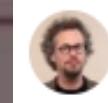


More than one side to every story

Victor de Boer
SEMMES 2024



Steven Claeysens @sclaeysens · Oct 12

At last, an opportunity to repost this meme. 'AI also has a lot to learn from culture'. Cultural AI Lab introduced by @victordeboer
[#EuropeanaTech2023](#)
cultural-ai.nl

...



Cultural AI Lab



ELSA Lab
ICAI
Innovation Center for Artificial Intelligence

CWI
Centrum Wiskunde & Informatica

KNAW
Humanities
Cluster

{ISG} h

KB } nationale
bibliotheek

RIJKS MUSEUM

**SOUND &
VISION**

VU
UNIVERSITY
AMSTERDAM

UNIVERSITY
OF AMSTERDAM

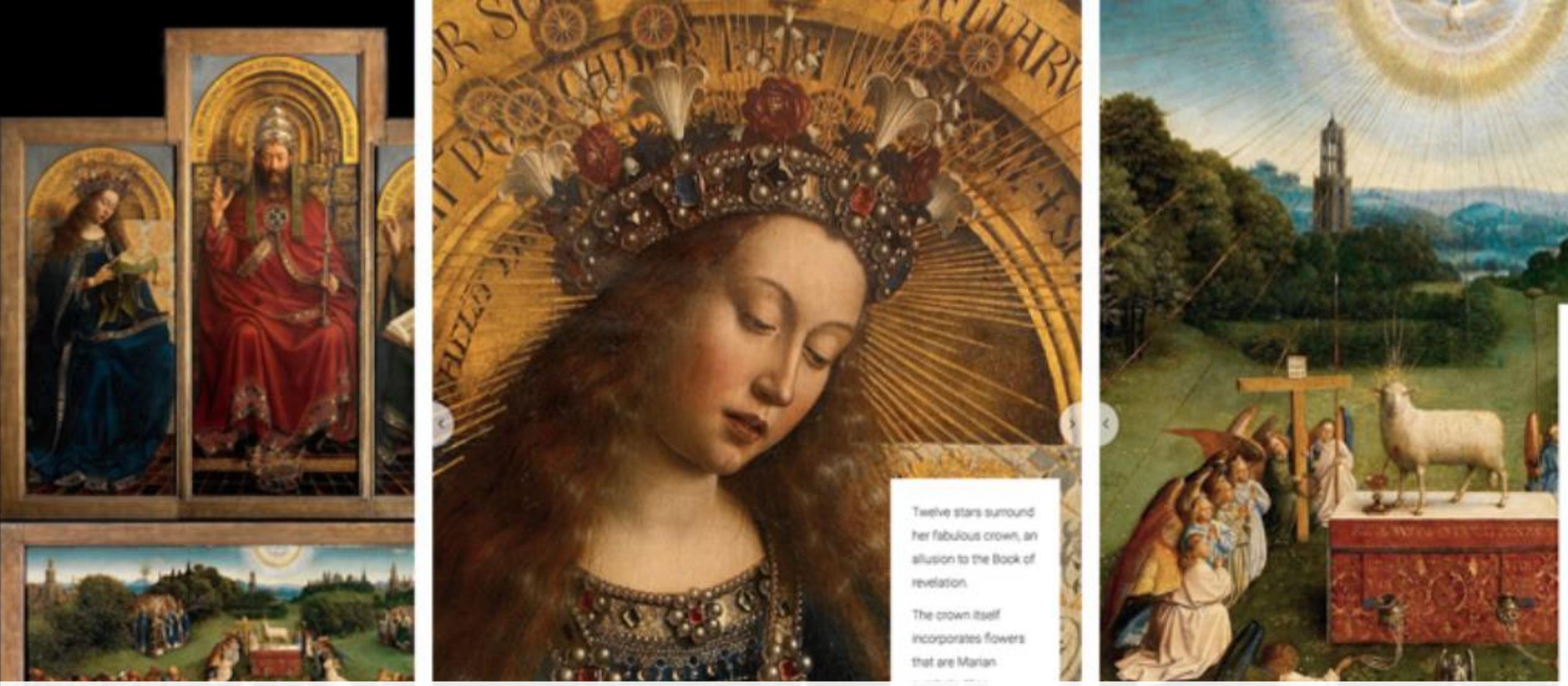
**WERELD
MUZEEUM**



Explorations of perspectives in arts and culture



Museums tell stories, in the physical space...

