# Heritage science data and economic impact:

## What is the role of heritage science data in making the case for cultural heritage?

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# Heritage science data and economic impact

- Why is this question relevant?
- How do we understand economic impact of heritage today?
- What is neglected in the current understanding of heritage and its economic impact? And what does that mean?
- How can heritage science help?
- What does this mean for the future of heritage science data?

# Why is this question relevant?

OXFORD ECONOMICS

**Economic valuation of the British Library**

January 2013

Andrew Tessler
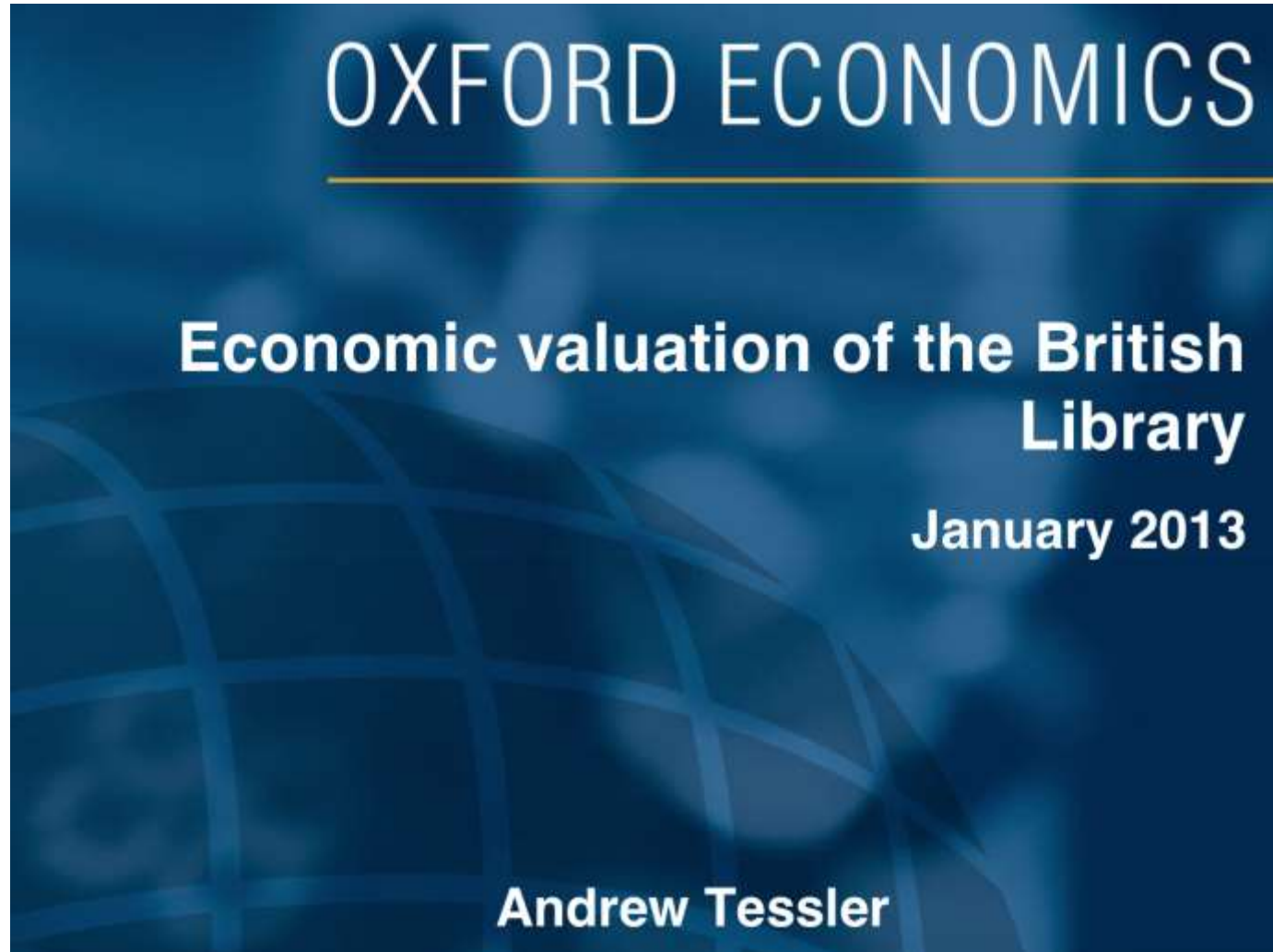
Using benefit cost analysis (BCA) within a Total Economic Valuation (TEV) framework.

