



**Infrastructures and Interfaces for DH Research:
Dutch Experiences and Expectations**

Charles van den Heuvel,

HELDIG- Helsinki 23 October 2018



The Netherlands without Dikes

After an average high-tide, major parts of the Netherlands have become unsuitable to live.

- beach and dunes 200m
- 0 - 1 meter
- below sealevel
- above 1 meter

Dutch interests in infrastructures



WIKIPEDIA
The Free Encyclopedia

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Polder model

From Wikipedia, the free encyclopedia

For the Pillar Model, see [Pillarisation](#).

The **polder model** ([Dutch](#): *poldermodel*) is [consensus decision-making](#), based on the acclaimed [Dutch](#) version of [consensus](#)-based economic and social policy making in the 1980s and 1990s.^{[1][2]}

A third explanation refers to a unique aspect of the Netherlands, that it consists in large part of [polders](#), land reclaimed from the sea, which requires constant pumping and maintenance of the [dykes](#). So ever since the [Middle Ages](#), when the process of land reclamation began, different societies living in the same polder have been forced to cooperate because without unanimous agreement on shared responsibility for maintenance of the dykes and pumping stations, the polders would have flooded and everyone would have suffered. Crucially, even when different cities in the same polder were at war, they still had to cooperate in this respect. This is thought to have taught the Dutch to set aside differences for a greater purpose.

Advocatenorde wil deltaplan digitalisering - Mr. Online

<https://www.mr-online.nl/advocatenorde-wil-deltaplan-digitalisering/> ▾ [Translate this page](#)

Sep 19, 2017 - In de visie van Van Tongeren zal in het 'deltaplan digitalisering' naast juridische professionals moeten worden deelgenomen door ...

Deltaplan Digitalisering Fries Erfgoed | Fries Film Archief

friesfilmarchief.nl/projecten/deltaplan-digitalisering-fries-erfgoed-2/ ▾ [Translate this page](#)

Provincie Fryslân heeft voor de komende jaren 5 miljoen euro beschikbaar gesteld voor de digitalisering van Fries Erfgoed, het zogenaamde Deltaplan ...

Digitalisering erfgoed - RedBot

www.redbot.fr/ ▾ [RedBot](#) ▾ [Translate this page](#)

Oplettende cultuurliefhebbers zullen er vast al eens van gehoord hebben: het deltaplan digitalisering cultureel erfgoed. Een meerjarig digitaliseringsprogramma ...

TRESOAR - Provincie investeert in digitalisering Fries erfgoed

www.tresoar.nl/.../provincie-investeert-in-digitalisering-fries-erfgoed... ▾ [Translate this page](#)

May 7, 2014 - Dit besluit, het Deltaplan Digitalisering, heeft als doel de Friese erfgoedcollectie digitaal te maken en beschikbaar te stellen. Daardoor wordt ...

NUON-geld voor Deltaplan Digitalisering - FNP Fryslân

https://www.fnp.fr/nederlands/provinciale_staten/nieuws/143/ - [Translate this page](#)

De FNP wil NUON-geld steken in het Deltaplan Digitalisering van de Friese erfgoedinstellingen. Het gaat om een investering van € 5 mln. De Statenfractie komt ...

Profiel - Digitalisering (ont)regelt steeds meer. En nog altijd is er geen ...


<https://www.profielactueel.nl/.../mbo-nieuws> ▾ [Translate this page](#)

Sep 10, 2016 - Al jaren pleit Profiel/Actueel voor een Deltaplan digitalisering, voor het onderwijs, voor de industrie, voor defensie, voor de samenleving.

Universiteiten willen geld voor 'deltaplan' digitalisering | DUB



Dutch Deltaplans



Large research facilities

Good research facilities are essential for top research. High-value equipment and research facilities are the source of new science. Once such facilities are present, they often turn out to function as flywheels for new and interesting research topics. Therefore NWO structurally invests in high-value equipment and data collections.

In addition, the NWO institutes make their instruments, facilities and laboratories available for research performed by colleagues both at home and abroad. With this approach, NWO strengthens the infrastructure of scientific institutions in the Netherlands.

International perspective

NWO invests considerably in research facilities from a national and international perspective. For this, such questions as 'which facilities does the Netherlands require?' and 'what sort of access to facilities abroad is essential to Dutch science?' are paramount. In various roles, NWO enables access to advanced facilities: as a research council, as the manager of eight national research institutes and as an adviser in national and international strategic choices. NWO focuses on Dutch participation in very large-scale international facilities.



NWO



KNOWLEDGE TO SHAPE OUR FUTURE

TOPSECTOR CREATIVE INDUSTRIES

Common Lab Research Infrastructure for the Arts and Humanities

13-08-2015 CLARIAH, a distributed infrastructure for the humanities and social sciences.

 TOOLS >
  DATA >
  STANDARDS >
  EDUCATION >

News

Conny Kristel (February 26, 1955 – October 6, 2018)
 Last Saturday, October 6th 2018, our dear colleague Conny Kristel passed away. She was 63 years...

[Read more >](#)

Blogs & Articles

die beste dag... *die beste dag... die beste dag...*

Upcoming

CLARIAH TechDay
 30 30-11-2018 10:00 - 13:00

- NEWS
- Blogs
- Articles
- ERICs
- News Letters

CLARIAH-PLUS granted

2018-04-11
 * PRESS RELEASE *
 12 April 2018, Amsterdam

CLARIAH infrastructure has the desired follow-up with CLARIAH PLUS.

This afternoon, Minister Ingrid van Engelshoven granted the CLARIAH PLUS application with EUR 13.8 million. This will enable the humanities consortium led by Huygens ING to continue building the national digital CLARIAH infrastructure for the humanities.

Within the framework of the National Roadmap for Large-Scale Scientific Infrastructures, Minister Ingrid van Engelshoven of OC&W has allocated € 13.8 million on behalf of the NWO to the CLARIAH-PLUS project.

The award was received by the Principal Investigator (PI) Lex Heerma van Voss, director of Huygens ING, on behalf of a national consortium of universities and humanities institutes.

Heerma van Voss: 'This award confirms the great importance of the CLARIAH infrastructure for the humanities and social sciences in the Netherlands and far beyond. This infrastructure will substantially change not only the character of humanities research, but also that of social sciences research.'

Over the past four years, the CLARIAH-CORE project has been used by the consortium to lay the foundations for the CLARIAH infrastructure. Because the CLARIAH infrastructure is an integral part of the European CLARIN and DARIAH initiatives, the



11-10-2018

Conny Kristel (February 26, 1955 - October 6, 2018)

11-10-2018

2018 Steven Krauwer Award for CLARIN Achievements awarded to Daan Broeder and Pavel Straňák

21-09-2018

Digging into Data - Humanities and Knowledge organization

05-09-2018

CFP: Graph Technologies in the Digital Humanities: Modelling, Access, Comparison

30-08-2018

14th International IEEE eScience Conference

14-07-2018

The Media Suite is a research environment of the Dutch infrastructure for digital humanities and social sciences (CLARIAH) which aims to serve the needs of scholars who use audiovisual media by providing access to audiovisual collections and their contextual data.

[READ MORE >](#)



Data

Access important Dutch audio-visual collections (radio, television, films, oral history interviews) and contextual material. All available collections and their data are registered in a common inventory.

[CHECKOUT THE DATA >](#)



Tools

Use some of the CLARIAH open source tools that allow researchers to perform search, annotation, automatic speech recognition, and other analysis tasks with the available data.

[USE THE TOOLS >](#)



Workspace

Functional work space and experimental Jupyter notebooks to work with your corpus and user data (bookmarks, annotations, queries, search sessions, and user collections).

[DISCOVER YOUR WORKSPACE >](#)



The Media Suite tools offer the core functionalities needed for performing scholarly research tasks with audio-visual media and contextual collections. Tools available in this version of the Media Suite enable metadata inspection, exploratory browsing, search, visualization, and analysis (annotation support).

[VIEW DOCUMENTATION](#)



Inspect

DETAILS

[OPEN](#)



Explore

DETAILS

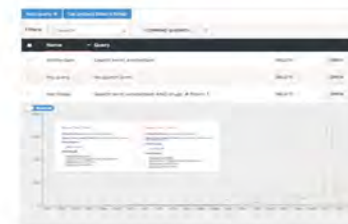
[OPEN](#)



Search

DETAILS

[OPEN](#)



Compare

DETAILS

[OPEN](#)

Select your home organisation below. This is usually the organisation where you work or study. Signing in here will allow you to access certain CLARIN resources and services which are only available to users who have logged in. If you cannot find your organisation in the list below, please select the clarin.eu website account and use your CLARIN website credentials. If you don't have such credentials you can register an account [here](#). For questions please contact spf@clarin.eu.

Previously chosen home organisation

Huygens Instituut (KNAW)
 Netherlands



Home organisation list



Search for your home organisation...

All countries



clarin.eu website account

 European Union



AAI@EduHr Single Sign-On Service

 Croatia



Aalborg University

 Denmark

Aalto University

 Finland

Aarhus School of Marine and Technical Engineering

 Denmark

Aarhus University

 Denmark

Timbuctoo implementations

Huygens ING uses Timbuctoo to share its data with the world and to host [high quality datasets](#) of ongoing research projects in which the institute participates. Timbuctoo also forms the backbone of [Anansi](#), the central CLARIAH infrastructure. Anansi will be the data hub between the three primary CLARIAH domains (Linguistics, Social & Economic History and Media Studies). Furthermore, Anansi will link up with large-scale existing data infrastructures outside CLARIAH and allow researchers to connect their own datasets. The [International Institute of Social History](#) in Amsterdam and Oxford University (the [Cultures of Knowledge project](#)) have announced to implement Timbuctoo in their digital research infrastructures.



DATA.HUYGENS.KNAW.NL

Data Huygens ING

huygens
ing



CLARIAH
ANANSI

Anansi

CLARIAH



CULTURES of
KNOWLEDGE

Cultures of Knowledge

UNIVERSITY OF
OXFORD

Features

- ✓ Data management
- ✓ Data enrichment
- ✓ Privacy and sharing options
- ✓ Powerful search and analysis tools
- ✓ API
- ✓ Multiple interpretations of data
- ✓ Provenance tracking
- ✓ Combine and create datasets
- ✓ Replication of data analysis
- ✓ Data export



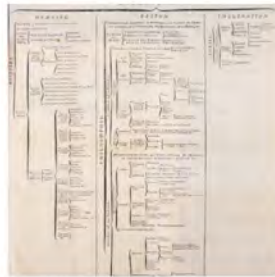
Bridge to networked research data

ANANSI is the central data connection between the three primary CLARIAH domains (Linguistics, Social & Economical History and Media Studies). ANANSI facilitates the connectivity of structured (meta-)data served by the research infrastructures constructed in these domains. Furthermore, ANANSI integrates data with large scale existing data infrastructures outside CLARIAH - both within and outside the humanities.

Featured datasets



Persons



Concepts



Locations

Own Datasets

Data Huygens ING

Data related to Dutch history, literature, and the history of knowledge – ready for reference, scholarly analysis, and linkage

Featured datasets



Digital Web Centre for the History of Science

Biographical data of the Digital Web Centre for the History of Science (DWC)...