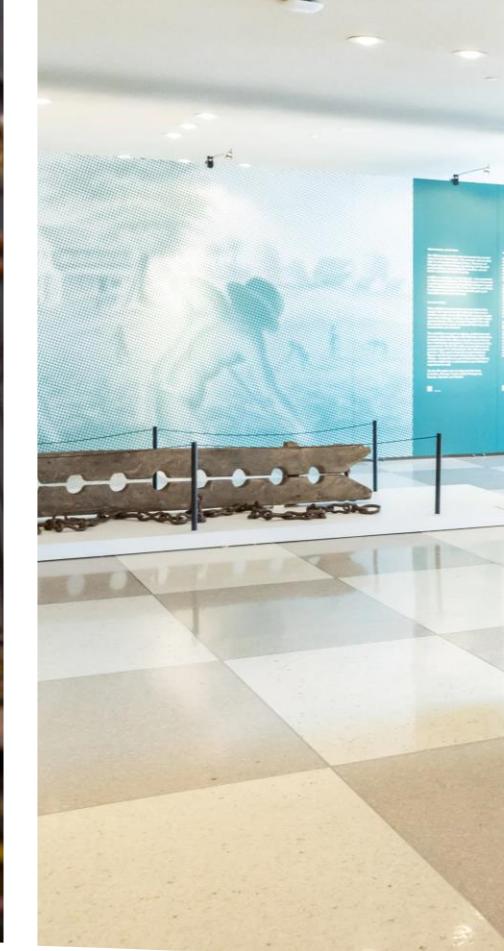


and in the virtual space

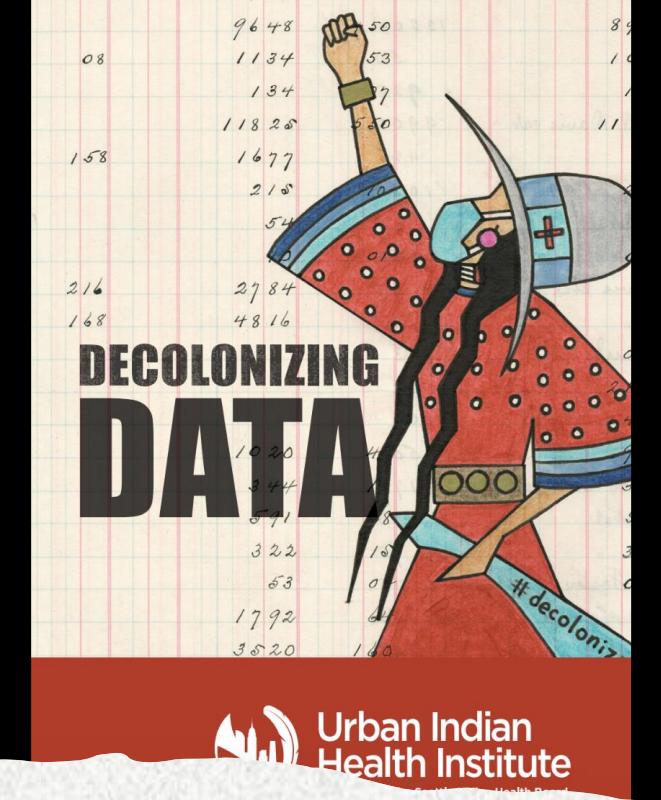
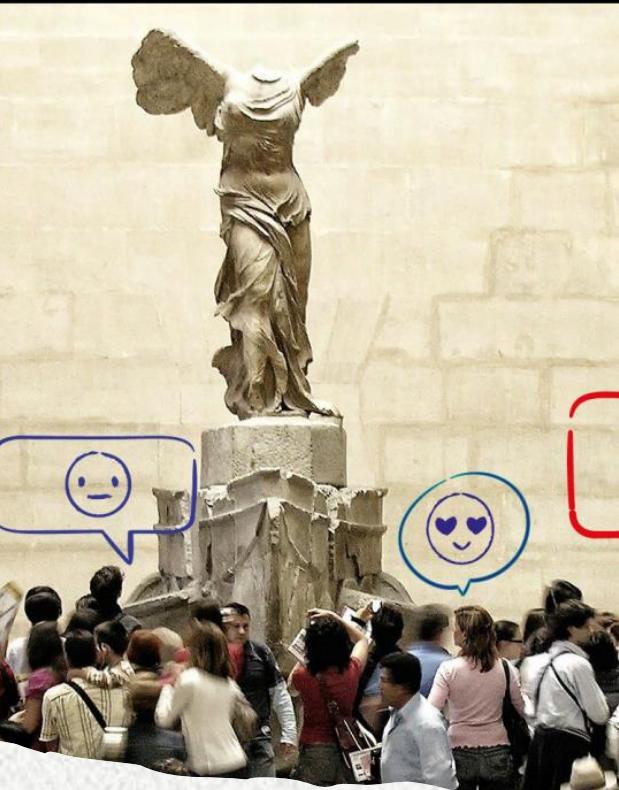
Based on what
data?

Which voices
are we
missing?





Telling the different stories
Letting different voices be heard



Polyvocality and decolonization in museums, archives, libraries



Polyvocal, adjective: In narrative strategy, an approach that relies on the power of many voices speaking the same core change.

<https://narrativeinitiative.org/blog/polyvocal-narrative-strategy-turning-many-voices-into-durable-change/>,

choir

Polyvocality for knowledge graphs

Knowledge graphs, especially those based on historical, cultural data are sure to contain

- Biased
- Univocal
- Single-view
- Culturally sensitive

information, based on the majority-view. This poses the danger of perpetuating gender-/class- etc. biased, colonial-view data.



