

Digital Transformations of Storytelling in Archives and Museums: A Linked Data and Visualization Perspective

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University for
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SDU 

fluxguide
living technology | inspiring spaces

* and many
more



“Stories help us navigate life’s complex social problems—just as flight simulators prepare pilots for difficult situations. Storytelling has evolved, like other behaviors, to ensure our survival.”

Gottschall, J. (2013). *The Storytelling Animal*

“Finding and telling stories is so much a part of being human that it seems a natural, even critical strategy for museum programs and exhibitions.”

“A narrative has to be true to its medium.”



Bedford, L. (2014). *The art of museum exhibitions: How story and imagination create aesthetic experiences.*

The Storybook

- Beyond Cultural Data Silos
- Digital Transformation of Storytelling in Museums
- The Intavia Project & Platform
 - Linking & harmonizing Cultural Heritage Data
 - Frontend development – with a focus on the InTaVia Storytelling Tool
 - Use Case: Albrecht Dürer
- Take Aways

| **The Larger Story: Going Beyond the Creation of Data Silos**
Digital Transformations of Museums as Holistic Challenges



Miriam Posner

@miriamkp



Poor silos, keep getting busted. What did they ever do?
Just hold stuff for you.

[Tweet übersetzen](#)

12:52 vorm. · 10. Juni 2021 · Twitter for iPhone

While necessary to have, they just document that the **first step** of a larger and more holistic or systemic transformation has happened.

Productive „digital transformations“ of museums depend on the orchestrated introduction and sustainable use of **numerous further digital practices.**



Digital Transformation of Museums: Deliberately Thinking Beyond Step 1 (i.e. „Digitization“)



Austrian Strategy for Digital Transformations of Cultural Heritage Institutions:

[https://www.bmkoes.gv.at/dam/jcr:418639e8-05d5-44b4-](https://www.bmkoes.gv.at/dam/jcr:418639e8-05d5-44b4-a5e0-fe12b517a742/Strategie-Kulturerbe-digital.pdf)

[a5e0-fe12b517a742/Strategie-Kulturerbe-digital.pdf](https://www.bmkoes.gv.at/dam/jcr:418639e8-05d5-44b4-a5e0-fe12b517a742/Strategie-Kulturerbe-digital.pdf)

1 Digitize cultural objects & cultural information

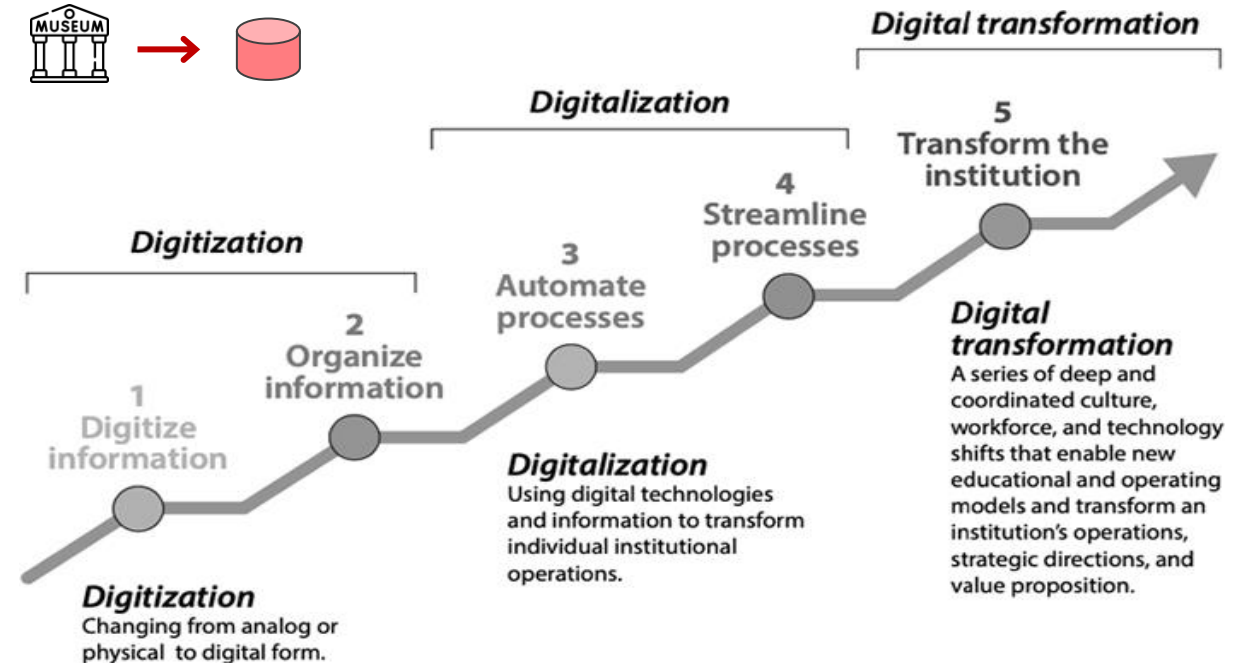


2 Adapt Core Processes:

- strategy development
- collecting & archiving
- visibility & mediation
- research
- knowledge & skills
- value chains
- legal framework

