University of Portsmouth

Old Maps Online:
Embedding old maps in the practices of historical GIS and geo-semantics

Humphrey Southall
(University of Portsmouth/
OldMapsOnline Project)

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Embedding old maps in the practices of historical GIS

This presentation is about referencing, but not geo-referencing …

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About OldMapsOnline

- 15 month JISC-funded project
  - Joint Information Systems Committee of the Higher Education Funding Councils of the UK
- Partners:
  - University of Portsmouth
  - Klokan Technologies Gmbh
  - British Library
  - National Library of Scotland
- Main deliverables:
  - Global search portal based on area covered and date
  - Covering up to c. 200,000 geo-referenced maps – have c. 75,000
  - But also looking at best practice for referencing maps
    - Which is one reason project has another nine months to run

My starting point as project director

- I am not a librarian but a historical researcher wanting to systematically cite my sources
  - And I want my citations to work long-term – *really* long-term
- As a historical geographer, my sources are often maps
  - Referencing of historical maps in traditional scholarship often very poor, as shown by a survey of English county atlases
- I am a builder of historical GIS systems, so I want to be able to directly reference digitised maps from my digital interpretations based on them
  - Genesis of current project within Global Historical GIS project, which briefly proposed world's largest scanned map library
  - We need to leave this task to map librarians, but we need to link much more directly than is currently possible

The Survey of English Place Names

- Began in 1922 and still incomplete
  - 86 volumes published so far
  - These now being computerized by JISC DEEP project
- Survey for a given area starts by extracting ALL the place names from the earliest available OS 1:10,650 map (six inch to one mile), recording coordinates
  - But just how do you do this with paper maps?
  - Would clearly benefit from using with geo-referenced scans
  - Then traces each name back to its earliest form
  - Researchers expert in Anglo-Saxon, Norse and Celtic
- Ultimate authority for the existence of each name (and place?), as distinct from its evolution, is the map
  - So how do they or we cite “names on maps”?