“Ziggurat of selection”



Knowledge
Graph
construction

Digitization

Selection

Archiving

Survival

Social
Selection

Towards *Polyvocal* Knowledge Graphs

Identifying and acquiring polyvocal knowledge

Representing of polyvocality:
models, patterns

Presenting of polyvocal knowledge
to variety of users

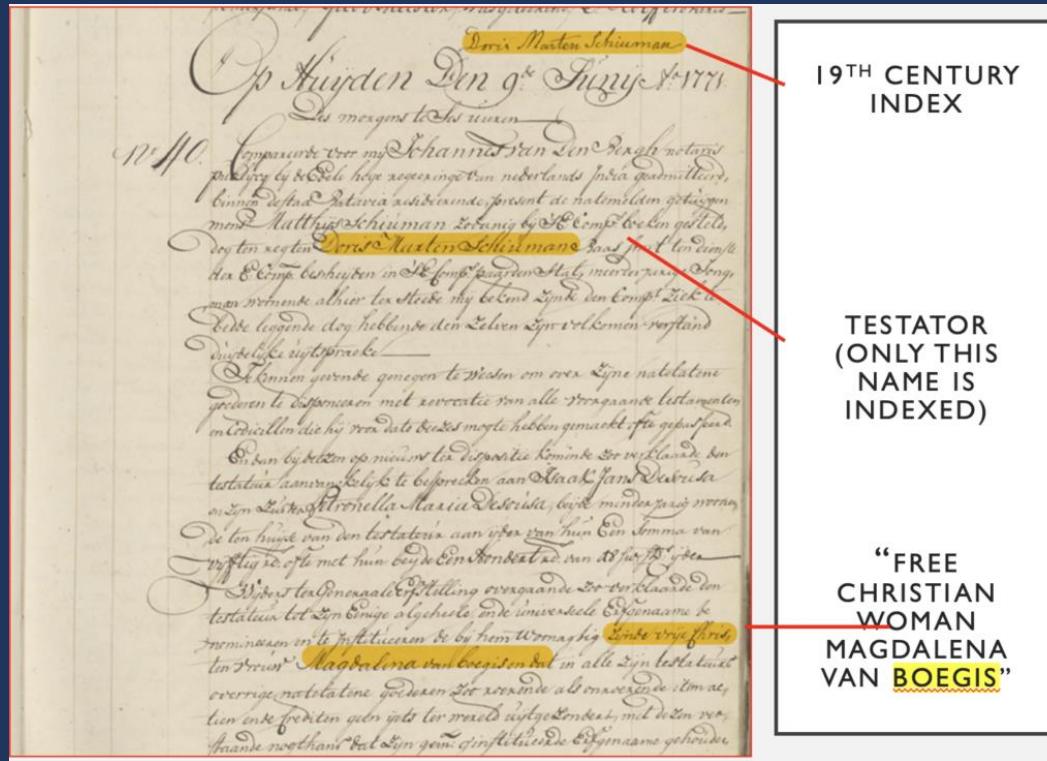


Identifying and acquiring polyvocal knowledge



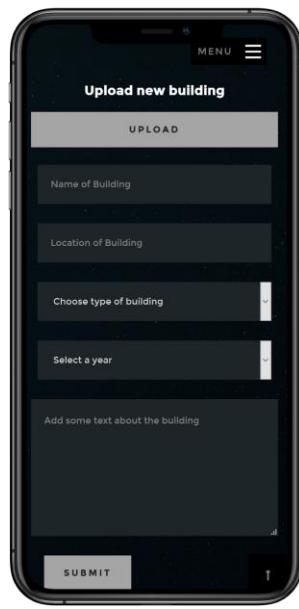
Identify existing voices in datasets

NLP/IE methods that are voice-aware



<https://www.createhumanitiesuva.nl/education/unsilencing-the-archive/>

Crowdsourcing perspectives for colonial architecture



Roz Sabir

Diversity metrics to capture polyvocality in colonial heritage event annotations

Photograph 1: Strike by Wescar employees on the 30th of May 1969. Select a maximum of two terms that apply to what you are seeing on this photograph.



- Revolt
- Protest
- Raid
- Strike

	Revolt	Protest	Raid	Strike
Agent 001	1	0	0	1
Agent 002	0	0	0	0
Agent 003	0	0	1	0
Agent 004	1	0	1	0



Connection type	wqs
Cultural	0.307
No connection	0.221
Indirect connection	0.209
Personal interest	0.224

Table 8. Average WQS scores per connection type



Jordan Gijsbertha

Nichesourcing for polyvocal CH object annotation

1



2

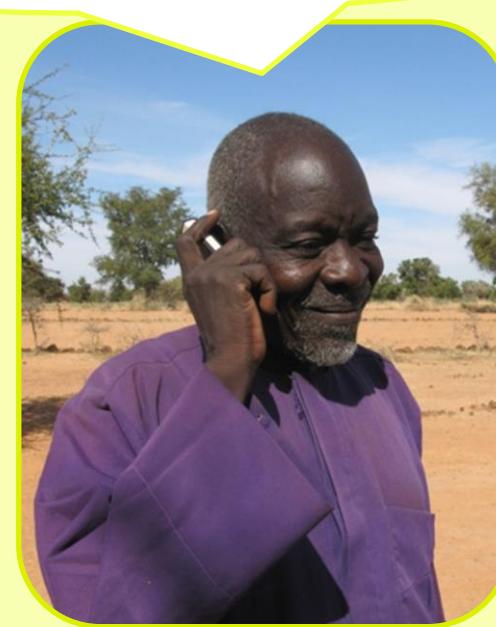


3



World Museum objects
from Northern Ghana

1. What is this object (*class*)
2. What is the purpose of this object (*usage*)
3. How should the object be treated (*care*)



