Strand 4: Research and doctoral theses in progress

MACKINTOSH ARCHITECTURE

A Pioneering Study at the University of Glasgow

Charles Rennie Mackintosh is today recognised internationally as an architect of world-wide importance. He occupied a pivotal point between the Victorian age and the Modern Movement, at an important period in the emergence of one of Britain's most important Victorian cities. His work has been an inspiration for subsequent generations including Aldo van Eyck, Hans Hollein, Arata Isosaki and Enric Miralles. Yet, despite the extensive literature of the past 50 years, Mackintosh's core activity as an architect is conspicuously under-researched. The first and last significant overview was undertaken in 1952, by Dr Thomas Howarth[1], but its positioning of Mackintosh as a Modernist is now largely accepted as outmoded. Mackintosh's substantial reputation as an architect does not have the comparable academic foundation to that of his interiors and furniture.[2] There is no definitive list of the architectural work; no over-arching analysis of its evolution; nor assessment of its importance. This essay maps out the genesis and achievements, to date, of a major research project that seeks to redress this imbalance.

Project Aims

In 2009 the University of Glasgow's Hunterian Museum and Art Gallery, custodian of Mackintosh's Estate and of the pre-eminent Mackintosh Collection, was awarded a major research grant of £650,000 by the Arts and Humanities Research Council for an investigation of Mackintosh's architecture: *Mackintosh Architecture: Context, Making and Meaning*. The project aimed a) to assess Mackintosh's development and

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[1] Thomas HOWARTH, *Charles Rennie Mackintosh and the Modern Movement*, London, Routledge and Kegan Paul, 1952.
[2] Roger BILLCLIFFE, *Charles Rennie Mackintosh: The Complete Furniture, Furniture Drawings and Interior Designs*, Moffat, Cameron & Hollis, 4th edn 2009.

achievements as an architect and b) to investigate the wider context of clients, colleagues, contractors and suppliers. **Fig. 1**

In addressing these questions, the project aimed to deliver an authoritative list of Mackintosh's architectural projects; a catalogue raisonné of the architectural drawings; biographies of key clients, contractors and suppliers; transcriptions of the office record books – the 'job books'; and analytical essays. All of this material would be made available on a freely-accessible online resource: www.mackintosh-architecture.gla.ac.uk.

Process

The project team comprised:

Professor Pamela Robertson, Senior Curator, The Hunterian, Principal Investigator;

Joseph Sharples, Chief Researcher;

Dr Nicky Imrie, Post-Doctoral Researcher;

Graeme Cannon, Humanities Advanced Technology Information Institute, Systems Developer;

Heather Middleton, Administrator

Historic Scotland and the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS) were collaborators bringing valuable additional expertise. Work began in May 2010, and was divided into three phases:

May – June 2010: set-up and scoping

July 2010 – December 2012: research

January – April 2013: review, editing, and analysis of data

The current post-research phase, May 2013 – July 2014, will focus on final completion of the site – for example completion of the drawings catalogue, image upload, numbering of projects and drawings, and delivery of the launch exhibition, to open at

The Hunterian in July 2014. This will be followed by a conference at The Hunterian in September 2014.

The Research

The research was founded on rigorous evaluation of the buildings and related archives.

1. Archives

The cornerstone of the research has been the record books of the practice of John Honeyman & Keppie / Honeyman, Keppie & Mackintosh, now held by The Hunterian. The books relating to Mackintosh's years with the practice, 1889 to 1913, comprise: four 'job books' recording information related to projects tendered for, dating, scope, costs, clients, contractors and suppliers; a cash book (1889–1915), recording income and expenditure; and a visit book (1890–1903) recording site visits and preparation of drawings. **Fig. 2** These books have not previously been systematically investigated and provided the basis for the list of work. Early on it was decided that all projects undertaken by the practice during the Mackintosh years should be recorded in order to provide a wider context for Mackintosh's output.

Job book data was extracted and tabulated for incorporation within the relevant project entries. A transcription, with index, of the cash book has been uploaded. All of the books have been digitised and images – available in zoomable format –uploaded.

The surviving corpus of architectural drawings provided crucial information on authorship, dating and design development. These were primarily held by The Hunterian and The Mitchell Library, Glasgow, with additional drawings in other public and private UK collections. As no single catalogue existed, all known drawings by Mackintosh and the office during the Mackintosh years were catalogued and digitised; all images are available in zoomable format. The catalogue currently contains 1120 drawings.

