

Adam Smith's Library Project Report: How We Made this Digital Resource

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Abbreviations used in this report: Research team: CS (Craig Smith), SN (Shinji Nohara), APLS (Ana Paula Londe Silva), LS (Leo Steeds), DS (David Stewart), AW (Alison Wiggins). Libraries: EUL (Edinburgh University Library), GUL (Glasgow University Library), TUL (Tokyo University Library)

0. The purpose of this report

This report is an account of how the project team developed the digital resource *Adam Smith's Library* <http://www.adamsmithslibrary.gla.ac.uk> during 2022-2024. This report was a live shared 'working document' for internal use during the development of the resource. Each project researcher contributed to the report, which enhanced continuity and communication within this multi-person project team where members were often working in different locations. The report has been revised for inclusion in the project's externally-facing documentation to accompany the output digital resource, where its purpose is:

- To clarify the scope and limitations of the research project
- to document our rationale and editorial policy, to ensure that this digital resource serves as a reliable reference point for scholars
- to offer transparency as to our processes and methods, aligned with Open Research principles that encourage reproducibility of research
- to make visible the number of steps involved in the research tasks undertaken, i.e. to ensure that full credit to each researcher for their labour undertaken, as well as evidencing the problem-solving skills, specialist knowledge, engagement with archival materiality
- to capture the rigour of our research process
- to illustrate the workings of this interdisciplinary collaboration that included multiple international partners from the library and archives sector

The sections below describes and documents for this project: the research problems and questions; the investigation aims, objectives and milestones; the approach to the copy census and marginalia survey; workflow and communication; definitions of database fields; and technical specifications. A separate report covers credit, acknowledgements, attributions, permissions, use and citation <@link>.

1. Conceptualisation

1.1. Research Problem

The overarching research problem addressed by this project is: how can digital methods be used to reconstruct Adam Smith's library for today's users and for the future? The underpinning drive is to

stimulate interest in Smith's life and legacy from a fresh perspective, to raise the visibility of and access to the archival resources, including copy-specific features such as marginalia, and to exemplify cross-disciplinary collaborative research methods.

1.2. Definitions of Terms

1.2.i. What is 'Adam Smith's Library'?

Adam Smith's Library is both a conceptual category and a material reality. It is the collection of books and pamphlets that were owned by Smith during his life and passed to his descendants after his death.

Smith had a handwritten library list drawn up in 1781 that records the contents of his library shelves at Panmure House [<@link new window>](https://www.panmurehouse.org), his home while he lived in Edinburgh. The 1781 library list thus gives us a snapshot of his library at that specific moment in time. It does not give us all the books Smith every read during his life. Nor does inclusion on Smith's 1781 library list automatically indicate that Smith had read a work, nor guarantee he had leafed through the pages of the particular copy <@link to essay on Smith' reading>. Our aim is not to reproduce Smith's booklist nor reconstruct the library as it was at Panmure House in 1781. These could be rewarding research tasks or future projects, but are not our aim here. Rather, our aim has been to track where Smith's books are located and held at this particular moment. That is, within the project, Adam Smith's library is conceptualised as his library today, globally distributed and here digitally reconstructed.

We acknowledge that Adam Smith's Library today is not fixed or final. Indeed, during the course of the project new Smith books came to light in auction houses and salerooms. At the start of this project, we were aware of 411 books recorded in Smith's 1781 library list that were presently unlocated or unidentified (along with other lost items such as the diary Smith kept while he was in France). One of the findings of the archival research from the project has been to locate a number of these books: SN has found some books previously marked as 'unlocated' in EUL, Cambridge, and libraries in Japan. We seek to update the resource in future to accommodate newly identified Smith books as they come to light, and we have built the resource so that such additions are manageable (see Section 6).

1.2.ii. What is an 'Adam Smith Library Book'?

Adam Smith's Library is constituted of material texts that have moved through different locations and ownership settings over time, before and after they were owned by Smith. They are authenticated as volumes through their provenance: for the institutional library collections the ownership history of the books and collection can be traced directly to Smith (such as EUL, GUL, TUL) in addition to copy-specific features such as carrying Smith's own bookplate or inscriptions. In the case of individual copies that appear in salerooms and auction houses, authentication is by provenance, bookplate, handwriting analysis for signatures and annotations, or a combination of these.

