Association for Preservation Technology
International
Australasia Chapter

BUILDING TECHNOLOGY HERITAGE LIBRARY SCANNING
STAGE 1 REPORT
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BUILDING TECHNOLOGY SCANNING
STAGE 1
Report

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The Project
The Association for Preservation Technology International [APT] maintains a very extensive on-line Building Heritage Library containing digitised versions of technical and trade literature freely available for the use of architectural conservators and historians:

Snapshot of the Building Technology Heritage Library as hosted on the Internet Archive
https://archive.org/details/buildingtechnologyheritagelibrary

Although the collection is in principle international, the material so far collected is predominantly North American. In seeking to rectify this, Mr Mike Jackson, co-chair of the APT Building Technology Heritage Library, identified in the collection of Professor Miles Lewis, Melbourne, about 400 relevant items which have not so far been copied by the APT nor, so far as searches reveal, by any other body. He approached both Lewis himself and the APT Australasia Chapter with a view to capturing this material.

The APT Australasia Chapter agreed to advance the proposal, though the identified publications in the Lewis collection are by no means all Australian.
The Association for Preservation Technology

The Association for Preservation Technology International (APT) is a multidisciplinary, membership organisation dedicated to promoting the best technology for conserving/preserving historic structures and their settings. APT members come from more than thirty countries and include preservationists, architects, engineers, conservators, consultants, contractors, craftpersons, curators, developers, educators, historians, landscape architects, students, technicians, and other people directly involved in the application of methods and materials to maintain, conserve, and protect historic structures and sites for future use and appreciation.

The APT’s mission is to advance the application of traditional and contemporary technology appropriate to the conservation of the built environment and to nurture the cultural resources that contribute to its significance.

The web site is http://www.apti.org/index.php?src=&submenu=

There is a small Australian membership, and an Australasian chapter convened by Dr Donald Ellsmore.
The Building Technology Heritage Library

The Building Technology Heritage Library (BTHL) is a free, online digital library. The content includes architectural trade catalogues, house plan books and technical building guides which are in the public domain (pre-1964 in USA terms). These materials can aid in the preservation and conservation of older structures as well as other research goals.

The initial focus of the Building Technology Heritage Library has been the architectural trade catalogue. These catalogues have excellent descriptive and technical content and are of particular value to heritage professionals. They are also difficult to access. There are only a few specialised research collections in North America and their content was not being reprinted or digitised by any other institution. By coordinating the conversion of these to online documents the APT makes rare materials available to everyone, and helps to avoid the duplication of items from various collections.

Sources

The BTHL contains materials from a variety of private and institutional collections. These materials are rarely available in architectural and professional libraries. The first major architectural trade catalogue collection was that of the Canadian Centre for Architecture (CCA), which encompasses more than 3,400 catalogues from the early 19th century to 1963. In addition to the architectural trade catalogues, the initial contributions include a large number of house plan catalogues, which are of great interest to owners of older houses. The CCA collection also contains a number of European catalogues, which provide an international dimension to the BTHL. The American materials on the BTHL end in 1963, as materials after this date are still under copyright protection by the original publishers.

Hosting

The BTHL is hosted by the Internet Archive (www.archive.org), which was founded to build an on-line library offering permanent access to historical collections of digital materials to researchers, historians, scholars, and the general public at no charge. Materials placed on the BTHL are in the public domain.
History of the BTHL

The BTHL was initiated on the APT website in 2006. That autumn, the first thirteen catalogues were made available on the APT Digital Archive of Building Technology. The goal of the project was stated: ‘This new digital archive will greatly expand the availability of rare and hard-to-find materials related to the construction and finishes of historic structures and become a valuable research tool for design professionals, building conservators, and preservationists.’ Over the next year the site grew to thirty documents, which was the beginning of what would become a much larger project. In 2010 the APT and the Canadian Centre for Architecture (CCA) initiated a project that added more than 3,400 architectural trade catalogues from the CCA collection. In 2019 the content of the BTHL exceed 10,000 documents by the addition of material from the Lewis collection.

Building Technology Heritage Library Usage

The BTHL has seen steady growth in content and use, and thousands of documents are now being viewed each day. For the preservation community, it has become a primary research tool accessible from anywhere in the world. The original goals of the project have been far surpassed by both the comprehensive set of documents and the user-friendly interface supported by the Internet Archive. APT has now reached a point where other libraries are contacting it with a view to contributing their material. The BTHL has proved to be an unqualified success for APT and a great service to the world’s building conservation community.