Important documentation on project and people histories, including planning submissions, committee minutes, correspondence, and photographs, was consulted at collections within the UK and on the Continent. These included Church of Scotland; Glasgow Herald; the Glasgow School of Art; Liverpool Record Office; National Archive of Scotland; RCAHMS, Royal Institute of British Architects, and archives on the Continent, particularly in Austria and Germany. Other sources included local press, obituaries, business record archives, trade directories, catalogues, advertisements, printed publicity, and ephemera.

The major external resource was the City of Glasgow's Mitchell Library which houses records and drawings related to the Glasgow Dean of Guild Court – the body to whom submissions would be made for planning permission and which was responsible for the subsequent monitoring and on-site inspection of building work. Dean of Guild records for other relevant burghs including East Renfrewshire, Stirling, and Paisley were also consulted.

UK architectural and design periodicals; Scottish press and journals, in particular the Glasgow Herald; and selected continental periodicals were trawled for contemporary descriptions, photographs and bibliographic references. These included *Academy Architecture*, *Architect*, *British Architect*, *Builder* and *The Studio*, and *Der Architekt*, *Dekorative Kunst* (*Die Kunst*), *Deutsche Kunst und Dekoration*, *Moderne Bauformen*, *Innenkunst*, *Das Interieur*, and *Die Algemeine Bauzeitung*. In addition, secondary material including previous building surveys and archives including the Thomas Howarth Archive, Rylands Library, University of Toronto and the Nikolaus Pevsner Archive, The Getty, Los Angeles, were consulted.

2. Building Analysis
First-hand building analysis was essential to establish levels of authorship and evaluate structure, materials and technology. All surviving accessible projects were visited, recorded and photographed. In addition RCAHMS undertook an in-depth photographic

survey of ten selected buildings[3] and a full measured survey of one less well-known property. Historic Scotland is currently working on an evaluation of materials and use of technology.

The Website

The principal output of the project is the on-line database www.mackintosh-architecture.gla.ac.uk. It currently contains 348 project entries; 2700 images; over 300 biographies; and 1120 drawings. The word count exceeds 500,000. Development of the infrastructure was undertaken by Graeme Cannon of the University's Humanities Advanced Technology Information Institute (HATII; `http://digital-humanities.glasgow.ac.uk/`); HATII is a world leader in the development of online academic resources.

The guiding principles for the site were that it should be academically rigorous; accessible to a wide audience; richly illustrated; intuitive and easily searchable. It was equally vital that the visual appearance of the site was attractive, appropriate to its content, and indicative of its range. An external agency, Treesholm Studio, was commissioned in 2010 to work with the team in developing a visual framework for the site content.

The Catalogue

The heart of the site is The Catalogue of project entries. Each entry is subdivided into Introduction, Chronology, Description, Drawings, People, Archives, Job Book data, Images and Bibliography. The method of research generally followed a programme of extraction of job-book data; cataloguing of drawings; site visit(s); consultation of published and unpublished sources; and writing up. Entries were reviewed on an ongoing basis by an Editorial Board; subject to an overall exhaustive review at the end of the research phase; and copy-edited externally. **Fig. 3**

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[3] ADD list

An extensive range of search options is available: Freetext and Browse (by project type; date; authorship category; and cost). The Catalogue is supported by a Mackintosh biography, Glossary and General Bibliography. In addition there will be a Project Methodology. Other features include an interactive timeline and map.

The developing site underwent rigorous testing: seven testing sessions were held in June 2011, March and October 2012 of which six were lab-based and the last comprised an independent review by an invited group of 23 international scholars. These sessions provided invaluable feedback. Participants included: academics; students; heritage workers; archivists; general public; school teachers; and museum and gallery professionals.

Catalogue data delivered via the website is derived from two sources: project metadata developed in a relational database management system and XML for the catalogue entries, biographies and glossary. Project metadata was developed using an MS Access database and exported to the MySQL database management system using ODBC for delivery via the website. XML data was encoded by project staff using a validating XML editing applications (XMetal, oXygen). XML files were validated against schemas specifically developed for the project. The website delivers valid XHTML pages styled using CSS2. The PHP scripting language is used to deliver metadata and XML content dynamically. XML content is converted to XHTML dynamically using XSLT and the LIBXML2 library. The Google Maps API version 3 is used to link project data with map locations. Some features of the website use JQuery (the 'CloudZoom' image viewer and custom tool-tips), but alternative mechanisms are provided where JavaScript is not available. The website has been developed following WAI guidelines on accessibility.

