about the lighting provision in the Radcliffe Science Library, Dolby and Williamson produce a report on the lighting and wiring in the building. They suggest several schemes which are turned down due to the cost and eventually a modest scheme is enacted, involving fitting pendant lighting in the upper and lower reading rooms	UC/FF/181A/2
1929	A bike shed is constructed by the Readers' Entrance. This is followed by a shed and stand for staff cycles in 1931	UC/FF/181A/2
1930	An extension is seriously being considered at this point, when the advice of the architectural advisor to the Oxford Preservation Trust is sought. There are various discussions over whether the new extension will incorporate a porter's flat, as it will necessitate the demolition of the old Museum Lodge	UC/FF/181A/2
December 1930	An estimate is provided for removing and replacing the urinals in the Radcliffe Science Library	UC/FF/181A/2
1932	Improved lighting is introduced into the upper ante-room of the Jackson wing. At the is point the room had not been redecorated since its construction	UC/FF/181A/2
June 1932	The Curators of the Bodleian agree to invite J. Hubert Worthington to submit plans for the Radcliffe Science Library extension, which are received on 5th October and approved on 14th October 1932	UC/FF/181A/2
1933-4	The Worthington wing is constructed by Benfield and Loxley to a design by Sir Hubert Worthington as an extension to the west of the Jackson wing at a total cost of c.£48,000. The new extension is opened by HRH Mary, the Princess Royal, on 3rd November. The section of wall running along Parks Road in front of the extension is demolished along with the original Museum Lodge	ESA
1933	As part of the extension, the Jackson wing is partially rewired in order to bring it in line with 230V, as it had originally been wired at 100V. In August 1933 the western elevation of the Jackson wing is broken through to connect to the new extension	UC/FF/181A/2
June 1934	The northern portion of the first-floor reading room of the Worthington wing is partitioned off and assigned to the Mathematical Institute. This is accessed from the northern entrance and staircase	UC/FF/181A/2
1939	Condensation at the bottom of the northern stairs in the Worthington wing requires the insertion of two additional ventilation holes and the replacement of some damaged wiring	UC/FF/181A/2
1949	Separate electrical lighting provision is fitted to the portion of the building occupied by the Mathematical Institute, temporary battery-powered lighting having been provided to the area in 1947	UC/FF/181A/2
1953-5	The Mathematical Institute vacate their space in the Worthington wing in 1953. The Lower Reading Room is extended back into this space, requiring the removal of partitions and the extension of the reading room's enriched ceiling into this space. The conversion work is not undertaken until 1955 due to budgetary constraints	UC/FF/181A/2
1954	The Radcliffe Science Library is designated a Grade-II-listed building	

1959	By this point it is generally accepted that the Radcliffe Science Library requires expansion, with the current provision expected to become insufficient c.1965. Required provision is projected to increase from 220 to 550 readers and from 415,000 to 1,000,000 books. There is some discussion about the possibility of either some form of extension (several forms of this are discussed) or the formation of a new, larger library on the Keble Triangle site	UC/FF/181A/2
1960	Chamberlin, Powell, & Bon are asked to prepare an architectural appreciation of the possibility of further developing the south-western corner of the old science area from the Inorganic Chemistry department and the Radcliffe Science Library up to the south Geology	UC/FF/181A/2
1961	Chamberlin submits his report. This includes suggestions to building an underground reading room and stack and to extend the Radcliffe Science Library into the main court of the University Museum. In light of Chamberlin's report, H.H. Keen (Secretary to the Curators of the University Chest) suggests that the Radcliffe Science Library should be demolished and replaced with a laboratory, with the library moving into the University Museum court but in the end the Chamberlin report is largely disregarded except for the principle that as much as can go underground should do so	UC/FF/181A/2
1962	Jack Lankester produces a report on the possible schemes for extending the Radcliffe Science Library	UC/FF/675/1
1964	The Radcliffe Science Library receives £750 for new shelving and cabinets and £400 for new floor coverings in the reading rooms	UC/FF/181A/2
1965	Sir Leslie Martin, who is already working on the Zoology/Psychology building, is appointed consultant architect of the Radcliffe Science Library and as consultant for the land-scaping of the South Parks Road Area	UC/FF/675/1
Michaelmas 1966	The Report of the Committee on University Libraries (the "Shackleton Report") is published. This attempts to formulate a wider library policy across the University and project and anticipate the future needs of Oxford's libraries. The implication of this report is that the 1962 expansion plans underestimated the future needs of the Radcliffe Science Library, with the Shackleton Report noting the requirement for an undergraduate lending library and noting that the current acquisition rate was twice that predicted in 1960	UC/FF/675/1
1966	Planning permission granted for additional lavatory accommodation	66/17754/A_H
1967	The Radcliffe Science Library is assigned £1,700 in two payments for unspecified alterations	UC/FF/181A/2
January 1968	The Building and Development Committee vetoes the idea of building a completely new library on the grounds that the existing building was very suitable for library purposes but would be very difficult to adapt for anything else	UC/FF/181A/2
1969	Planning permission granted for an outline application for extending the Radcliffe Science Library	69/21025/A_H
1969	£1,000 is assigned to the Radcliffe Science Library for an additional goods lift	UC/FF/181A/2
1970	Pressures on space and the need for an undergraduate reading room result in 9 Parks Road being allocated to the Radcliffe Science Library	UC/FF/181A/2