The Australian Project

Mike Jackson first contacted Miles Lewis in May 2017, since when a number of options have been explored. Lewis was not prepared to ship the collection to the USA for scanning, and was not prepared to be the manager of the project or to handle the funds. However he offered full cooperation, and obtained an overhead scanner at his own expense to facilitate the work.

The APT Australasia Chapter was prepared to be the sponsoring organisation, but because it had no office establishment or capacity for detailed administration it was proposed to do the work by contract for a set number of hours,

As at August 2017 Jackson estimated that there were over 400 items in the Lewis collection suitable for scanning, viz:

- 166 Australian trade catalogues and technical publications
• 211 non-Australia publications
• 29 Other early publications of ‘noteworthy historic value’, with more yet to be checked out

He was working from the on-line catalogue last updated in 2009, and as the library has been considerably augmented since then the numbers will have increased. He quoted a figure of US$12 average to a document from US experience, and subsequently estimated that one person can scan and upload two documents per hour, based on an average of 70 pages. But these calculations were not directly applicable to the items identified in the Lewis collection which were on average much larger (one, for example, with over 1000 pages). Moreover some are in very large format and difficult to handle.

Copyright

Under Australian law, copyright expires seventy years after the death of the creator, but the situation is more difficult when the creator is a corporate entity. Most of the trade literature will have been produced by companies now defunct. Good practice is to make an attempt to contact the author or heirs, but in the event of no response, to proceed. In the unlikely event of an objection the document is simply taken down off the web. There will be a few companies which exist or whose successors are known (for example, the Powerhouse Museum in Sydney acquired all the Wunderlich company’s material, and possibly holds the rights to the Wunderlich materials in the Lewis collection).
Funding

The initial budget was based upon the funding of 400 hours of work, in the knowledge that this would be unlikely to complete the task, but that it could be expected to establish what more might be needed. Upon this basis an application for support was made to the Vera Moore Foundation for:

- 400 hours scanning @ $50 = 20,000
- 5% contingency = 1,000
- Administration fee 5% of $21,000 = 1,050

Total $22,500

The Vera Moore Foundation granted the funding sought in full. The administration fee was allowed for in the belief that it might be necessary for an incorporated body to hold the funds, rather than APT Australasia, which is not incorporated. Fortunately this proved not to be the case.

The Vera Moore Foundation

The Vera Moore Foundation (business name: The Trustee for the Vera Moore Foundation) is a discretionary services management trust registered with the Australian Charities and Not-for-Profits Commission (ACNC). It was established in 1998, and aims to support the general community in Australia. It has in the recent past been a regular supporter of architectural history related projects based in Victoria.

Its details are:

ABN: 28701176116
Address:
Level 11, Suite 2, 379 Collins St
Melbourne VIC 3000
Australia
Project Process

Contractor

Miles Lewis and Meher Bahl at the Osbert Lancaster Memorial Bibliographic Institute (Lewis’s library) during the first stages of the project.

A contract was entered into between APT Australasia and Meher Nishchal Bahl for the provision of 400 hours of scanning work. Bahl had previously digitised archives for the Architecture, Building and Planning Library at the University of Melbourne.

It had been envisaged that the scanning would take place at Lewis’s Library, but this soon proved impracticable, as will appear below, and the work has been completed at the University of Melbourne’s Digitisation Centre.

Scanning Equipment

The Fujitsu Scansnap Overhead Scanner

A Fujitsu ScanSnap overhead scanner was bought by Lewis (at his own expense) on the recommendation of Mike Jackson, but it proved completely unsuitable. It is a very cheap machine which can in principle scan flat sheets, but pages which do not lie flat are seriously distorted. Even flat sheets, if they have folds, must be weighed down with a sheet of glass and
scanned through that. The machine is quite unsuitable for rare books, which often cannot be forced to lie flat without suffering damage.

A machine for scanning rare books must have an angled cradle in which the book can rest. The pages can be turned with the minimum of handling and damage. The open book can be photographed from directly above, in which case it is necessary to separate the two images and remove distortions. Much better is have two cameras operating simultaneously, one angling in from each side at right angles to each page. This gives the least distortion and the best penetration of the gutter at the centre. As the pages are commonly still not lying flat it is desirable to have the equivalent of the sheet of glass. This will be two sheets of glass or plastic fixed at an angle the same as that of the cradle, and counterweighted so that they can be easily lowered and raised.

