'3d data for ever (or till whatever is next)'


3D4ever – DPC – Wellcome Library, London, 9th December 2016.
Stuart Jeffrey, Glasgow School of Art

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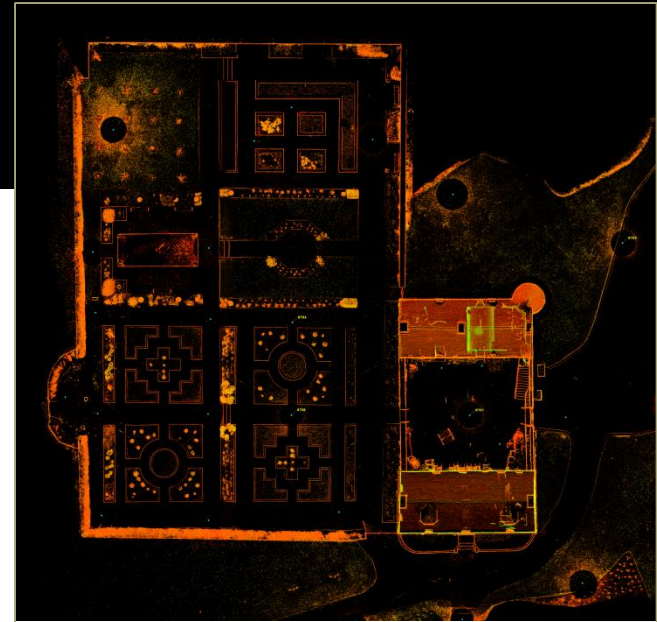VISUALISATION
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- 3D Digital content has been with us for a long time now, however:
- Massive expansion of 3D data in the Cultural Heritage sector including:
  - Archaeological site and artefact recording
  - (Historic) Building Information Modelling – e.g. Scan-to-BIM – out of architecture and into Cultural Heritage
  - But also, community production/co-production mostly via low-cost photogrammetry approaches.
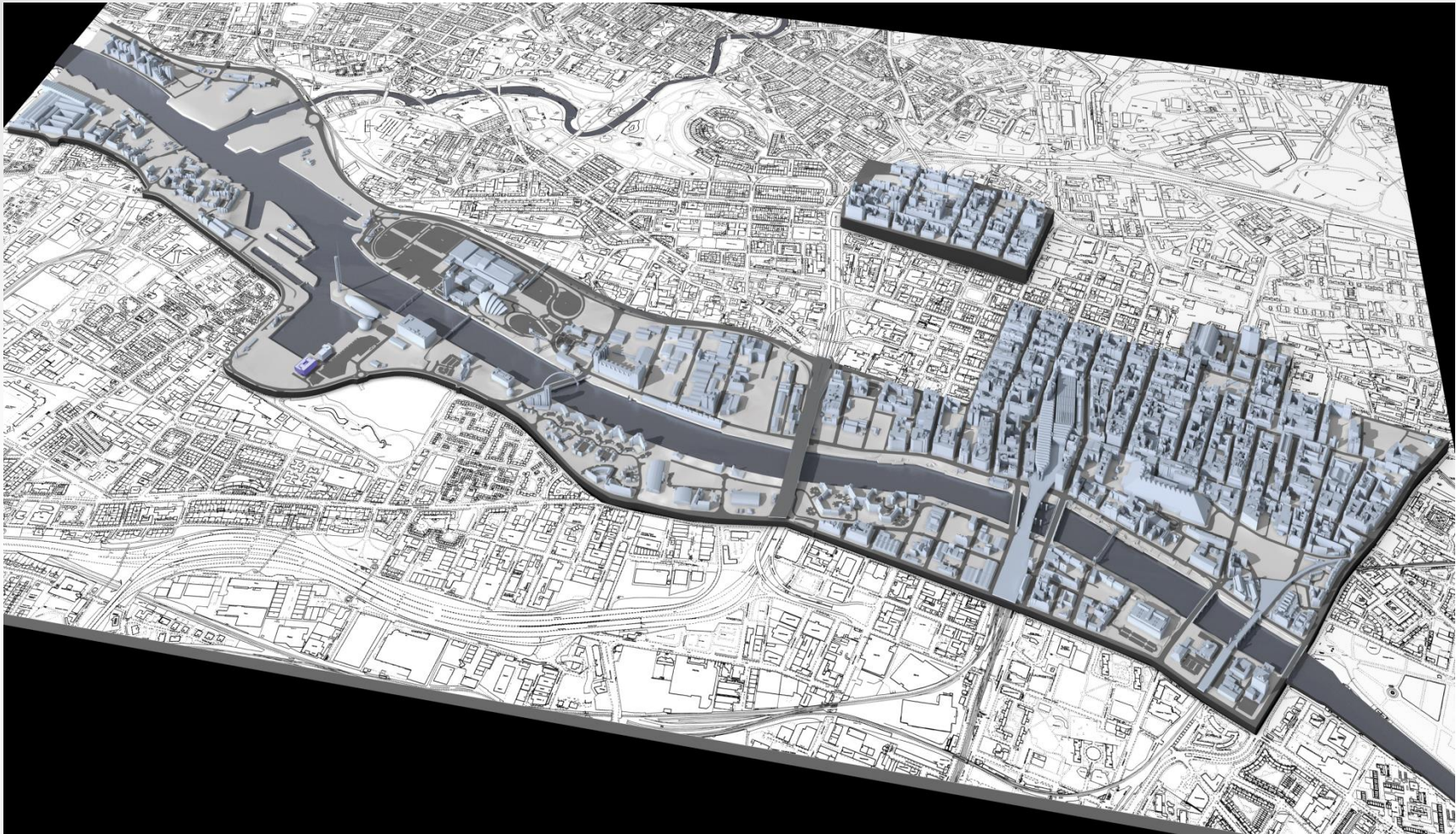
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Heather Christie, PhD candidate, GSA – photogrammetrically modelled IA Bead.