Consistent with HM Treasury guidelines as set out in the Green Book (HM Treasury 2003).

https://www.bl.uk/aboutus/stratpolprog/increasingvalue/britishlibrary_economicevaluation.pdf

# Why is this question relevant?

The benefit cost ratio (BCR) of 4.9 indicates that for every £1 invested in the Library in 2011/12, the Library generated £4.90 in economic welfare. This provides a powerful indicator of the Library's value to UK society.

OXFORD ECONOMICS

Economic valuation of the British Library

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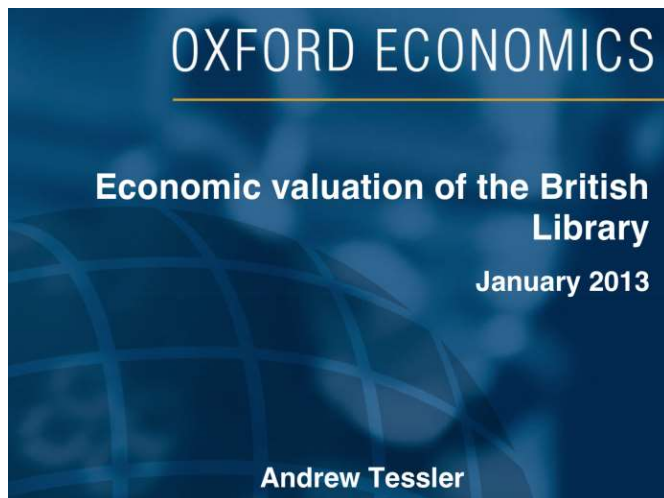
- Valuation of the Library's **Reading Rooms** at £70million per annum, including over £20 million for the Business & IP Centre (BIPC).
- The valuation for the first time of the Library's **web services** at some £19.5 million per annum.
- Assessment of the value the Library contributes to the Higher Education sector thorough operation of the **UK Research Reserve** (£5.4 million per annum).
- Evaluation of the value that **broader society** (non-users)place on the continued existence of the Library – some £413 million per annum.

Assessment of key **non-monetised benefits** through an MCA including the finding that Reading Room users value the depth and breadth of the Library's collections, free access and the Library's role as a research resource as the Library's most important features.

# Current methodologies of determining economic impact of heritage

- By using different methodologies that monetise a variety of non-market benefits.
- Usually in line with the guidance from the UK Treasury Green Book. For example:
  - Employment and job creation
  - Contingent valuation – stated preferences – e.g. use and non-use value of having a museum in the city
  - Hedonic pricing – value of leaving near particular facility]
  - Travel cost
- Non-monetized:
  - Wellbeing – relationship between taking part in cultural activity, wellbeing and income

*O'Brian 2010: Measuring the value of culture: a report to the Department for Culture Media and Sport*

# Going beyond economic impact

- Acknowledging complexity and going beyond economic impact
- The AHRC Cultural Value Project – Crossick and Kaszynska 2016:
  - Reflective individual
  - Engaged citizen
  - Communities, regeneration and space
  - Innovation
  - Ecology
  - Education

# Digital transformation and economic impact

- Impact of new technologies and digital transformation:
    - How is heritage consumed
    - Audience reach
    - Engagement through digital channels
    - New business models
    - New types of cultural production

Bakhshi and Throsby 2012: New technologies in cultural institutions: theory, evidence and policy implications

Doing the customer feedback survey for St Pancras International Station. The question "what best describes your reason for visiting St Pancras International" has "recommendation from friend or family member" and "convenient location" but not "it's where my train runs from"...