To buy a suitable scanner would have exceeded the budget of the whole project, and to rent one proved impossible. Fortunately Ben Kreunen, Technical Support Officer at the University of Melbourne Digitisation Centre, agreed to provide the necessary facilities. The Centre provides facilities for students and staff, and Bahl is a postgraduate student, Lewis an emeritus staff member. This arrangement meant working in with other users of the equipment, but that has not proved to be a substantial problem. It also meant transporting the books to and from Lewis’s library, which has been done by Uber as and when required. It further meant that Lewis was not present as the scanning proceeded and was in no sense supervising the work, as had originally been envisaged.

Some very large format material requires the use of special scanners which may be operated only by UDC staff, for which a charge will be made (this has yet to eventuate). But otherwise the scanning has been done using:

**Zeutschel OS 12000 V**

![The Zeutschel OS 12000 V Scanner](https://www.zeutschel.de/en/produktescannerfarbscanner/os-12002-v-din-a2.html)
The Zeutschel OS 12000 V cradle scanner was used for rare books which required extreme care. As the maximum opening angle is 90°, the books do not lie flat open and the pages are turned with minimum damage to the book and its spine. The scanner at the UDC did not have a glass plate to hold the pages down, which resulted in some inevitable curvature present in the scan. As the book lies on the cradle opened at an angle, there is a high chance of shadow cast on either side by the book, as shown in the image below. Books with full bleed prints were difficult to scan as it was difficult for the scanner to reach the edge of the page towards the centre. The pages were held manually to prevent them from turning which increased the time spent in scanning the document.

(L-R) Scan of pg. 90 of *The Erection of Dwelling Houses* by S H Brooks demonstrating curvature in the scan. Scan of plate 1 of *Mechanical Exercies; or the Elements and Practice of Carpentry &c* by Peter Nicholson demonstrating the shadow cast by the adjacent page. Scan of *The Mason’s, bricklayer’s, Plasterer’s and decorator’s Practical Guide* by Robert Robson demonstrating the loss of data towards the left due to the print being full bleed.
Zeutschel OS 16000 Advanced Plus

The Zeutschel OS 16000 Advanced Plus was used more generally for the project as it turned out to be the most flexible scanner for all types of documents excluding those that needed extreme care. It consists of a motorised flat cradle which adjusts according to the book and houses the spine as well. The self-opening glass plate made it easier for the documents to lie flat and worked best for curve correction. This also eliminated the problem of shadows and manually holding the pages in place, which is why, this scanner turned out to be much faster than the one above. The main problem arose when the scanner was used to scan larger documents. Having these documents lie flat was almost impossible as the pages would curve towards the spine. This was corrected by inserting a rigid surface between the pages in order to flatten the pages further, as shown in the picture below.

Inserting a rigid surface in order to flatten the curve while scanning on the flat bed.
For the both the scanners, scans turned out better for pages that had more text than diagrams and illustrations because the deskew operation in the software detected text better than other parameters to deskew and straighten the scan.

Procedure

The bulk of the time has been spent in scanning at the University of Melbourne Digitisation Centre, but some at Lewis’s library, some in preparing metadata and uploading scans to the APT site, some in creating links to Lewis’s on-line catalogue, some in transporting books and some in other administrative tasks including this report.

Lewis has provided the books in stages, mainly in accordance with the list originally prepared by Jackson, but deleting some items for various reasons, discussed with Jackson, and adding others.

Bahl has transported the books to the UDC, scanned them, recorded the metadata (bibliographic details &c), uploaded the scans and data to the BHTL site, created links to Lewis’s catalogue, and returned the books.

Once a document is uploaded, the metadata is revisited, which usually means adding some subject headings. The Internet Archive upload process requires two separate operations. Once the initial upload is done (which includes the OCR process), a second set of data for the publisher, contributor and location is entered. This operation means that the uploader has an opportunity to check the metadata again.

The subject headings are based upon those which have been used in the US work previously, viz:

- the US Library of Congress headings
- the Construction Specifications Institute modern nomenclature
- popular tags that go beyond the typical professional topics

The following page has been inserted in each scan:
The contractor’s primary responsibility is the care of the material. Although there has inevitably been some wear and tear caused by the scanning process, only one book had suffered specific damage, a split spine, and this has been repaired by Scribe Bookbinding of Carlton.