We have not included here any items that were published after Smith's death in 1790. So, a publication from 1793 that is held in a repository alongside the rest of Smith's books, is not included in our catalogue. A permissive definition might justifiably include such a volume, on the basis that it may well have been added by Smith's direct descendant, David Douglas, to whom Smith left this library; we do not dispute that justification but we have only included copies that we can be confident Smith owned himself during his life.

In some cases, books have changed their material and codicological form, for example being re-bound or bound together with other items <@examples>. The terminology in use within the project is drawn from the fields of bibliography and book history with reference to Greetham (1994) and Beale (2008). Therefore, we distinguish between the terms: work, title, copy, volume, book.

1.3. Research Questions

1.3.i. How can Adam Smith's Library be modelled as a digital resource?

This project started with a problem: the books owned by Adam Smith are, today, distributed around the world in a wide range of repositories, how do we make them more open and accessible? Our solution has been to develop this hybrid, interactive digital resource that brings together catalogue entries for items that are, today, distributed in 24 repositories across 6 countries on 3 continents. It gives us Smith's library in its current globally distributed form, through collaborating with a range of institutions that including their openness to giving permission to share materials. It allows users to find copies and to search across the distributed collection, thus releasing Smith's library from siloed catalogues. Today Smith's books are divided by geography and institution, whereas this resource offers a virtual space without walls to reconstruct and interact with his library.

1.3.ii. How do we survey the corpus of marginalia in Smith's library to make it accessible?

This project started with the problem: there has never been a full survey of the marginalia in Adam Smith's library books. The marginalia remains the last unexplored area of his archive. It has potential value for scholars of Smith and his books, as well as for authentication of his books (in salerooms, auction houses, archives) as the presence of Smith's handwriting or that of known regular annotators can potentially contribute to authentication and to establishing the history and provenance of an individual copy.

While the copy census is an established bibliographical approach to marginalia, as are studies that survey a whole collection, there are no other examples that digitally capture a collection in this way. The ambition to capture and represent a library's marginalia presents a unique challenge that requires a fresh approach to how a catalogue of books can be structured, modelled, and navigated.

Our solution has been to locate and photograph marginalia and annotations across Smith's books. Where, in the case of TUL, surveying and photography of marginalia had already taken place, the data and images have been incorporated into this project through collaboration and sharing of resources. Our focus on the marginalia has been driven by a wish to open up this new dimension to understanding how Smith's library books were used, read and moved through social contexts. For the first time, the digital interface allows examples of marginalia to be compared between geographically distant libraries. Our decision-making about what counts as marginalia and what to capture is described below in 3.1, our immediate findings are discussed in the project essays within the digital resource ('Adam Smith's Book Collecting', 'Adam Smith's Reading', 'The Visible Hands: Identifying the Handwriting in Adam Smith's Books', and 'The Marginalia in Adam Smith's Library' <@links>).

1.3.iii. How can usefulness of the digital resource be maximised through collaboration?

Smithian books have present-day interest to a wide range of different individuals and institutions for an array of reasons purposes—from philosophical enquiry, economic worth, corporate identity and curatorial care. The following envisaged and target users and beneficiaries were identified at the start of the project, which are from different disciplinary and professional fields, and from different perspectives and levels of knowledge about the collection and its context:

- staff at libraries, archives and repositories that hold copies of books once owned by Smith who are seeking to make visible and encourage use of their collections, i.e. by building a digital infrastructure across repositories holding Smithian books, where the sum adds value to all the individual parts
- users in educational contexts, such as teachers and academics, for teaching and intellectual history or Smith's life and works

- users in book-trade contexts that include auction houses and private collectors seeking to authenticate Smith's books
- academic researchers seeking to understand Smith's intellectual milieux, influences and social world
- academic researchers seeking to use the resource for book history and marginalia studies, such as copy-census studies or library studies
- digital scholars seeking to reproduce or review the methods developed by the project for modelling catalogue data or data sharing
- users with a general or passing interest in Smith seeking more detailed information about his life, which could include book clubs, local history groups, prospective students or visitors to any of the institutions included in the resource that have a connection with Smith.

