3D content in Europeana: the challenges of providing access

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Overview

- Some background about Europeana and CARARE
- Opening access to cultural heritage collections
- User expectations and experiences
- Providing access to 3D online

What is Europeana?

- Europe's platform for digital cultural heritage funded by the European Commission

- 50+ million items – photographs, videos, music, newspapers, text (books, reports, diaries, letters), spoken word and 3D

- Archaeology themed collections c. 1.5 million items

https://www.europeana.eu

Fragment of relief, Medalhavsmuseet, CC-BY

Some background about CARARE

- CARARE is a membership association and a Europeana aggregator for Archaeology

- Several members are active in 3D digitisation

- CARARE has been providing 3D content to Europeana since 2011-12

- We've experienced various developments in 3D over that time

https://www.carare.eu

National Museum Stockholm,
Wiki loves Monuments, CC-BY-SA
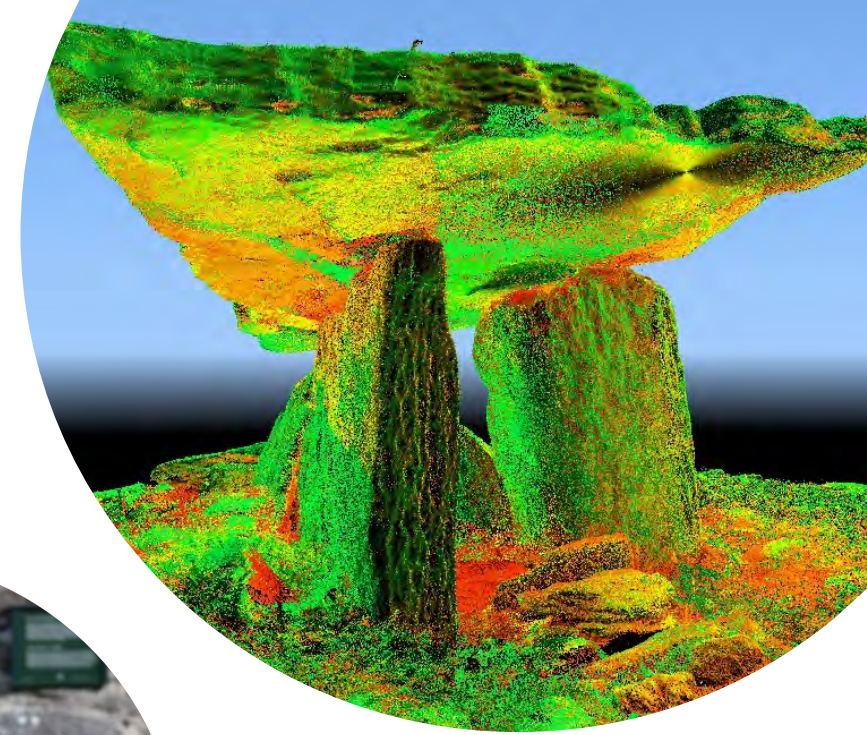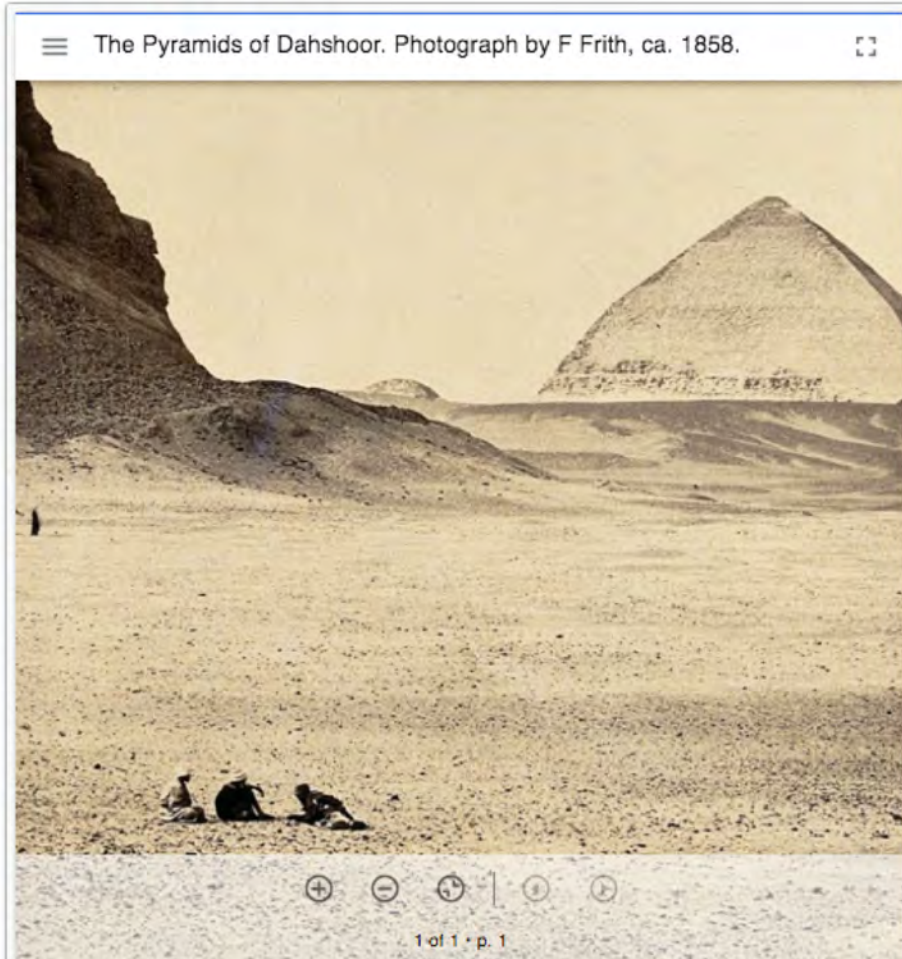
Opening up collections