	in the short term, until the first stage of the planned extension is completed. This part of 9 Parks Road becomes the original Hooke Library	
1971	The Undergraduate Grants Committee assigns £140,000 for the conversion and extension of the Radcliffe Science Library. The University had in 1969 allocated £500,000 from the 'major building allocation' for 1971-2	UC/FF/181A/2
1971-4	Construction of the Lankester Room. This also involved the construction of a new stair and lift core at the northern end of the Worthington wing. The ground-floor stack in the Worthington wing was gutted and replaced with a new entrance hall, entered from the courtyard through a former window on the eastern elevation. The ground floor of the Jackson wing was gutted and the double-height stack space horizontally subdivided with a new concrete floor to provide additional office accommodation. The Hooke Library was at this point formed using the ground-floor of the Abbot's Kitchen and the original staircase of the Jackson wing	PRS 2006 Conservation Statement
1977	Planning permission granted for the formation of a new doorway and steps to form a new staircase from the upper level	77/00876/LH_H
1983	Listed building consent is granted for a streetlight on a bracket	83/00115/L
1995	Two doors are replaced leading off the staircase at the eastern end of the Jackson wing, adjacent to the former Hooke Library	ESA
1995	A vertical platform lift is inserted in the staircase at the northern end of the Worthington wing	ESA
1995-6	The Hooke Library is extended into the Abbot's Kitchen. The Abbot's Kitchen is gutted, refurbished, and reshelved	ESA
1996	The second phase of the Hooke Library extension, affecting the area immediately to the south of the Abbot's Kitchen, including general refurbishment, reflooring, repainting etc.	ESA
1996	The old entrance hall in the centre of the northern elevation of the Worthington wing is refurbished with the insertion of new counter and floor coverings to replace the old	ESA
2001	A new riser is constructed beside the lift in the Jackson wing	ESA
2001	A plate glass barrier is fitted to the balustrade of the top-floor landing of the northern staircase of the Worthington wing	ESA
2006	The Worthington wing is rewired	ESA
2006	The staircase link between the Jackson and Worthington wings is demolished and replaced with a new glazed link including stairs, a lift, and a new entrance. The 1970s entrance on the eastern elevation of the Worthington wing is returned to its original status as a window. Internal alterations include the infilling of doorways, the provision of disabled toilet facilities and the upgrading of services	06/01895/LBD
2013	Listed building consent is granted for the removal and replacement of electrical services and lighting units, including emergency lighting on the ground floor of the eastern stairwell in the Jackson wing	13/01779/LBC

7.4 Appendix 4 Checklist of Significant Features

This checklist is intended for the use of those working or planning work on the site or buildings. It highlights features of architectural significance within the Radcliffe Science Library; these may be original features or new additions that nevertheless contribute positively to the character of the building. As this is a Grade-II-listed building any repair or alteration work to factors that contribute to the significance of the building will require listed building consent in order to avoid prosecution under the Planning (Listed Building and Conservation Areas) Act, 1990. **If planned work will likely affect any of the aspects featured in the list below advice should immediately be sought from the Building Conservation Team at Estates Services.**

The checklist lists both general significant features that affect the building as a whole and which should be held in mind if working in any space, and specific features of particular significance that should receive special regard if working in these particular spaces. The Further Information column refers to the relevant page reference in the Conservation Plan proper.