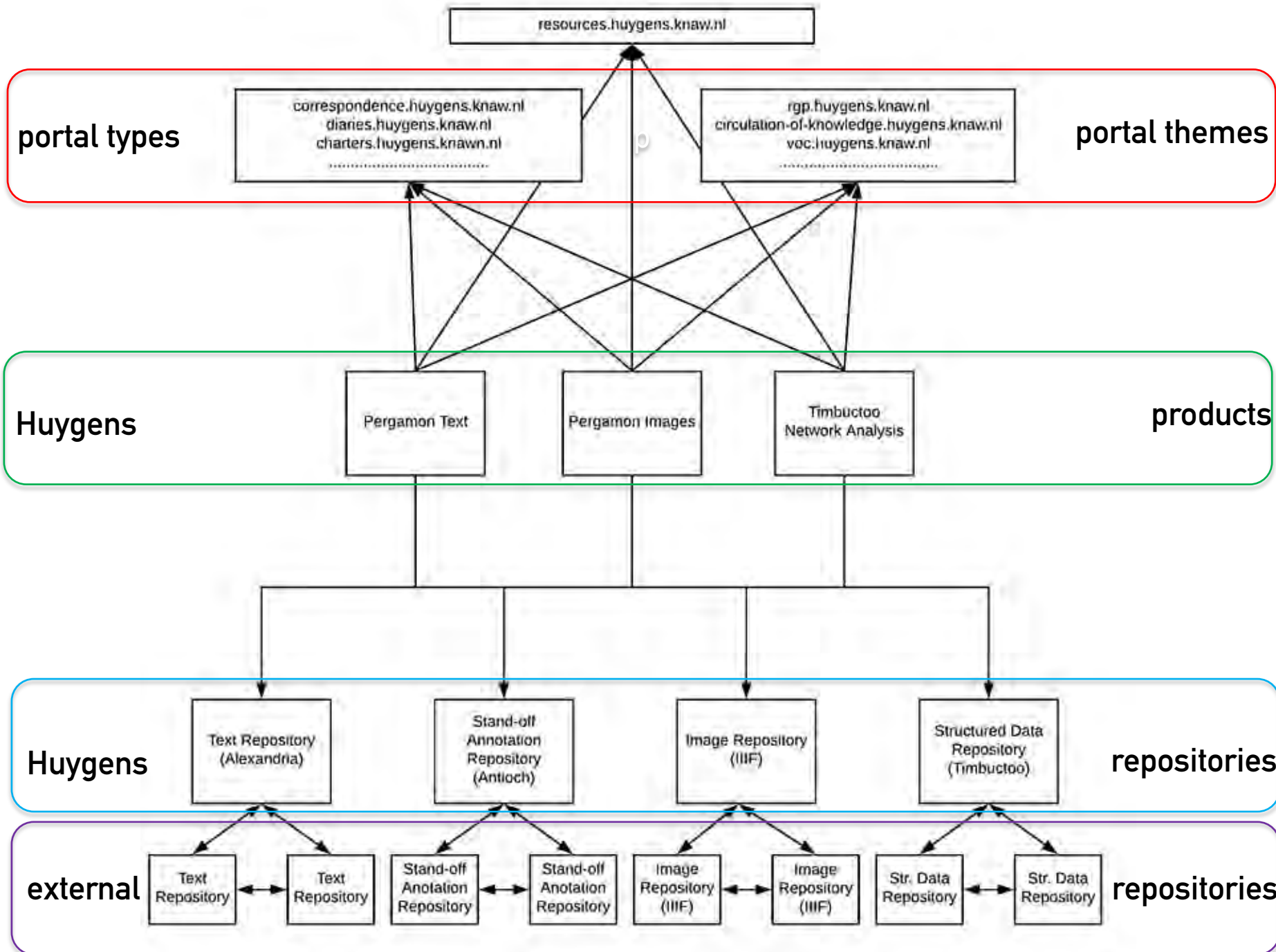
Digitale Charterbank Nederland

Portal met charters in Nederlandse archieven...



Biography portal of the Netherlands

An online collection of reference works and data sets currently scattered over the internet, contain...



Mapping 2000 years of European History

The Time Machine FET Flagship aims at building a Large Scale Historical Simulator mapping 2000 years of European History. Extending on the proposal submitted to the attention of the European Commission in April 2016, Time Machine is a program that brings together research teams from all over Europe and the participation of about 200 institutions. The goal of this consortium is to develop new technologies for the scanning, analyzing, accessing, preserving and communicating of cultural heritage at a massive scale. Data extracted from this digital patrimony are the basis for the reconstruction of the historical evolution of most European cities and the economical, cultural and migration networks between these urban nodes.

Writing a common history of Europe

This is something of complexity and scale unseen to date. To obtain the necessary data for such a reconstruction, Time Machine has to develop new technologies for a scanning infrastructure able to digitize massive amounts of fragile documents from the European heritage that would be the basis of the largest database ever created for European archival documents. Meanwhile, high performance computing clusters are used to process this mass of documents using increasingly accurate machine vision algorithms, segmenting, indexing and transcribing their content, ultimately making them searchable like any other documents we search on the web. The information networks extracted from the documents constitute a massive semantic graph of linked data – probably the largest ever built about the past - unfolding in space and time as part of an historical geographical information system.

Big Data of the Past

These Big Data of the Past are expected to lead to data-driven historical simulations, making the past de facto as easily accessible as the present. New families of historical search engines, as well as immersive and augmented reality interfaces and other tools, will generate what one could describe as time capsules to seamlessly navigate 2000



◆ Local Time Machines

Amsterdam Time Machine

Budapest Time Machine

Jerusalem Time Machine

Lower Austrian Time Machine

Nuremberg Time Machine

Regensburg Time Machine

Venice Time Machine

Antwerp Time Machine

Dresden Time Machine

Limburg Time Machine

Naples Italy Time Machine

Paris Time Machine

Sion Time Machine

Vienna St. Steven's cathedral Time Machine

[Introduction](#)

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CREATIVE AMSTERDAM: AN E-HUMANITIES PERSPECTIVE

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AMSTERDAM TIME MACHINE

High time for time travel!

Between all the data on historical Amsterdam that is digitally available and the expertise of researchers, computer and information scientists, and heritage professionals, it must be possible to develop a time machine with which we can walk the streets of historical Amsterdam and meet her inhabitants.

The Amsterdam Time Machine (ATM) is a hub for linked historical data on Amsterdam. The web of information on people, places, relationships, events, and objects will unfold in time and space through geographical and 3D representations. In this Google Earth of the past, users can go back and forth between the city as a whole, neighborhoods, streets, houses, and even zoom in on the pictures that adorned the walls of for instance merchants and regents. The systematic linkage of datasets from heterogeneous sources allows users to ask new questions on, for instance, cultural events, everyday life, social relations, or the use of public space in the city of Amsterdam. ATM uses state-of-the-art computational methods and techniques, and it will be carefully annotated with regards to issues of uncertainty and fuzziness that are inherent to historical data.

ATM is being developed since March 2017 by an open-ended collective of historical researchers and information and data specialists from different universities, heritage institutions, and the creative industries. It is coordinated by the research program Creative Amsterdam: An E-Humanities Perspective (CREATE). Do you have questions, ideas, or suggestions? Please contact our project coordinator Claartje Rasterhoff – c.rasterhoff@uva.nl

ATM is inspired by [Venice Time Machine](#) and many other linked data, geo and 3D programs, and a core member of the [Time Machine FET Flagship](#) consortium. This is a program that brings together research teams from all over Europe and the participation of about 200 institutions. The goal of this consortium is to develop new technologies for the scanning, analyzing, accessing, preserving and communicating of cultural heritage at a massive scale. Data extracted from this digital patrimony are the basis for the reconstruction of the historical evolution of European cities and the manifold relationships between these cultural nodes.



Tweet



Time Machine ▾ Maps LOD 3D Showcase Consortium Contact



LOD: linked datasets on Amsterdam history in the [ALiDa Cloud](#)



Go [back in time](#) with these tiles or [read more on maps](#)



3D: [reconstructing](#) Amsterdam

[website under construction...]

Amsterdam Time Machine is a research and development platform for the history of Amsterdam. The web of information on people, places, relationships, events, and objects will unfold in time and space through geographical and 3D representations. While we're working on that, we'd like to provide access to the three building blocks: linked data, maps and 3D models.



1876 - Buurtatlas Loman

In 1876 bracht uitgever J.C. Loman jr. een gedrukte **atlas** in 101 bladen op de markt, waarop de dan net doorgevoerde tweede **omnummering** is opgenomen. De kaarten zijn door Jan Hartmann gegeoreferenciert en samengevoegd.

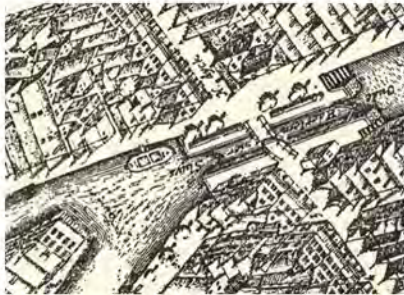
<https://images.huygens.knaw.nl/webmapper/maps/loman/{z}/{x}/{y}.jpeg>



1724 - Gerrit de Broen

De kaart van Gerrit de Broen is gemaakt toen de stormachtige groei die eind 16e eeuw was ingezet al ten einde was. De Plantage en oostelijke eilanden bieden nog zeeën van ruimte, veel zou de stad de anderhalve eeuw daarop niet veranderen. De kaartbladen zijn gegeoreferenciert en samengevoegd door Webmapper.

<https://images.huygens.knaw.nl/webmapper/maps/debroen/{z}/{x}/{y}.png>



1625 - Balthasar Florisz. van Berckenrode

In 1625 is de **derde uitleg**, waarbij de westelijke grachtengordel gereed is gekomen, net aangelegd. Ook de Jordaan in wording is te zien. De kaartbladen zijn gegeoreferenciert en samengevoegd door Webmapper.

<https://images.huygens.knaw.nl/webmapper/maps/berckenrode/{z}/{x}/{y}.png>

De tiles van de kaarten zijn beschikbaar gemaakt door Edward Mac Gillavry ([Webmapper](#)) en Menno den Engelse ([Islands of Meaning](#)). De tiles worden gehost door [CLARIAH](#).

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Infrastructures and Interfaces for DH Research: Dutch Experiences and Expectations

- **Golden Agents: Creative Industries and the Making of the Dutch Golden Age (Jan 2017 – Dec 2021)**
- **Virtual Interiors as Interfaces for Big Historical Data Research (Sept 2018 – August 2021)**

golden agents

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Golden Agents: Creative industries and the making of the Dutch Golden Age

NWO-Large Infrastructure Project – funding
ca. € 3,6 million budget € 5,8 million
2017 - 2022



Golden Agents Infrastructure: Aim

Understanding the dynamics in the creative industries of the Dutch Golden Age:

- by analyzing interactions between various branches of the creative industries**
- by analyzing interactions between producers and consumers of the creative industries**



Problem 1 data about production of creative industries dispersed over separated databases



lack of digital data about the consumption of the creative industries of the Dutch Golden Age



Rembrandt: Portrait Maarten Soolman and Opjen Coppit



‘Galey-schilders’ en ‘dosijnwerck’

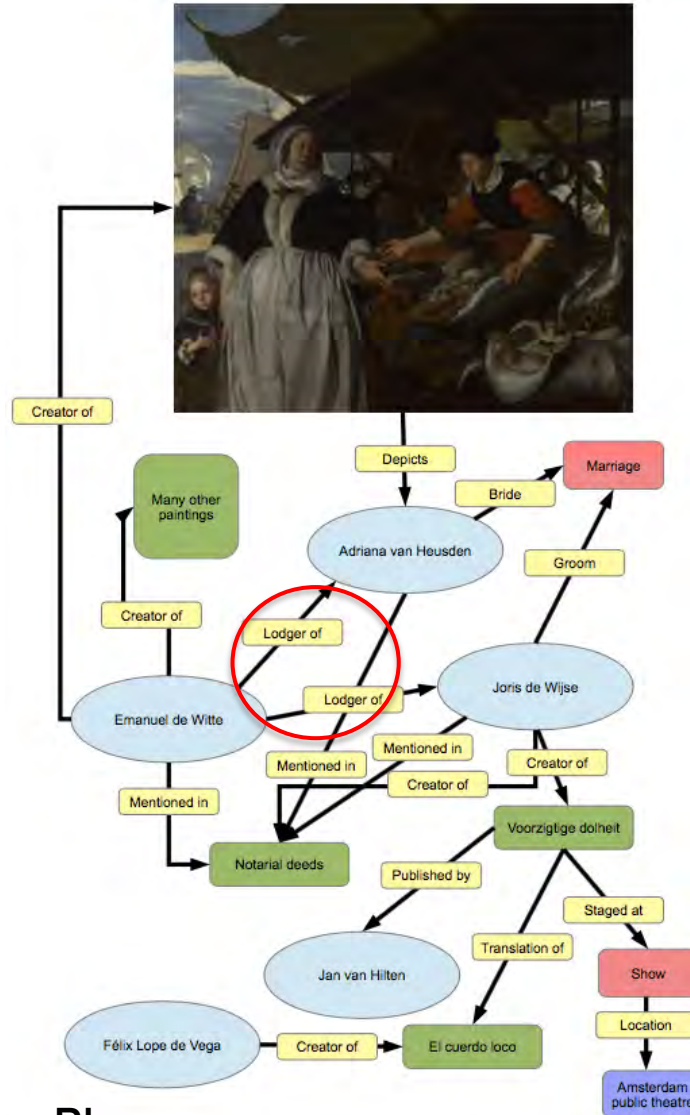
De productie, distributie en consumptie
van goedkope historiestukken in
zeventiende-eeuws Amsterdam