- Around 4000 cultural institutions, research institutions, private companies and others are sharing digital assets via Europeana

- Europeana works with partners on standardizing how it handles data and media formats

- Frameworks for interoperability and standardization of rights allow for re-use in education, research and creative industries

User experiences and expectations

- People are used to being able to view content immediately on their devices
- How easy it is for web platform developers to support this experience varies
  - Images and text documents are relatively easy
  - Video and audio are more complex
- Standardized formats and players help especially with delivering higher quality

The Pyramids of Dahshoor. Photograph by F Frith, ca. 1858.

3D – going online

- Until fairly recently publishing 3D content online was considered to be an unsolved problem

- File sizes were vast, too heavy for speedy download

- Various different plugins or software had to be downloaded and installed before you could view

click & hold
to rotate

What we hope users will find when they search for 3D in Europeana
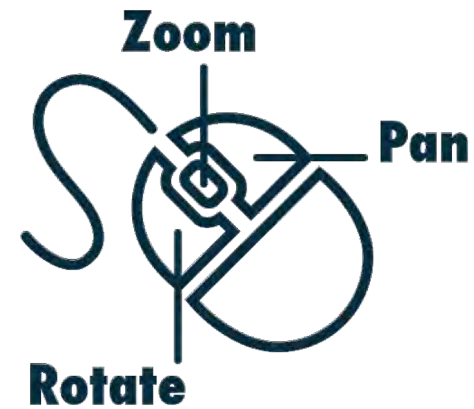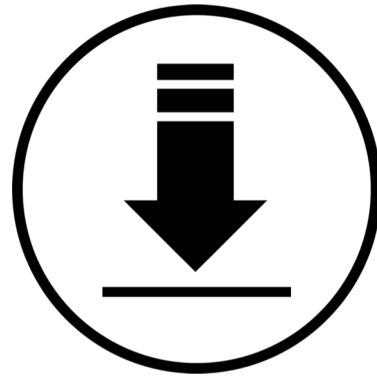
Simple objects: user experience

- Explore objects from all sides
- Zoom in on details
- Show specific views (front, side, top)

3D pdf, model of Helmet from Peretu
Muzeul Național de Istorie a României, CCO

Complex objects: user experience

Castle of St Magdala de Pulpis, ADD&4D, InC

- Explore objects inside and out

- Interiors and complex scenes

- Zoom in on details

- Show specific views (virtual tours of features)