Naomi Maronic

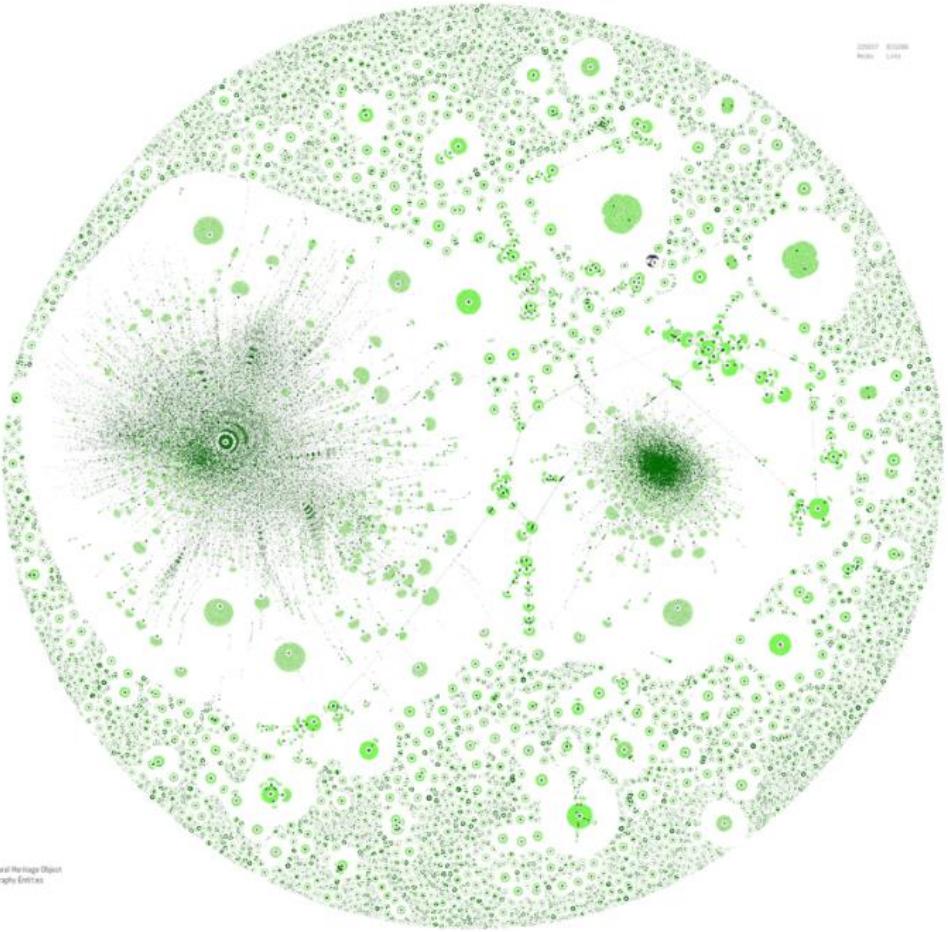


Representing
polyvocal
knowledge



In/Tangible European Heritage

Visual Analysis, Curation & Communication



The screenshot displays the intavia platform's interface for "Interesting people".

- Header:** Search & Curation, Visualization & Analysis, Storytelling & Presentation, Import data.
- Left Sidebar:**
 - Collections: Interesting people (selected), Add all entities.
 - Settings: Group-by entity type (switched off).
 - Entities listed under Persons:
 - Klimt, Gustav
 - Brahms, Johannes
 - Schiele, Egon
 - Mahler, Gustav
- Network Graph:** A central feature showing connections between entities. Nodes include Schiele, Egon (highlighted in blue), Brahms, Johannes, and Klimt, Gustav. A legend indicates node types: Event (green circle), CH-Object (green square), Person (blue person icon), Place (purple location pin), and Group (orange square).
- Map:** A world map showing the geographical distribution of entities. Labels include United Kingdom, BELARUS, POLAND, GERMANY, CZECH REPUBLIC, SLOVAKIA, AUSTRIA, MOLDOVA, UKRAINE, FRANCE, SWITZERLAND, MONACO, ITALY, and ANDORRA. A 300 km scale bar is present.
- Timeline:** A horizontal timeline from approximately 1840 to 1915, showing the sequence of events for each entity. Events are represented by colored circles and squares, with labels indicating the number of events per entity. The timeline includes:
 - Brahms, Johannes: Birth of Johannes, 2 Events, 3 Events, 3 Events, 3 Events, 3 Events, 3 Events, 3 Events, Death of Johann.
 - Klimt, Gustav: Birth of Gustav Klimt, 4 Events.
 - Schiele, Egon: Birth of Egon Schiele, 9 Events, 162 Events, 49 Events, 56 Events, 24 Events, 19 Events.