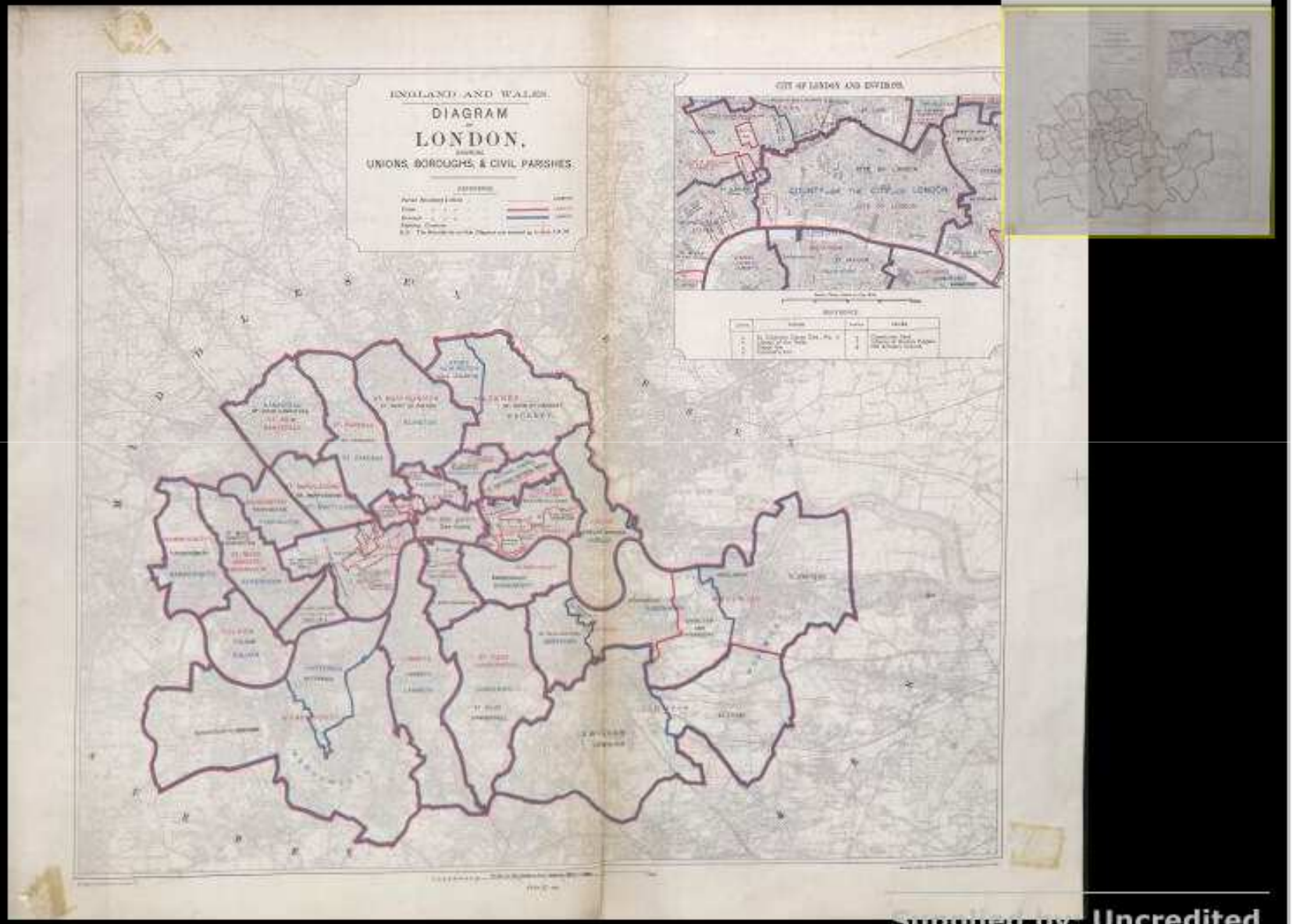
We cannot cite maps we cannot find …

- Old Maps Online portal solves findability
  - So long as enough libraries contribute metadata
  - We are here mainly to ask you to share your metadata
- But citability faces further barriers
  - My role today is to survey those barriers
- Barriers raise technical issues but these are anything but insurmountable – real problems are institutional
  - Gathering metadata for portal means a kind of census of URLs for historic maps
  - NB revising your metadata is in no way a condition for being included the Old Maps Online portal