3 Organizational Transformation of Museums

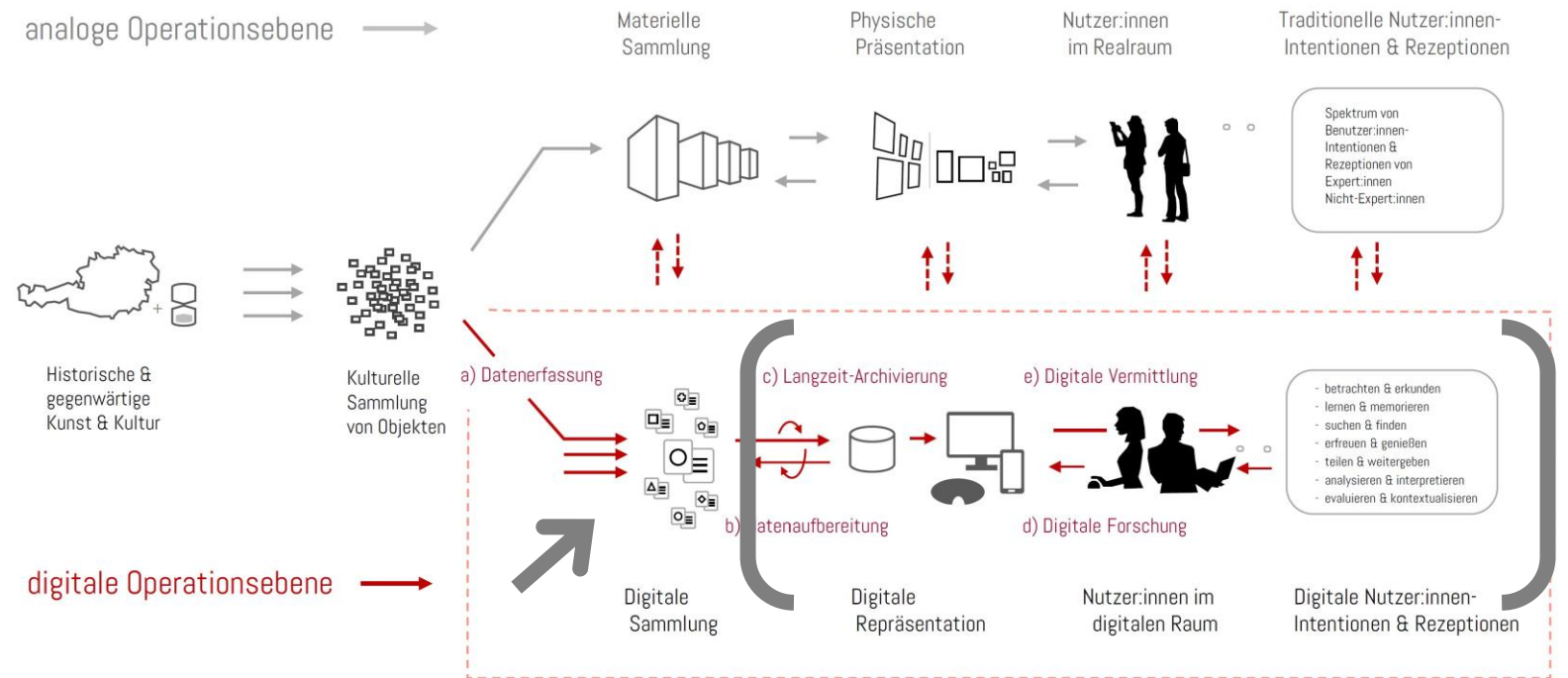
Sustainably applying, combining, developing and „living“ the digital processes & practices in a collective fashion.



Digital Transformation of Museums: Building up Chains and Networks of Cultural Data Practices





 **Nanana**
@ArchivesAreCool

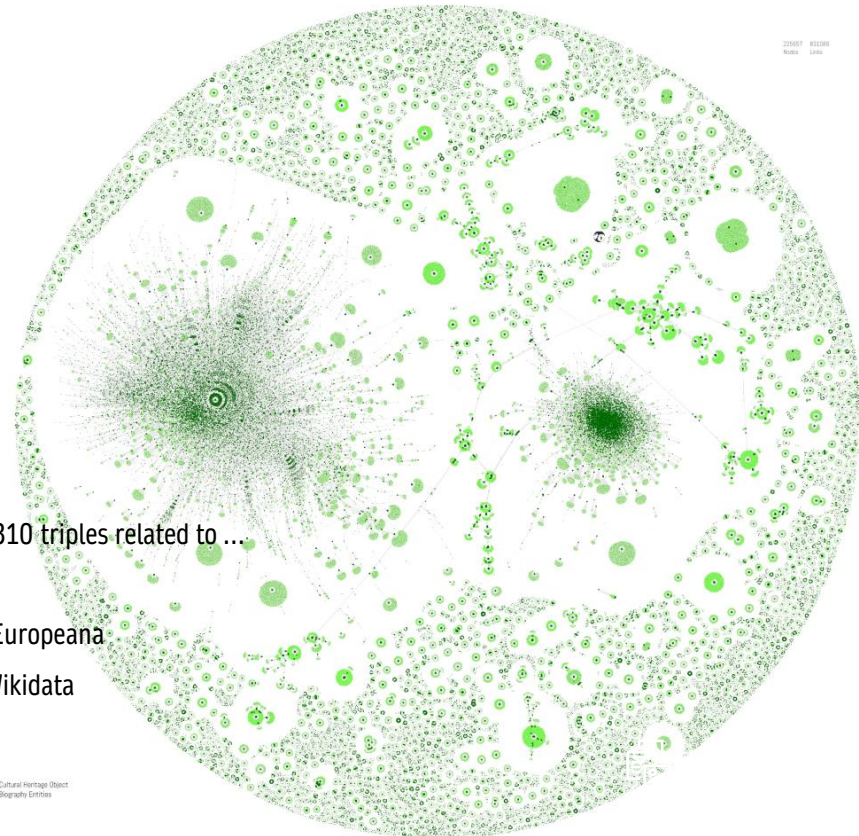


Working hypothesis for many GLAM institutions:
We can take care of everythin after step 1 later on!

intavia project
(nov 2020 – oct 2023)

Main data sources

-  National Biography Databases
-  Cultural Object Aggregators

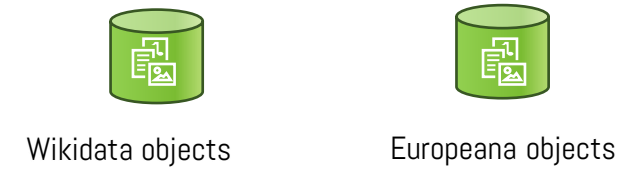
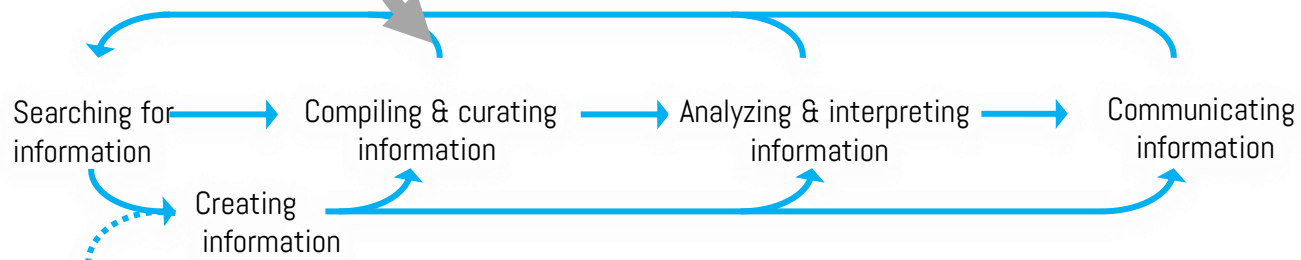


InTaVia knowledge graph - containing 24,588,310 triples related to ...