We connected with these potential user-groups through structured activities within project, which included: June 2023 symposium <@link to credit statement section>; the *Smith@300* reading group; presentations by project team members to conference in different disciplinary fields (see Section 7); the two-stage release to incorporate a beta-release (September 2024) to allow for testing with users (see 2.3.).

2. Investigation

2.1. Pre-project, 2016-2022

The following materials were available from 'Day 1' of the project, in January 2023, i.e. following preparatory research undertaken during 2016-22:

- An offline Access database of known books from Adam Smith's library created by CS. The starting point for this database was Mizuta's (2000) catalogue and it retains reference to Mizuta's ID numbering to allow for cross-referencing (see 5.1.).
- Digital files from Tokyo University Library: image files, a spreadsheet recording identified marginalia in their Smith volumes, and TUL catalogue data. These were available as downloadable files from their Open Access website and were also shared for project use by agreement with TUL partners.
- Images of marginalia taken in archive and library reading rooms by CS, including from Kirkcaldy Museum (see 3.2.ii.).
- The published preliminary analysis of Smith's marginalia by Phillipson, Nohara and Smith, 'Adam Smith's Library: Recent Work on his Books and Marginalia', (2018).
- The unpublished profiles of Smith's own hand based on his letters and of other hands appearing in the marginalia, prepared by AW during 2021-2022 as part of a pack of materials for a commissioned consultancy report for TUL.

2.2. Archival fieldwork, 2023-2024

The aims and objectives of the archival fieldwork undertaken during the project, January 2023-April 2025, were:

- To locate all identifiable Smithian books in library and archives globally for incorporation into our catalogue.
- To locate all marginalia in copies of books known to be part of Adam Smith's Library (for books not previously surveyed). In most cases, we were surveying these collections for marginalia for

the first time, the exception was TUL who shared their catalogue data with copy-specific details.

- To assemble an accurate, reliable dataset and photographic record of marginalia in Smith's books.
- To undertake fieldwork following reading-room policies and best practice in handling the books with regard to conservation advice from librarians and archivists at each institution.
- To file and label the photographs systematically and consistently so that they are usable by the digital developer who will create the Open Access digital resource.
- To upload and store the files so that they are secure and can be used by the research team during development of the project.
- To deliver the files to the digital developer for creation of the project Open Access digital resource.
- To achieve these within the timescale and resources available.

2.3. Testing and Release, 2024-25

The beta-version of the digital resource was released behind a passworded-area in September 2024. The testing period for the digital resource was September-December 2024, when the invited responses from a range of testers who reflected our target user-groups and were part of the project associates and network of collaborators. During this testing period, we additional uploaded the remaining catalogue entries for EUL (c.800 entries) and completed and uploaded the introductory materials. We scheduled the release date for the digital resource as March 2025.

3. Marginalia survey

3.1. Definitions and scope

3.1.i. Definition and selection of marginalia

There are many different types of readers' marks and copy-specific features that could potentially be classified as 'marginalia'. This section of this report gives our definition of marginalia within the project, records what we have and what we have not captured, and indicates the challenges involved and some caveats for users. We have made every effort to be consistent, however, our approach has necessarily evolved as we have come to understand the kinds and extent of marginalia. As a result, for the features listed here in 3.1.ii. and 3.1.iii. are not photographed, there are in the database a few examples of these, especially from the earliest stages of photography that covered the US archives and GUL.

3.1.ii. Not recorded and not photographed

The following features are beyond the scope of the current project and therefore have not usually been photographed or recorded in the project database and photographic record. While these features are not included within the scope of our research, that is not to say they are not without interest.

Particularly worth highlighting are the impressive array of bindings we observed across Smith's books that would likely reward further study and analysis:

- Ink blots and ink smudges
- Dirt, damage, wear and tear
- Blank flyleaves and pastedowns
- Bindings
- Printed marginalia
- Library stamps (inked or blind)

- Librarians' shelfmark notes on the binding board, including librarian's additions of the author's name on title pages
- Folds and creases in the paper
- Bleedthrough
- Printing irregularities
- Documents stored or associated with the book
- Uncut pages
- Slips or objects held between the pages of the book

3.1.iii. Recorded but not photographed

Smith usually added his own distinctive bookplate to copies of books in his library. Whether a copy includes Smith's bookplate or not is recorded in the database in a 'yes/no' field. Usually bookplates are not photographed for our catalogue, although we include a few illustrative examples <@links>. Smith's bookplate can provide evidence that a volume was authentically part of his library. However, there are known examples of inauthentic bookplates, such as where a bookplate appears in a text known to have been published after Smith's death. Therefore, a comprehensive study of Smithian bookplates may make a useful addition to scholarship on his library and would help to confirm authentication of new books as and when they appear.