Angela Jager

Angela Jager, ‘Galley-painters’ and ‘works-by-the-dozen.’ The production, distribution and consumption of cheap history paintings in seventeenth-century Amsterdam. PhD, UvA 2016/6/3

Several related storylines

Adriana van Heusden, Joris de Wijse & Emanuel de Witte

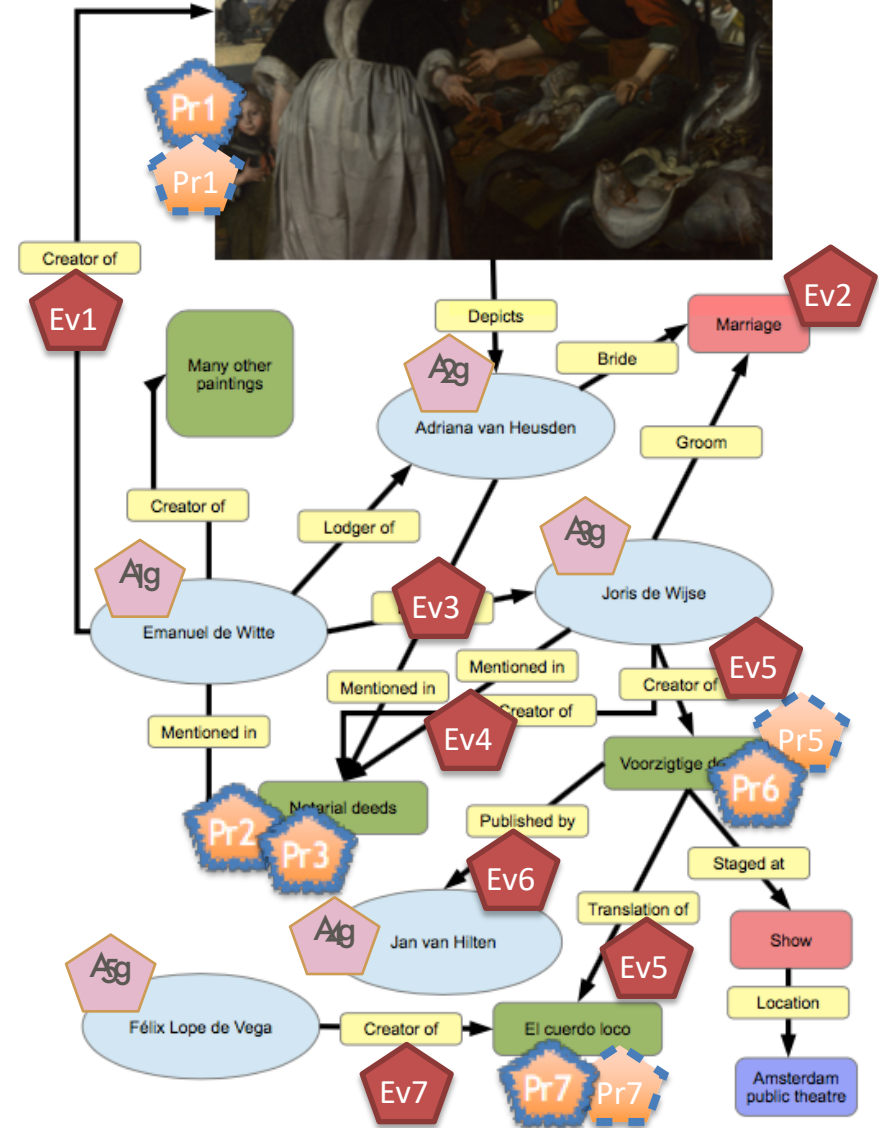
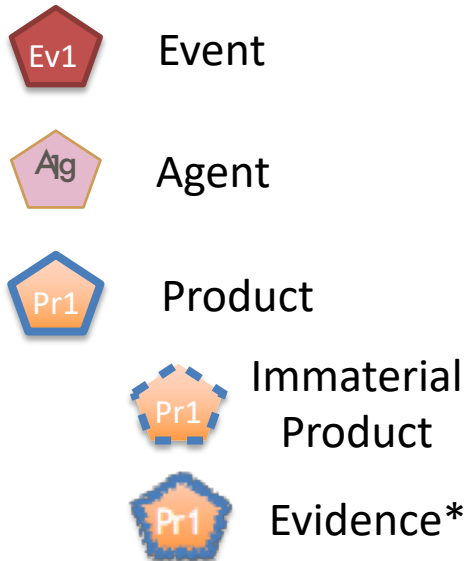


Ecartico
(visual arts)
On-Stage
(theatre)

Source: Harm Nijboer and Frans Blom

Several related storylines

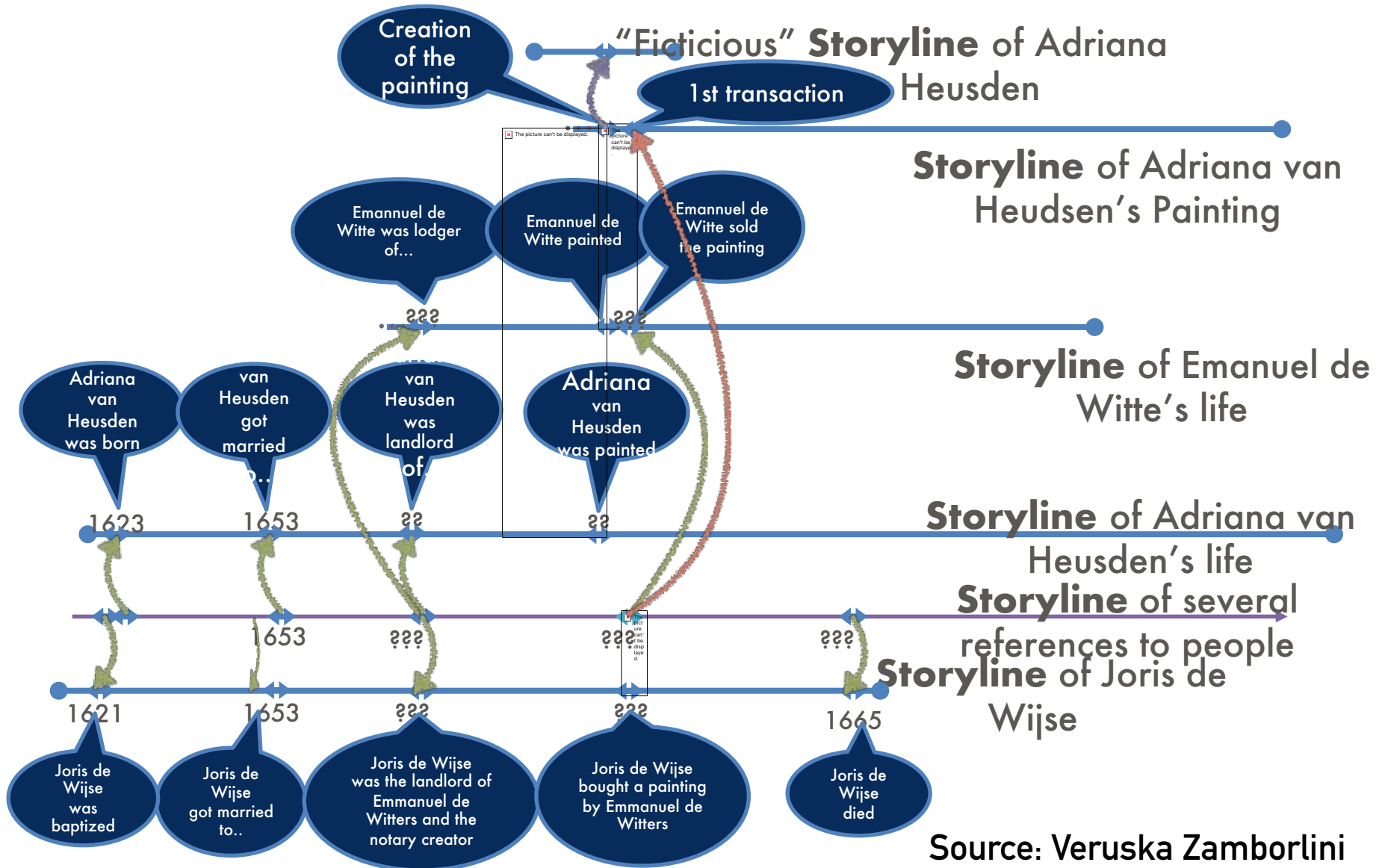
ADRIANA VAN HEUSDEN, JORIS DE WIJSE & EMANUEL DE WITTE



Source: Veruska Zamborlini

Several related storylines

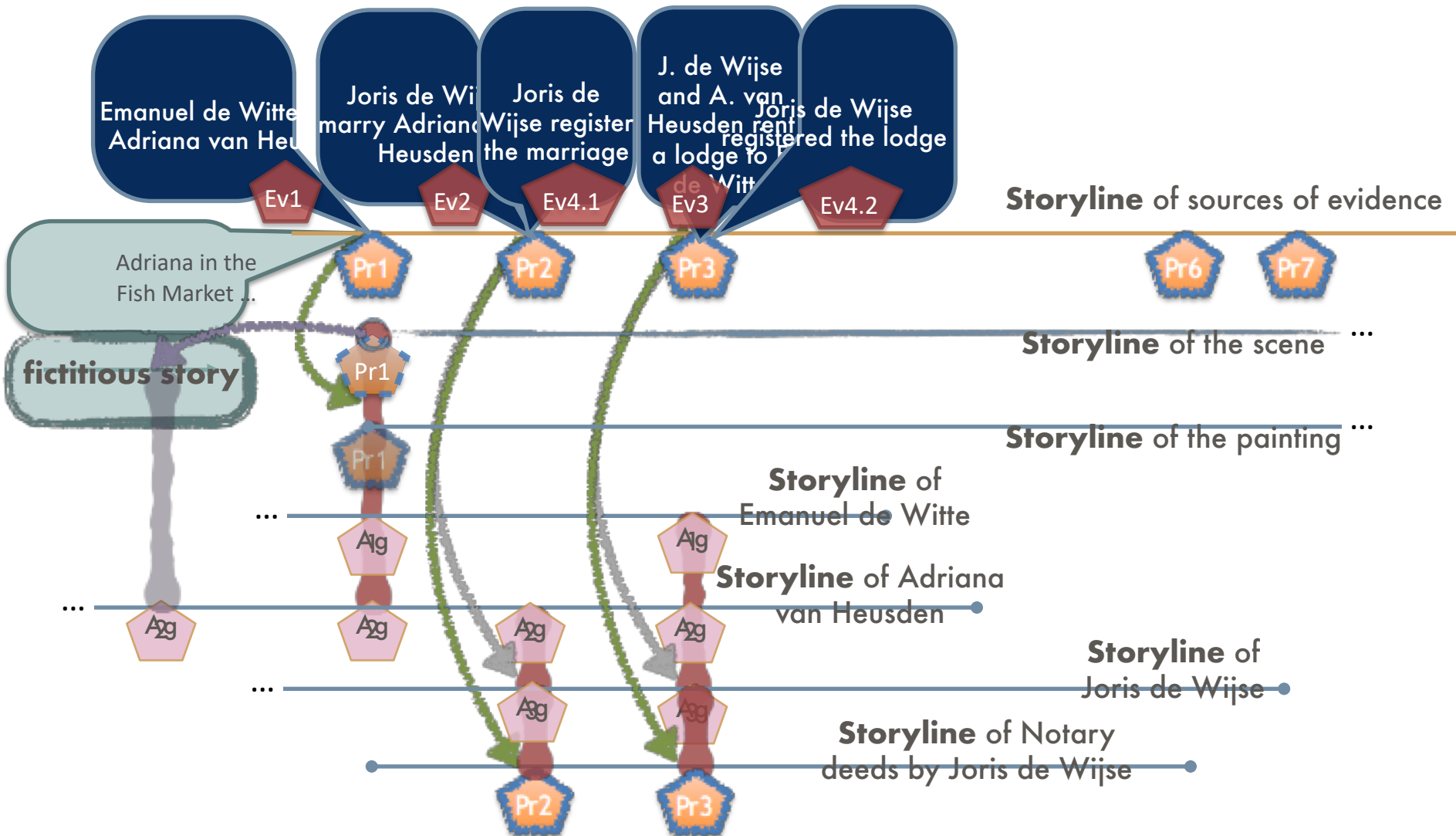
Adriana van Heusden, Joris de Wijse & Emanuel de Witte