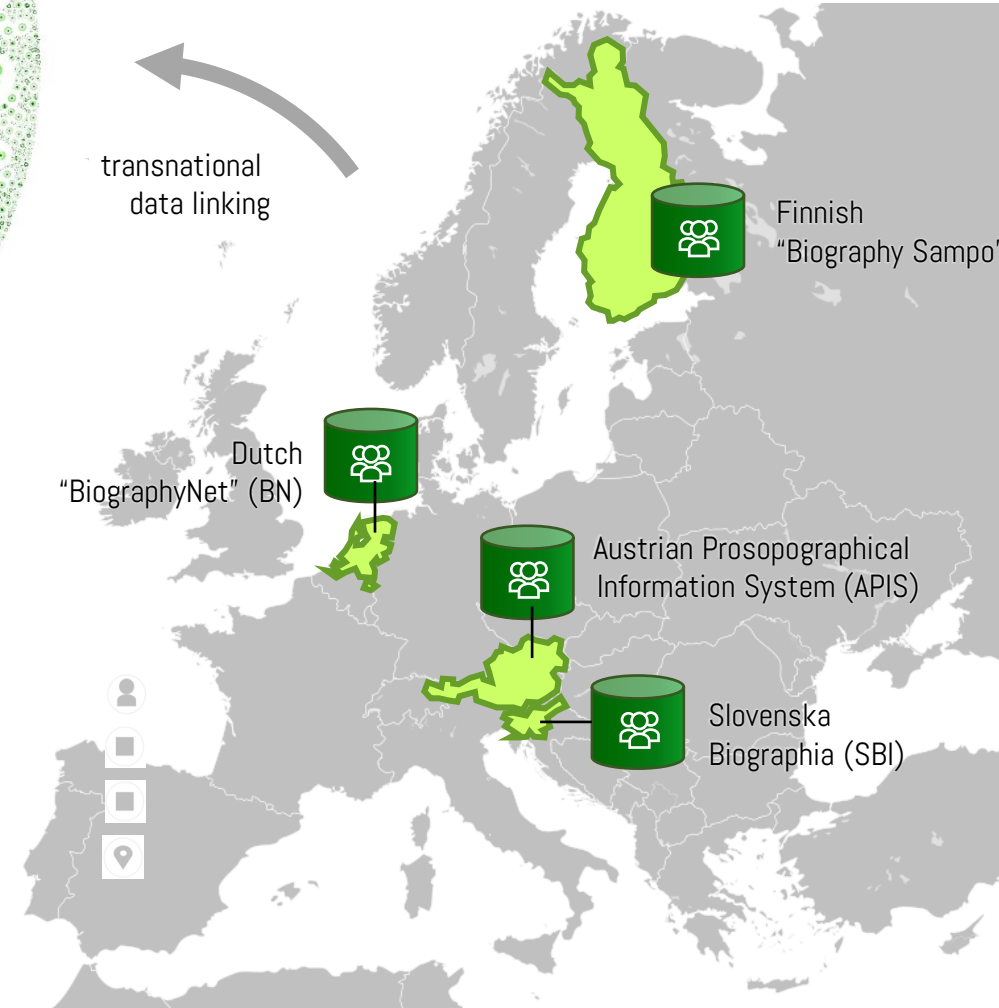
- 111,551 persons from AT, FI, NL, and SI
- 230,068 cultural heritage objects from Europeana
- 160,239 cultural heritage objects from Wikidata
- 24,446 places

● Cultural Heritage Object
● Biography Entries

Frontend development to support different types of data practices with visualizations and storytelling



transnational data linking



|| Storytelling Transformations



bit.ly/storyvis

- Overview on the State of the Art of cultural storytelling with visualizations
- Discussion of important design choices for telling cultural stories digitally
- Best practice examples from cultural heritage (on objects, actors, & topics)

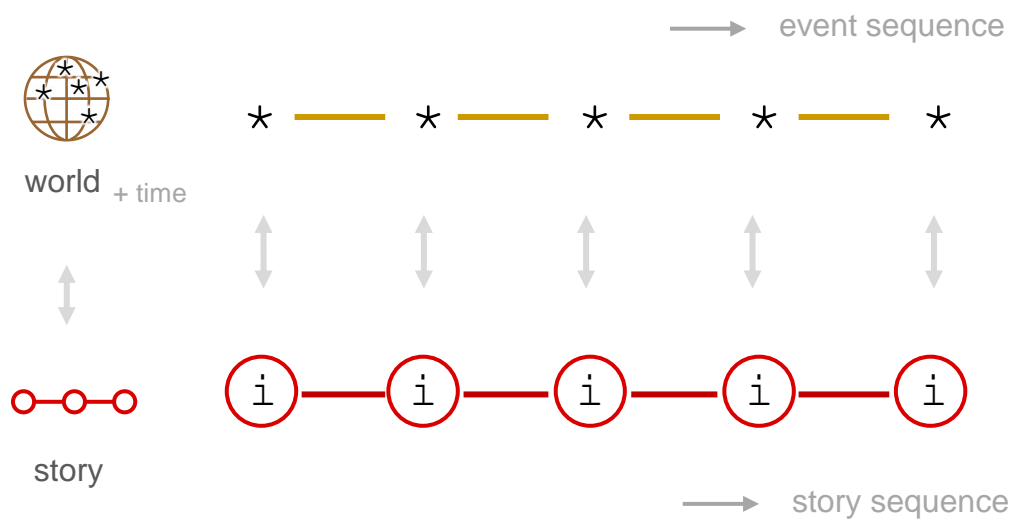


Report on Narrative Visualization Techniques for OPDB Data

Deliverable 6.1 (due after month 12, 2021/10/31)







within the H2020-project InTaVia, Project No. 1010048325
funded by the EC within the call DT-TRANSFORMATIONS-12-2018-202
Curation of digital assets and advanced digitisation