The Radcliffe Science Library, Building #225		
SIGNIFICANT FEATURE	✓	Further Information
General:		
-External elevations of Jackson and Worthington wings including stonework and windows		p.29-36, 52-4, and 61
-Windows throughout, excluding glass link		p.20, 25, 29-37, 42-44, 52-4, and 61
-Carved stone throughout		p.29-36, 39-40, 52-4, and 61
-Moulded plaster		p.21, 38, 42, 54, and 62
-Joinery and carving throughout, especially doorcases, Eric Gill carvings, and bookcases		p.36-46, 54-9, and 61-3
-Historic metalwork		p.18, 38, 40, 42, and 61-3
Specific Features:		
External Elevations		
Jackson wing		
-Roofs throughout		p.29-36, 52-4, and 61
-Windows throughout		p.29-36, 52-4, and 61
-Doulting stone elevations		p.29-36, 52-4, and 61
-Serlian window moulding, including columns and arches on southern elevation and western elevations of the eastern crosswing		p.29-36, 52-4, and 61
-Buttresses and round, capped window arches		p.29-36, 52-4, and 61
-Flat arches to lower windows		p.29-36, 52-4, and 61
-Banding and cornices		p.29-36, 52-4, and 61
-Crests on southern elevation		p.29-36, 52-4, and 61

-Ventilation grilles		p.29-36, 52-4, and 61
-Eric Gill lettering over southern entrance		p.29-36, 52-4, and 61
-Iron rainwater goods		p.29-36, 52-4, and 61
Worthington wing		
-Bladon elevations and Clipsham dressings		p.29-36, 52-4, and 61
-Window throughout		p.29-36, 52-4, and 61
-Window arches		p.29-36, 52-4, and 61
-Rusticated ground floor		p.29-36, 52-4, and 61
-Banding		p.29-36, 52-4, and 61
-Moulded crests		p.29-36, 52-4, and 61
-Visible rainwater goods		p.29-36, 52-4, and 61
Internal Spaces		
Levels 3 and 4		
-Windows and settings		p.37
Eastern entrance lobby		
-Stonework throughout including piers, pediments, and obscured paving		p.37-8, and 61
-Main door and setting		p.37-8, and 61
Eastern staircase		
-Stonework throughout including staircase, columns, stone screens, and windows settings		p.39-40, 54-5, and 62
-Paving at ground-floor level		p.39-40, 54-5, and 62
-Joinery throughout, notably doorcases and doors to reading rooms		p.39-40, 54-5, and 62
Abbot's Kitchen		
-1901 iron pillars		p.38, 54-5, and 62
-Window settings		p.38, 54-5, and 62
-Stonework throughout		p.38, 54-5, and 62
Jackson wing, Lower Reading Room (level 5), including anteroom		
-Doorcases		p.40, 42, 54-5, and 62
-Window settings and windows throughout		p.40, 42, 54-5, and 62
-Columns		p.40, 42, 54-5, and 62
-Integral bookcases		p.40, 42, 54-5, and 62
-Historic desk design		p.40, 42, 54-5, and 62
Jackson wing, Upper Reading Room (level 7), including anteroom		
-Moulded, barrel-vaulted ceiling		p.41-2, 54-5, and 62
-Joinery throughout including doorcases and integral bookcases		p.41-2, 54-5, and 62
-Window settings and windows throughout		p.41-2, 54-5, and 62