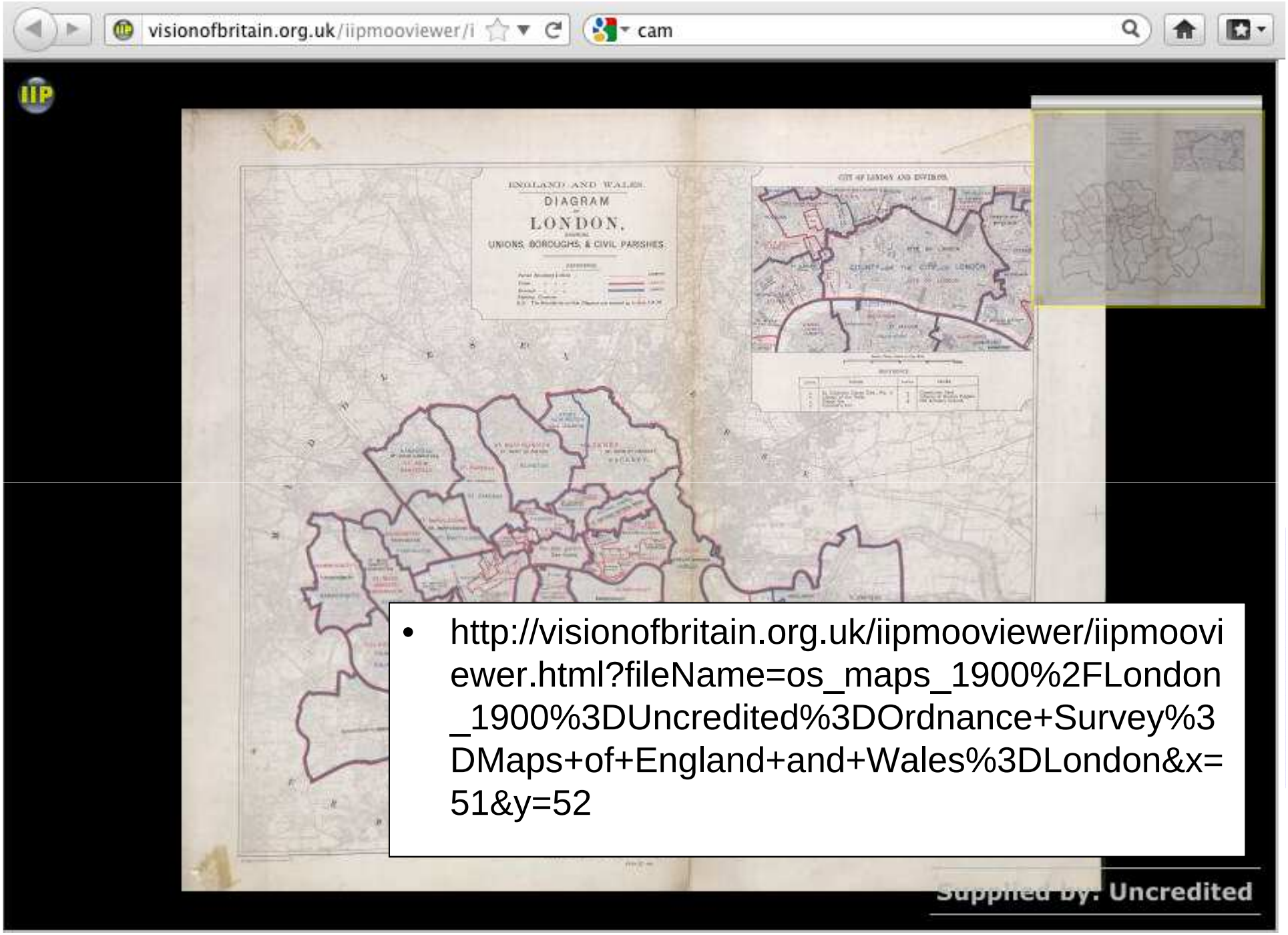
Some examples of current practice

- Aim is to show there is a fundamental problem, in current *best* practice
  - My examples come entirely from two collections already in *Old Maps Online,* including my own
  - But could be replicated from many other collections
- No time to look at overall site navigation, so focus is on the pages actually presenting the maps
  - But anyway, our portal take users straight there
- Central issue is what URL identifies the map
  - NB in some cases there *may* be some separate “canonical” URL that I could not find
  - My situation here is the same as any other historical researcher needing digital citations to include in their publications

visionofbritain.org.uk/iipmooviewer/i
cam



Supplied by: Uncredited



- http://visionofbritain.org.uk/iipmooviewer/iipmooviewer.html?fileName=os_maps_1900%2FLondon_1900%3DUncredited%3DOrdnance+Survey%3DMaps+of+England+and+Wales%3DLondon&x=51&y=52

visionofbritain.org.uk/place/place_page.jsp?p_id=244

new york public library maps

A vision of BRITAIN THROUGH TIME

A vision of Britain between 1801 and 2001.
Including maps, statistical trends and historical descriptions.

Help using this website

Home | Places | Statistical atlas | Historical maps | Census reports | Travel writing | Learning resources

Home / United Kingdom / Britain / England / Somerset / Bishops Sutton

Place:

Bishops Sutton
Somerset

Location

Historical writing

Units and statistics

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http://vision.port.ac.uk/cgi-bin/mapserv?map=/data/map-files/bound_map_page.map&layer=new_pop&mode=map&map_imagetype=png&mapext=3154885.070193333333257542108185589313507080078125+2799120.68758+3158338.403526666666742457891814410686492919921875+2801920.68758&map_size=370+30

Chipping Barnet

Draughtsman: [Hyett, William]

Medium: Pencil and ink on paper

Date: 1805

Interactive zoomable image (needs Flash)

Full size printable image

More metadata

The most obvious features of this plan are major roads coloured yellow, with their cumulative lengths noted at intervals of one mile. North is not orientated towards the top. As a result,Watford appears to the left of St Albans, and the boundary between Middlesex and Hertfordshire (a dashed black-ink line)runs from the top left of the map down through Elstree to Hadley. The paper carries a watermark from the James Whatman Turkey Mill.

BRITISH LIBRARY

ONLINE GALLERY

See 30,000 items from our collection

Search the **Online Gallery**

GO

http://www.bl.uk/onlinegallery/onlineex/ordsurvdraw/c/002osd000000009u00103000.html

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Search within this collection

GO

Favourites

(What is this?)

You must log in to see your favourites.

Personal galleries

(What is this?)