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What is neglected in the current understanding of heritage and its economic impact?

# What is neglected in the current understanding of heritage and its economic impact?

- Role of heritage organisations and professionals in the creation of knowledge
- Heritage as extensive research and scientific infrastructure
- Provision of expert advice and services
- R&D and innovation

# What is this to do with data?

- UKRI Strategic Prospectus 2018: Sustainable economic growth for developed economies like the UK can only come from innovation – the application of new ideas and knowledge.

- UK Industrial Strategy Grand Challenges:
  - Artificial Intelligence and data
  - ageing society
  - clean growth
  - future of mobility

- Economist: The world's most valuable resource is no longer oil, but data

# Data Science and Heritage

- Interdisciplinary scientific methods, processes and systems
- Extracting knowledge and insights from data in various forms – text, images, objects, video, audio
- Opportunity to leverage huge computational power to work with data at scale
- Ethics – privacy, consent, fairness, bias

*Algorithms co-design*

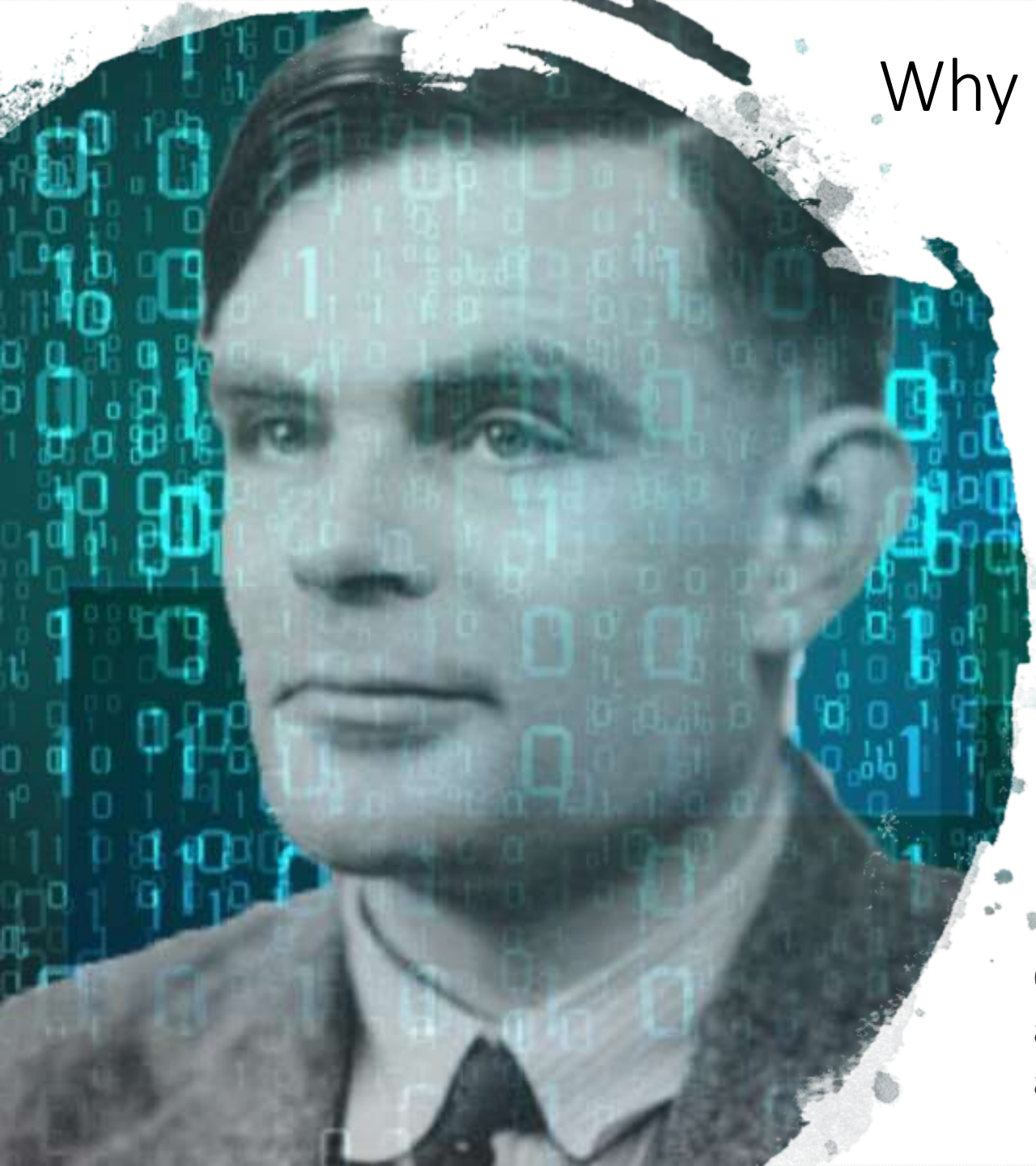*Data analytics platforms*

*Human subject data (audiences)*

*Visualisations*

*Geolocation*

*Provenances*

*Monitoring and analytics*

*Predictive modelling*

# Why is this question relevant?

In 2015 the British Library at St Pancras became the home of the Alan Turing Institute, a major new research centre for data science and artificial intelligence.

Living Knowledge, BL Strategy 2015:
By the end of the next strategy period we intend that our engagement with research excellence in the UK will increasingly include active participation in the research process, harnessing the power of the data analytics revolution that is enabling researchers to use our digital collection at scale.

British Library Data Strategy 2017:
Our vision for the British Library is that research data are as integrated into our collections, research and services as text is today.

# Living with Machines

## a radical collaboration between historians, data scientists, curators, and technologists
## to model the effects of mechanisation on society

Partners include
The Turing Institute, The British Library
Queen Mary University, University of East Anglia, Exeter University
https://www.turing.ac.uk/research/research-projects/living-machines

# Living with Machines

- Analyse data drawn initially from millions of pages of out-of-copyright newspaper collections from within the archive in the British Library's National Newspaper Building, and from other digitised historical collections, most notably government collected data, such as the census and registration of births, marriages and deaths.

- New research methods to allow computational linguists and historians to track societal and cultural change in new ways during this transformative period in British history.

- Drive the development of infrastructure, computational methods and tools.

- Provide vital context for the present-day debates about the future of work, prompted by the social change caused by the so-called 'fourth industrial revolution' of artificial intelligence and robotics.