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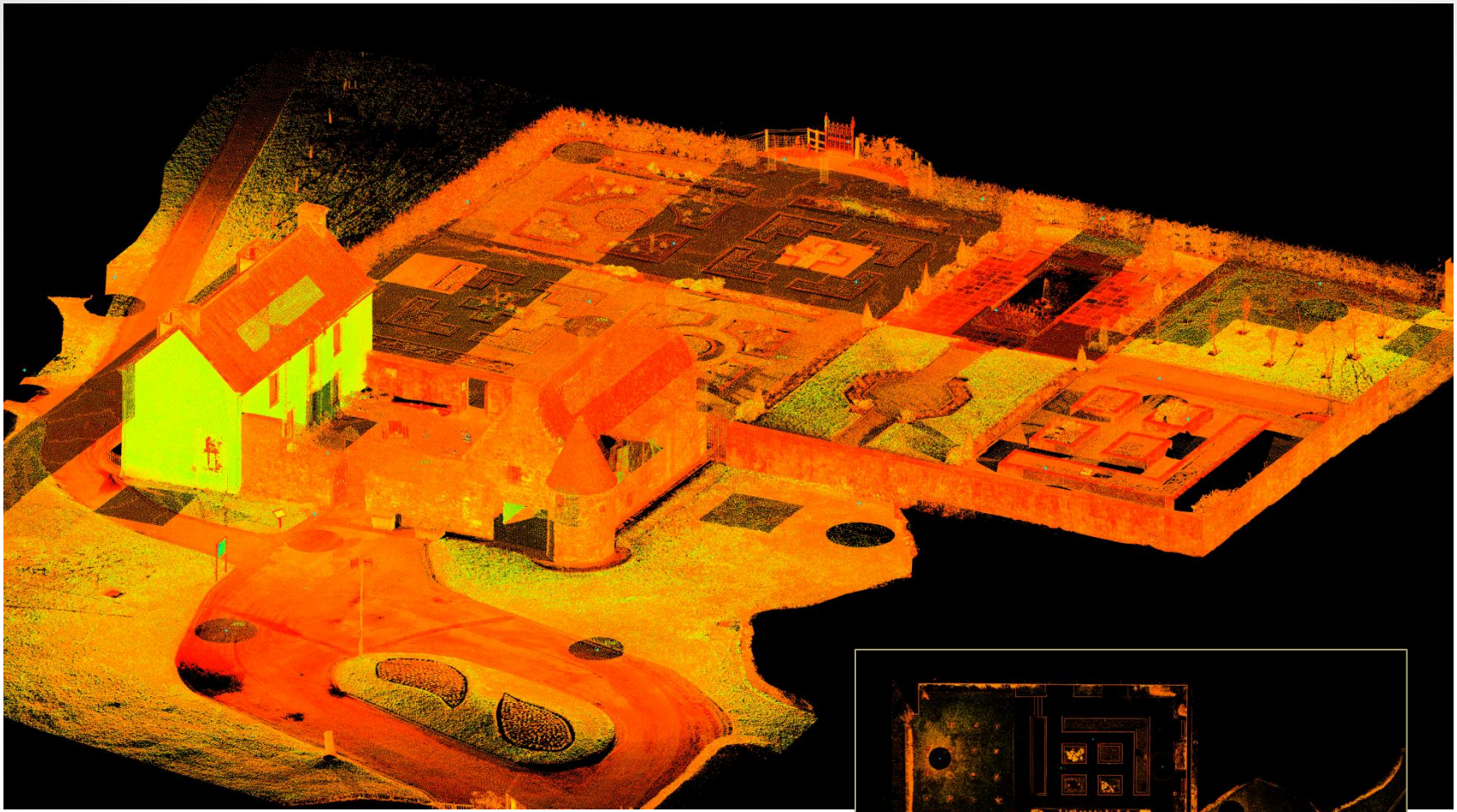
Provan Hall, Easterhouse
Digital Documentation training

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The Urban Model for Glasgow project's primary objectives were to deliver an online and high-resolution 3D digital models that is accessible to citizens, the development industry and enhance Glasgow Council Services.