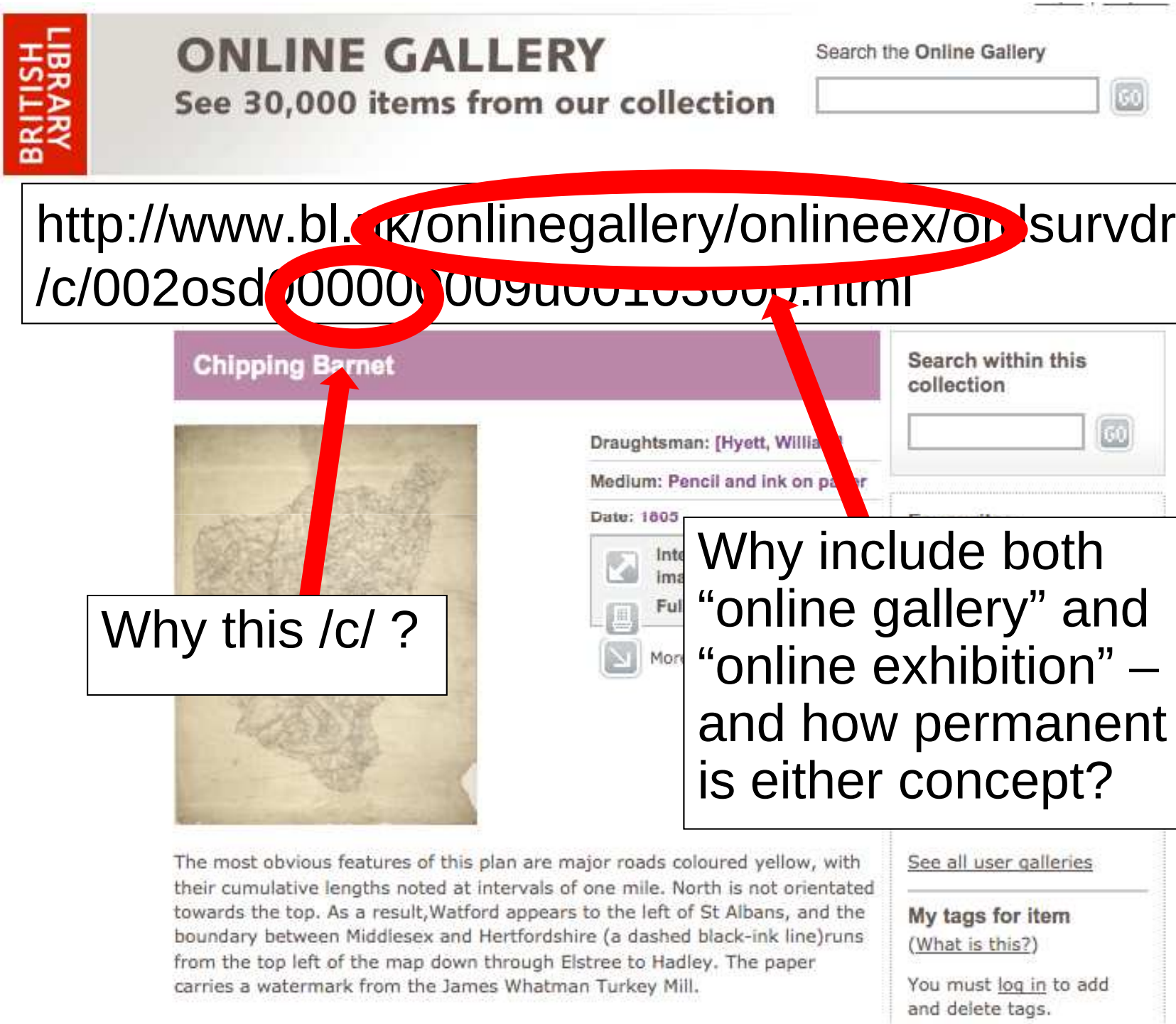
You must log in to create and edit galleries.

See all user galleries

My tags for item

(What is this?)

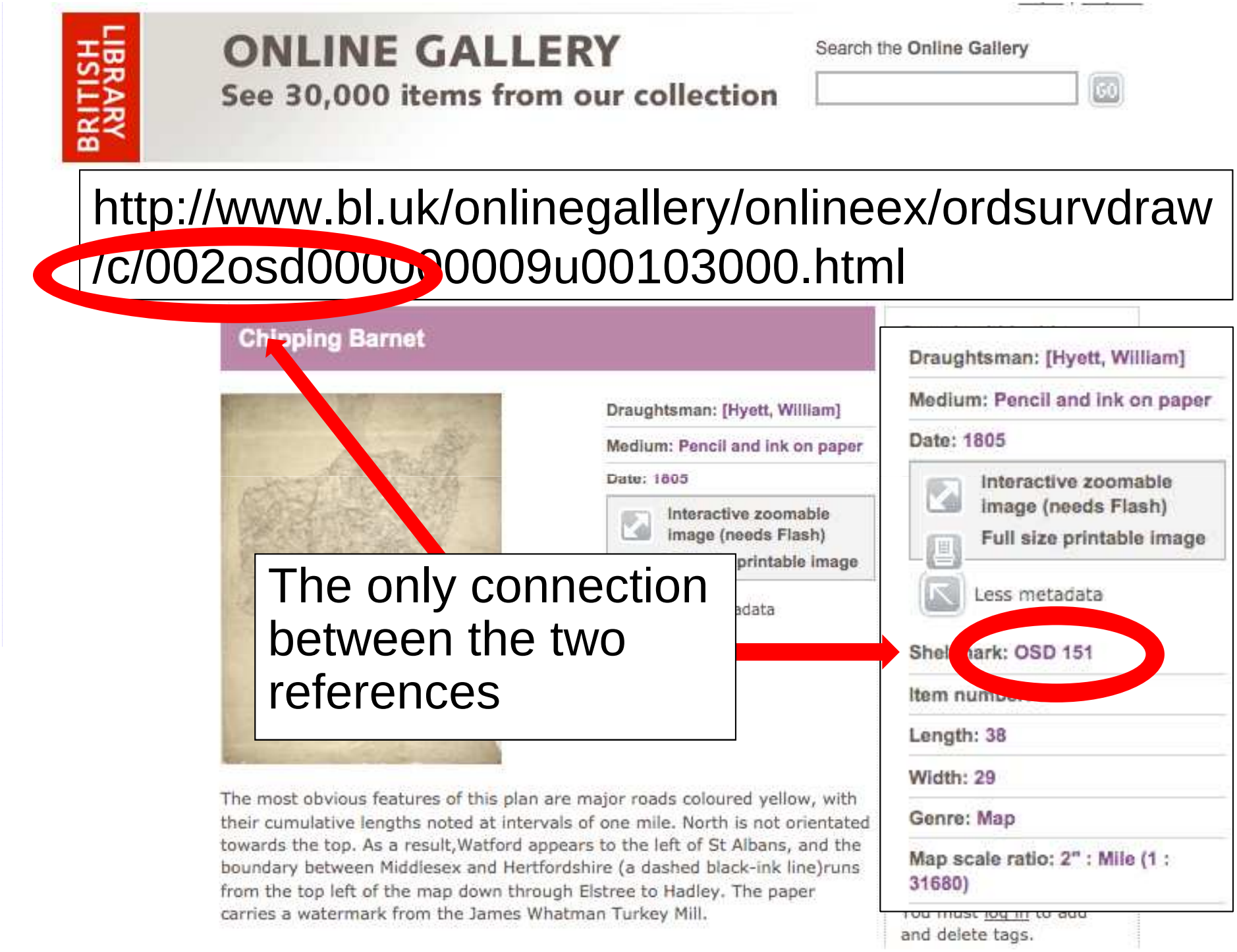
You must log in to add and delete tags.