Source: Veruska Zamborlini

Several related storylines

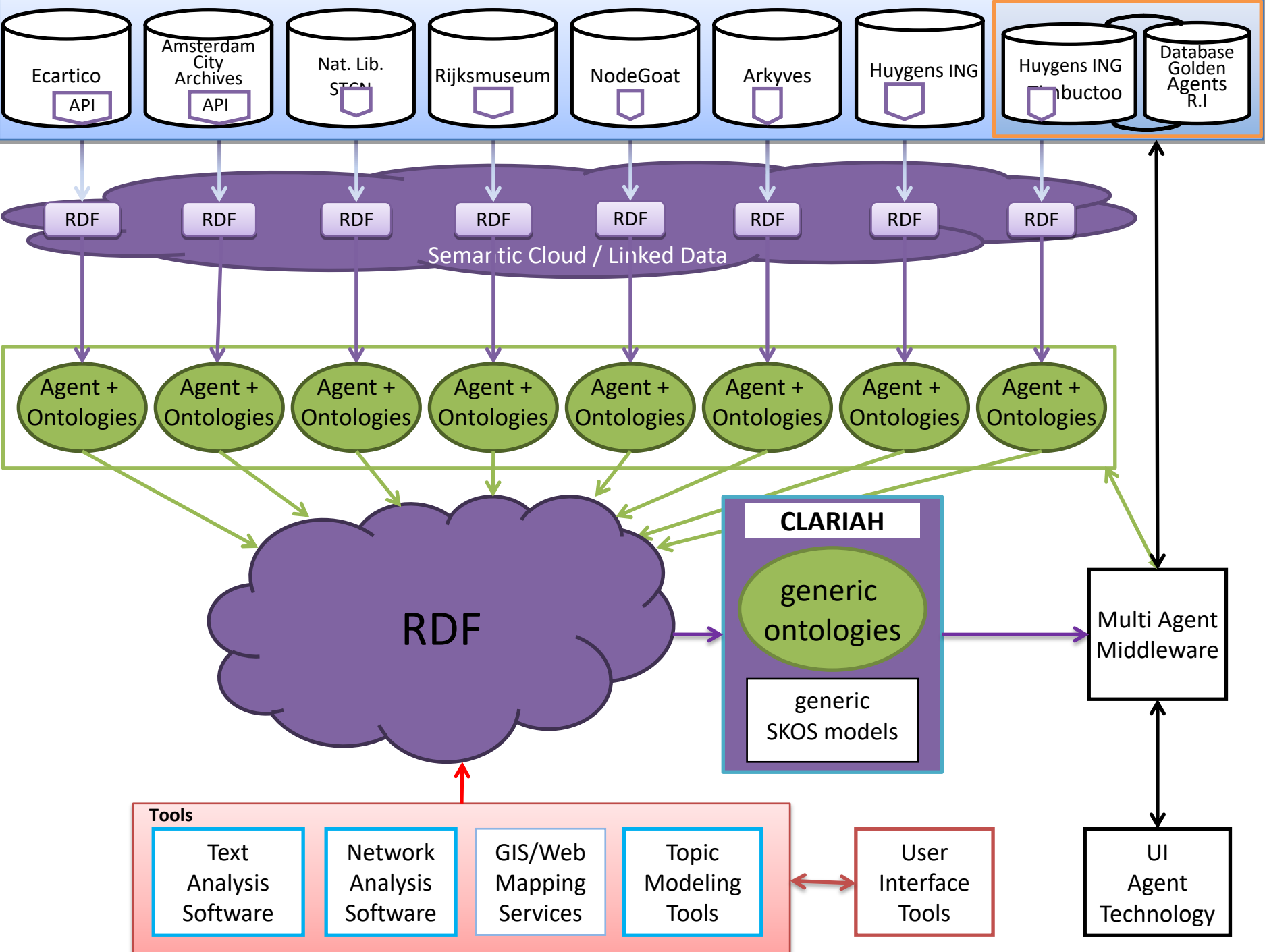
Adriana van Heusden, Joris de Wijse & Emanuel de Witte



Source: Veruska Zamborlini

Golden Agents Infrastructure

- links existing and new data linked via Semantic Web technology
- organizes knowledge in ontologies
- employs multi-agent technology to analyse interactions between branches, producers and consumers of creative industries and support users providing feedback
- uses a combination of hand-written text recognition and crowdsourcing to disclose 10 million scans of notary acts



Lenticular Lenses

Investigate Linkset Correspondences

Correspondences

refined MarriageRegistries003 MarriageRegistries003 approxStrSim contains 55962 triples, aligned using the APPROXSTRSIM mechanism.

1 linked to
http://goldenagents.org/uva/SAA/IndexOpOndertrouwregister/saald26056842p0
http://goldenagents.org/uva/SAA/IndexOpOndertrouwregister/saald26056863p0

2 linked to
http://goldenagents.org/uva/SAA/IndexOpOndertrouwregister/saald26056845p0
http://goldenagents.org/uva/SAA/IndexOpOndertrouwregister/saald26063943p2

3 linked to
http://goldenagents.org/uva/SAA/IndexOpOndertrouwregister/saald26056846p0
http://goldenagents.org/uva/SAA/IndexOpOndertrouwregister/saald26056913p0

4 linked to
http://goldenagents.org/uva/SAA/IndexOpOndertrouwregister/saald26056846p0
http://goldenagents.org/uva/SAA/IndexOpOndertrouwregister/saald26056987p0

5 linked to
http://goldenagents.org/uva/SAA/IndexOpOndertrouwregister/saald26056846p0
http://goldenagents.org/uva/SAA/IndexOpOndertrouwregister/saald26056992p0

6 linked to
http://goldenagents.org/uva/SAA/IndexOpOndertrouwregister/saald26056848p1

Details

(Click the gray-shaded headers below to see and select other properties)

MarriageRegistries003 full_name aligns with MarriageRegistries003 full_name

MarriageRegistries003 full_name = Bruntink, Hendrik
MarriageRegistries003 full_name = Bruntinck, Hendrik

Evidence

2 Strength 0 Accepted 0 Rejected

hasEvidence: The DELTA of [1726-12-13] and [1728-01-23] is [2] which passed the threshold of [25.0]

singletonPropertyOf: approxNbrSim8

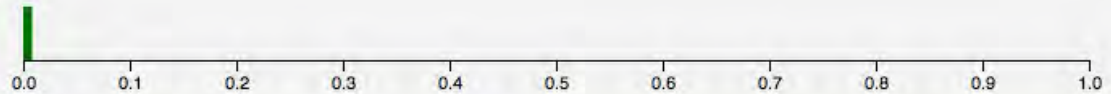
wasDerivedFrom: approxStrSim_4_59

Validation

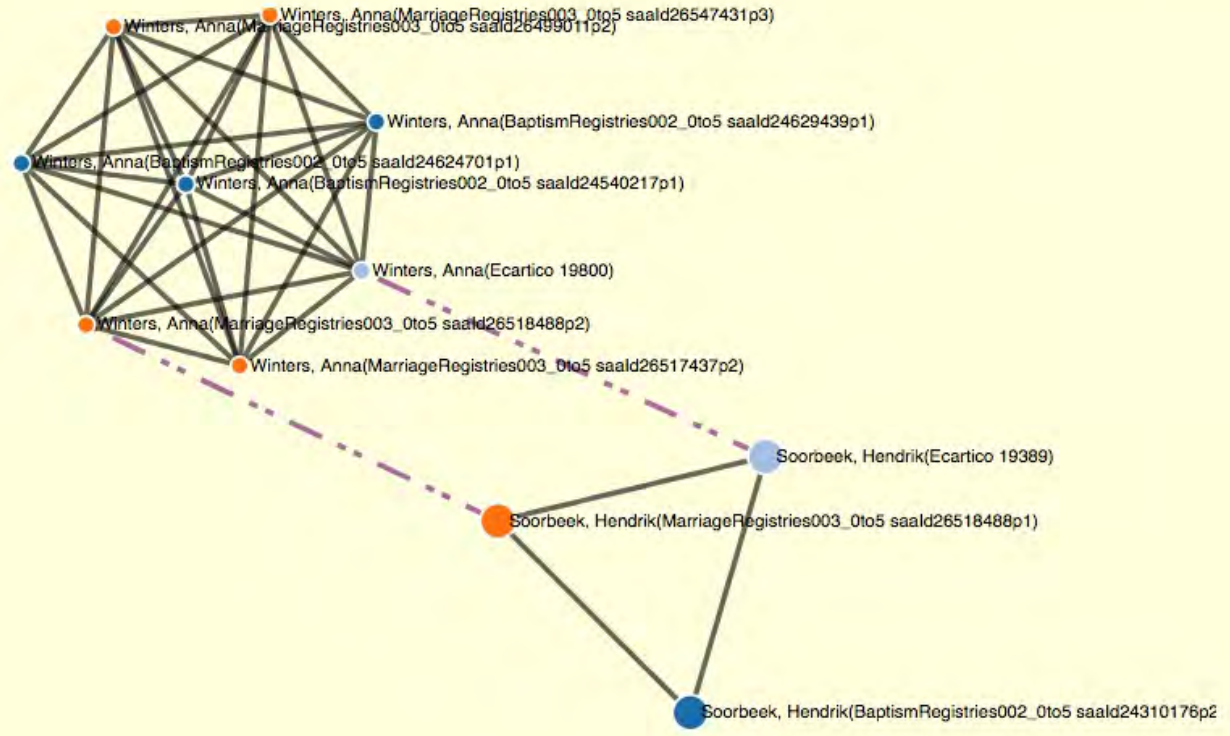
SAVE VALIDATION DELETE VALIDATION

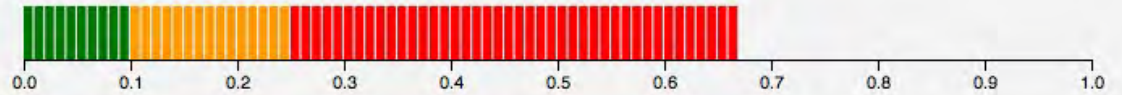
- I agree with the alignment in **general** and with this correspondence in **particular**.
- I agree with the alignment in **general** but **disagree** with this correspondence in **particular**. I have selected in "Details" the pair of properties that justifies my disagreement.
- I **disagree** with the alignment in **general** and I want to proceed with a refinement. I have selected in "Details" the pair of properties that justifies my disagreement.

Confidence: 1



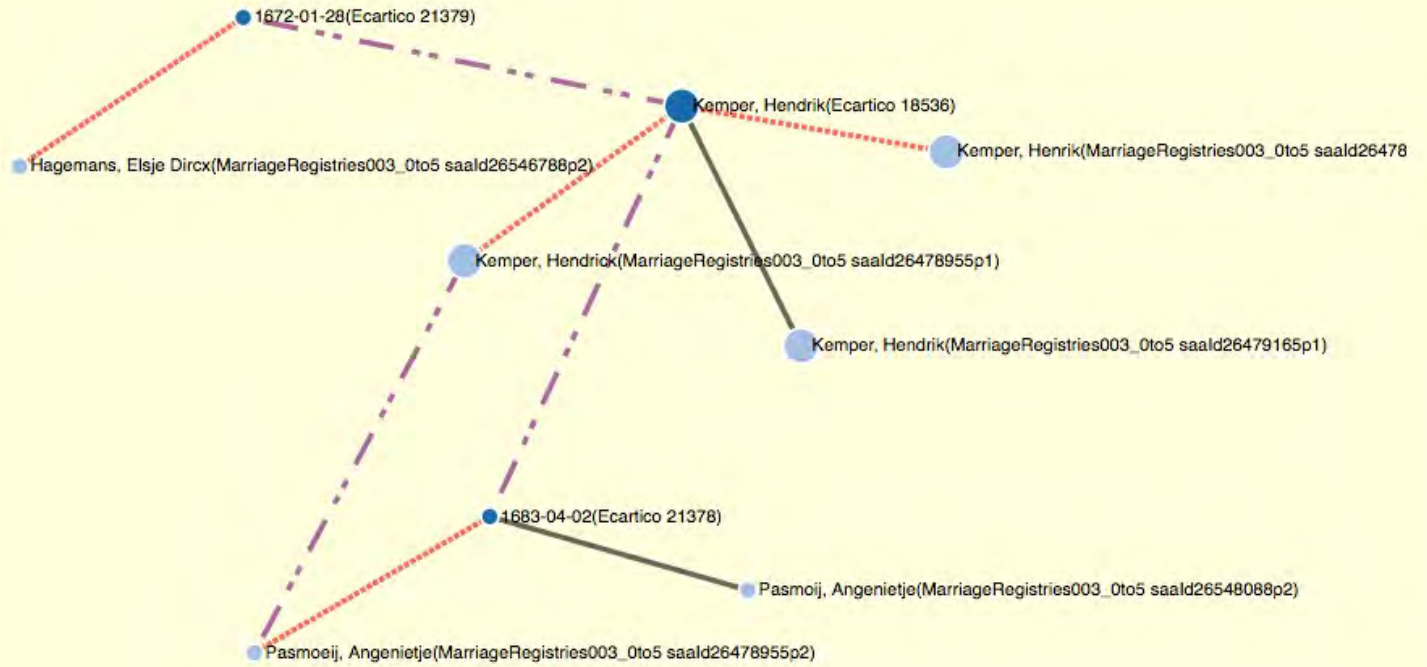
Average Degree [0] Bridges [0.0] Diameter [0.0] Closure [3/3] -> [0.0] >>> QUALITY [1.0]<<<
Interpretation: GOOD | Evidence: LESS INTERMEDIATES AND NO BRIDGE





Average Degree [0] Bridges [1.0] Diameter [0.5] Closure [3/6] -> [0.5] >>> QUALITY [0.333]<<<

Interpretation: THE NETWORK IS NOT A GOOD REPRESENTATION OF A SINGLE RESOURCE | Evidence: NEED BRIDGE INVESTIGATION



Query Pipeline

- 1 User sends a SPARQL query via the interface
- 2 The query is passed on to the broker
 - which then splits it up into multiple sub-queries
 - sends each sub-query to the relevant DB-agent
- 3 The DB-agents will
 - translate the sub-query
 - send results back to the broker
- 4 Broker will
 - collect all data coming in from different DB-agents
 - extract the results for the query
 - pass the results to the user-agent
- 5 User-agent shows results to user



Golden Agents data

Access to distributed, heterogeneous resources (both existing and new) on creative industries in the Dutch Golden Age.