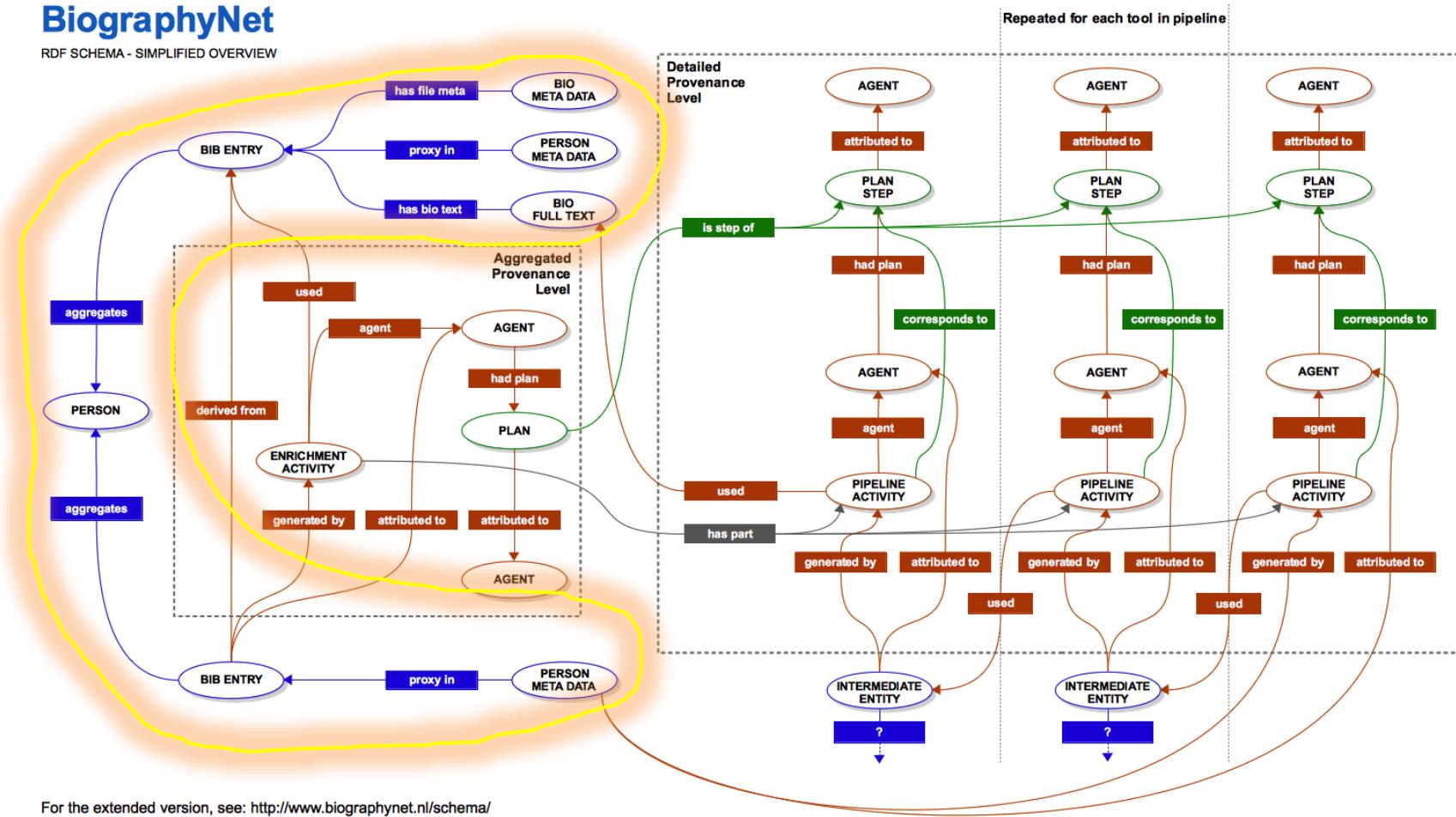
Polyvocality and cultural context in Biographical knowledge graphs