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Some Traditional Activities and audiences:

Expert re-use
- Erosion/Damage monitoring
- Management
- Research and analysis (malleability)
- Re-contextualisation – landscape scale*
- Monuments in use*

Public engagement
- Virtual tourism
- Education

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Examples:

- Curating co-produced content and partner expectations (including 'citizen science')
- Legacy data reuse and links with other datasets
- Lessons from history:
  - Second Life – a cautionary history
  - Geo-physical exceptionalism
- Metadata and Paradata (the London Charter)
- Process, intermediate outputs and Preservation Intervention Points
- Preservation through reuse – data integration

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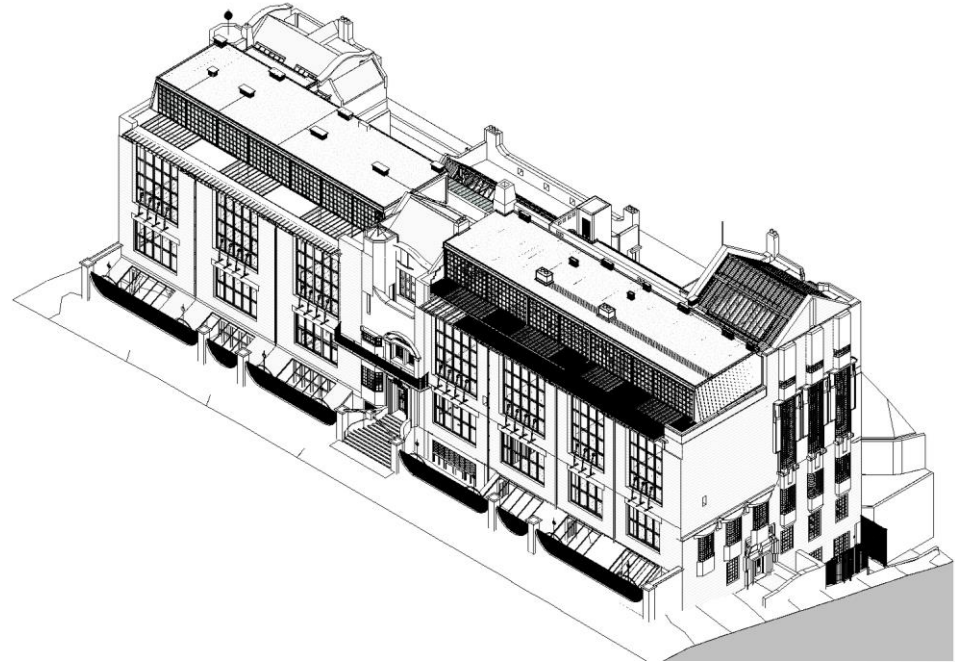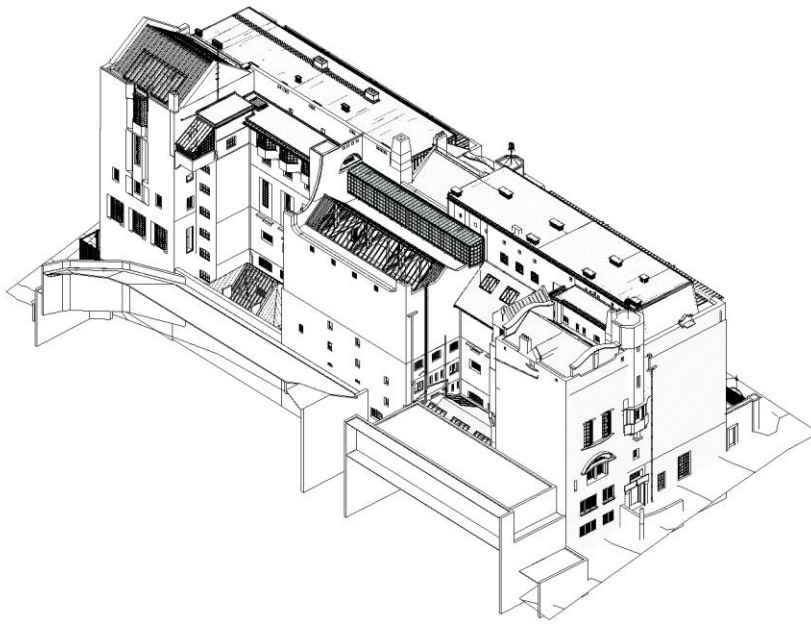
Documenting historic structures (the 'Mack')
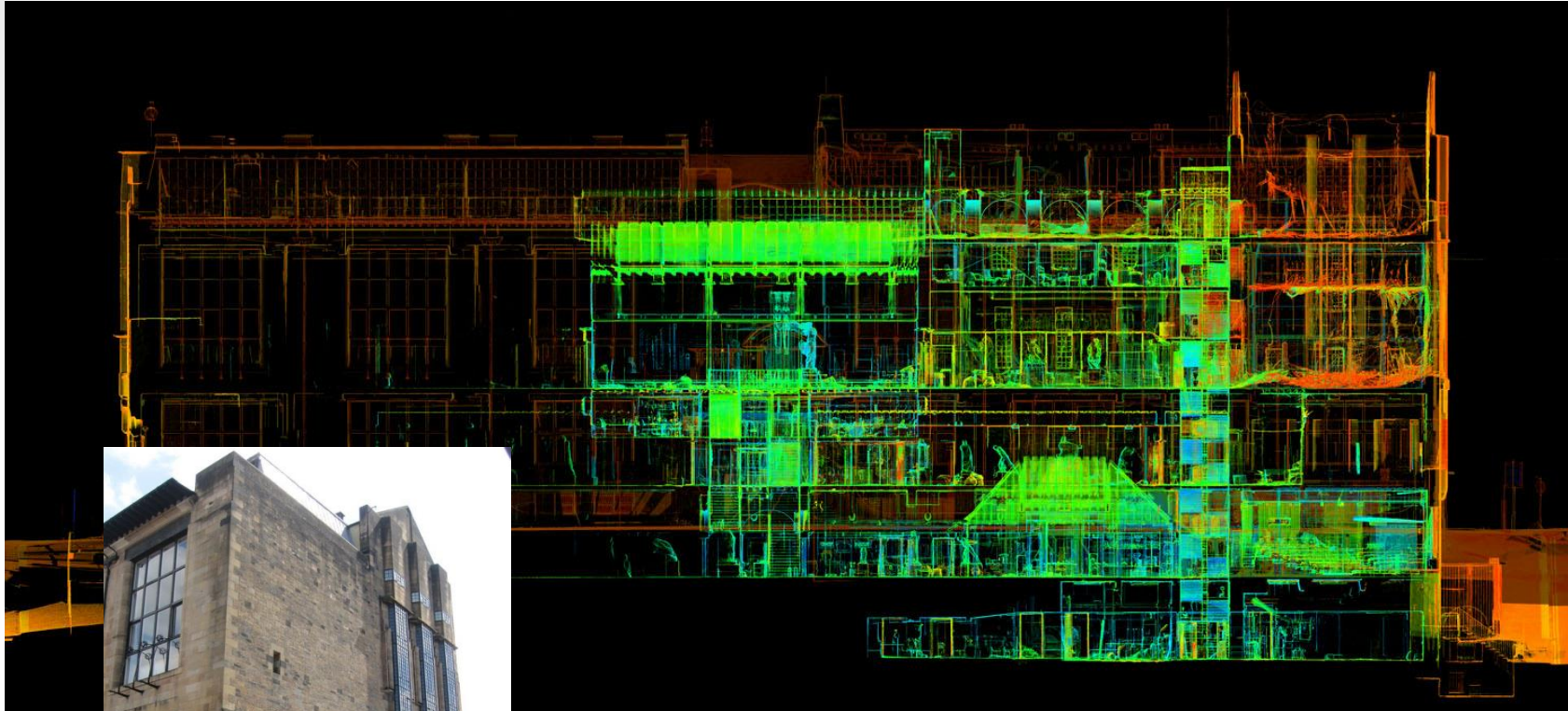
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Daily Mail