3.1.iv. Recorded and photographed

The following copy-specific features are included in the project's definition of marginalia and have been recorded in our catalogue database and photographed. The aim has been to photograph all identified examples of these marks. They are variously in ink, pencil, or other media such as a crayon, in different styles and hands, and include writing by Smith himself as well as by other identifiable or unidentifiable writers. Analysis of these marginalia are discussed in the introductory essays on 'The Visible Hands' <@link> and 'The Marginalia in Adam Smith's Books' <@link>:

- Handwriting that appears in the margin beside the text; examples include handwritten words, numbers, sums, horizontal lines straight lines, symbols, signatures.
- Handwriting added within the text; examples include crossed-out words, words written above the line, corrections to the text, short horizontal dividing lines.
- Handwritten underlining of text.
- Handwriting notes and comments on the inside of the binding boards or front leaves (such as on the title pages or initial or end blank pages where these appear); typically, here is where signatures of ownership occur.

3.2. Photography of marginalia

3.2.i. Professional photography from Tokyo University Library

The corpus of Smith's books held by Tokyo University Library were professionally captured in full (i.e. every page) by TUL staff. From the original high-quality preservation-standard TIFF images, TUL generated pdf files that are available Open Access via TUL's own website (links provided in section 7). TUL also shared all these materials with the current project. From the TIFF files we generated JPG files suitable for the web and our zooming software; we selected page images featuring marginalia and annotations for inclusion within our resource. Other repositories do have some professionally produced images available for select Smithian volumes, which are not part of this project (including EUL and Senate House).

3.2.ii. Photography in reading rooms prior to the project

The digital resource incorporates images taken in repositories during 2016-2022, i.e. photographed prior to the start of the project. These images were taken during individual research visits to archives in the USA, Japan, Scotland and Ireland and were taken on an iPad by CS:

- Queen's University, Belfast
- Kirkcaldy Museum
- Mitchell Library, Glasgow
- National Library of Scotland, Edinburgh (checked, no marginalia)
- Johns Hopkins University Library, Baltimore
- Kress Collection, Harvard Business School
- New York Public Library

3.2.iii. Photography undertaken during the project

- Images taken during the project at GUL were taken by LS using an iPhone during 2023. At this stage, the research team piloted different devices for photograph (also a digital SLR and a Samsung Android) for use in a reading room without a tripod or special lighting, where handheld photography was required, the lighter hand-held devices produced better results.
- Images from Senate House Library were taken by APLS in 2023 using an iPhone.
- Images from Torino were taken by staff at the library.
- Images taken during the project at EUL were taken by LS and APLS during 2024 using a Bookeye overhead book scanner.

3.2.iv. Book handling

Where the condition of the book spine allows, then a photograph was taken of the whole opening, with the book positioned on padded supports and book-weights so that the binding is as open as possible. Where photographing the opening would cause stress to the spine or risk damage to the book, then physical supports were provided to hold the book at an open V-shaped angle, with the narrowness of the V depending on the condition of the spine. In each case, the aim was capture the marginal marks(s) as fully as possible without causing unnecessary wear, tear, stress or damage. If necessary, the photograph is angled onto one page or focused on the marginalia to capture that (i.e. where the whole opening cannot be captured). Researchers took advice from reading room staff on handling and physical supports for the book. In some cases marginalia or marks are written very close to the gutter, making them more difficult to see and read. These have been photographed as far as possible but with care of the book taking priority over image capture.

3.2.v. Lighting conditions and styles of photography

Lighting conditions for photography differ and depend on the site and facilities available. The images from TUL are taken with professional lightening. Images at other libraries vary depending on the time of day and/or the lightening conditions in the reading room. Strong lighting and flash lighting are justifiably not permitted in reading rooms for conservation reasons. The images from Edinburgh University Library, while they are non-professional images, were taken by researchers in the reading room, they have benefitted from having been taken with a Bookeye overhead book scanner.