http://www.bl.uk/onlinegallery/onlineex/oldsurvdraw/c/002osd000000009u00103000.html

Why this /c/ ?

Why include both “online gallery” and “online exhibition” – and how permanent is either concept?


BRITISH LIBRARY
ONLINE GALLERY
See 30,000 items from our collection
Search the Online Gallery
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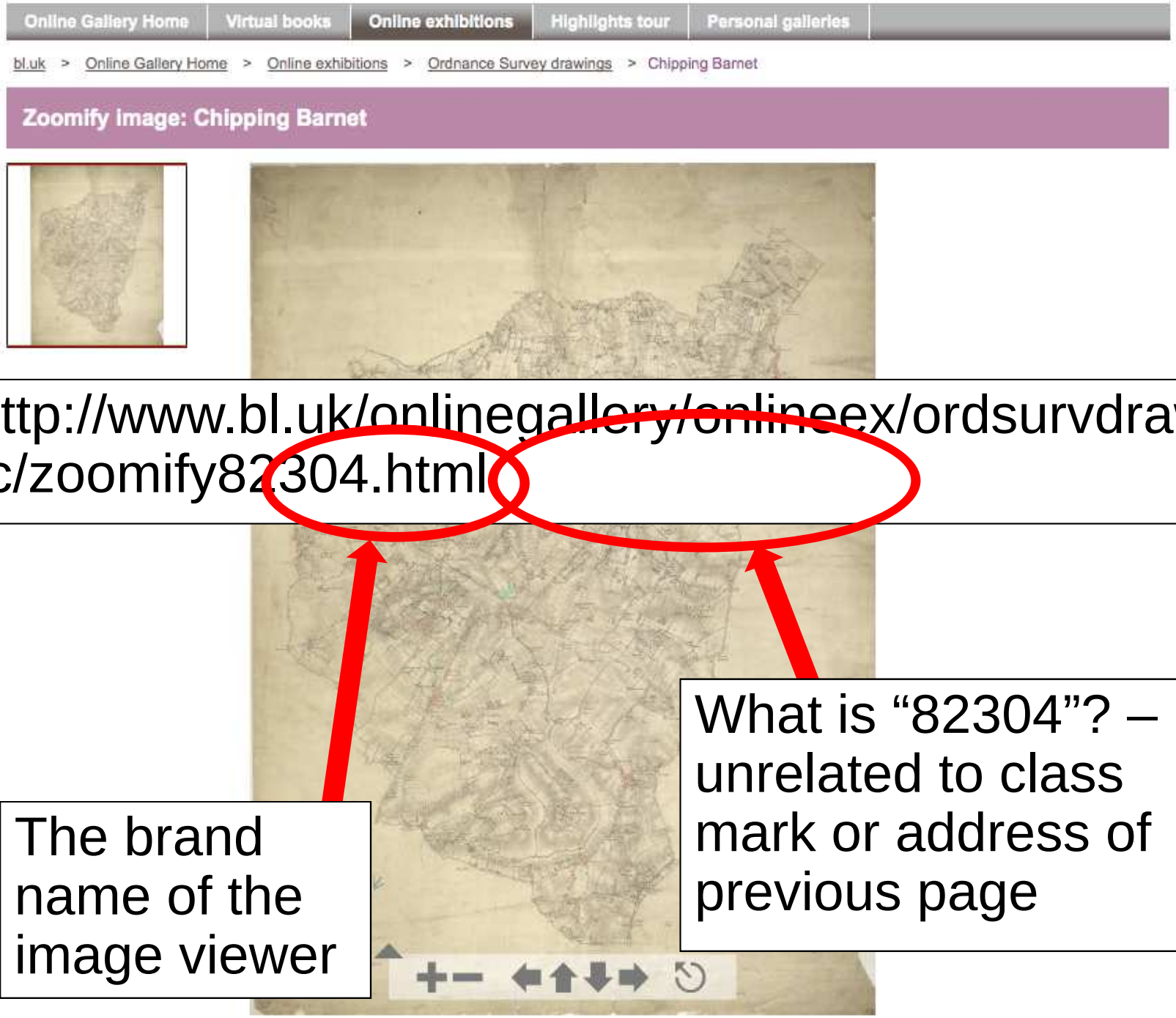