Featured datasets

Own Datasets

Stadsarchief: index op kwijtscheldingen

Stadsarchief: index op poorterboeken

Stadsarchief: index op doopregister

Stadsarchief: index op ondertrouwregister

Stadsarchief: notarieel boedelinventarissen

Stadsarchief: index op boetes op trouwen en begraven

Stadsarchief: index op confessieboeken

Stadsarchief: index op begraafregisters voor 1811

ecartico

OnStage

Jauco Noordzij, Chiara Latronico and Veruska Carretta Zamborlini

index op kwijtscheldingen

saaOnt_Location (162012)

saaOnt_Property (30574)

saaOnt_Person (358684)

saaOnt_IndexOpKwijtscheldingen (32845)

Unknown (100276)

Colophon

saaOnt_Property (30574)

Property

Density

rdf:type:



saaOnt:geoReference:



...hasNameDescription(s:



saaOnt:isInRecord:



saaOnt:propertyType:



Virtual Interiors as Interfaces for Big Historical Data Research

Spatially enhanced publications of the creative industries of the
Dutch Golden Age
(September 2018-August 2022)

Huygens ING,
University of Amsterdam
Amsterdam: Bureau of Monuments and Archaeology
Netherlands Institute for Sound & Vision
Koninklijke Brill NV