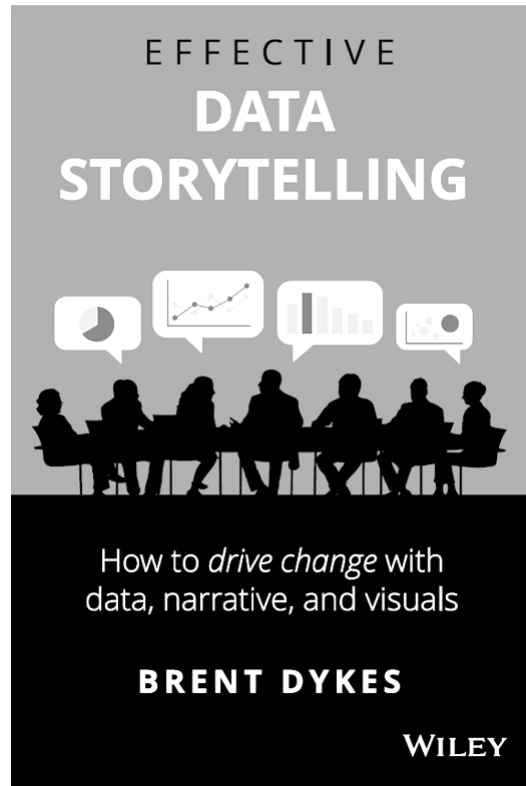




* = events

i = information units

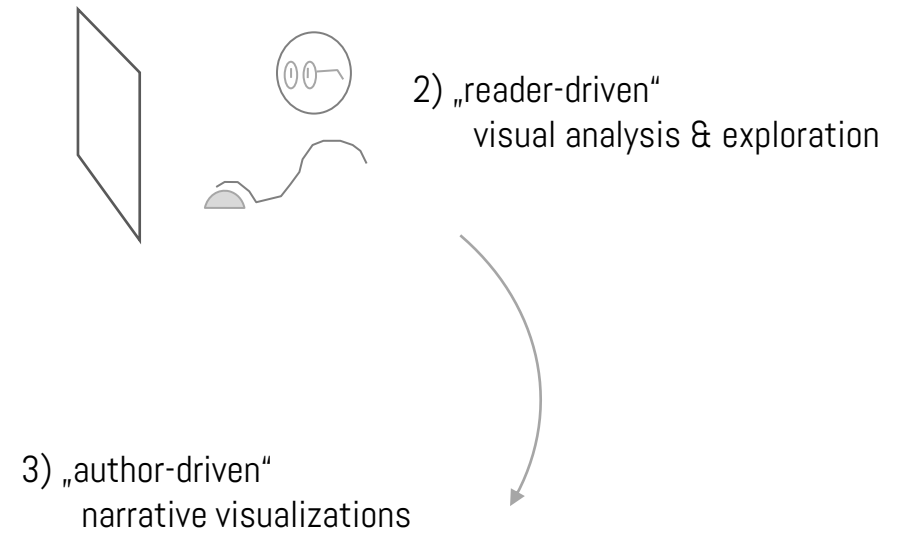
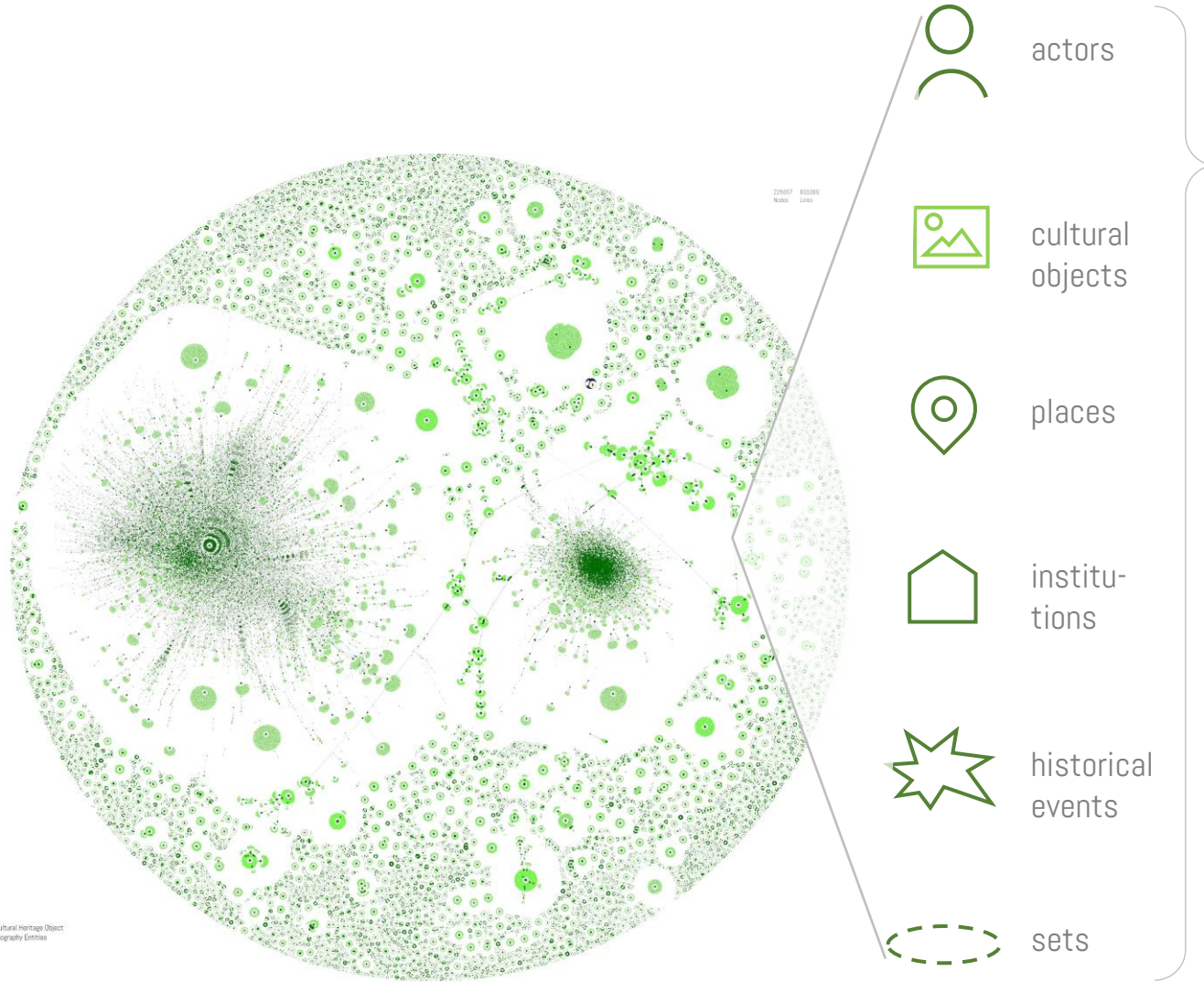
-  audio (speech, music, sounds)
-  text (written words)
-  gestures / performance
-  images (drawings, paintings, photos)
-  film / video
-  visualizations



While the plot of the story is important, it's the characters—the protagonist and antagonist—who breathe life in the tale and make it truly interesting.

(Dykes, 2018)

The InTaVia Knowledge Graph and its main entities



In InTaVia, every entity can be a hero!