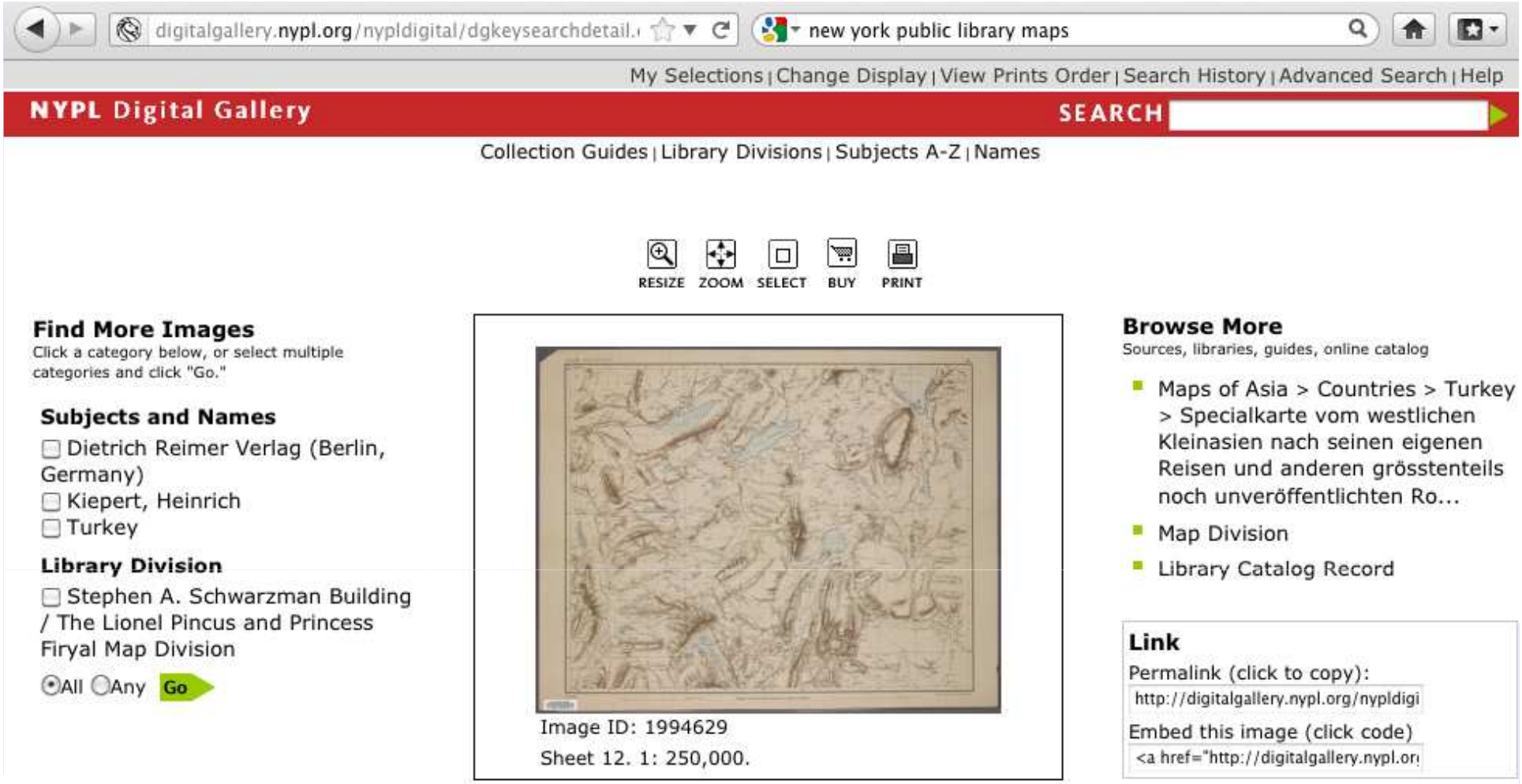
The only connection between the two references
Draughtsman: [Hyett, William]
Medium: Pencil and ink on paper
Date: 1805
Interactive zoomable image (needs Flash)
Full size printable image
Less metadata
Shelfmark: OSD 151
Item number
Length: 38
Width: 29
Genre: Map
Map scale ratio: 2" : Mile (1 : 31680)
and delete tags.