**The work accomplished**

206 documents have been scanned and uploaded, their size varying from 1 to 1073 pages, and the total is estimated at 35,133 pages. The material varies in date from 1755 to 1973. It is listed in the appendix below, and is categorised as:

- French: 11
- British: 83
- Usonian: 51
- Australian: 57
- Other: 4
Revised Budget

The original budget included a contingency amount of $1000, and against this are charged:

- Transporting of books by Uber, total: $126.63
- Repair of one book damaged during scanning: $75.00
- Total: $201.63

The balance of the contingency amount $798.37 plus the $1050 originally allocated for an administration fee, has made available an additional amount of $1848.37.

Although the contract was for 400 hours of work, the additional funds have enabled this to be increased by roughly 37 hours.

Project Stage 2

For the sake of continuity under the existing satisfactory arrangements, funding for stage 2 of the project was sought from the Vera Moore Foundation even before stage 1 was complete. Although this is not the subject of this report, it is pleasing to record that the Foundation has granted the full amount sought, $21,000, and work will be able to proceed without interruption.
APPENDIX 1: List of Scanned Documents

FRENCH


A Giselard, *Sur un Nouveau Type de Ferme Parabolique Applicable à la Construction de Ponts Métalliques a Voie et Dessus*. Paris 1891


C Piehl. *Mètre et Atchancements, &c (3me Partie)*. Paris, no date [c 1900].


L Dauchaud & C Piehl. *Mètre et Atchements, &c (2me Partie)*. Paris, no date [c 1900].


BRITISH

Board of Agriculture [London], *Communications*, vol I 2nd ed. London, 1804.


The Useful Arts Employed in the Construction of Dwelling Houses. 2nd ed, London 1851.


(p) Charles D Young & Company. Description (with illustrations) of Iron and Wire Fences, Gates, et, etc, adapted especially for Australia, invented and manufactured by Charles D. Young and company, iron and wire manufacturers, iron founders, contractors, etc. London, no date [?c 1854].

[J L Tarbuck]. The Builder's Practical Director. Leipzig &c nd, c 1858.

Robert Robson. The Mason's, Bricklayer's, Plasterer's and Decorator's Practical Guide. London, no date, c 1860.


E W Tarn. The Science of Building. 2nd ed, London 1882

[Francis Young] Every Man His Own Mechanic. London, no date [?c 1882.]


(p) Ashton & Green, Limited. Ashton & Green, Limited, Slate, Tile, Brick, Cement, Marble, and Iron Manufacturers and Merchants [catalogue]. London 1887.


Pryke & Palmer. Illustrated Catalogue. London, no date [c 1900].


The Trussed Concrete Steel Co, Ltd. *Selected Illustrations Typical of ... Kahn System of Reinforced Concrete.* Westminster 1913.


Henry Hope & Sons Limited. *Windows, the Eyes of your Home* [list no 55] Hope’s, Birmingham 1928.


Henry Hope & Sons Ltd, *Hope’s Hardware* [cataogue no 66] (Hope, London, 1930).


**USONIAN**


(p) T.C. Snyder & Co. *Illustrated Catalogue, Iron Roofing, Siding, and Ceiling*. Canton [Ohio], no date [1886].


(p) Chapman & Soden. *'Cyclone' brand roofing felt*. Boston 1892.

(p) International Rolling Screen Co. *International Rolling Wire Window Screens*. Boston [Massachusetts], no date [c 1895].

*American Clay-Working Machinery Co.* [illustrated catalogue of]. Bucyrus [Ohio], no date [c 1896].

*Expanded Metal and its uses in Fire-Proof Construction*. Chicago 1896.


Braden Mfg, Co., *Sheet Metal Products* (Braden, Terre Haute [Indiana] no date [c 1905])

(p) Ducker Company, *Erected without Nail or Screw: Ducker Houses, Sectional and Ready-Made*  (Ducker Company, New York no date [c 1910]).


(p) [Ducker Portable House Co]. *Instructions for Putting up the Ducker Portable Buildings* [illustrated broadside]. No date.

(p) J W Ormsby. *A Canvas Cottage*. Chicago, no date [c 1910].


(p) Kohler Co. *Kohler of Kohler Automatic Electric Plants*. Kohler [Wisconsin], no date [1920s].


(p) Sandusky Cement Co, *Concrete Work Made Easy*. Sandusky Cement Co, Cleveland [Ohio], no date [?1922].

(p) Sandusky Cement Co, *Medusa Waterproof Cement Paint*. Sandusky Cement Co, Cleveland [Ohio], no date


International Correspondence Schools. *Elements of Stone and Brick Masonry*. Scranton [Pennsylvania], c1930.