-Ventilation grilles		p.41-2, 54-5, and 62
Worthington wing, Lower Reading Room (level 6) including anteroom		
-Eric Gill carvings		p.42-3, 54-5, and 62
-Joinery throughout including panelling, window settings, integral bookcases, and desks		p.42-3, 54-5, and 62
-Window settings and sash windows throughout		p.42-3, 54-5, and 62
-Ceiling		p.42-3, 54-5, and 62
Worthington wing, Upper Reading Room (level 7) including anteroom		
-Carved window settings and sash windows throughout		p.44-5, 54-5, and 63
-Joinery including integral bookcases		p.44-5, 54-5, and 63
-Barrel vaults and associated arches		p.44-5, 54-5, and 63
-Ceiling and coving		p.44-5, 54-5, and 63

PRIOR TO UNDERTAKING <u>ANY</u> REPAIRS OR ALTERATIONS ON THE ABOVE-LISTED ARCHITECTURAL FEATURES, CONTACT THE CONSERVATION TEAM AT ESTATES SERVICES ON (01865) (2)78750

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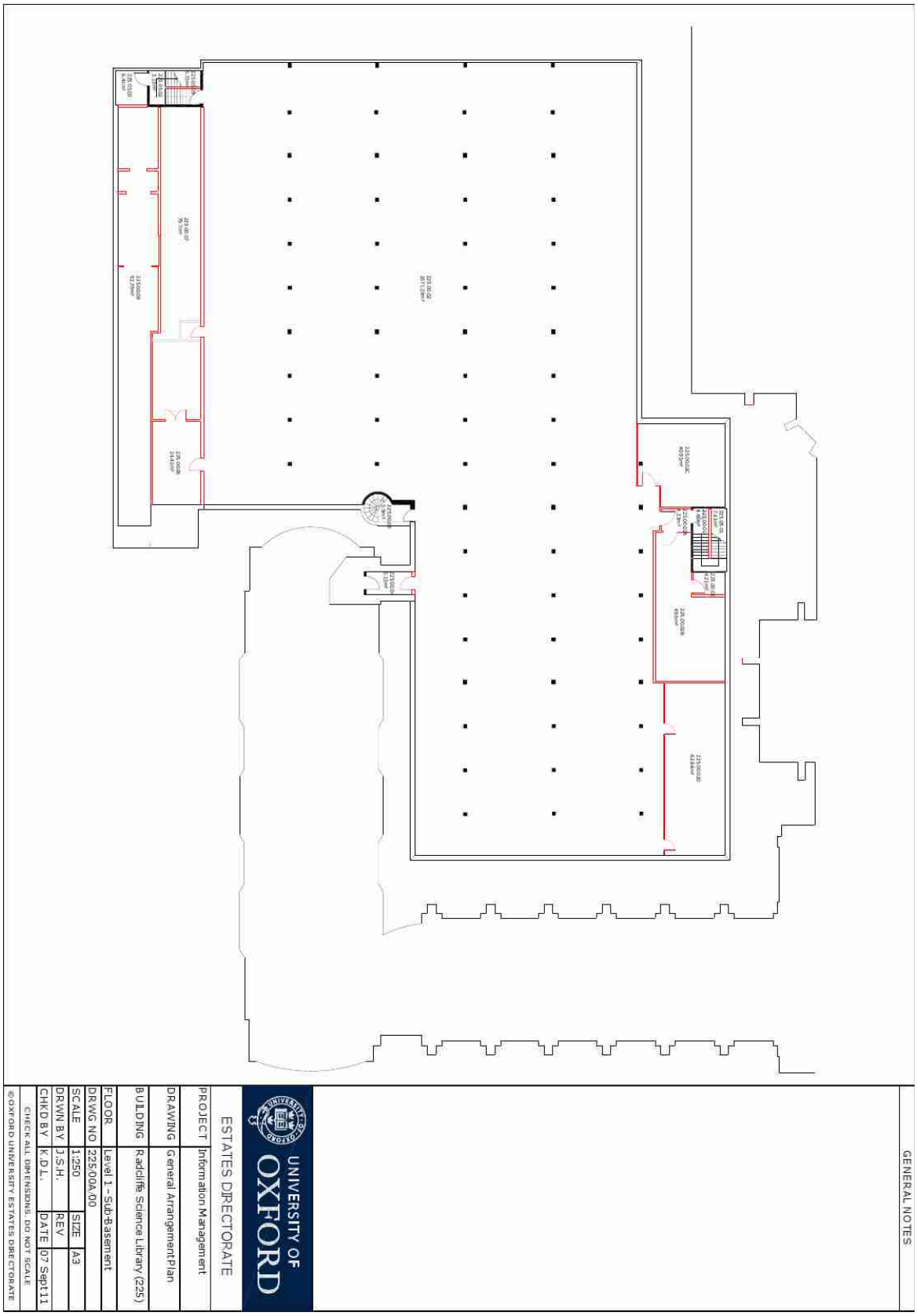
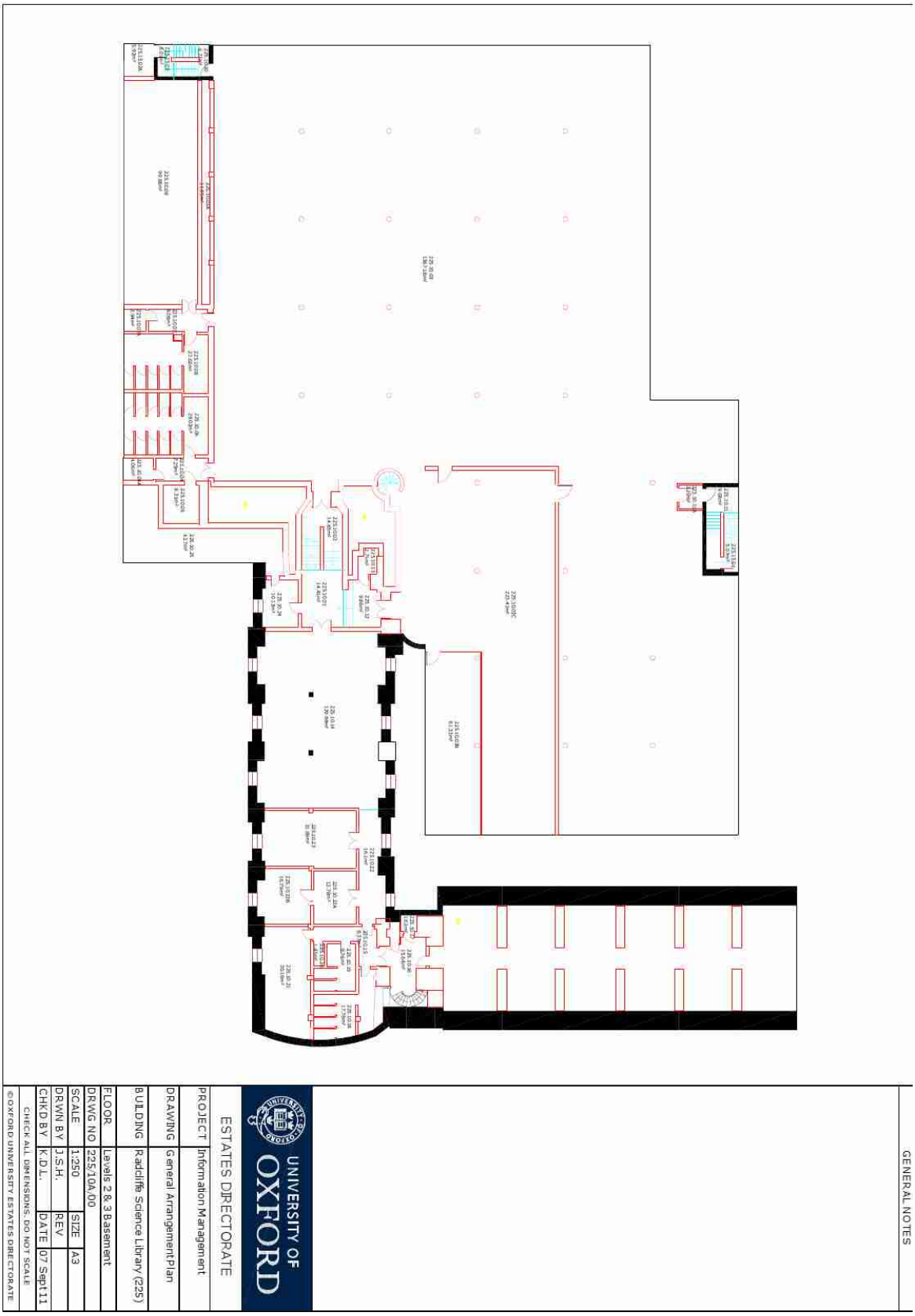
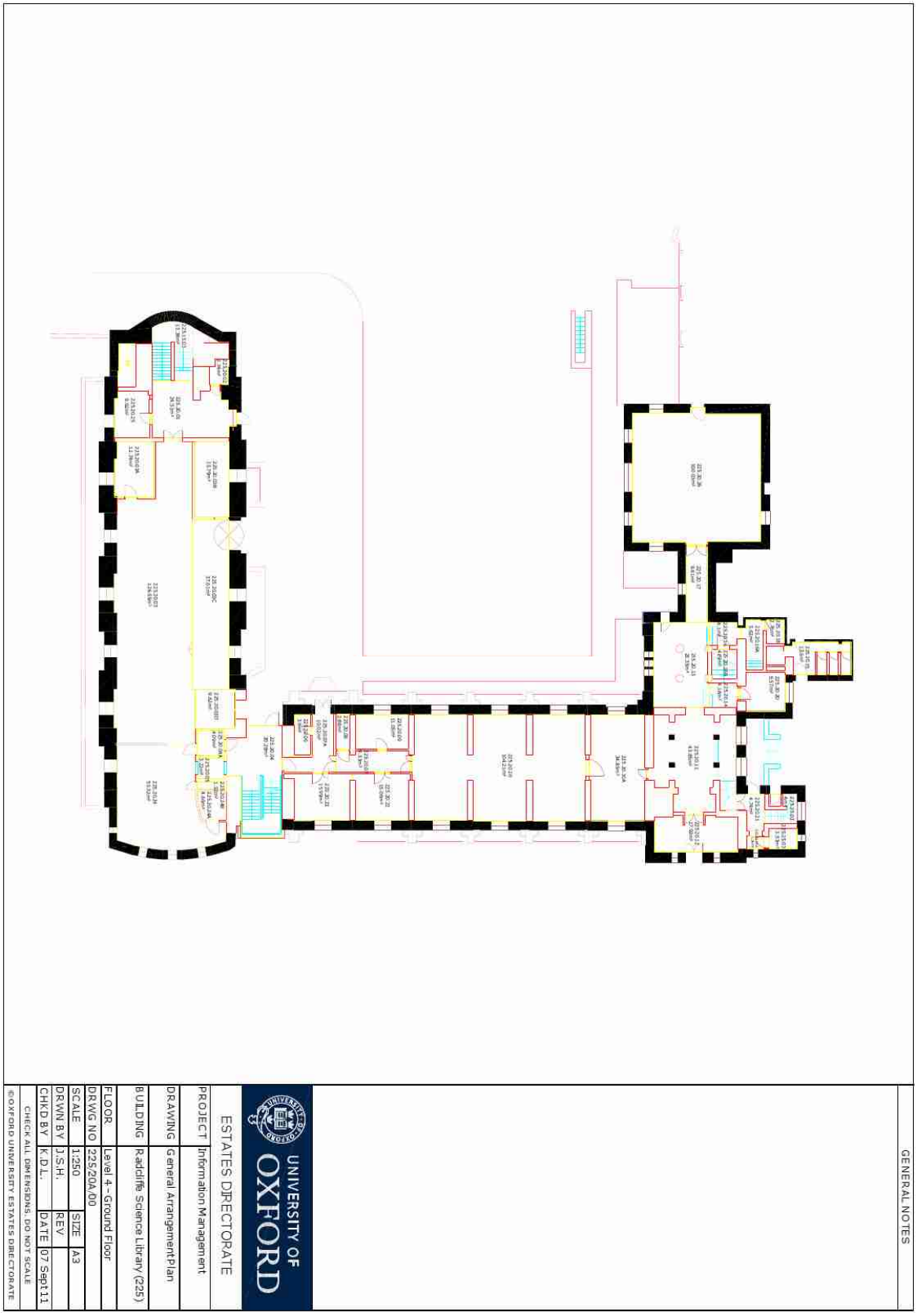
7.5 Appendix 5 Floor plans