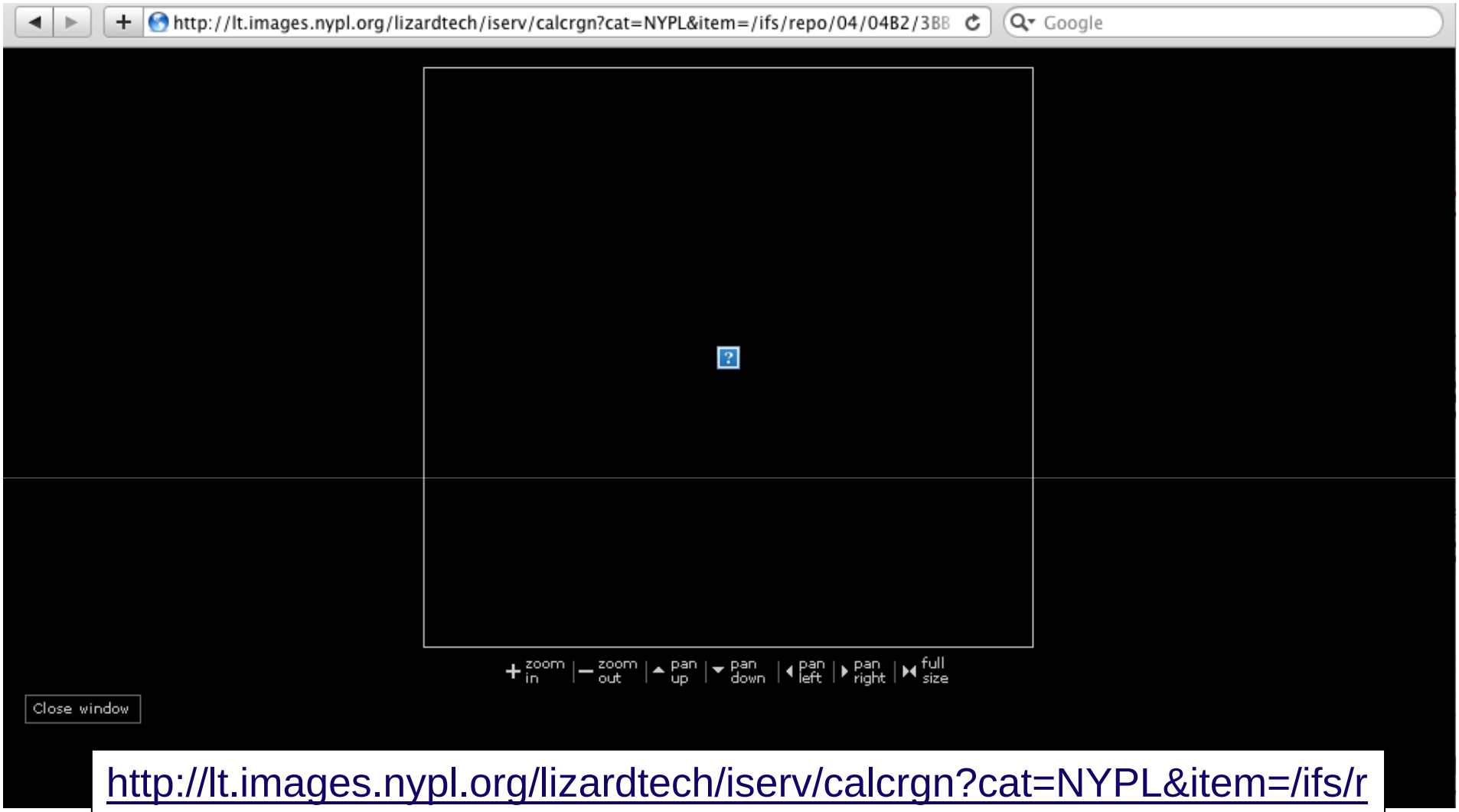

Online Gallery Home
Virtual books
Online exhibitions
Highlights tour
Personal galleries
bl.uk > Online Gallery Home > Online exhibitions > Ordnance Survey drawings > Chipping Barnet
Zoomify image: Chipping Barnet
http://www.bl.uk/onlinegallery/onlineex/ordsurvdraw/c/zoomify82304.html
What is “82304”? – unrelated to class mark or address of previous page
The brand name of the image viewer



http://digitalgallery.nypl.org/nypldigital/dgkeysearchdetail.cfm?strucID=1933105&imageID=1994629#_seemore