Building Information Modelling (BIM)

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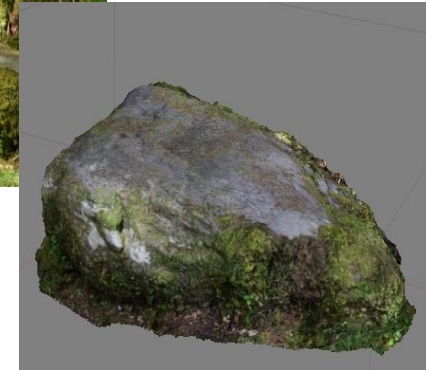
Low cost and low entry barriers to production: ACCORD Archaeological Community Co-Production of Research Data

- AHRC Funded, 2014 –15 Connected Communities, Digital Transformations programme

- To embed contemporary social values in the resulting digital records and 3D objects

- To explore whether community co-design and co-production increases the value and authenticity of digital visualisation objects

- To reflect on the nature of the relationships between community groups, digital heritage professionals and the outputs they have created

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ARCHAEOLOGY SCOTLAND

MANCHESTER 1824
The University of Manchester

Royal Commission on the Ancient and Historical Monuments of Scotland

Co-production/UGC & User expectations.

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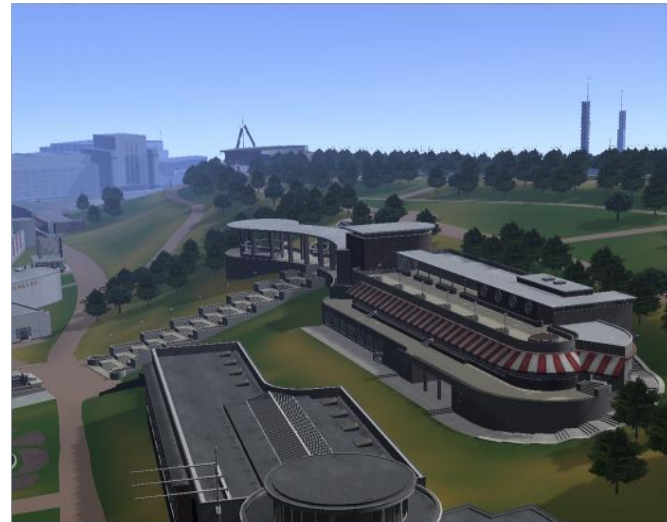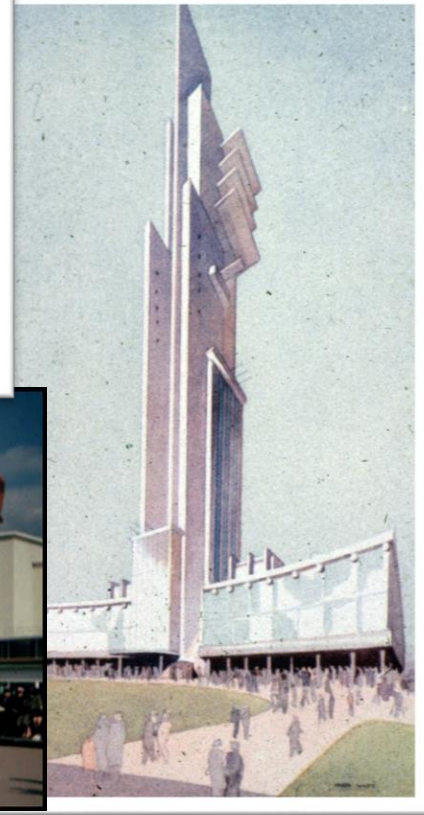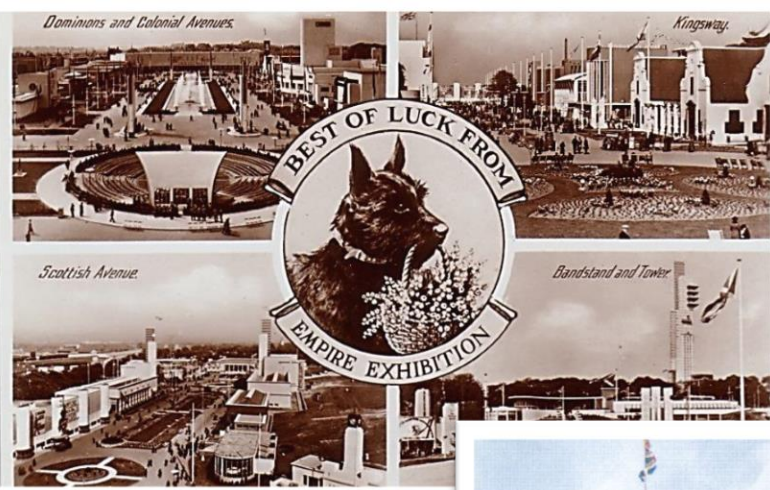THE GLASGOW
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REVISIT: Research Engagement through Virtual Immersive Tools for Learning

- To transform and re-purpose the results of The British Empire Exhibition, Glasgow 1938, research project into innovative learning tools for schools.

- To increase our understanding of the impact of immersive learning tools for teachers and learners (primary and secondary). *We will work together with at least 3 schools.*

- To create 3D virtual learning environments that meaningfully and appropriately engage young learners. *Students will have the opportunity to not only interactively engage with the 3D model, but to also produce and contribute their own creative responses to the model.*

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Arts & Humanities Research Council

UNIVERSITY OF Hull

THE UNIVERSITY OF CALIFORNIA · LET THERE BE LIGHT · UCLA

Interactive 3D visualisation: Empire Exhibition, 1938.

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HOUSE FOR AN ART LOVER

CASCADE AND LAKE, DOMINIONS AVENUE, EMPIRE EXHIBITION, SCOTLAND 1938.

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Cp. ACCORD re: retention

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Associated and contextual datasets and their structure.
The reception of the model can enhanced/or degraded depending these associations.