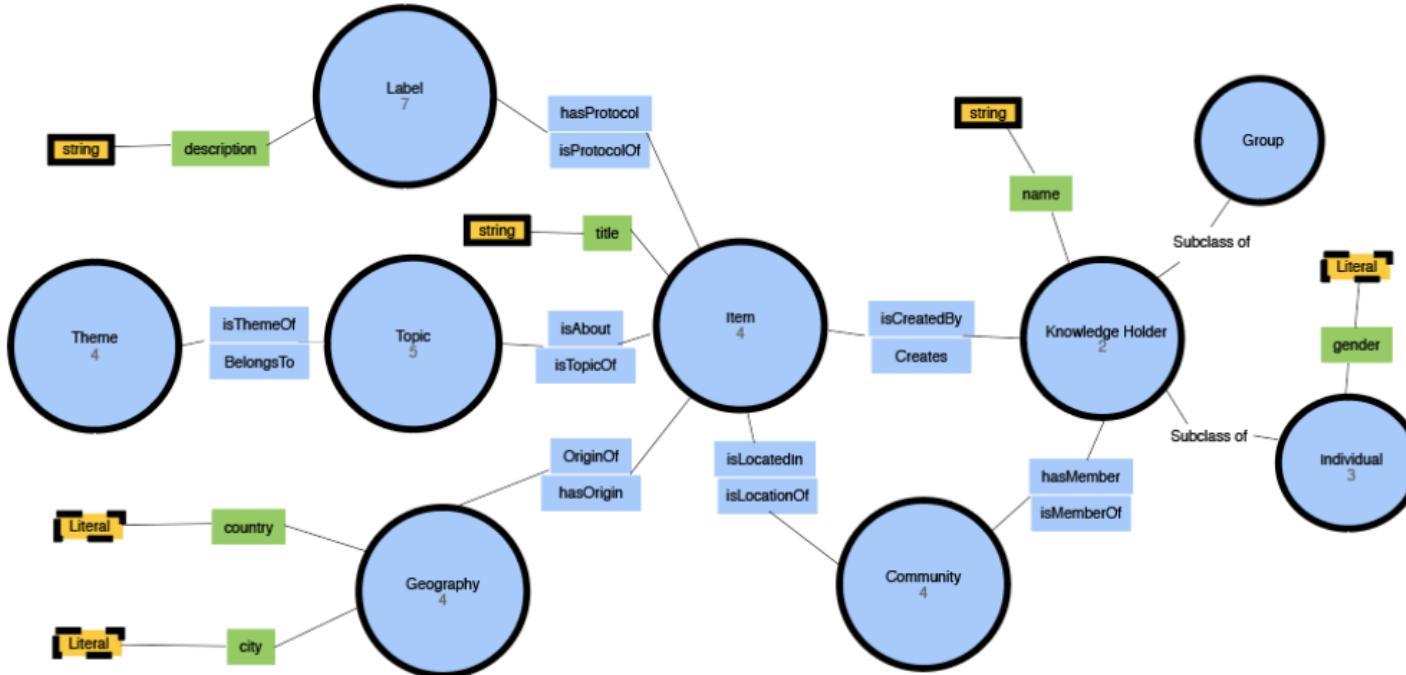
Niels Ockeloen



Go Sugimoto



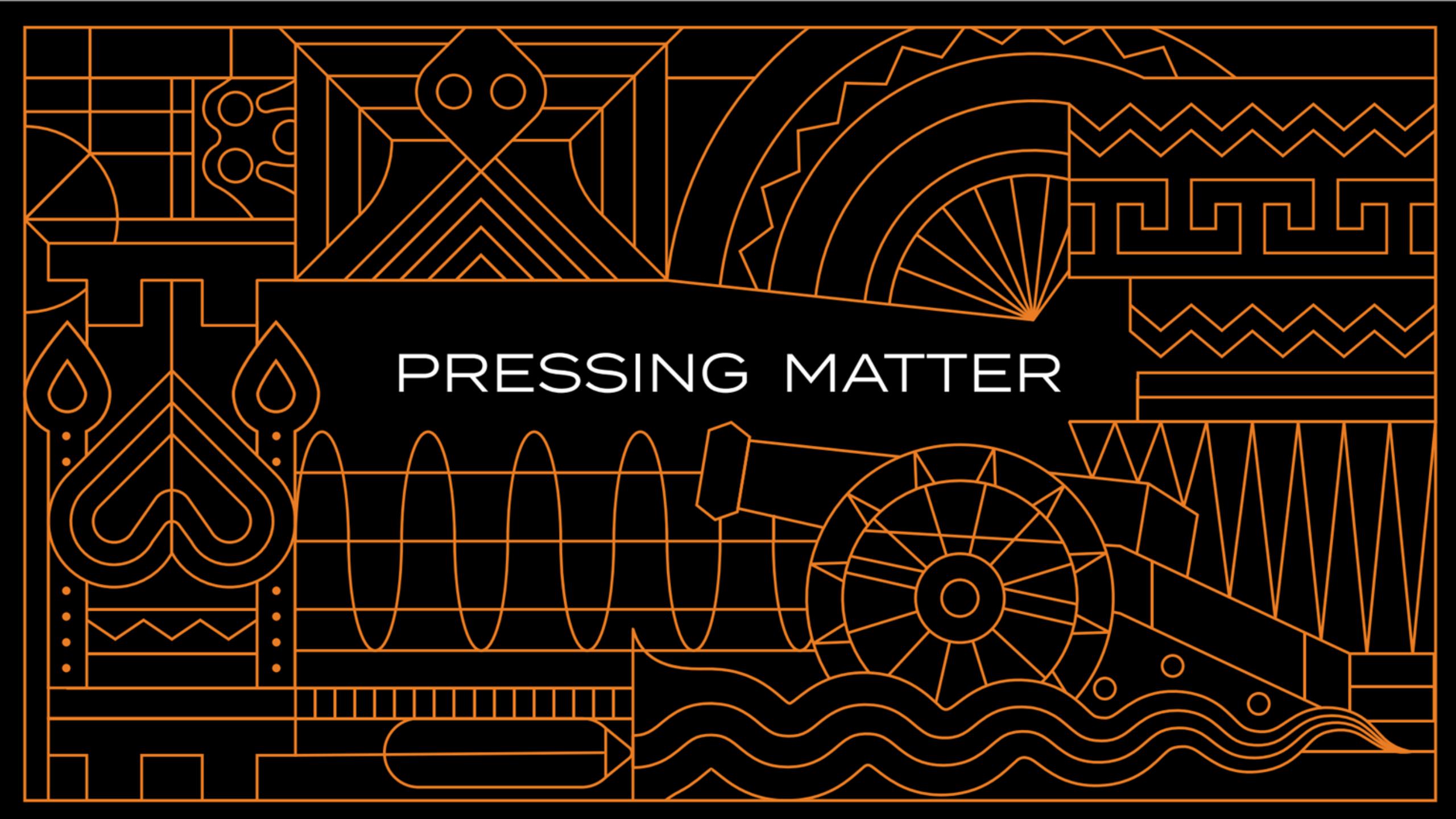
New sources of Knowledge: Representing Traditional Knowledge



- 1 Where in the world do people practise Yoni steaming?
- 2 How is the Sun dance ritual in the Hopi tribe different from the Sun dance ritual by the Cree people?
- 3 What traditional knowledge is practised in Curacao?