person (hi)stories

object (hi)stories

place (hi)stories

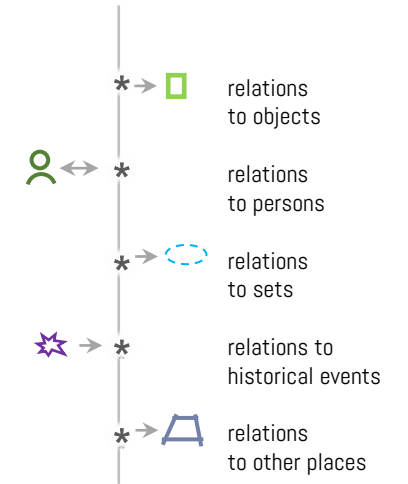
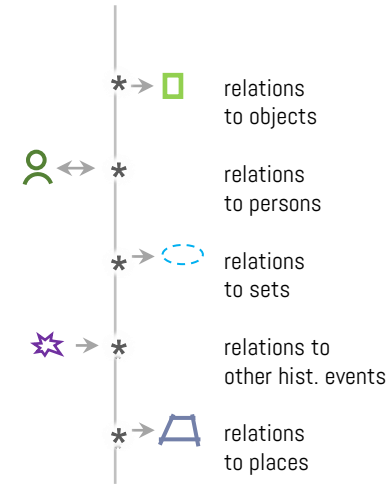
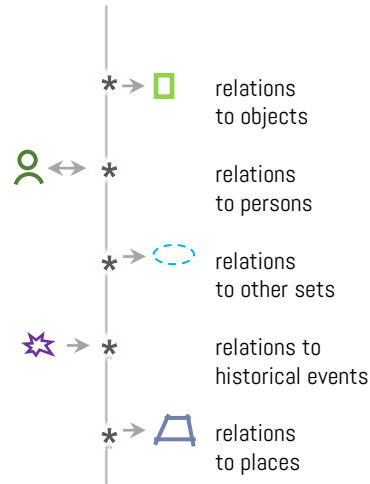
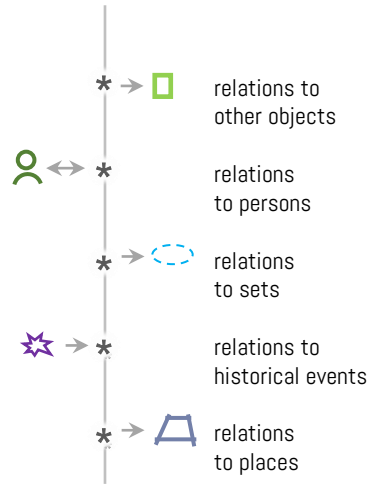
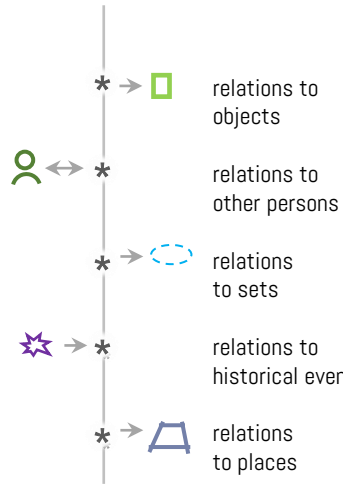
event (hi)stories

set (hi)stories

(a) attributes



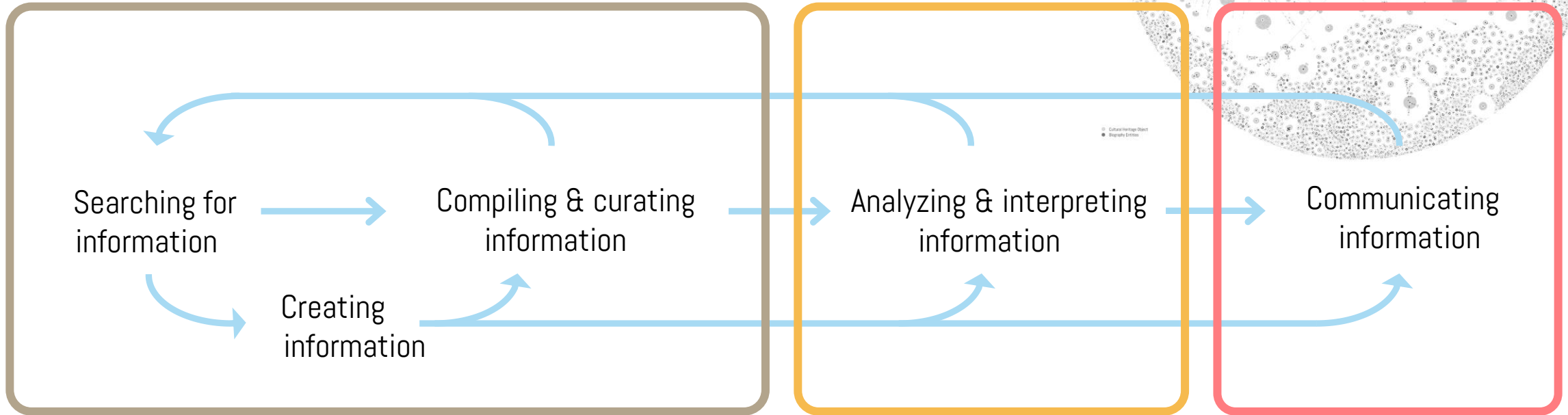
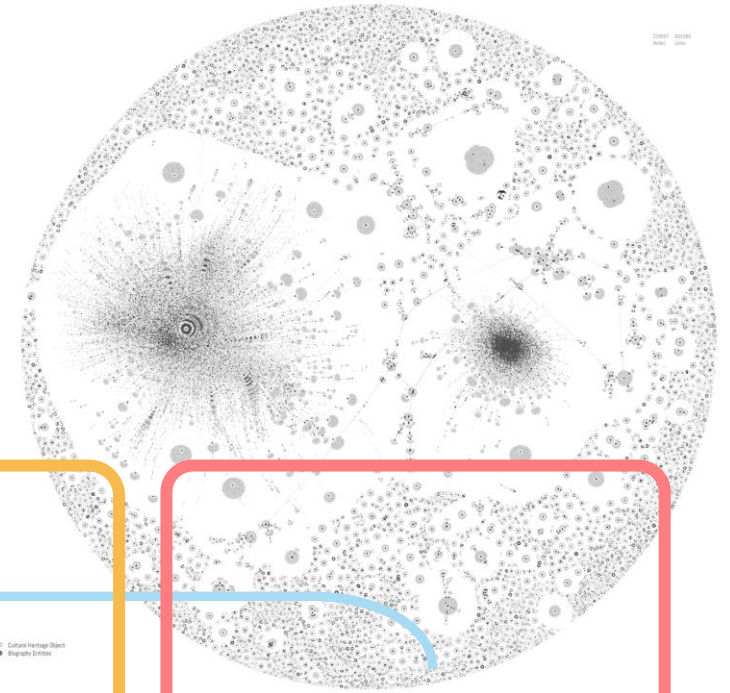
(b) relational histories



↑ TIME

||| Building The InTaVia Platform

InTaVia aims to support a wide variety of user practices (workflow model):



Data Curation Lab

Visual Analytics Studio

Storytelling Suite

Implementation



Johannes Liem

University for
Continuing
Education Krems



Samuel Beck



Jakob Kusnick



Stefan Probst



Markus Passecker





time !

<https://intavia.acdh-dev.oeaw.ac.at/>

INTAVIA: In/Tangible European

Visual Analysis, Curation & Comm



- Activities
- Case studies
- Conference proceedings
- Deliverables
- Publications & presentations
- Tools**
- Tutorials

About

About

InTaVia is a H2020 research and innovation action funded by the European Commission within the Call DT-TRANSFORMATIONS-12-2018-2020 "Curation [...]

[Read More](#)

Team

The InTaVia team draws from nine European institutions dedicated to research and development in the area of digital [...]

[Read More](#)

Advisory Board

Members of the scientific advisory board contribute to the InTaVia project with their expertise, community outreach, and occasional technical [...]

[Read More](#)

Associated Organizations

As a further step towards a pan-European platform of cultural heritage objects and related biographies, several institutions beyond [...]