3.2.vi. Supplementary images used internally within the project

For each page or opening that features marginalia, we provided within the digital resource one image (occasionally more than one, where a close-up has been judged to be needed). That is, we do not produce within this digital resource additional images or more than one image. However, it is worth noting that project researchers did capture additional images for other purposes and some of these

were incorporated into the essays on this site. Furthermore, some of the images that did not make it onto the site have nonetheless informed the analyses, in particular the handwriting analysis where close-up photography of marginalia and use of angled and raking light can make pen strokes and fine features of handwriting more clearly visible, by contrast with flat and heavily lit photography. In addition, close-up photographs of different styles of photographs have been valuable for the wider project, such as for public engagement and dissemination (according to permissions granted for these purposes).

4. Workflow and communication

4.1. Use of Microsoft Teams

A Teams channel was set up at the start of the project for core members of the research team to communicate, share and store materials. Shared live access to the most recent files was essential to version control. Cloud storage with automated back up was important for secure storage.

Photographic images captured prior to the start of the project were supplied by TUL, SN, and CS. They each uploaded files to Teams in the file structure there. The large size of the TUL files (6TB) required temporary expansion of the Teams capacity for the duration of the project and until the processing of these images had been completed.

Images captured in reading rooms during the course of the project were saved to the device used (e.g. iPhone). These files were regularly backed up on the project Teams channel (at least daily) using the file structure there (hierarchical by archive and item ID number).

4.2. Image filenames

Each image was saved with an agreed project file name format that followed the format. The file name content populates the image label file on the web resource as the file description for users:

[project ID for the item] – [image sequence number] – [volume and page identification]

Therefore, all image file names are as in the following examples:

1087 – 00001 – Vol 1 title page.jpg

1087 – 00006 – Vol 2 page iii.jpg

This agreed standardised file naming system was used across the project. It ensured consistent data capture and the ability to process the files for use and accessing on the live website.

4.3. Page numbers

In some cases there are pages with no page numbers. In these cases, references are constructed from the previous or next pages.

4.4. Workflow in reading rooms

A workflow for the marginalia survey was established during 2023 during a pilot phase for the archival research in GUL, based on the collection there, which was refined during the survey of more than 1600 volumes in EUL. This workflow established allowed for a survey rate of c.20-25 items per researcher per day, the rate being variable depending on the size of books, the quality of the bindings, their condition, the quantity of marginalia. The steps for the survey in the reading room were as follows:

Instructions for researchers undertaking archival fieldwork in readings rooms for Adam Smith's Library project 2023-2024:

- Step 1: Set up
 - Set up two book carts in the Reading Room: one book cart to hold books not yet surveyed, the other to hold books that have been surveyed.
 - Make ready padded book supports, book weights, camera set up, wi-fi connection, acid-free bookmarks, and (in EUL) Bookeye photography device.
- Step 2: Select volume
 - Select one volume from the cart of unsurveyed books. Try to select a volume that will fit the time remaining in the archive or before the next break. Where possible, stick to the order in which the books are stored in the archive (i.e. following the shelfmarks sequentially) in order to streamline workflow both for researchers and archival staff.
 - Arrange the chosen volume for viewing using appropriately-sized padded book supports to ensure minimal wear and stress on the book and spine.
- Step 3: Survey the volume for marginalia
 - Turn every page of the chosen volume to identify marginalia.
 - Whenever an item marginalia is found, record it in the project spreadsheet by giving the pages where it occurs.
- Step 4: Photograph or return the volume
 - Once every page has been turned in the volume:
 - EITHER
 - *if the book does not have marginalia*, then:
 - mark this book as 'surveyed' in the project spreadsheet
 - return this book to the surveyed books trolley
 - OR
 - *if the book has marginalia*, then:
 - set up the book in the Bookeye photography device open at the first page featuring marginalia and photograph that page
 - If the first page of the marginalia appears before the title page, first photograph the title page, otherwise, first photograph the title page and then the subsequent pages containing marginalia.
 - repeat for each page until a full set of photographs of marginalia has been captured
 - check the images have been captured successfully
 - rename each image file using the standard filename format for the project (see 4.ii)
 - upload the image file to the appropriate folder in the project Teams channel
 - return this book to the surveyed books cart

NOTE THAT: In practice, it was found more practical to accumulate a number of books that required photography and do these in batches or, often, together at the end of the day. This workflow was more efficient and accurate because there was less switching between tasks. However, it does rely on having a method for assessing what needs to be photographed before the end of the day, especially where there are multiple researchers present. For example, a reserved space in the reading room for books to be photographed, and colour-coding in the spreadsheet for books checked by not yet photographed.