Mesker Bros. Iron Co. *Steel Windows*. St Louis [Missouri], no date [?c 1930].

(p) C A Strand. *Stran-Steel House at the Century of Progress Exhibition in Co-Operation with Good Housekeeping*. Detroit [Michigan], no date [1933-4]


**AUSTRALIAN**


(p) John Danks & Son Pty. Ltd. *Ideal Hot Water Supply*. Melbourne, 1900s.


(p) *The Cyclone Fence & Gate Book No 16*. Melbourne, no date [c 1910].


(p) Wunderlich Patent Ceiling Co. Ltd. *You Cannot Afford to Hide the Goods you want to Sell*. Sydney, no date [c 1915].


(p) Wunderlich Ltd. *Certain-teed Roofing*. Sydney, no date [?c 1920].


(p) Wunderlich Limited. *Art Metal Ceilings*. Sydney 1922.


(p) 'Arnold' Australian Made Oxy-Acetylene Equipment for Welding, Cutting, Brazing, Lead Burning, Heating, De-Carbonizing, etc. [leaflet]. Melbourne, no date [?c 1925].
(p) 'Arnold' Improved Oxy-Acetylene Equipment [leaflet]. Melbourne, no date [c1925].


(p) James Hardie & Coy. Ltd. Catalogue for Hardie's Fibrous Plaster Sheets. Sydney no date [c1925].


(p) Reid Bros Ltd. Wholesale Price List. Adelaide 1926.


(p) Quirk's Victory Light Co. Quirk's Air Gas Stoves. Sydney, no date [c1928].


(p) Australian Gypsum Products Pty. Ltd. Brick Veneer Construction with Fibrous Plaster Interiors. Melbourne, no date [1930s].

(p) Bevan & Edwards Pty. Ltd. Woodworker's and Sawmill Supplies. Melbourne, no date [c 1930].

(p) James Hardie & Coy. Ltd. Catalogue of Hardie's Fibrolite. Rivervale [Western Australia], no date [c 1930: a letter of 1926 is quoted on p 13].

(p) James Hardie & Coy. Ltd. Hardie's Ornamental Fibrous Plaster Ceilings. Sydney no date [c1930].


(p) H Beecham & Co Pty Ltd. Donnacona Insulating Board. Melbourne, no date [1939].


(p) James Hardie & Coy. Ltd. Hardies Fibrolite (Asbestos-Cement) Building Products. Rivervale [Western Australia] no date [c 1940?].

(p) Michael Nairn & Co (Aust.) Pty. Ltd. The Care of your Nairn’s Linoleum Floor (or Linoleum tiles). Auburn [NSW] no date.


(p) Modern Home Building Advisory Service. The 50 Best Practical Homes of 1948. Melbourne, no date [c 1948].

(p) A F Agnew & Co. Pty. Ltd. Agco Supaluvres in Extruded Aluminium with P.V.C. Weatherseals. Melbourne, no date. [1950s]

(p) Hall & Pyne Pty Ltd. Rapid Concrete Moulding Machines. Sydney, no date [?c 1950].

(p) James Hardie & Coy. Ltd. Walls of Enduring Charm. Melbourne, no date. [1950s]


(p) Beryl Guertner [ed]. Book of 100 House Plans [No 3 of the 'Practical Planning' series]. No place or date [Sydney c 1955]. Published by Australian House and Garden
(p) Beryl Guertner [ed]. *Plans for your Dream Home* [No 5 of the 'Practical Planning' series]. Sydney, no date [c 1955]. Published by *Australian House and Garden*


(p) Tribilt Pty Ltd. *Catalogue of Houses by Tribilt, &c* (Tribilt, Port Melbourne 1958)

(p) Olympia Home Constructions Pty Ltd. *Olympia's "Kent"; Olympia's "Warwick; Olympia "Surrey"; Olympia"Lincoln"* [four fliers for standard houses]. Black Rock [Victoria] no date [c 1959].


(p) Tribilt Pty Ltd. *Tribilt Pty Ltd* (Tribilt, Port Melbourne April 1973)

**MISCELLANEOUS**

(p) Johan Blaschke. *Illustrierter Preis-Courant Johann Blaschke Special-Werkstattë für Zink-Ornamente*. Vienna, no date [c 1895].

Steel and Radiation, Limited. "Steelcrete" *Expanded Metal and "Klutch Bar" Concrete Reinforcement*. Toronto, no date [c 1910]


APPENDIX 2: Collage of Scanned Documents