UNIVERSITY OF AMSTERDAM



creative
Amsterdam
an E-Humanities
perspective

BEELD EN GELUID



BRILL

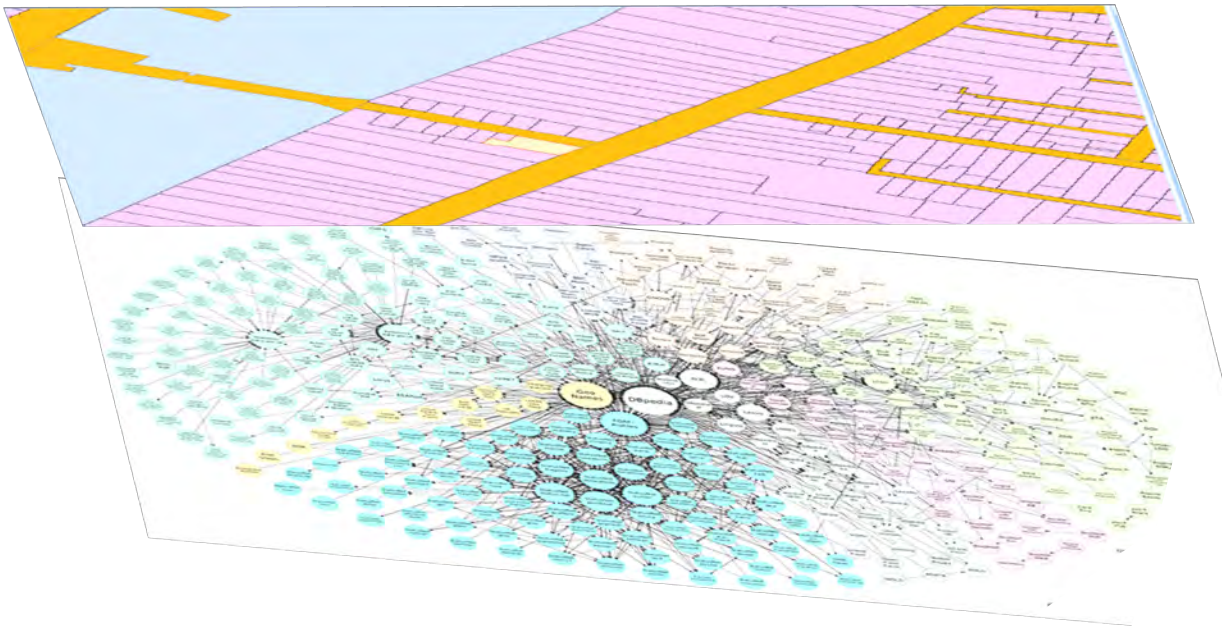


Gemeente
Amsterdam

NWO-Smart Culture, Big Data and Digital Humanities



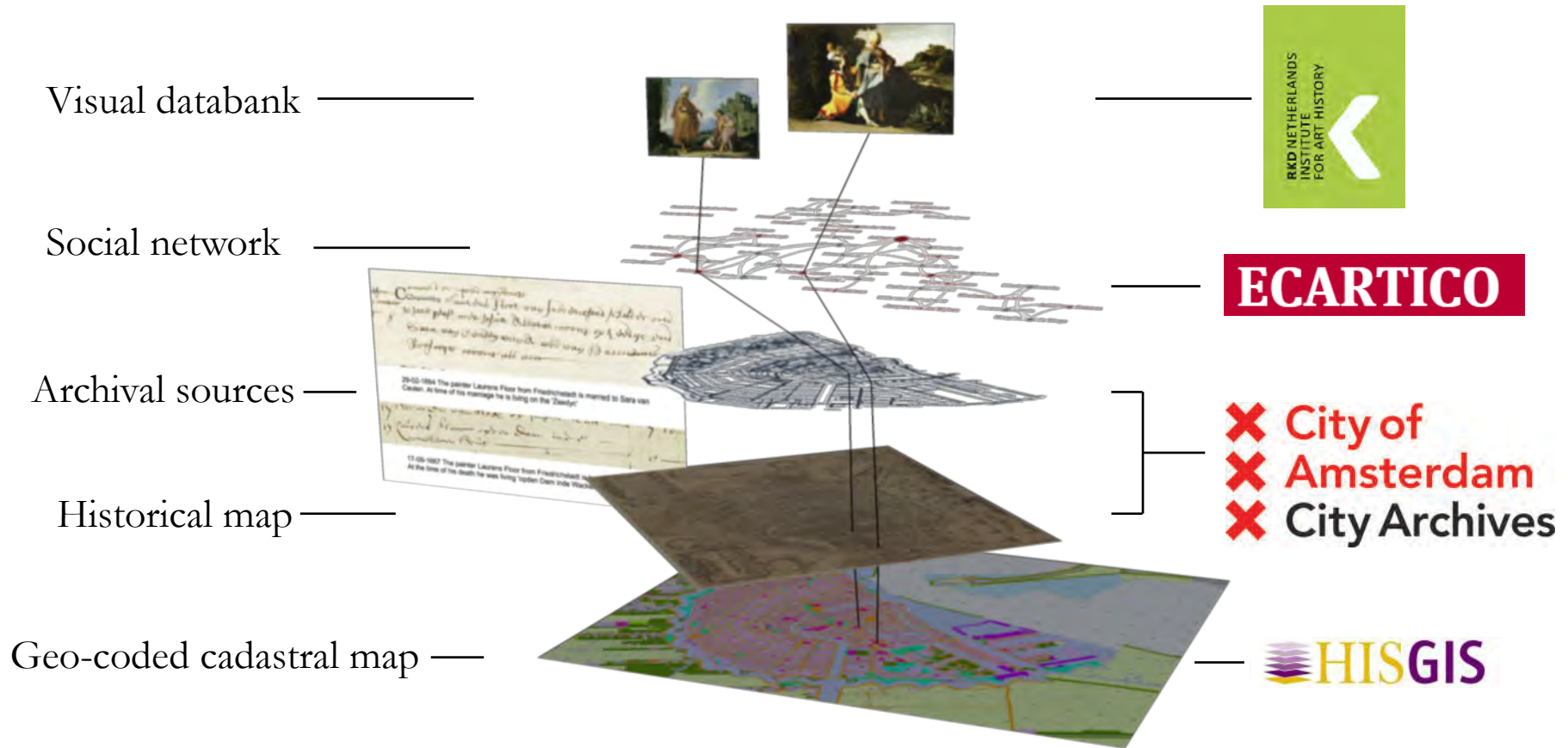
3D/4D LAB



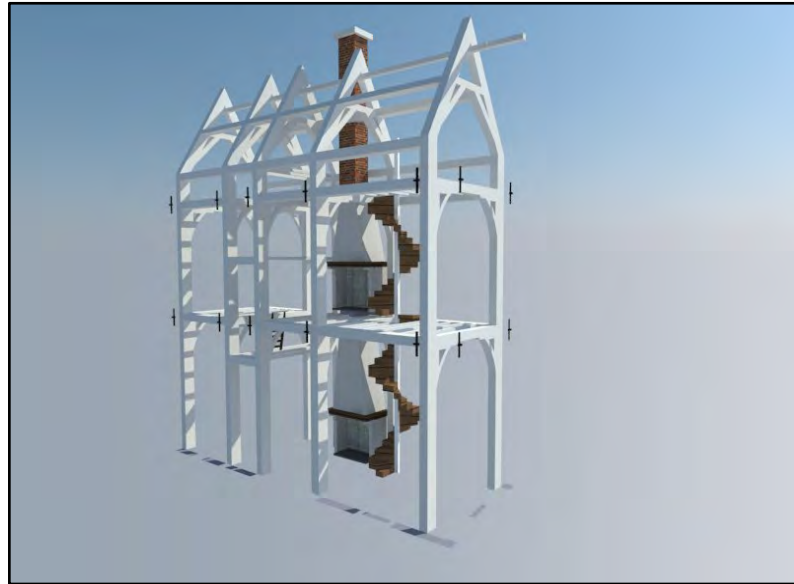
2D - GIS

Semantic Web

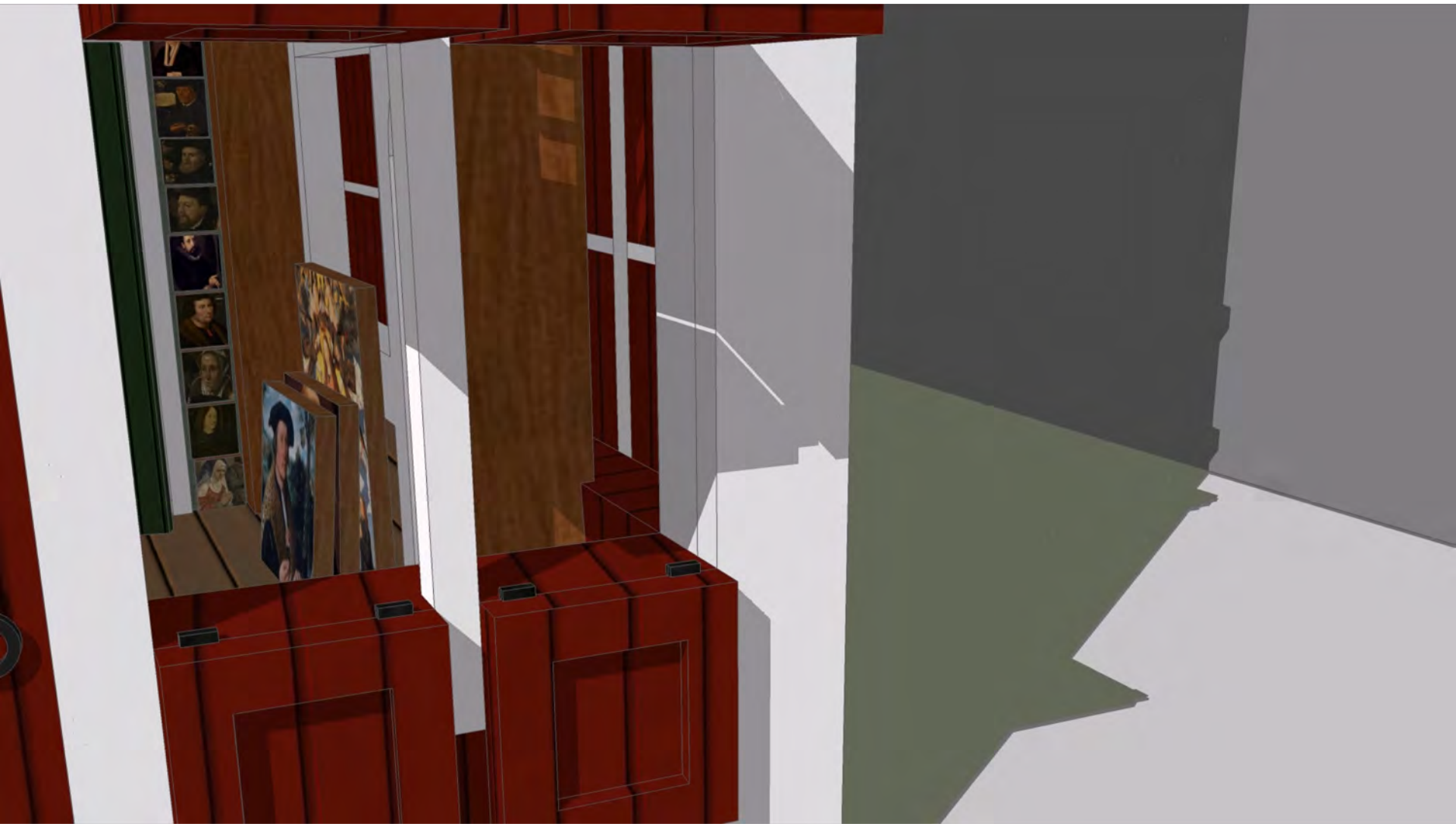
Deep Mapping Artists' Locations within Amsterdam



Source: PhD research Weixuan Li



Reconstruction Warmoesstraat House Painter Dirk Barentsz
UvA –CREATE – 4D Lab: Louise Opgenhaffen, Ivan Kisjes, Madelon Simons



Reconstruction Warmoesstraat House Painter Dirk Barentsz
UvA –CREATE – 4D Lab: Louise Opgenhaffen, Ivan Kisjes, Madelon Simons

26 augustus 1567, inventaris van de goederen van Barnardijn Gaerlofsz
(Warmoesstraat 46)
Verblijfplaats: SAA 5028, inv.nr. 549 (Annotatiën van de goederen), fol. 6v-8v.

[Fol. 6v]

[...] **Int voorhuijs**

Een laeckens parse, een staelen booge, een vleischgaffel, een slaepbanck met een bedde ende zijn toebehooren daer inne,

Item een tonnestoel, vier witte beugel stoelen, een roodt cussen, een groen cussen, een stroijen stoel

Item een tresoer met een tafereel daer op.

[fol. 7]

Item mappa mundi in lijsten met noch een ander grote chaerte

Item een contrefeijsel van Barnardijn ende zijn eerder huijsfrouwe in twee paneelen

Item twee schrijff leijen met drie stockbe[...]ssen

Item een comptoir met een riem papiers ende een nijeuw schrijfbouck daer inne

Item achter op twee solder elcx omtrent achteen lasten rogge ende opt laechste noch omtrent vijff lasten rogge

bij ghijssinge van Adriaen Marchelisz ende Fformer Cornelisz gezworeen coornmeters,

Item opte voizrolder omtrent twaelf lasten rogge bij raminge als vooren [i.m. dit coorn es ontslagen]

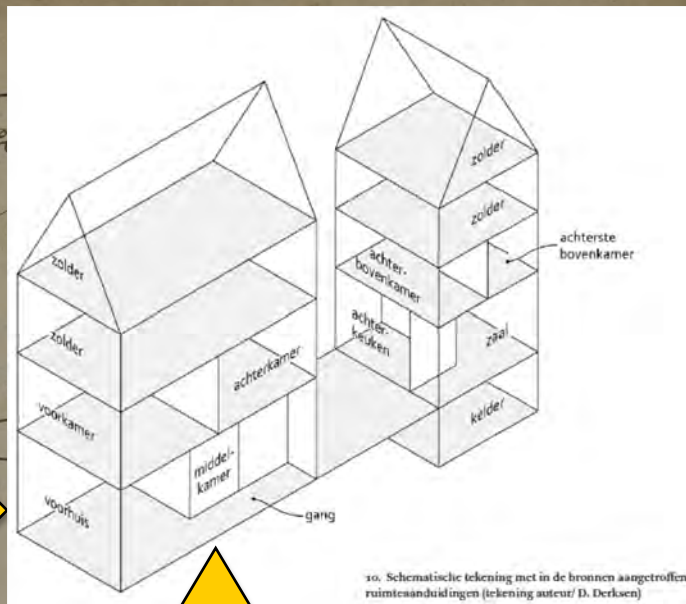
[fol. 7v]

Inde middelcamer

Een trecktafel met een tafelcleet

Item een chaerte

Item een ijseren beugel, een hout een brander, een



Uncertainties in locations (2D) and in objects (3D/4D)

*Companie die Lant dno floor van friedrichstadt jehde de onse
 30 gunde gheeft mits jofina d borst woons op h vddyc dnd
 Sara van Ceulen rond wdd van d armende
 Hoofwyk woons utb voor*

29-02-1664 The painter Laurens Floor from Friedrichstadt is married to Sara van Ceulen. At time of his marriage he is living on the 'Zeedyc'

*Na mden van Noel op pinge 1667 7 10
 17-09-1667 Laurens Floor op den Dam inde
 Wackeren Hont*

17-09-1667 The painter Laurens Floor from Friedrichstadt is buried in Amsterdam. At the time of his death he was living 'opden Dam inde Wackeren Hont'.

TEUNIS, BARENT (DRENT)

Inv.Lot 513.0009[a]

Artist Name Barent Teunis

Authority Name TEUNIS, BARENT (DRENT)

Artist Active Amsterdam | a 1606-1629

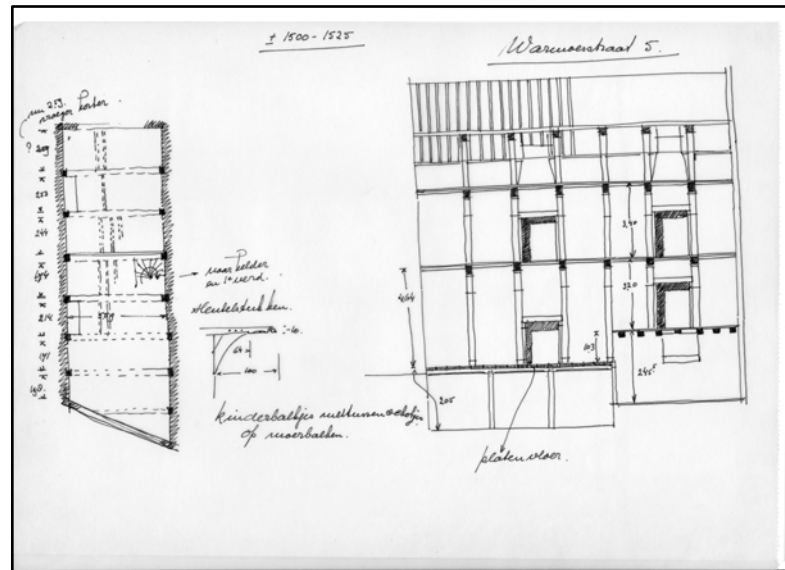
Verbatim Entry *6 landschappen [crossed out: bij] van des overledens eigen werck*

Title lantschap

Montias Subject LANDSCAPE

Object Type painting

Montias2 Record 42063



Identification of the locations mentioned in documents

munb d or god mydbract
Comparesdy Lauens floor van friedrichstadt hieldt on
30 jare gelyc mit Jofia Albrecht woont op h d dyc vnd
Sara van Ceulen wandt wdd van Harmans
Roofwyc woont als voor

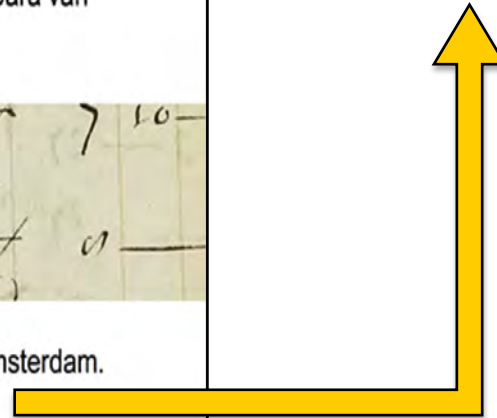
29-02-1664 The painter Laurens Floor from Friedrichstadt is married to Sara van Ceulen. At time of his marriage he is living on the 'Zeedyc'

17
17
17
Namen van Noed op inge ruit → 7 10
Lauens floor op den Dam inde
Wackeren Hont → 0

17-09-1667 The painter Laurens Floor from Friedrichstadt is buried in Amsterdam. At the time of his death he was living 'opden Dam inde Wackeren Hont'.