- **Step 5: Review the unsurveyed books cart**
 - Review the cart of unsurveyed books. Assess the number of books remaining, the time available during the day, the size and condition of the books remaining. Judge if more books needed that day and more volumes if required.
 - Return to Step 2.

4.5. Caveats for users of this digital resource

The stated aim of the project is to capture all of these features of marginalia (listed in 3.1.ii) in every known Smith library book. To achieve this aim has involved turning the pages of, by rough calculation, in excess of half a million pages of Smith's books, possibly closer to a million pages.

The approach has evolved as we became more familiar with the kinds of marginalia we were going to encounter, the scale of the work to do, and the amount of time that surveying the photography demanded. The survey and photographing work has taken place across multiple locations, in different periods, and has involved a number of researchers.

Every effort was made scrupulously to capture each handwritten word, dot, dash, tick and underline of marginalia, and to maximise accuracy by using a systematic workflow (described in 4.iv). Nonetheless, we emphasise that the nature of this empirical tasks leaves an inevitable degree of subjectivity as researchers have to make judgement calls as to when a mark is a faint pencil line or an inked tick (both of which would be recorded and photographed) or is a crease in the paper or a printing irregularity (which would not). Some marginalia are small, faint or ambiguous, others are tucked into the gutter of books, or have been viewed in low-lit reading rooms. Some marks are notoriously difficult to see without raking light or UV light, such as drypoint, embossed marks, or partially erased marks.

Added to the elusiveness of some of the readers' marks, was the practical imperative to follow a workflow that allowed for realistic completion of the survey within the project timeline. Most books have been surveyed once (and once only) by one member of the project team. It was unfeasible, for example, given the scale, to check all books multiple times or to disbind books for analysis—tasks which in any case produce diminishing returns as well as adding stress to physical book. It is possible that some readers' marks have been missed, although we have aimed to minimise the number of these. If there are books where it is essential for a scholarly argument to have one hundred percent accuracy, then, as always with archival research, users are advised to view the book themselves in person in the reading room or, alternatively, to order further images of the copy, or to contact the repository for advice on how to re-check the volume.

5. Metadata

5.1. Database fields for the catalogue of Smithian books

Title:

The published title of the work given in full. For example, 'A criticism on the Elegy written in a country church yard. Being a continuation of Dr. J-n's criticism on the poems of Gray'.

Author:

The author of the work, with surname given first. For example, 'Young, John'. Where the author is unknown, part of the title is included. For example, 'Actis' (where the title is 'The actis and constitutiounis of the realme of Scotland'). Our database follows Mizuta's allocations of authors (and

we note that some of these allocations are unconfirmed or uncertain). We do not use square brackets for anonymous or unconfirmed authors.

Year published; Place of publication:

There are two fields that capture the year of publication and place where a volume was printed. For example: Amsterdam, and, 1673.

Location:

The current archival location where the copy is held. For example: Glasgow University Library.

ASL ID:

‘ASL ID’ stands for: Adam Smith Library Identification. This number is the Project-internal ID, assigned within the project to be a unique identifier for each item in our catalogue. It is used within the project and used for search and browse functionality. It is also visible and made available on the web resource and in the downloads of catalogue data, for ease of referencing to this digital resource.

Volume ID:

Project-internal volume ID number for keeping track of multi-part works. (Does not appear on the live digital resource, only in downloads.)

Number of volumes:

This field records the number of physical volumes of which the work is comprised. The entry gives the number of volumes, for example, ‘1’, ‘10’. This field is required because there are examples in Smith’ Library where a single work (of literature, history, philosophy, science) is published and printed across two or more bound codices. Where there is marginalia in one of these multi-volume works, the volume in which it appears is included in the Caption Metadata (see 5.3. below).