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Examples:
- Curating co-produced content and partner expectations (including 'citizen science')
- Legacy data reuse and links with other datasets
- **Lessons from history:**
  - **Second Life – a cautionary history**
  - **Geo-physical exceptionalism**
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http://www.londoncharter.org/

The London Charter

For the use of 3-Dimensional Visualisation in the
Research and Communication of Cultural Heritage.

Principle 1- Implementation

The principles of the London Charter are valid wherever computer-based visualisation is applied to the research or dissemination of cultural heritage.

Principle 2 - Aims and Methods

A computer-based visualisation method should normally be used only when it is the most appropriate available method for that purpose.

Principle 3 - Research Sources

In order to ensure the intellectual integrity of computer-based visualisation methods and outcomes, relevant research sources should be identified and evaluated in a structured and documented way.

Principle 4 - Documentation

Sufficient information should be documented and disseminated to allow computer-based visualisation methods and outcomes to be understood and evaluated in relation to the contexts and purposes for which they are deployed.
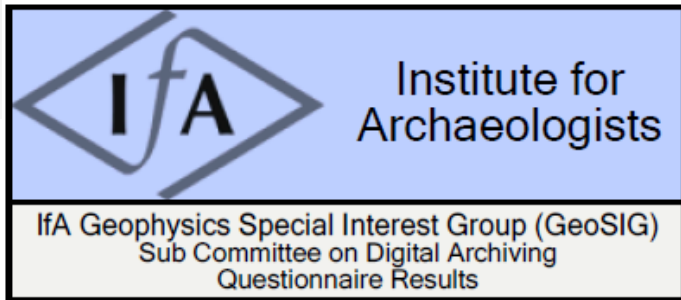
Principle 5 - Sustainability

Strategies should be planned and implemented to ensure the long-term sustainability of cultural heritage-related computer-based visualisation outcomes and documentation, in order to avoid loss of this growing part of human intellectual, social, economic and cultural heritage.
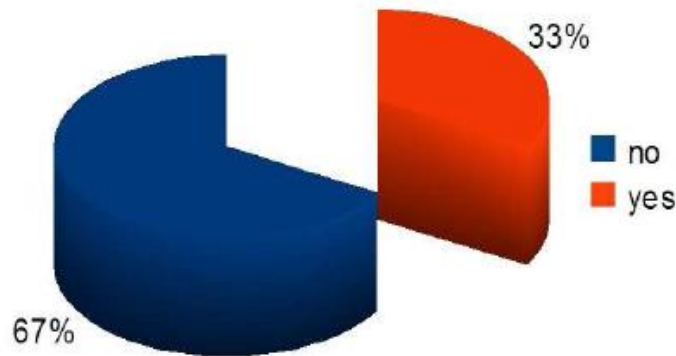
Principle 6 - Access

The creation and dissemination of computer-based visualisation should be planned in such a way as to ensure that maximum possible benefits are achieved for the study, understanding, interpretation, preservation and management of cultural heritage.