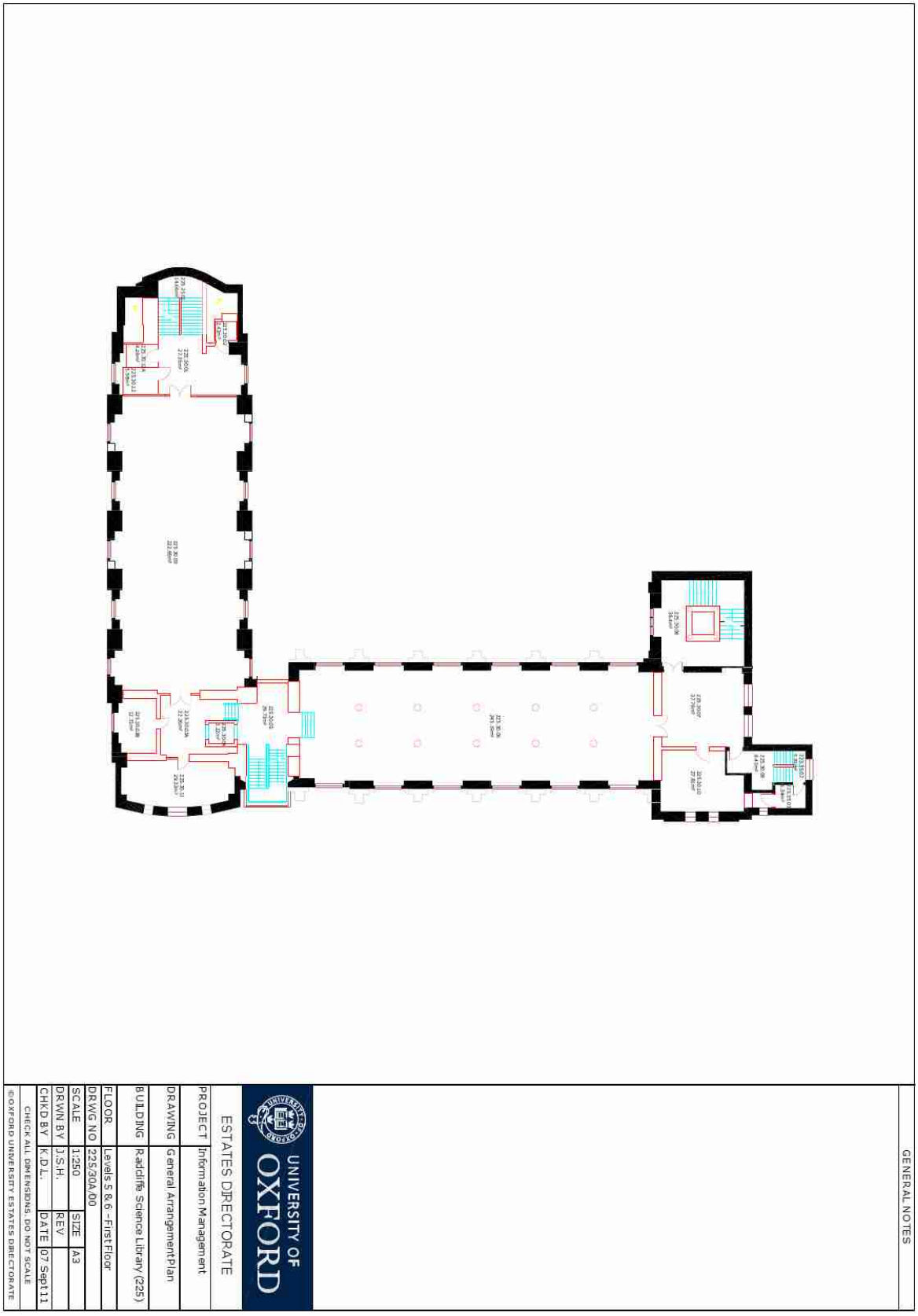
7.5.1 Level 1, subbasement plan



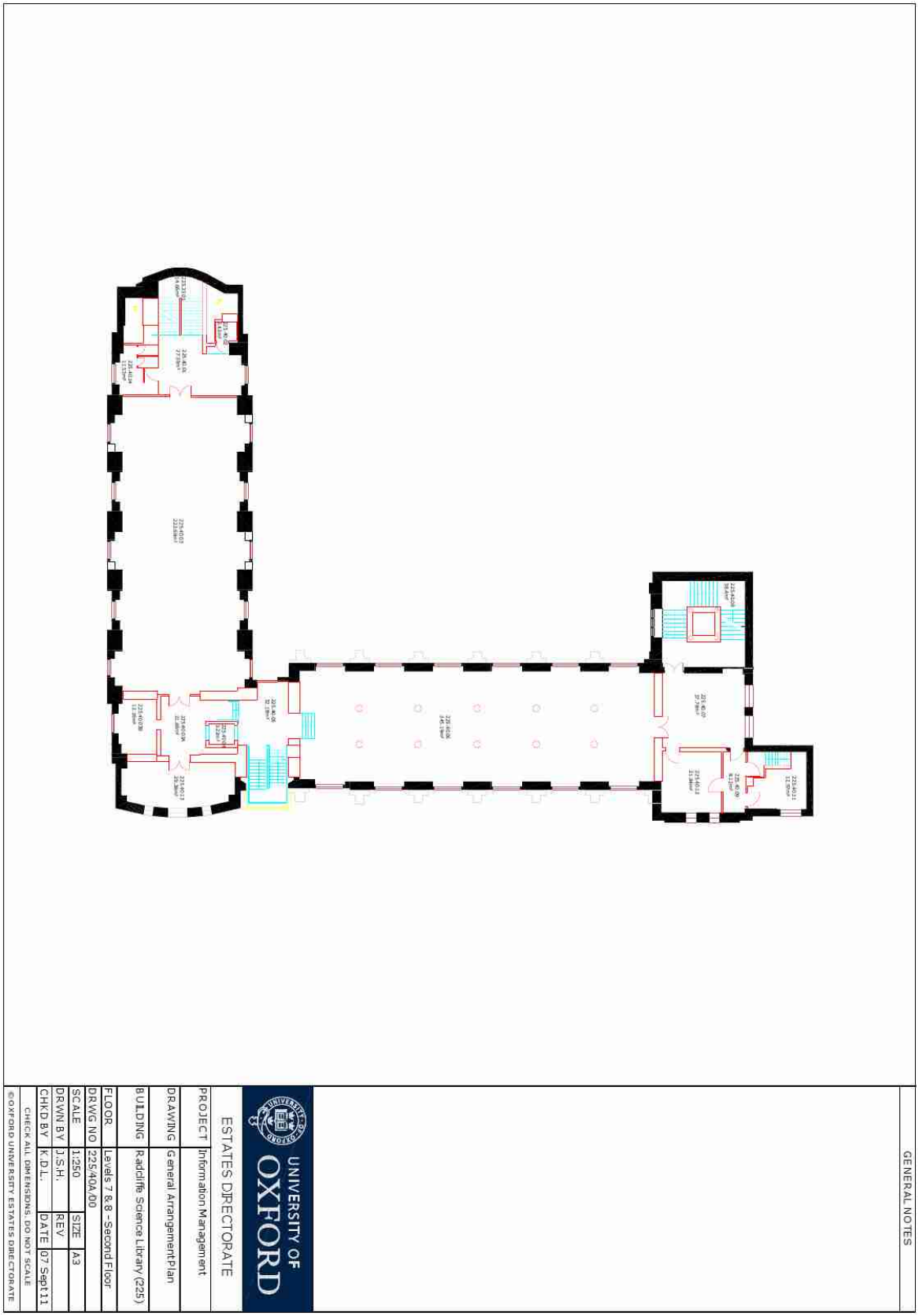
7.5.2 Level 2 and 3, Lankester Room and basement plan



7.5.3 Level 4, Ground-floor plan



7.5.4 Level 5 and 6, First-floor plan



7.5.5 Level 7 and 8, Second-floor plan