Reconstructions: user experience

Saint Salvator abbey and landscape, Visual Dimension, InC

- 3D and 4D visualization
- Explore scenes including landscapes and phases of a site
- Guided tours

Technologies: supporting interaction online

- 3D PDF
  - 3D functionality (navigation, animation…) was promising c. 2011
  - No longer fully supported and has now been superseded
- Web GL/HTML5
  - Available across various platforms. No software to be installed
  - Various services have been developed
    - Nexus tools for streaming and visualizing large 3D models
    - Potree for rendering large point clouds
    - 3D HOP a framework for presentation of high resolution 3D models
    - Sketchfab hosting service which users Web GL for cross platform support
- IIIF 3D
  - Towards a framework for interoperability

Challenges for Europeana

Self-portrait with beret,
Rembrandt van Rijn 1630
Rijksmuseum, Amsterdam,
public domain

THE MORE YOU GIVE
THE MORE YOU GET
Europeana Publishing Framework V1.1

- There are 50+ 3D formats in use
- There are quite a lot of services now making 3D available online
- For video and audio files Europeana recommends use of oEmbed compliant viewers to serve up the content
- Any other viewer requires Europeana to implement a specific workaround

https://pro.europeana.eu/post/publishing-framework

Task force on 3D content in Europeana

Aim is to increase the support for 3D in Europeana step by step

https://pro.europeana.eu/post/3d-content-in-europeana-task-force-review

Increase understanding and improving the labelling of content
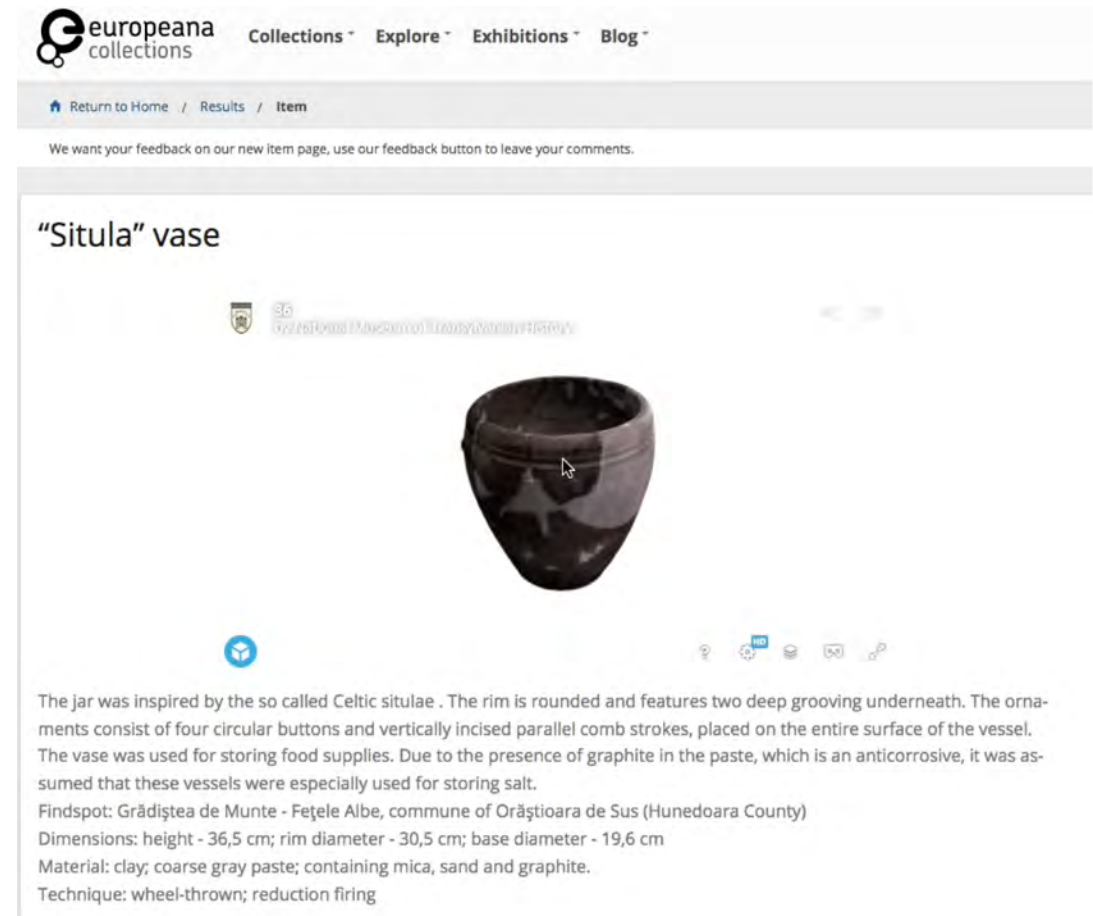
- We need to build capacity among cultural institutions
- To increase the amount of 3D
- And make sure the its correctly labelled
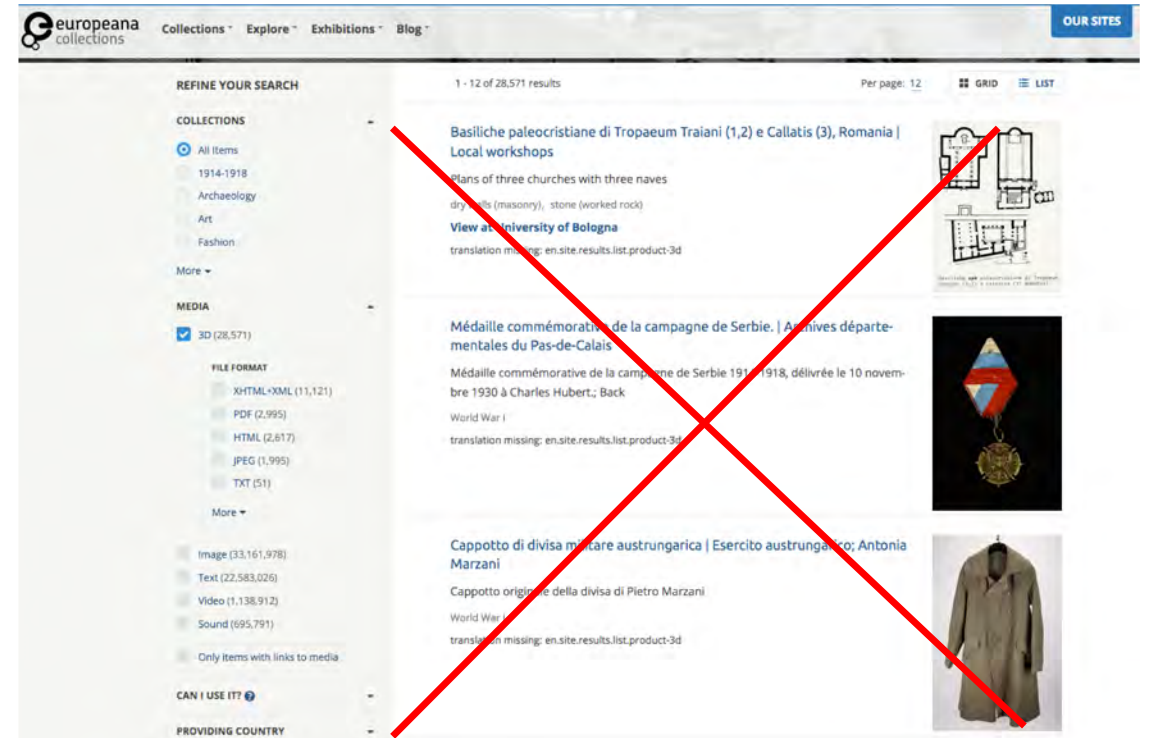
A misunderstanding lead some to label 2D images of three-dimensional real-world objects as being 3D

Increasing the support for in the Europeana site

- Implementing the Sketchfab viewer has allowed users to interact with 3D inside Europeana