Or Permalink:

http://digitalgallery.nypl.org/nypldigital/id?1994629



http://lt.images.nypl.org/lizardtech/iserv/calcrgn?cat=NYPL&item=/ifs/repo/04/04B2/3BB0/0940/11E0/9E27/F1D5/9956/CD/04B23BB0-0940-11E0-9E27-F1D59956CD08.sid&wid=420&hei=400&plugin=false&style=default/view.xsl&browser=mac_ns6#

The way forward: Uniform Resource Identifiers

- Defined by the W3C:
  - http://tools.ietf.org/html/rfc3986
- Notably strong support from UK government
  - http://www.cabinetoffice.gov.uk/sites/default/files/resources/designing-URI-sets-uk-public-sector.pdf
- Consequently endorsed by:
  - Joint Information Systems Committee
  - British Library
  - National Library of Scotland
- In other words, this is what someone up there has already decided we should be doing

From RFC 3986 (Berners-Lee *et al*, 2005)

- "A Uniform Resource Identifier (URI) is a compact sequence of characters that identifies an abstract or physical resource
- This specification defines the generic URI syntax and a process for resolving URI references that might be in relative form, along with guidelines and security considerations for the use of URIs on the Internet.
- This specification does not define a generative grammar for URIs; that task is performed by the individual specifications of each URI scheme."
- UK government guidelines less abstract …

Chief Technology Officer Council

Designing URI Sets for the UK Public Sector

A report from the Public Sector Information Domain of the CTO Council's cross-Government Enterprise Architecture

Interim paper

Version 1.0

October 2009

Designing URI Sets for the UK Public Sector

A report fron
CTO Counci

Interim paper

Version 1.0

October 2009

- "This document defines the design considerations and guidance by which UK public sector Uniform Resource Identifier (URI) sets should be developed and maintained. They are designed both to encourage those that definitively own reference data to make it available for re-use, and to give those that have data that could be linked, the confidence to re-use a URI set that is not under their direct control."
- Not a long document – 10 pages

Some UK government policies

- URIs *must* be *resolvable* via HTTP
  - In practice, URIs lead to web pages, unlike DOIs
- "Those public sector URI sets that are promoted for re-use should be designed to last for at least 10 years"
  - This should be second nature for organizations that have existed for hundreds of years (British Library est. 1753)
- "A URI structure will not contain anything that could change, such as session IDs"
- "A URI path structure will be readable so that a human has a reasonable understanding of its contents"
- "URIs from a set that is promoted for re-use should not contain the name of the department or agency currently responsible for it"

Implementing URIs for historical maps

- If the digital image is being published by an institution like the British Library, they are better placed than third parties to define truly persistent identifiers
  - Avoid complex middleware
- Identifiers for map *images* should relate closely to libraries' unique identifiers for paper originals
  - "Where more than one Representation URI is available, provide a Document URI where Content Negotiation can be used to provide the most appropriate representation"
  - Maps have many alternative "representations"
- The URI should contain as little as possible between the library identifier and the map identifier
  - www.bl.uk/…/OSD151 (/maps/ ?)

Why maps are interesting “digital objects”

- A single map can have multiple digital forms:
  - Archival scan (400 dpi TIFF)
  - Published image (300 dpi in MrSID, Zoomify, etc)
  - Published image with bounding box metadata
  - Tiled image in Web Map Server
  - Vector representations
  - Associated metadata records
- Plus the paper form
  - And the catalogue card
- And the same paper map may exist in multiple libraries and have been digitised by more than one
  - Some duplication between NLS and Vision of Britain
- “Negotiation for appropriate representations” complex!

"Hiding the plumbing"

- What we need to hide:
  - File typing: .html, .jsp, .jpg
  - Directory structure: "/c/" ?
  - Program and brand names: zoomify, lizardtech
  - Default values of parameters: &map_size=370+300
- Much of this can be done by URL re-writing
  - Not complex – may be single configuration file for web server
  - But obscure – involves working with regular expressions
  - One part of our project is simply a guide to setting up URL re-writing when working with popular image server software
- Biggest obstacle may be getting this seen as a priority
  - Existing systems configured in a hurry near the end of a digitisation project by "IT guys", then never changed
  - URIs need to be designed by librarians, not IT guys

Referencing features

- Focus of this presentation has been on referencing images of map sheets
- Longer-term aim has to be referencing features on maps, maybe especially names on maps
- Cop-out: “That’s a different presentation”
  - Certainly mostly for a follow-on project
- We can do this now within our Vision of Britain site
  - but only if the map is part of a mosaic within our own Web Map Server
- Need to be able to do this with any map held anywhere
  - Linking from individual variant names within Geonames
  - WMS protocol not really meant for this!