Lois Hutubessy



PRESSING MATTER

DAGBLAD
VAN
HET
NOORDEN

8°C 0 km

VOORPAGINA NET BINNEN MIJN NIEUWS GRONINGEN DRENTHES VIDEO SPORT CULTUUR ECONOMIE MENINGEN

Rijksuniversiteit Groningen: Roofkunst moet terug, maar 'mag niet in een schuur'

NET B

Berlin praised for returning Benin bronzes



The artifacts feature animal and human figures and were created from the 16th century onwards. ALAMY

Germany has been hailed for leading a reappraisal of Europe's colonial past after Berlin announced the return of priceless Benin bronzes to Africa.

The move increases pressure on Britain to repatriate treasures looted in the sacking of Benin City in 1897, when it was part of the Kingdom of Benin. Today the city is in Edo state, Nigeria, where government officials welcomed Germany's decision and called for Britain to follow its lead.

SPONSORED

'MUSEUM NIET LEEG'

Ik verwacht niet alleen bontedan
uit het buitenland dat eerst gerechtigd
de kerken en Olympe Schouten vond.
directeur van het Tropenmuseum. Hij reageert
op het rapport van een commissie
van de Raad voor Cultuur en Media waarin
het Nederlandse koloniale erfgoed moet
teruggegeven aan de oorspronkelijke volkeren.

Foto: ANP

Enkele voorbeelden geven
bijzonder veel informatie over
de historische context van de
kunst die nu in musea hangt. Zo
is er een groot aantal stenen beeldjes
van de Yoruba-volkeren uit Nigeria,
die in de 19e eeuw werden grotendeels
verkocht aan Britse koloniale machthebbers
na de verovering van de Benin City door
de Britten in 1897. De Yoruba beschouwen
deze beeldjes als heilige voorwerpen
die niet mogen worden gesplitst. Toch
heeft het Tropenmuseum de beeldjes
niet teruggegeven aan de Yoruba, maar
aan de Britse museumorganisatie
British Museum. Dat is een voorbeeld
van de verschillende manieren waarop
de Nederlandse regering en de
Nederlandse musea met de geschiedenis
van de koloniale tijd omgaan.



Koloniale kunst
Terug naar de eigenaar

'Behandel alle landen hetzelfde'

Veel blijft nog steeds de nabijvliegen over
hoe Nederland moet omgaan met
kunstvoorwerpen uit de koloniale tijd. Maar
uiteindelijk is er ook.

Foto: ANP
Foto: ANP
Foto: ANP

CHRISTELIA RETROKOM

NIEUWS & ACHTERGROND • GELOOF & KERK • OPINIE & COLUMNS • MENSEN

Musea staan achter advies om koloniale roofkunst terug te geven aan landen van herkomst

deVolkskrant

Columns & Opinie Uitgelicht Wetenschap Mensen De Gids Cultuur & M

Het Nationaal Museum teruggave van kolor
'De commissie zet j

redactie VK 8 ok

Netherlands

Dutch museums vow to return art looted by colonialists

Estimated 100,000 exhibits may be repatriated to remedy historical 'injustices'



Return Looted Art to Former Colonies, Dutch Committee Tells Government

The Netherlands should show "a willingness to return" items taken without consent, a report said. But past experience shows the path from recommending restitution to actual return can be a long one.

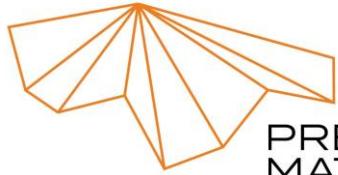


The Great Hall of the Tropenmuseum, which houses collections about world cultures, in Amsterdam. Shutterstock