Understanding the audiences

There can be more than one output

https://www.myminifactory.com/scantheworld/
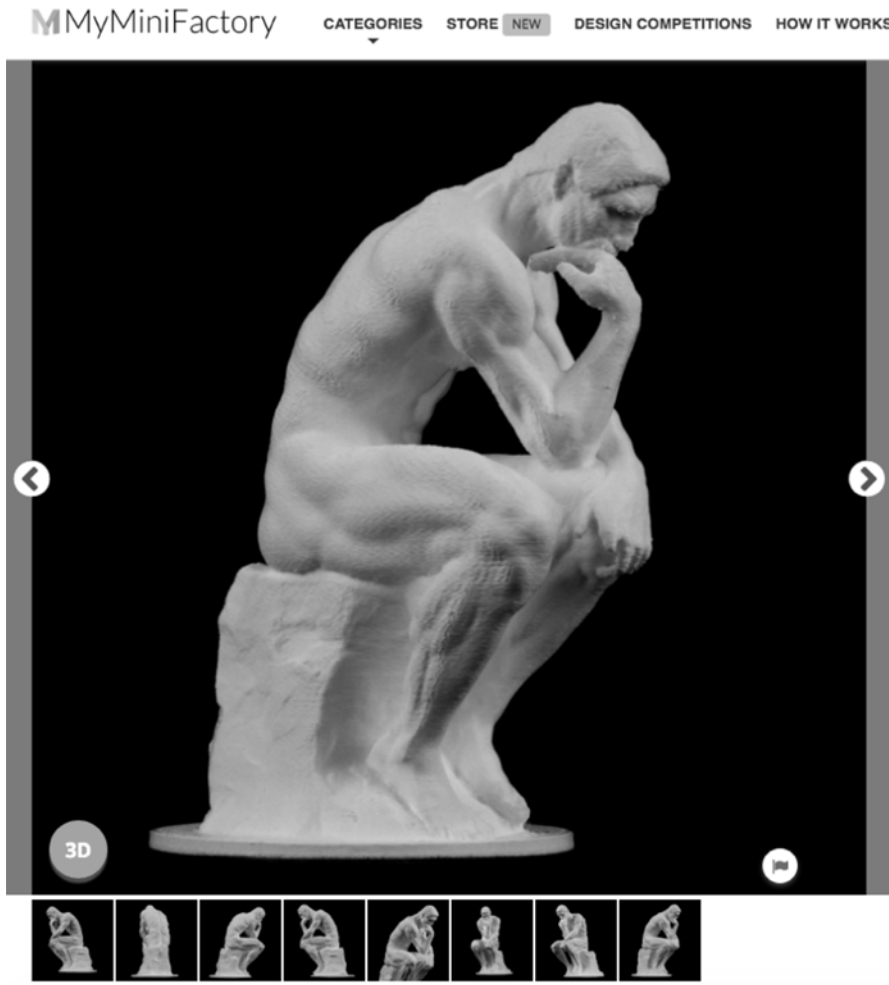
- 3D print formats are very good for engaging school children in science and technology

- Publishing via Sketchfab can be a good way of offering tours and virtual visits

- Researchers benefit from services like 3D HOP which offer tools for measuring objects

- File downloads are good for people starting their own project

Publishing is not the end of the story

- Publishing a model via Sketchfab, or any other service, is a way of making a version available

- Other versions can also be available via other services

- Files may be available for download

- The 3D project archive should also be deposited with and archive

Poulnabrone Portal Tomb, 3D model delivered by Sketchfab, Discovery Programme, CC-BY-NC-SA

As well as good 3D content

We need metadata

- to understand 3D content and the cultural that is represented
- To enable discovery and also preservation of the content

Yet metadata for 3D is often quite minimal

https://share3d.eu/dashboard/

Can we move towards data FAIRness?

FAIR - a set of community principles to make data more easily findable, accessible, interoperable and re-usable

- Fairly well established for research data sets in Europe

- What does this mean for 3D?

- How do we begin to put this in practice?

Findable Accessible Interoperable Reusable
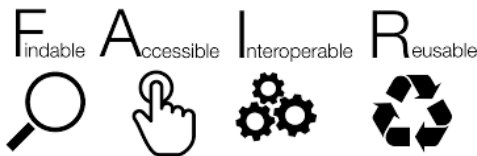
To support better outcomes for users and preservation of 3D

Can we work towards:

- Identifying a limited set of common file formats that can easily be delivered, accessed and preserved
- Using those formats to guide selection of platforms for 3D delivery
- Support developments aimed at universal delivery
- Work together on standards for 3D and to improve interoperability between 2D and 3D
- Opening access

Thanks for your attention!

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