**Data**
**Driven**
**LIBRARIES**

- Turing Institute and BL collaborative research to understand how data science can benefit libraries.
- Proof of concept national spatial model for UK Libraries to model flows of people, services and resources.
- Creating and testing an algorithm to interrogate libraries data.
- Understanding of availability of data, gaps and complexity.
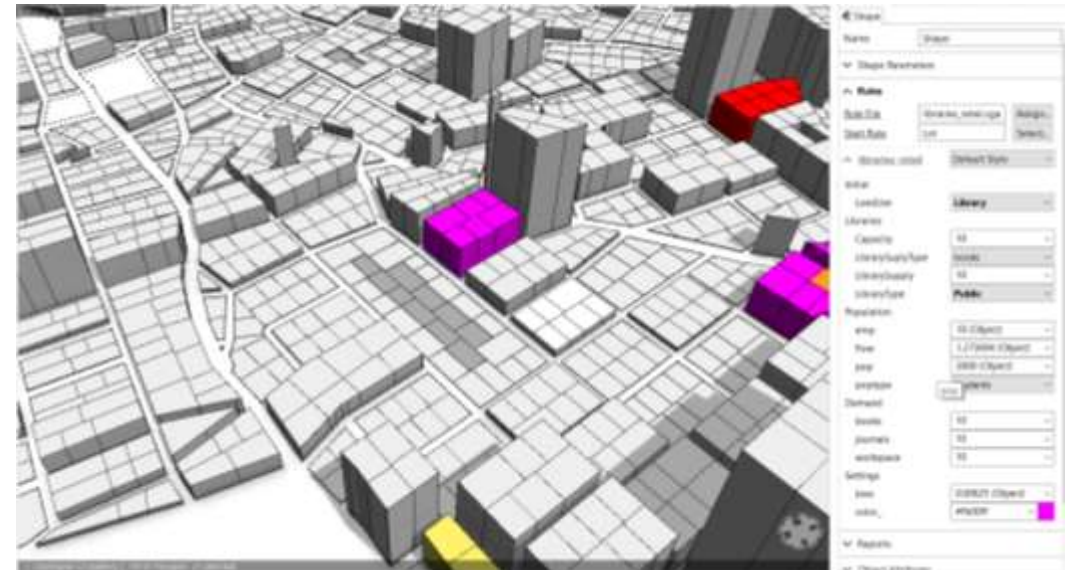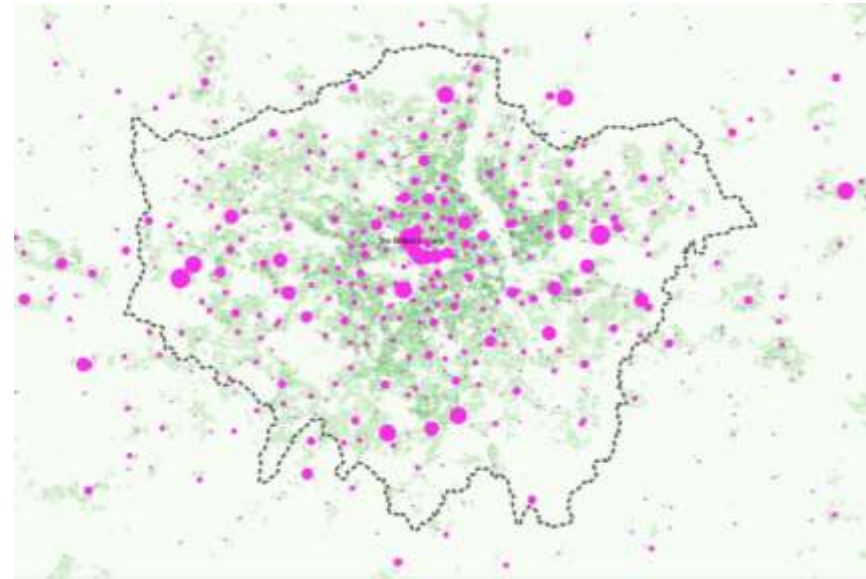- How data can be used to tell us about the impact of library presence or absence in an area.

Data
Driven
LIBRARIES

The Alan Turing Institute

BRITISH LIBRARY

# Opportunities and challenges

Speed of digitization and quality of data and metadata

Complexity of born digital content

AI and machine learning: opportunities for experimentation and going beyond experimentation

New curatorial roles in contextualising data analytics

Open heritage to power new generation of research

Heritage infrastructures connecting data and analytics across multiple platforms

Data governance and ethics

Relevance to diverse audiences

Retaining digital expertise in heritage organisations

Enabling deeper economic and societal impact through data-driven research

Research driven

Development of impact methodologies suitable for heritage

Aligned to scientific grand challenges

Significant societal and economic research questions asked of collections, organizational, audience and systems derived data

Trusted public role in the age in which algorithms are re-writing history

New products and services

New audiences

Thank you