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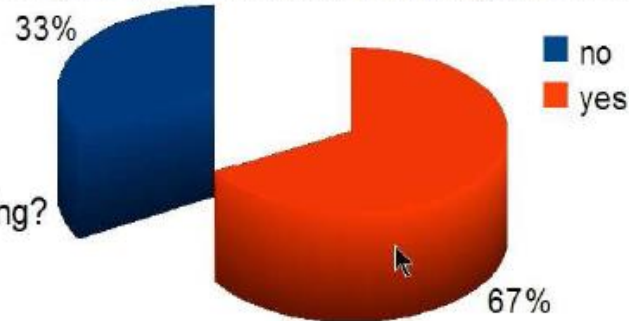VISUALISATION
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Lessons from History:
Part 1 – Exceptionalism (Geophysics)
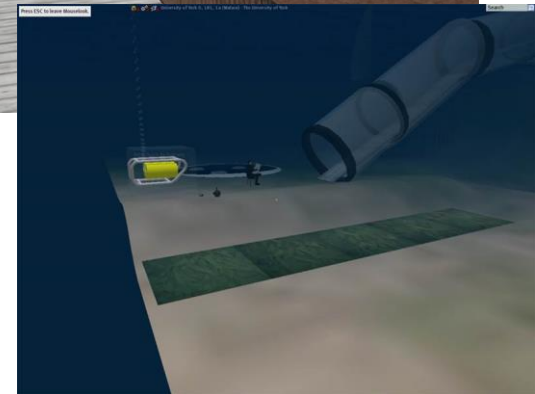
Too big, too complicated, commercially sensitive, requires context – archived in house…….
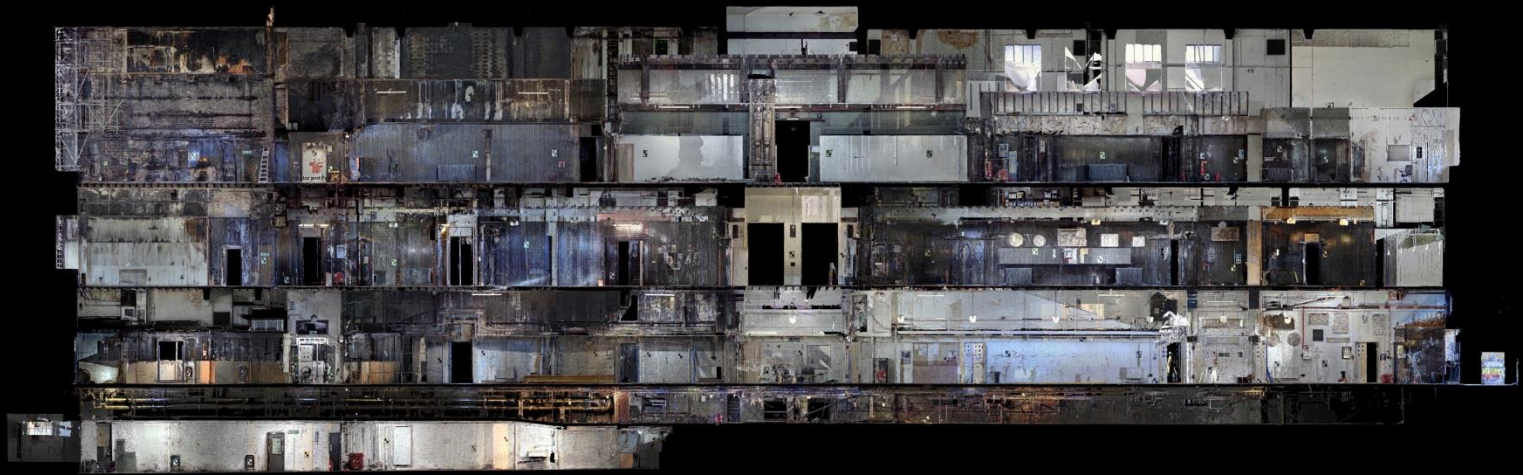
Lessons from History:
# Part 2 – Second Life
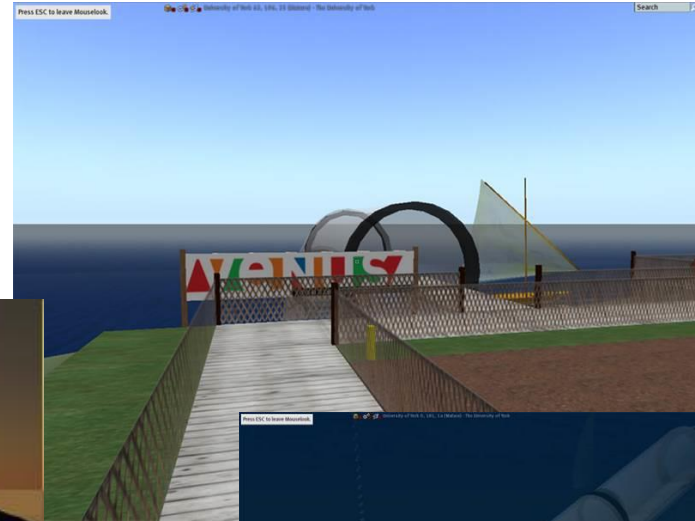
Catal Hoyuk project, UCLA Berkley

Thinks also:
Magnolia, megaupload,
geocities etc. etc. etc.
Sketchfab?