Definitions

A range of decisions have been made that have defined the scope and priorities of the research. Two of these have been fundamental to the content of The Catalogue.

First, how to define architecture. In the broadest sense, this was accepted as any project, built or unbuilt, that involved structural change, as opposed to the application of interior fittings or decoration to a pre-existing structure. It was acknowledged that Roger Billcliffe's published catalogue provided a comprehensive summary of this work. There are exceptions. In order to provide a comprehensive context for Mackintosh's work, The Catalogue includes all projects undertaken by the practice during the Mackintosh years 1889–1913. This has meant the inclusion of jobs such as the additions of fireplaces and a design for a school medallist's board, none of which are architecture, but which were included in the job books. In addition it was decided that The Catalogue should include all designs for memorials, exhibition stands, and exhibition room settings; though not strictly architecture, no comprehensive documentation on these important outputs was available elsewhere and a significant number had been included in the job books.

A more complex issue was whether to categorise the projects according to the level of Mackintosh's involvement as established by the research project. This was seen as an important tool in understanding, evaluating and searching the content of the site. Four categories of authorship have been established:

1. Projects identified as designed by Mackintosh by reliable sources during his lifetime; or so distinctive in style that their authorship seems beyond doubt.

2. Projects for which there is stylistic or documentary evidence that suggests Mackintosh designed a specific but relatively minor part.

3. Projects for which there is evidence of Mackintosh's involvement but not in a design capacity e.g. the presence of annotations in his handwriting on drawings.

4. Projects by the office dating from 1889–1913, for which there is no documentary or stylistic evidence of Mackintosh's involvement. Also projects which have been wrongly ascribed to Mackintosh in the past.

Other issues have been raised as the project evolved. These include the complexities of dating. This was important to enable final numbering of the projects and to populate the timeline which would indicate the range of work carried out at any one time, and the varying volume over the decades. Start and finish dates for projects were allocated in

year quarters based on the earliest and last documented dates for practical work on a project, broadly from instruction / design to contractor completion. The dates could in many cases only be indicative as the available information was incomplete: it comprised mainly submissions to the Dean of Guild, payments by the office, and final inspections. Work would certainly have started in the office before Dean of Guild approval was secured, and work on site may well have finished before final payments were processed or final inspection undertaken. Some interpretation was therefore necessary; users will however be able to cross-refer to the more detailed information contained within an individual project's chronology and job book entries.

Other issues were presented by the Drawings Catalogue. It had been hoped it would be possible to attribute drawings to different hands within the office. But it became clear that the generation of the drawings had been a more complex process, involving input from several hands: draughtsman; annotator; signatory; Dean of Guild master of works. Different hands may have had responsibility for different components e.g. headings; names of owners of properties; plans; elevations. A partner/draughtsman, for example, may have been responsible for a 'master drawing' which was copied and then coloured, titled, annotated and signed by different hands. It has been possible only to identify securely drawings by Mackintosh, except in the rare cases where a drawing is signed or otherwise identified.

Analysis

The project has assembled for the first time a substantial range of data related to Mackintosh's achievements as an architect. It was seen as important that the site provide evaluation of and context for that data. This is provided through a lead essay and a range of contextual papers, addressing issues such as Drawings, The Office, Building Process, Training, Materials and Technology.

Delivery, Management and Funding

The ongoing delivery of the project has been led by Professor Robertson, as the Principal Investigator. A Steering Group, representative of a range of relevant expertise, has met biannually to review and advise on progress.[4] An Editorial Board has met regularly to review individual project entry content.[5] An Advisory Panel was available for ad hoc input.[6] Additional support has been provided by volunteer assistants who have undertaken tasks including picture research; transcription of job book data; and writing of biographies. The project has funded an external copy editor, who worked on the texts from February to March 2013, and an external researcher who has researched and written many of the biographies. The core funding has been provided by the Arts and Humanities Research Council and the University of Glasgow. Additional support has been secured from The Monument Trust; The Pilgrim Trust; and the Paul Mellon Centre for Studies in British Art.

Value

The project will deliver the first in-depth, comprehensive study of the architecture of Charles Rennie Mackintosh. This has allowed the emergence of a richer and more complex picture of Mackintosh the architect. His outstanding achievements have been reaffirmed but he can no longer be viewed exclusively as a fully-formed solo genius working to his own aesthetic, as enshrined in the iconic portrait photographs by Annan or the portrait painting by Francis Newbery[7]. The project has introduced other Mackintoshes. **Fig. 4**

These include:

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[4] Roger Billcliffe; Ann Gow, HATII; Simon Green, RCAHMS; Ranald MacInnes, Historic Scotland; Dr Robert Proctor, Mackintosh School of Architecture (Professor David Porter till June 2011); David Stark, Keppie.