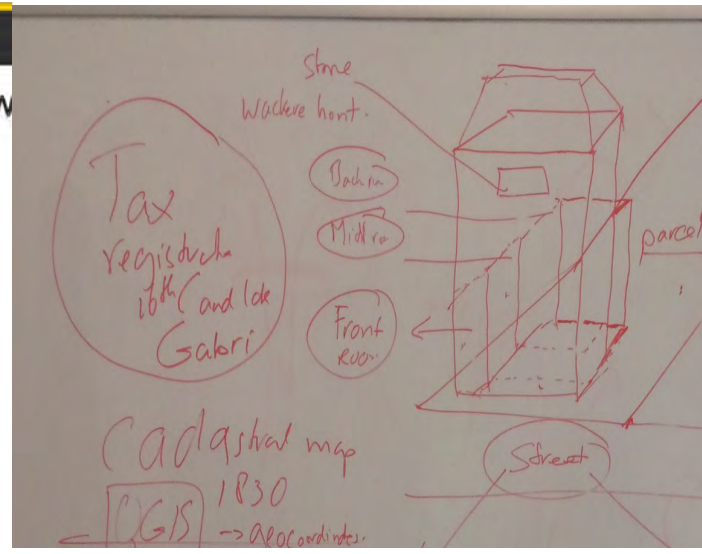
Dam

De Wackeren Hont



http://goldenagents.org/uva/SAA/record/IndexOpKw

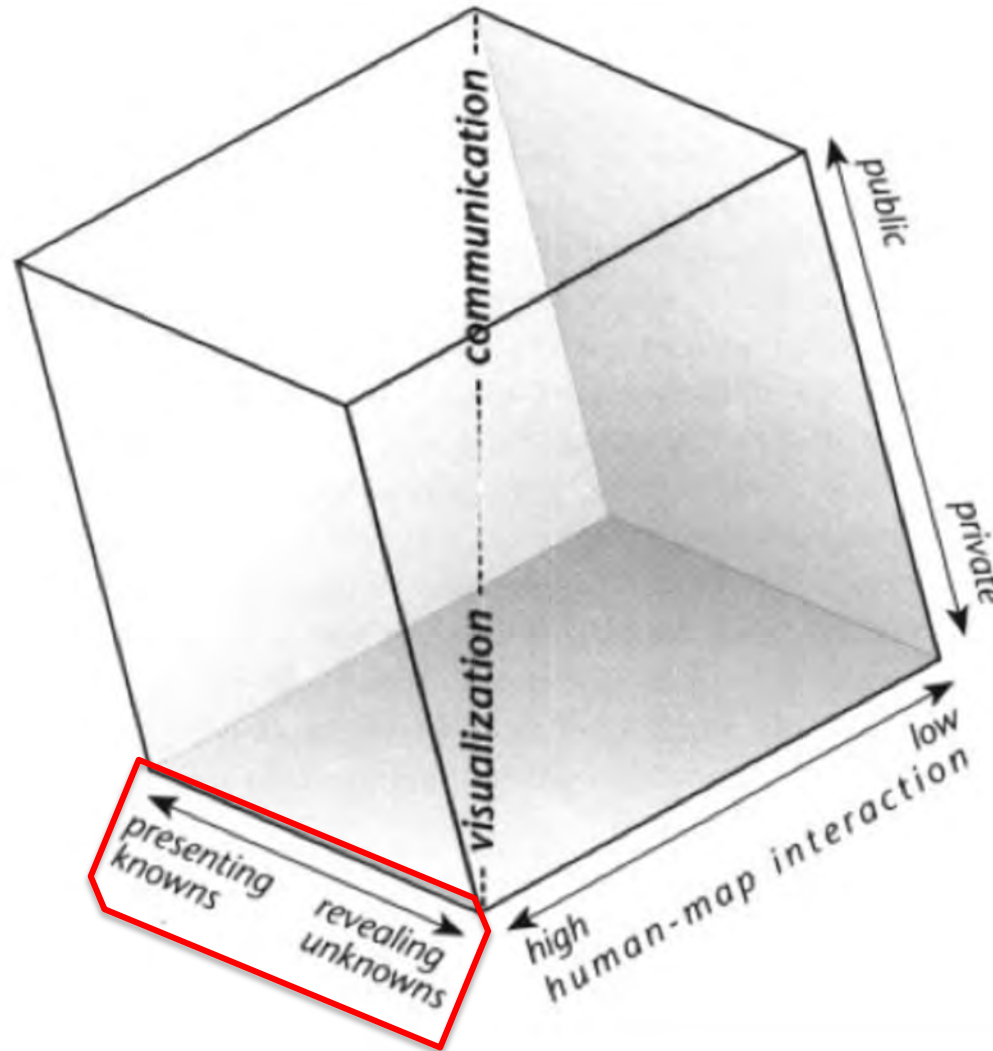
saaOnt:hasProperty: <http://goldenagents.org/uva/SAA/property/IndexOpKwijtscheldingen/saald21648729pr1>
 rdf:type: <http://goldenagents.org/uva/SAA/ontology/IndexOpKwijtscheldingen>
 saaOnt:mentionsSeller: Commelijjn wed. Lucas Hondius, Erven Cornelia
 saaOnt:date_transaction: 1711-05-05
 saaOnt:mentionsBuyer: Delcourt, Joan
 saaOnt:mentionsStreet: Dam
 saaOnt:urlScan: <https://archief.amsterdam/inventarissen/inventaris/5062.nl.html#A11361000056.JPG>
<https://archief.amsterdam/inventarissen/inventaris/5062.nl.html#A11361000057.JPG>
<https://archief.amsterdam/inventarissen/inventaris/5062.nl.html#A11361000058.JPG>
 saaOnt:description: De Wakkere Hond uitatekend, huis en erf, tussen Beurs en Krommelleboogsteeg
 saaOnt:isInRecord: Dam
 Commelijjn wed. Lucas Hondius, Erven Cornelia
 Delcourt, Joan
<http://goldenagents.org/uva/SAA/property/IndexOpKwijtscheldingen/saald21648729pr1>



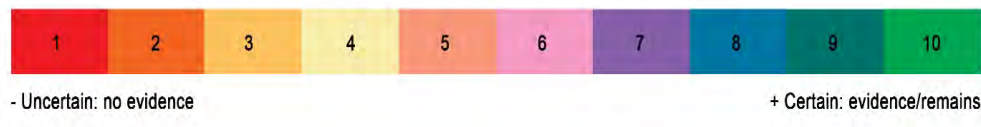
De Wakkere Hond

rdf:type: <http://goldenagents.org/uva/SAA/ontology/PropertyNameReference>
 ...saa:hasNameDescription: <http://goldenagents.org/uva/SAA/property/IndexOpKwijtscheldingen/saald21648729pr1>
 saaOnt:type: sign_board
 saaOnt:name: De Wakkere Hond
 saaOnt:positionReference: uitstekend

Representing Uncertainties



Level of Certainty Index



Cinema Parisien 3D

Noordegraaf, J., Opgenhaffen, L., & Bakker, N. (2016)

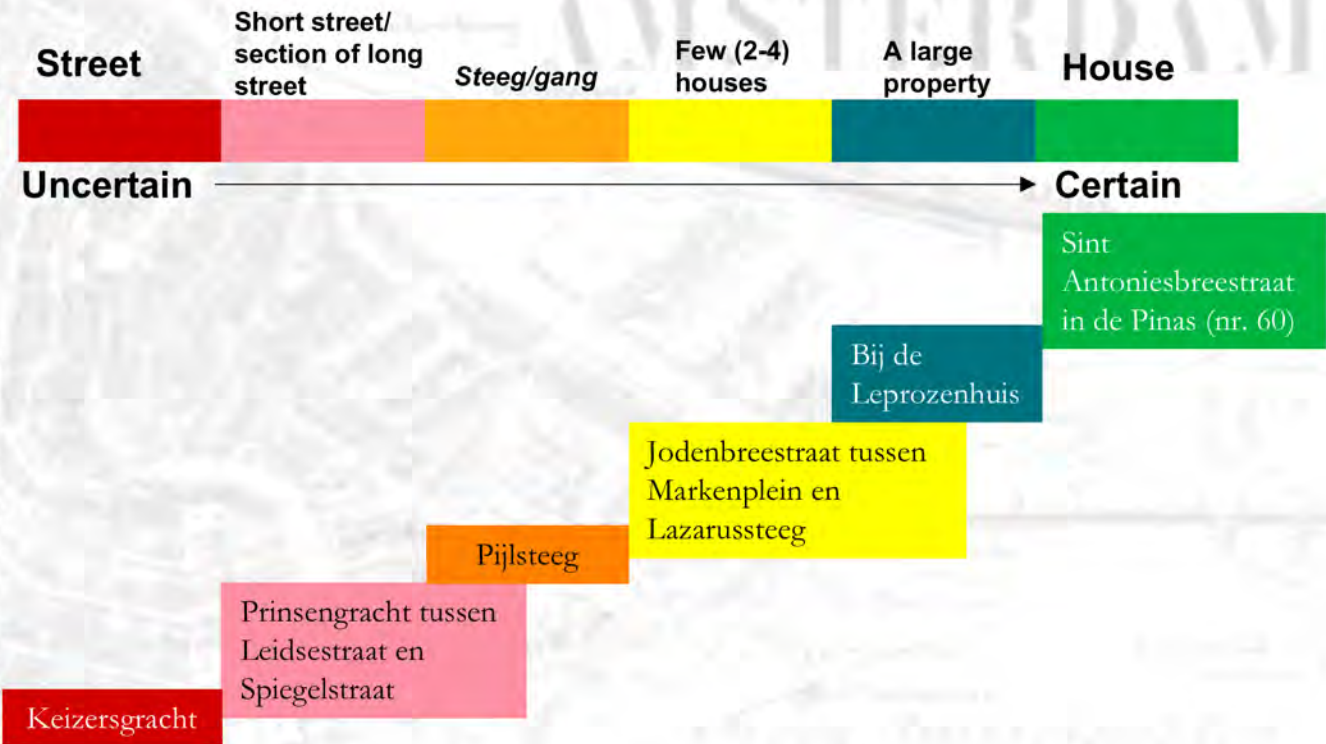
'Cinema Parisien 3D:

3D Visualisation as a Tool for the History of Cinemagoing.' *Alphaville*, 11: 45-61

http://www.alphavillejournal.com/Issue11/ArticleNoordegraaf_OpgenhaffenandBakker.pdf

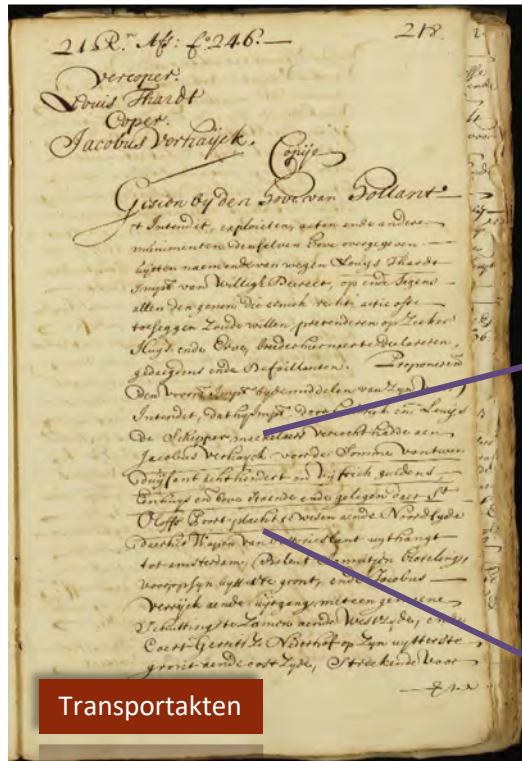


Visualizing uncertainties



How does it work ?

- Taking painter **Jacob Lyon de Fuijter** as an example:



1645. 6. Sept. Magdalena van Ebelen, huysvrouw van Jacob Lionr Schilder, out omtrent 55 jaren, wonende

Street

op de Keyzersgraft

too broad

House name (?): *in 't Wapen van Oostvrieslandt*

Neighbor:

naest de Seepsiedery van de drie Spiegel....

Jacobus Verhayck voorde Somme vantwee
Touffent acht hondert en vijftich gulden
Tenhuys en Erue staende ender gelegen daer St
Oloffs Boort-plaacht te wesen aende Noordlyde
daerhet Wapen van oostvrieslant uythangt
tot amsterdam, (Belent Jannitjin Broteling)

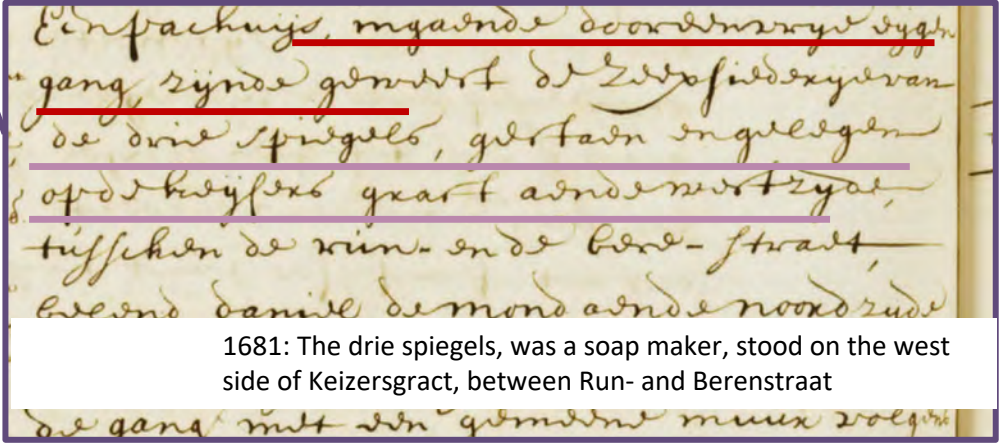
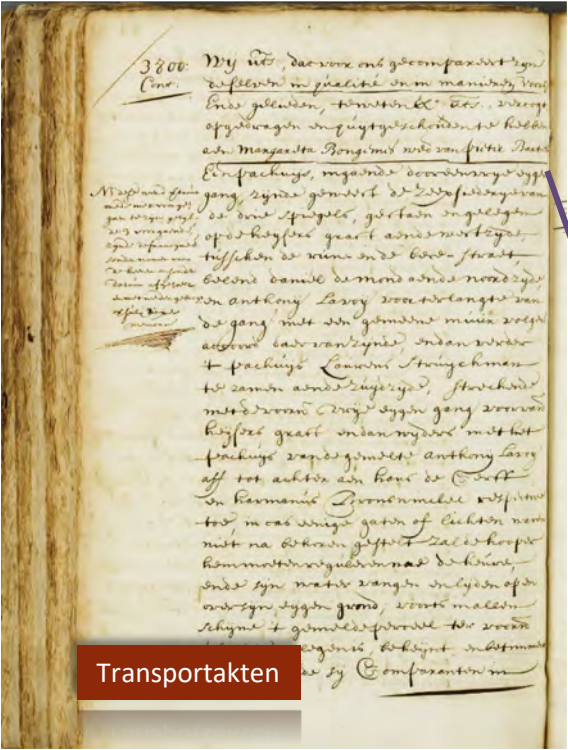
1675-7-29: Jacobus Verhajck bought the property at Sint Olofspoort

How does it work ?