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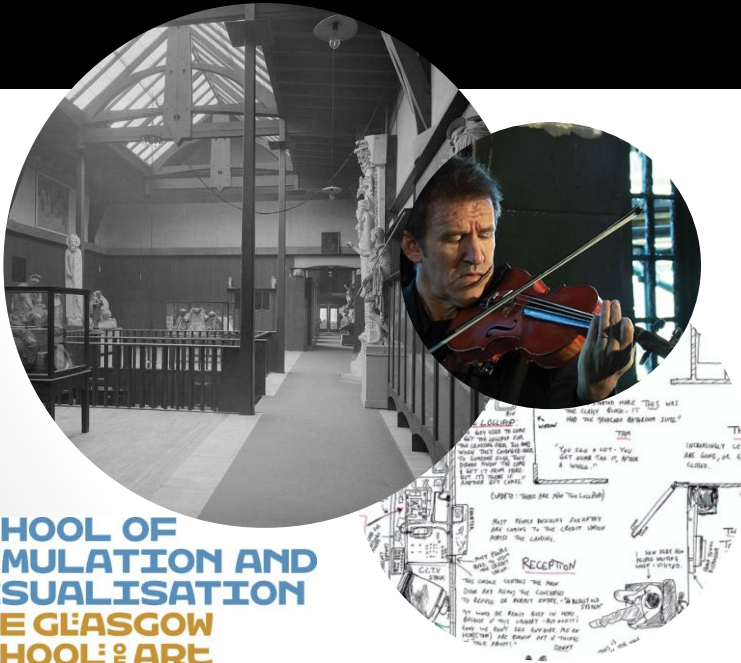
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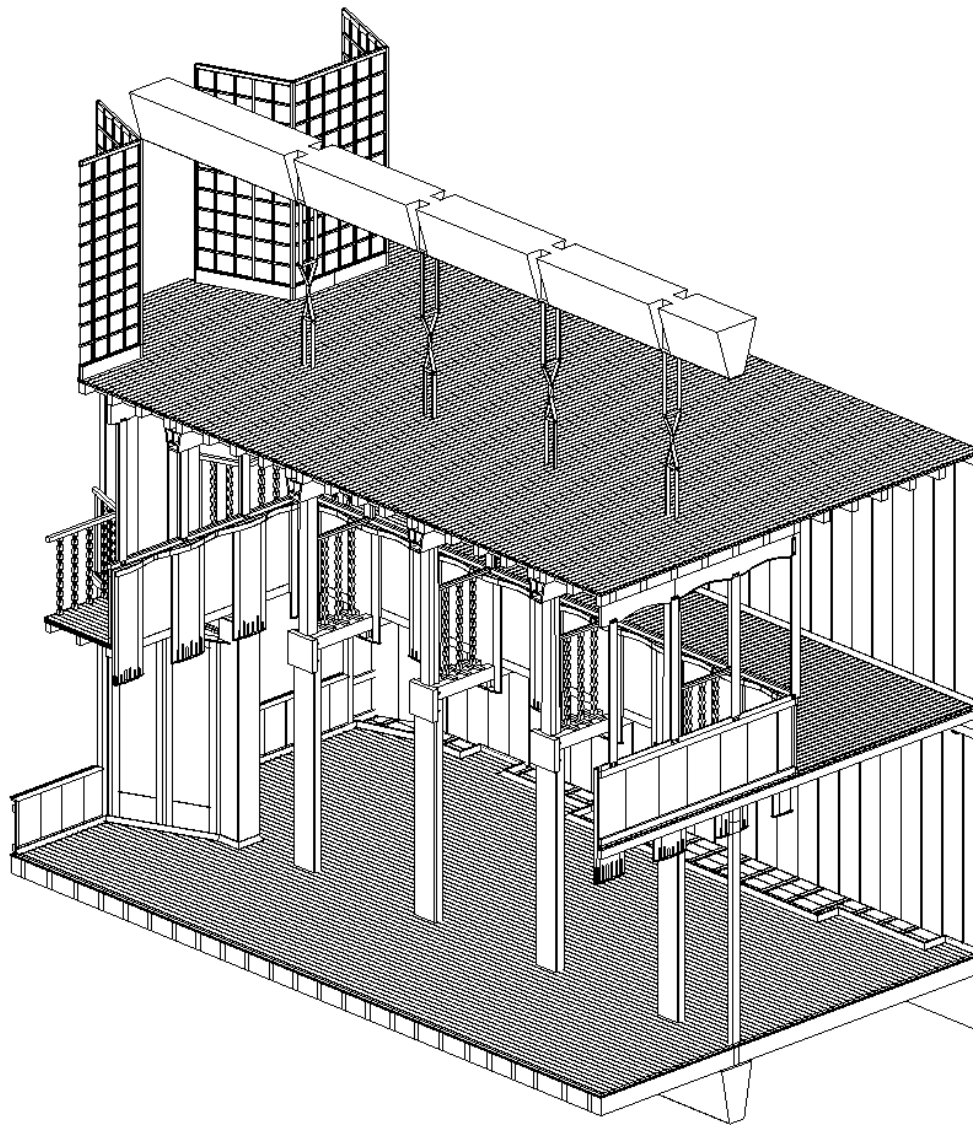VISUALISATION
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Preservation through reuse – data integration approaches.

PAGE\PARK

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The Mackintosh Library, not looking like a masterpiece.

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Preservation Intervention Point Schema

Data archive (OAIS)

Example of preservation meta for e.g. Sonar survey

PIP requisites/criteria
1 Metadata - preservation
2 Metadata - resource discovery
3 Re-use case - known
4 Re-use case - potential
5 Repeatability and value

Data streams

'In-device' processing

'In-field' processing

Post-processing

Dissemination outputs

Acquisition feedback

Preservation Intervention Point (PIP)
Non exclusive.

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Future uses &
Intermediary formats

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Some concluding thoughts:

- 3D Data is not exceptional
- Backing-up is not archiving
- Think like an archivist (timescales) when considering shortcuts and novel solutions
- Dissemination vehicles vs archive
- Discoverability of interventions
- Reuse ensures preservation
- Data integration may be a route to reuse

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