[Read More](#)

searching & compiling



Search & Curation

Visualization & Analysis

Storytelling & Presentation

Import & Export Data

Tutorials

Dürer

your own data collection

Search

Advanced Search

Result list

Result overview

+ Add all

data-duerer (1)

+ Create new entity

Create collection



your search results

<input type="checkbox"/>	Durer , Hieronymimus	Person >> 0 events ✓ linked ids ✓ biography ⚠ backend error		
<input type="checkbox"/>	Hieronymus Durer	Person >> 0 events ✓ linked ids ✓ biography ⚠ backend error		
<input type="checkbox"/>	Hieronymus Durer	Person >> 1 event ✓ linked ids		
<input type="checkbox"/>	Albert Durer	Cultural heritage object >> 1 event ✓ linked ids ✓ media		
<input type="checkbox"/>	Albrecht Durer	Cultural heritage object >> 1 event ✓ linked ids ✓ media		
<input type="checkbox"/>	Albrecht Dürer	Cultural heritage object >> 1 event ✓ linked ids ✓ media		
<input type="checkbox"/>	no label provided	Person >> 1824 events ✓ linked ids		
<input type="checkbox"/>	Dürer, Albrecht	Cultural heritage object >> 1 event ✓ linked ids ✓ media		
<input type="checkbox"/>	Albrecht Dürer	Cultural heritage object >> 1 event ✓ linked ids ✓ media		
<input type="checkbox"/>	Selbstbildnis A. Dürer			

<input type="checkbox"/>	Vienna, Art Academy (edited locally)	Group or institution >> 1 event		
<input type="checkbox"/>	Lisbon, Museu de Arte Antiga (edited locally)	Group or institution >> 1 event		
<input type="checkbox"/>	Johannisfriedhof (edited locally)	Group or institution >> 0 events		
<input type="checkbox"/>	Krönung Karl V (edited locally)	Historical event >> 2 events		
<input type="checkbox"/>	Albrecht Dürer (edited locally)	Person >> 278 events		
<input type="checkbox"/>	Anton Koberger (edited locally)	Person >> 1 event		
<input type="checkbox"/>	Michael Wolgemut (edited locally)	Person >> 1 event		
<input type="checkbox"/>	Martin Schongauer (edited locally)	Person >> 1 event		
<input type="checkbox"/>	Agnes Dürer (edited locally)	Person >> 3 events		
<input type="checkbox"/>	Konrat Meit (edited locally)	Person >> 1 event		
<input type="checkbox"/>	Karl V (edited locally)			

inspecting & curating

relational
visualization



structured
biographical
event data



intavia Search & Curation Visualization & Analysis Storytelling & Presentation Import & Export Data Tutorials

Albrecht Dürer
Person - edited locally

+ Add to collection

GENDER
male

relational visualization

geo-spatial visualization

chronological visualization

structured biographical event data

Biografie

Albrecht Dürer wurde am 21. Mai 1471 als Sohn eines Goldschmieds in Nürnberg geboren. Nach dem Abschluss der Schule absolvierte er eine Ausbildung als Goldschmied bei seinem Vater. Ab 1486 wurde er Schüler in der Werkstatt des Künstlers Michael Wölgemut in Nürnberg. Hier machte Dürer erste Erfahrungen mit der Herstellung von Holzschnitten. In den Jahren von 1490 bis 1494 begab sich Dürer auf seine Wanderjahre nach Colmar, Basel und Straßburg. Anschließend kehrte er nach Nürnberg zurück, wo er 1494 Agnes Frey heiratete. Im November 1494 begab sich Albrecht Dürer auf seine Studienreise nach

geo-spatial
visualization



chronological
visualization



textual
biography
data



configurable visualizations



Collections Visualized

visualizing I

data-duerer (1)