- Taking painter **Jacob Lyon de Fuijter** as an example:

1645. 6. Sept. Magdalena van Ebelen, huysvrouw van Jacob Lionr Schilder, out omtrent 55 jaren, wonende

Street: *op de Keyzersgraft* **too broad**
 House name (?): *in 't Wapen van Oostvrieslandt* **movable**
 Neighbor: *naest de Seepsiedery van de drie Spiegel...*

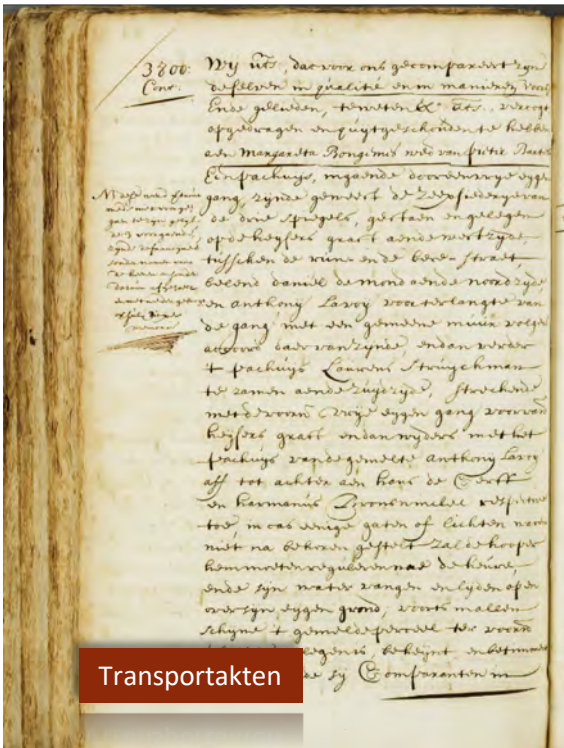


1681: The drie spiegels, was a soap maker, stood on the west side of Keizersgract, between Run- and Berenstraat

Bingo!

How does it work ?

- Taking painter **Jacob Lyon de Fuijter** as an example:



1645. 6. Sept. Magdalena van Ebelen, huysvrouw van Jacob Lionr Schilder, out omtrent 55 jaren, wonende

Street:

op de Keyzersgraff

House name (?):

in 't Wapen van Oostvrieslandt

Neighbor:

naest de Seepsiedery van de drie Spiegel...



How does it work ?

- Taking painter **Jacob Lyon de Fuijter** as an example:

Jacob Lyon

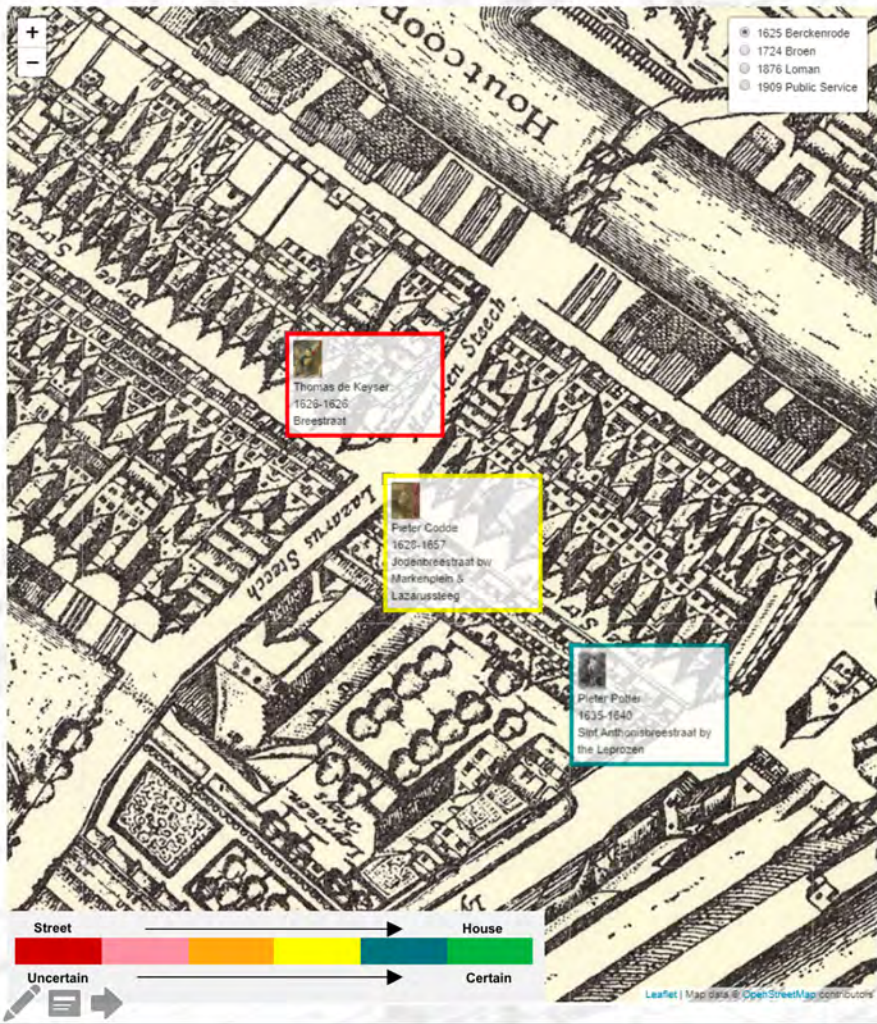
The screenshot shows a digital archive interface. On the left, a handwritten document is visible with the text "3800. My int. daerom ont g...". On the right, a search results window is open, displaying XML metadata for three records. The third record is highlighted, showing the following metadata:

```
<indexRecord id="saaId21633046">
<Datum_overdracht>1682-04-21</Datum_overdracht>
<Verkoper>Sijmons, Claes</Verkoper>
<Koper>Munder. Reinier</Koper>
<Straatnaam>Keizersgracht</Straatnaam>
<Straatnaam_in_bron>Keizersgracht (WZ)</Straatnaam_in_bron>
<Omschrijving>De Drie Spiegels, pakhuis en gang zijnde geweest een zeepziederij, tussen Runstraat en Berenstraat</Omschrijving>
<urlScan>https://archieff.amsterdam/inventarissen/inventaris/5062.nl.html#A11569000034.JPG</urlScan>
</indexRecord>
```

At the bottom of the search results window, a search bar contains the text "drie spiegels" and "11 found". Below the search bar, there are buttons for "Find", "Find All", "Replace", and "Replace All".

Transportakten

Westside of Keizersgracht, between Runstraat and Berenstraat



Copy motifs



Pieter Codde
Dated:1625-1625

Looking at Rembrandt



Pieter Potter
Dated:1644-1644

Mutual influence



Pieter Codde
Dated:1633-1633



Thomas de Keyser
Dated:1626-1626



Thomas de Keyser
Dated:1630-1635



Thomas de Keyser
Dated:1623-1635

International Collaboration

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- ▀ Article & Research Databases
- ▀ Collecting & Provenance Research
- ▀ BHA & RILA
- ▾ Getty Vocabularies
 - ▀ [Art & Architecture Thesaurus \(AAT\) ®](#)
 - ▀ Cultural Objects Name Authority (CONA) ®
 - ▀ Getty Thesaurus of Geographic Names (TGN) ®
 - ▀ Union List of Artist Names (ULAN) ®
 - ▀ Contribute
 - ▀ Editorial Guidelines
 - ▀ **Getty Vocabularies as Linked Open Data**
 - ▀ Frequently Asked Questions
 - ▀ Obtain the Getty Vocabularies
 - ▀ Training Materials

Getty Vocabularies as Linked Open Data

The Getty vocabularies are constructed to allow their use in linked data. A project to publish them to the LOD (Linked Open Data) cloud is underway. The documents on this page contain news and presentations about releasing the Getty vocabularies as LOD. These materials are subject to frequent modification and addition.



- ▀ [News and Status of the Project](#)
- ▀ [URIs \(Uniform Resource Identifiers\)](#)
- ▀ [What Is LOD?](#)
- ▀ [Introduction to Getty Vocabularies as LOD](#) (PDF, 3.8 MB, 46pp)
- ▀ [List of External Advisors](#) (PDF, 88KB, 7pp)

The AAT, TGN, and ULAN are now available as LOD. They are published under the [Open Data Commons Attribution License \(ODC-By\) 1.0](#).

- ▀ **Attention developers and programmers:**
[Technical documentation to assist in exploring the AAT, TGN, and ULAN data is available at the SPARQL endpoint at vocab.getty.edu](#)

News and Status of the Project

Releasing the Getty vocabularies as Linked Open Data is part of the Getty's ongoing effort to make our knowledge resources [freely available](#) to all. Making the Getty vocabularies available to the research community as LOD could have a truly transformative effect on the discipline of art history in general, and on Digital Art History in particular.

Inside Perspective

- ▀ [Unlocking hidden resources for scholars](#)

Have a Question?

- ✉ [Contact the Vocabulary Program](#)

NTAS

Lorentz center

Art Histories and Big Data

Workshop @Dort 15 - 19 October 2018, Leiden, the Netherlands

Scientific Organizers

- Koenraad Brosens, KU Leuven
- Anne Helmreich, Getty Research Institute
- Charles van den Heuvel, Huygens ING-KNAW
- Emily Pugh, Getty Research Institute
- Saskia Scheltjens, Rijksmuseum Amsterdam

Topics

- Digital Art History and Art Market Research
- Big Data and Digital Cultural Heritage
- Modeling Art Histories in Linked Data
- Teaching of Digital Art Histories
- Building Communities for Digital Art Histories

The Lorentz Center organizes international workshops for researchers in the digital fields. Its aim is to create an atmosphere that fosters collaborative work, discussions and interactions. For registration see www.lorentzcenter.nl

This workshop is a part of the NIAS Lorentz Program, to stimulate research bridging the natural sciences with the humanities and social sciences.

Project of Platform Samenwerkende Universiteiten
 Project: design: Suzanne de Gooijer

www.lorentzcenter.nl



Koenraad Brosens
 Research Professor
 University of Leuven



Anne Helmreich
 Associate Director, Digital Initiatives
 Getty Research Institute



Charles van den Heuvel
 Head Research History of Knowledge/ Digital
 Methods in Historical Disciplines
 Huygens ING/ University of Amsterdam



Emily Pugh
 Digital Humanities Specialist
 Getty Research Institute



Saskia Scheltjens,
 Head of Department, Research Services,
 Rijksmuseum Amsterdam

BLU

① training/education

> digital scholarship (staff training)
 @ British Library
 taught by staff and external trainers
 raises awareness of tools... but then need access to tools (EASILY/QUICKLY)
 CURATOR'S TOOLKIT?
 > Public hackathon w/ DH data, eg. LOD from Rijksmuseum → share data AND educate (with)

③ "mind the gap"
 data.b.uk: make data more useable by researchers
 → access point for/to data
 research process:
 1) exploration 2) investigation 3) completion
 created "workbench"
 developed a framework

② data transformation pipeline
 Getty Provenance Index Remodel: STAR (CSV) → LOD (JSON) vs. → re-usable
 processing, analyzing, cleaning, normalizing
 automated + manual processing (strategies) → to minimize

> reconciliation to... known auth v. the data itself → Golden Agents
 // problem = lots of repeated names

① visual representation
 a) in how to uncertainty
 using... to represent = codifying degrees of...
 uncertainty like probabilities
 representing (un)certainly in social networks — to determine degree of certainty
 ← golden agents →
 b) french art market



	Timbuktoo	Metaphactory	Arches
Architecture	Modular	Component-based	Monolith
Scalability	Very good	Limited by 3Store	Mediocre
Versioning	PROV-O / OAI-PMH	PROV-O	Custom
IIIF	Data support	Good	Display
Special Features	Automatic Versioning	ResearchSpace, Semantics	Form generation, Geo-spatial

Infrastructures and Interfaces for DH Research: Dutch Experiences and Expectations

- Research and Infrastructures cannot be separated
- Research questions should be interesting for cs and dh researchers alike to guarantee success
- Matching in kind shapes data modeling in a negative way
- Not the application but the data management should be the contract
- Human-Computer Interaction goes beyond interface design: data curators and human validators
- Sparql \neq human computer interface interaction for digital humanists. Front- end design should start at the beginning
- The concept of big data is hardly useful; the challenge is the scalability of data without losing multidimensionality
- Future researchers will be data modelers: data literacy
- Do it together



THANK YOU

charles.van.den.heuvel@huygens.knaw.nl