Mizuta Reference:

This field refers to the ID number from the Mizuta catalogue (2000). The Mizuta number is included to allow for cross-referencing with his key reference work, for users of the website who will use the database in conjunction with his catalogue.

Smith Catalogue Number:

The item’s allocated ID or shelf-mark number according to Smith’s 1781 catalogue. (Does not appear on the live digital resource, only in downloads.)

Marginalia:

- Where a volume has been located and checked by the project team and marginalia has not been found, then this field has: ‘No’.
- Where a volume has been located and checked by the project team and marginalia has been found, then this field holds the page numbers on which the marginalia appear.
- Where a book is unlocated then this field has: ‘No data’.
- Where a book has been located but has not been surveyed by the project team then this field has: ‘To be surveyed’.

Found in volume:

There are examples in Smith’s Library of binding together multiple individual short works into one larger volume; such as a bound volume that collects together many pamphlets. In these cases, each individual pamphlet is counted as a ‘work’ and in our catalogue is assigned its own unique catalogue number (usually following Mizuta). For example, Smith’s bound volume of ‘Political Pamphlets’ is

comprised of 7 pamphlets each of which have their own catalogue entry in our database. In order to indicate these pamphlets appear together, in these cases the field 'Found in volume' is included, which provides a generated link through to all the other items in the same bound volume. For example, Smith's copy of the pamphlet 'Speech of Edmund Burke, Esq. on American taxation, April 19, 1774' has its own catalogue entry that can be found here [<@confirm final url>](http://www.adamsmithslibrary.gla.ac.uk/book/260) the final field in this entry is 'Found in volume:' and offers a link to 'Political Pamphlets [?]', which can be clicked to access a full list of the other pamphlets in this bound volume. It is especially important within this resource to be able to link the pamphlets in this way because where Smith adds annotations at that start of a bound volume it that relates to all of these pamphlets, this is recorded in the database.

Notes:

These notes capture:

- clarifications about the materiality of the volume, e.g. ID 169 'New binding might explain the absence of Adam Smith' bookplate', ID 30 'Eight volumes with articles originally published between 1711 and 1714.'
- research insights into the content and identification of marginalia identified (to be uploaded once the survey of marginalia is complete).

Bookplate:

This field records whether a bookplate is included in the volume. Smith's books contain range of different bookplates, often his own bookplate appears, but there are also the bookplates of later owners. This field does not specify which bookplate or given any information, and images are not usually provided. This is simply a yes/no field that only contains these values.

Catalogue link:

This field contains a url link to the catalogue or the repository where the copy is held. For example, where a volume is held by Glasgow University Library Archives & Special Collections the link appears: <http://www.gla.ac.uk/services/library/>.

Current library reference:

This field records the shelfmark or archival reference number of the volume in its current location. For example, Special Collections Sp Coll RB 2930. A caveat of which users should be aware, is that some books have been recatalogued.

5.2. Metadata fields for image database

Label:

For example, 'Front cover'.

Location:

For example, 'Glasgow University Library'.

Library location:

For example, 'RB 2930'.

Caption:

Information about the image.

[6.] Software, technical management, and sustainability

The web application software has been developed and updated by the University of Glasgow Research Computing as a Service (RCaaS). The server infrastructure has been provided by IT services at the University of Glasgow.

The web application software is primarily made up of the following components:

- Python based web framework, Flask. Most of the functionality and front facing design of the web application is built within this framework.
- JavaScript. Used within various elements of the web application such as value storage to persist users search choices, switching between image/list views and the style and functionality of the image viewer itself.
- PostgreSQL. PostgreSQL is an object-relational database management system and is used to store, retrieve, and update the data on the database utilized by the web application.

The software is installed on a virtual machine which has been set up by IT services. Configuration of the virtual machine, operating system, updating, and access are controlled by IT services.

The installation of the software and any future maintenance, updates or general support relating to the software will be handled by RCaaS. The maintenance and updating of server infrastructure will continue to be handled by IT Services. The content contained within the system such as images and data are the responsibility of the *Smith@300* Project and any issues relating to that such as formatting or errors can be reported to RCaaS.

[7.] References

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