Add all entities

Settings

Group-by entity type

Show chronology of events only

12 Persons

91 Cultural heritage objects

20 Groups or institutions

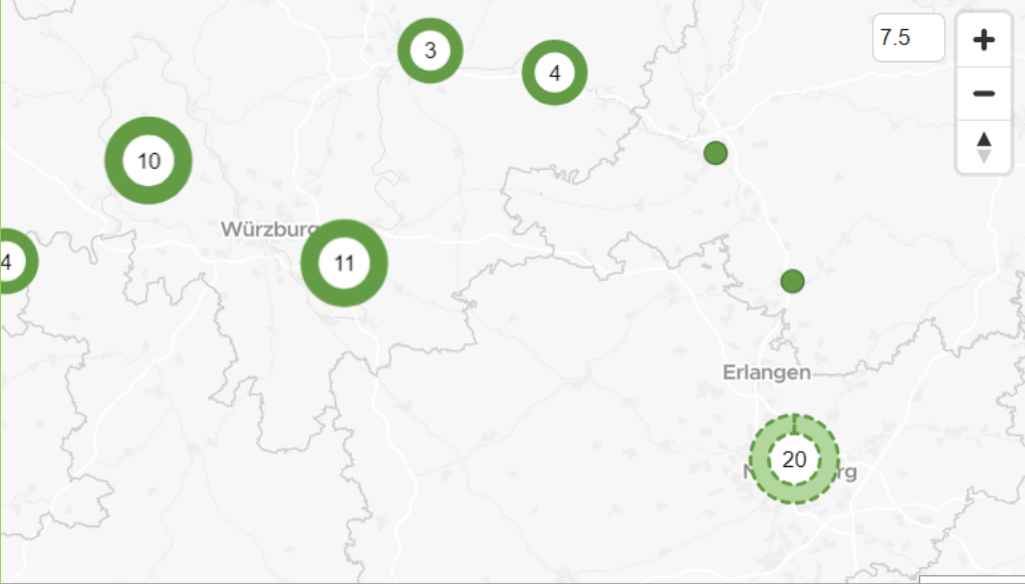
1 Historical event

143 Places

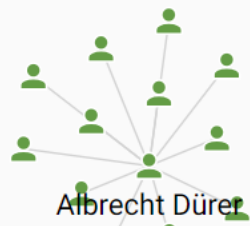
entity list



visualization-IgCD

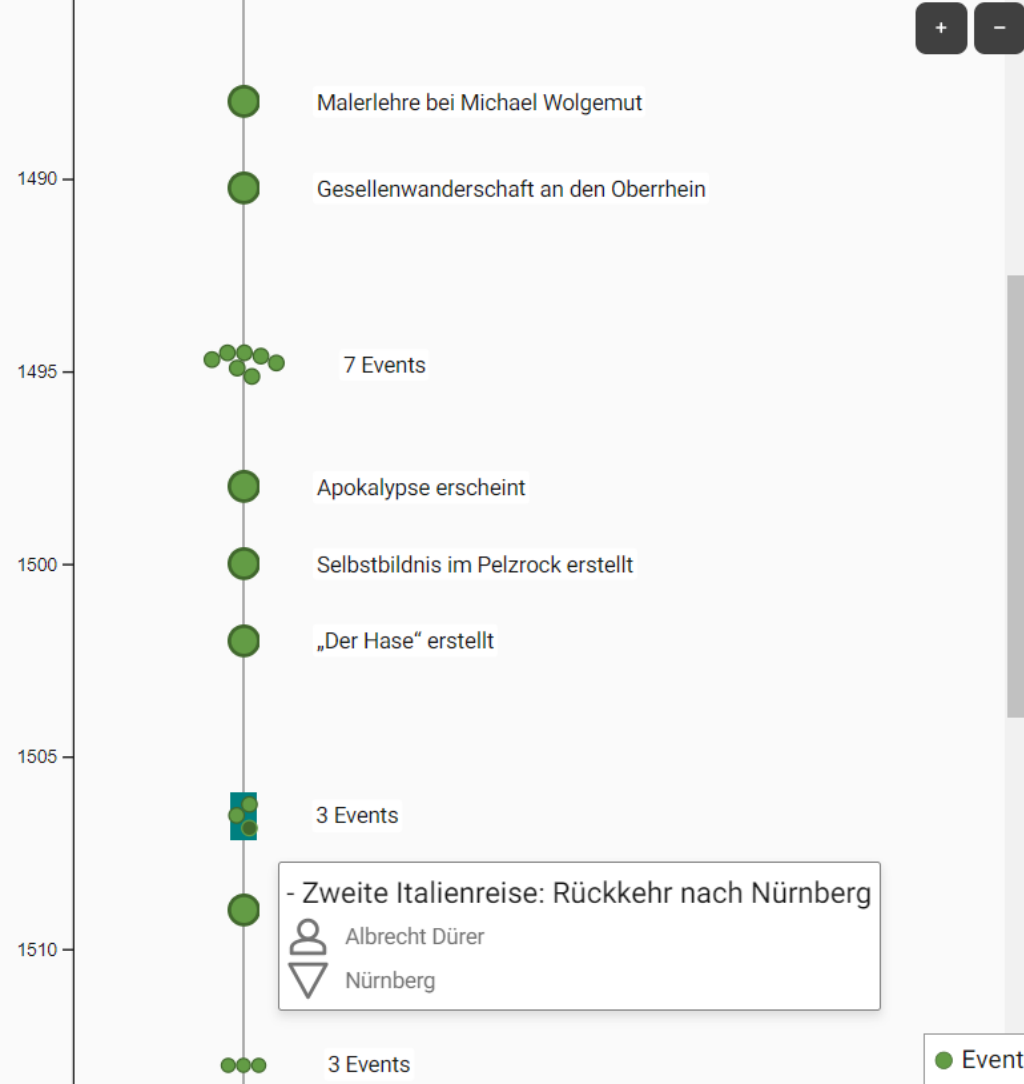


visualization-YZ8q



Event

visualization-uz-f



Event

Workspace

visualizing II

data-duerer (1)

Add all entities

Settings

Group-by entity type

Show chronology of events only

12 Persons

91 Cultural heritage objects

20 Groups or institutions

1 Historical event

143 Places

Space-Time Cube Perspective

200 km

Workspace

Layout

visualization-IgCD

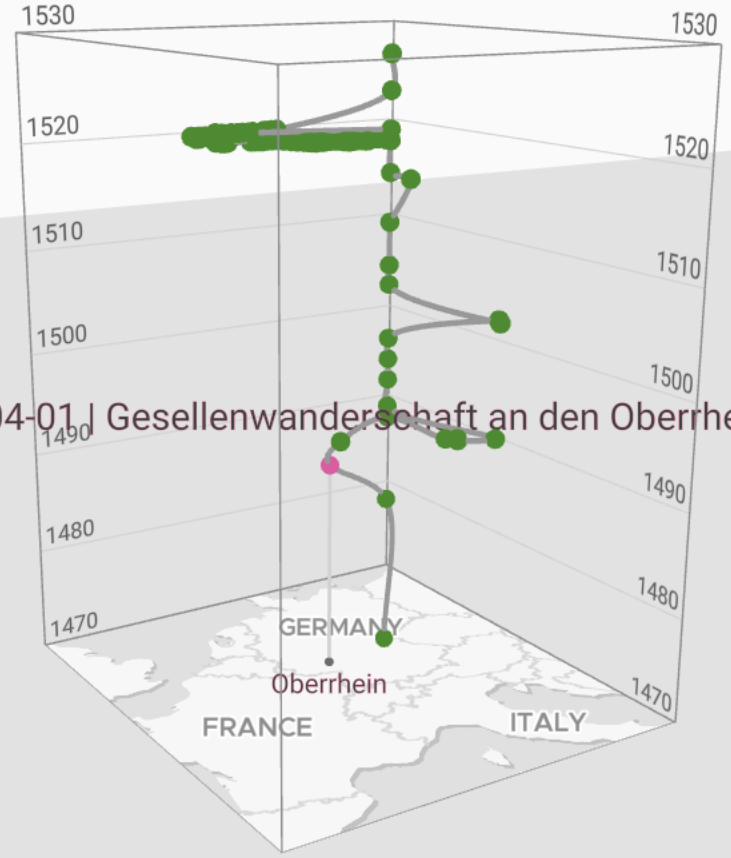
clip map

height

bounds

labels

1490-04-01 | Gesellenwanderschaft an den Oberrhein



Albrecht Dürer

Collections

Visualized

K

Layout

Story Flow

telling stories with data I

Colle: evc

Add all entities

Settings

- Group-by entity type
- Show chronology of events only

9 Persons

Albrecht Dürer

Karl V

Agnes Dürer

Christian II, King of De

Anton Koberger

Konrat Meit

Margarete von Österre...