[5] Roger Billcliffe; Simon Green, RCAHMS; Ranald MacInnes, Historic Scotland; and David Stark from February 2013.

[6] Alan Crawford; Charles Hind, RIBA; Dr James Macaulay; Dr George Rawson; Dr Gavin Stamp; Jane Thomas, RCAHMS; Professor David Walker.

[7] Francis New bery, Charles Rennie Mackintosh, oil on canvas, Scottish National Portrait Gallery, Edinburgh, PG 1205.

Apprentice architect: As is well known, Mackintosh's architectural training followed the norm of daytime apprenticeship and vocational evening classes, and extended for over ten years. His apprentice years with John Honeyman & Keppie, from 1889 to 1901, are now more fully documented. It is clear that alongside design input into the familiar projects of the 1890s such as the Glasgow Herald building and Queen's Cross Church, Mackintosh was detailing routine, minor jobs such as the addition of toilets to tenement blocks – mundane tasks which nonetheless instilled underpinning knowledge of materials and technology. He was also engaged, both as assistant and designer, on a number of residential alterations and additions, some previously undocumented, which again provided vital grounding. This has not previously been mapped out for Mackintosh, and there are doubtless projects undertaken by the practice where Mackintosh's input remains anonymous.

Competition designer: Competitions were an important output for the leading architectural practices of Mackintosh's day. John Honeyman & Keppie / Honeyman, Keppie & Mackintosh submitted entries for over fifteen substantial projects during the Mackintosh years. These included major projects within Glasgow – the Glasgow Art Galleries (1891–2) and Glasgow International Exhibition 1901 exhibition buildings (1898); and within the rest of the UK – Belfast City Hall (1896) and Liverpool Cathedral (1901–2). Mackintosh was involved with over half of the entries.

Business partner: From 1901 to 1913, Mackintosh was a partner with John Keppie in the renamed business, Honeyman, Keppie & Mackintosh; John Honeyman gradually withdrew until his final departure in 1904. The research has provided a fuller understanding of the operation of the business and the roles of Mackintosh and of Keppie in relation to issues such as the division of work, distribution of profits, relationships with clients, and the termination of the partnership. Keppie is regularly described as Mackintosh's inferior, and yet produced substantial, finely detailed buildings including the McConnell building, Hope Street, Glasgow (1906–7) and the Parkhead Savings Bank, Glasgow (1907–8).

Future research: it is hoped that the project will stimulate further research into comparative studies between Mackintosh and his national and international contemporaries; Glasgow's wider architectural history; international critical reception; the emergence of Victorian cities in Britain, the contractors and suppliers who enabled that emergence, and the materials and technology which supported it; and international critical reception.

Audience: the site is seen as having relevance to a range of users, from academic and heritage professionals and conservators to general, school and student audiences. It will, for example, be used by Historic Scotland to update its list descriptions of buildings by Mackintosh and the practice, and has already been used to inform conservation plans for the Glasgow Art Club, The Hill House, and the McPherson flat at Comrie.

Methodology: the project methodology and the on-line resource can provide guidance for future holistic evaluations of an architect's oeuvre through its combination of physical and archival analysis. The project can also provide a model for the presentation of an architect's oeuvre in a single on-line site. Currently the majority of on-line architecture-related resources provide either collection listings, picture sites, or brief illustrated essays. None exist which provide comparable comprehensive, in-depth, well-illustrated information, combining analysis, drawings, photographs and archival material.

Dissemination

It is seen as vital that the resource is promoted as widely as possible. This will be achieved through two main outputs:

Online: the website will be easily located through simple searches like 'Mackintosh architecture' on Google, Yahoo etc and listings of electronic resources on the websites of UK and international libraries and related websites. In addition links will be provided

on The Hunterian's website, and the websites of Historic Scotland, RCAHMS, and the Glasgow Mackintosh Group and its member organisations.

Exhibition: the project will be launched in the summer of 1914 with an exhibition at The Hunterian. The exhibition will link in with Glasgow's hosting of the Commonwealth Games and its concomitant celebration of the city's unique cultural heritage. A London venue is currently under negotiation. The exhibition will showcase the project's research findings, presenting both the output of the wider practice and of Mackintosh, with a particular focus on his residential designs. The accompanying events programme will include an academic conference to be held in the autumn of 2014.