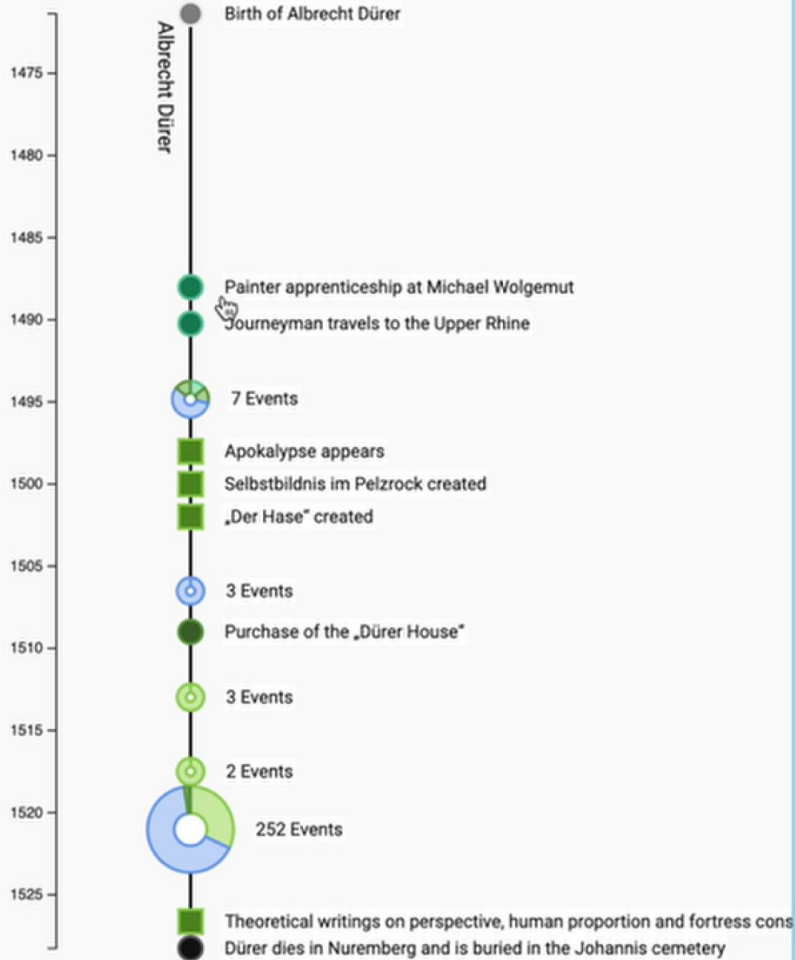
Martin Schongauer

Michael Wolgemut

11 Cultural heritage objects

3 Groups or institutions

15 Places



- Production
- Birth
- Career
- Event
- Travel
- Death

Image Quiz Text

Video/Audio HTML



+ Add Slide

Contents

- Image
- Quiz
- Text
- Video/Audio
- HTML

The Story Creator 1



Collections

Visualized

K

Layout

Story Flow

telling stories with data II

- Collection: eve
- Add all entities
- Settings
- Group-by entity type
 - Show chronology of events only
- 9 Persons
- Albrecht Dürer
 - Karl V
 - Agnes Dürer
 - Christian II, King of Denmark
 - Anton Koberger
 - Konrat Meit
 - Margarete von Österreich
 - Martin Schongauer
 - Michael Wolgemut
- 11 Cultural heritage objects
- 3 Groups or institutions
- 15 Places



Image

In 1520-21 Dürer spent a year in the Netherlands. From the commercial metropolis of Antwerp, he makes several trips to other art centers in Flanders, Brabant and the Rhineland.

+ Add Slide

0

1

+ Add Slide

Contents

- Image
- Quiz
- Text
- Video/Audio
- HTML

The Story Creator 2

InTaVia Story Viewer

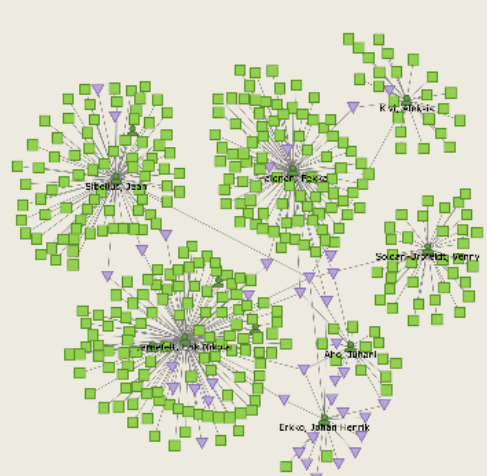
powered by Fluxguide

<https://bit.ly/intavia-examples>

desktop


Tuusula Lake Story

- uses InTaVia knowledge graph
- network visualization of a group



A close-knit community

All of the artists belonged to the same circle of friends and called one another's creativity. They've arranged the key pieces to evoke the Fluxus and neo-concrete and a kind of post-abstractism to the future era, the "Post-Painterly Abstraction". However, the reason he used a very international line - most of them studied abroad and followed European art trends.



Ilja Repin — The Great Men of Unland
with others: Jan Steen, Jan Verelst, and 1400 others depicted

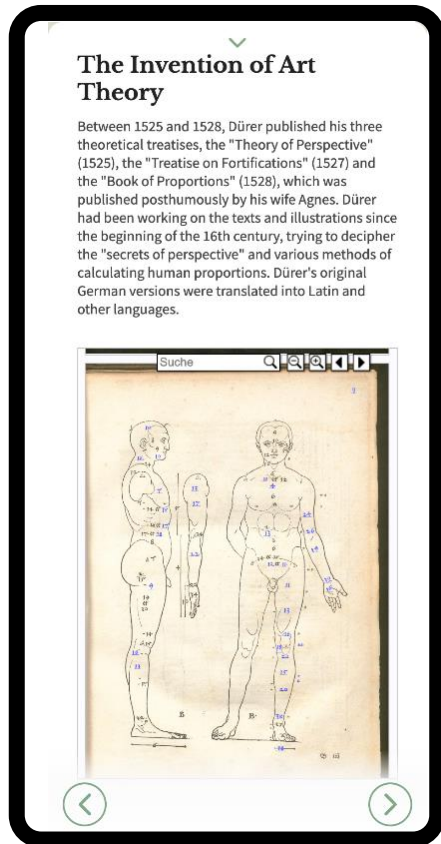
Albrecht Dürer's Biography

- Interactive Google Book
- Optional sub-story of a journey's details

Herwig Zens' Biography

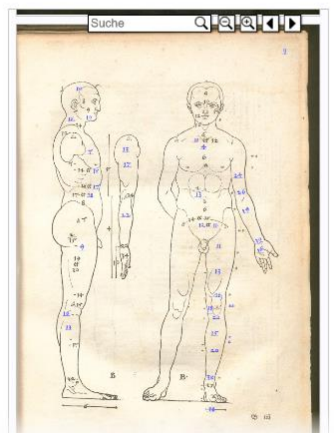
- every slide is connected to lifetime events and artworks of and by Herwig Zens
- accompanies an exhibition

mobile



The Invention of Art Theory

Between 1525 and 1528, Dürer published his three theoretical treatises, the "Theory of Perspective" (1525), the "Treatise on Fortifications" (1527) and the "Book of Proportions" (1528), which was published posthumously by his wife Agnes. Dürer had been working on the texts and illustrations since the beginning of the 16th century, trying to decipher the "secrets of perspective" and various methods of calculating human proportions. Dürer's original German versions were translated into Latin and other languages.



Tod 2019 und Memoria

Stell dir den Tod von Herwig Zens vor: er stirbt am 20. November 2019. Er ist 70 Jahre alt. Er hat eine Frau, zwei Kinder und eine große Sammlung von Kunstwerken. Er hat eine große Leidenschaft für die Kunst und die Kultur. Er hat eine große Leidenschaft für die Kunst und die Kultur. Er hat eine große Leidenschaft für die Kunst und die Kultur.



IV Take Aways

Let's aim beyond step 1 ! (i.e., the simple digitization of cultural heritage information):

- Let's link and harmonize cultural data silos!
- We have to consider dependend processes early on!

Digital storytelling for museums requires novel approaches & tools:

- Visualization and storytelling are appealing design options
- InTaVia aims to support the whole process of cultural data practices

Future Challenges: Countless, but some seem more urgent than others..

Thank you!

<https://intavia.eu> [@projectintavia](#)



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