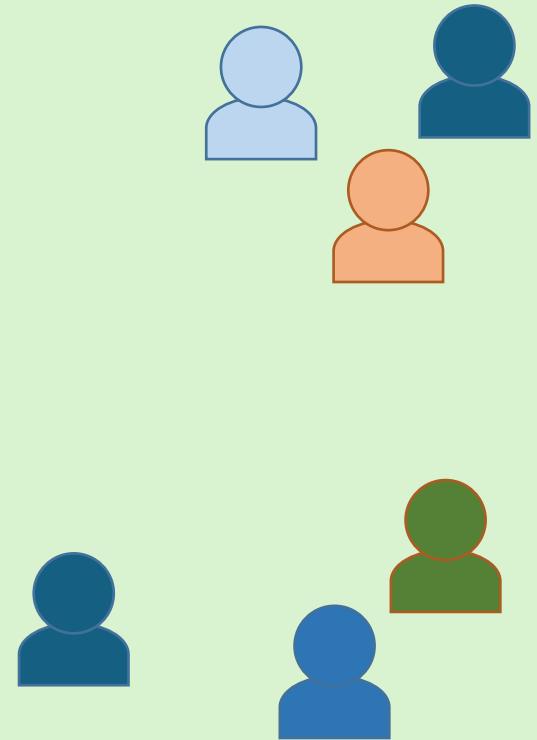
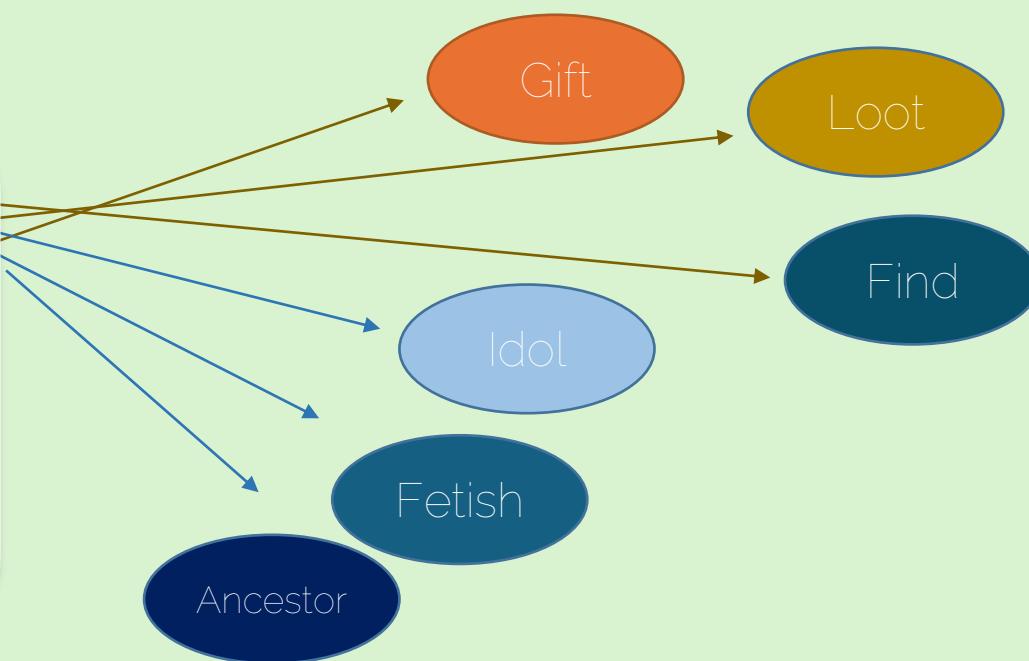
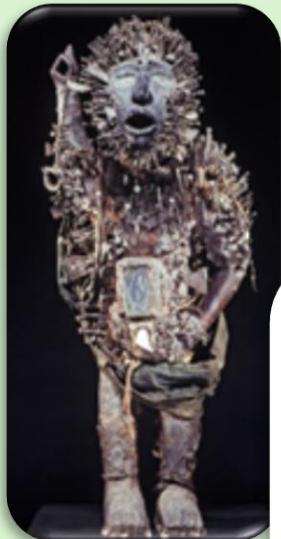
Advies van een comité voor de restitutie van koloniale roofkunst
onvoorwaardelijk teruggeven

5 dagen geleden





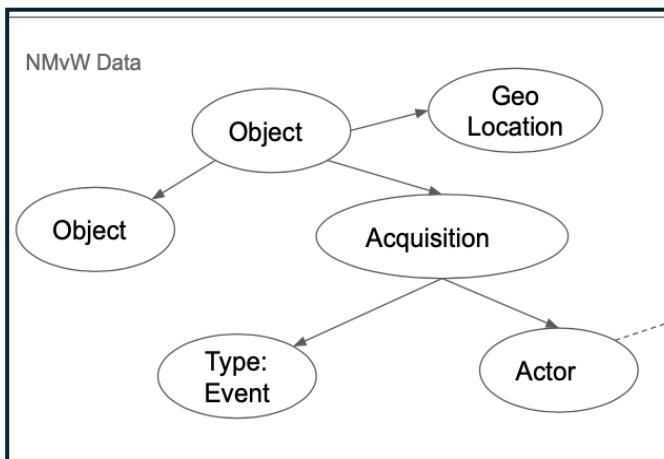
PRESSING
MATTER



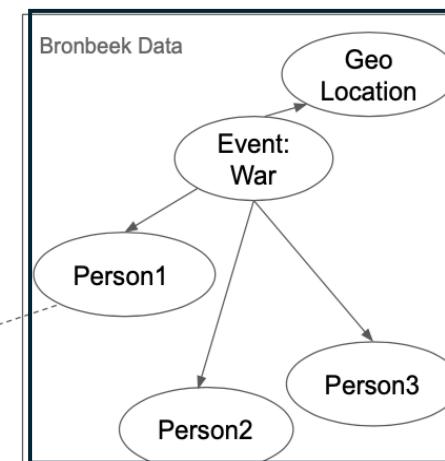
Linked Data supports new, polyvocal narratives



Wereldmuseum



Bronbeek museum



Sarah Shoilee



Using provenance to represent multiple views in colonial heritage knowledge graphs

A carved elephant's tusk from Ezomo's court

On 31 August 1897, 'Shell Merchant and Manufacturer of Seaside Novelties' M. Wolff wrote to the Rijksmuseum, Amsterdam with an offer of two 'elephant's tusks,' which he states 'are 4300 years old' and 'belong to English kings having been captured in the palace of the king of Benin.' Most of the information known about Wolff comes from his letterhead (fig. 1). He wrote letters in Dutch, which point to a connection with the Netherlands. A website about traders on Commercial Road in London in the 19th century, suggests that Wolff was from Mauritius (St George-in-the-East Church 2020). On 3 September the director of the Rijksmuseum, Barthold van Riemsdijk, forwarded the letter to the director of the Museum Volkenkunde, Johannes Schmitz, stating: 'The 4300 year old elephants' tusks do not belong in my museum.'⁴

Later letters between M. Wolff, and Schmitz show that negotiations for

³ Translated from Dutch: 'Vijfentwintig - 4300 jaar oud ... naar Engeland overgevoerd werden en verkocht te zijn in het bezit des koninkrijks van Benin' (NL-LdnRMV-A1-25-151).

⁴ Johannes Schmitz was the keeper of the Rijks from 1882-1896 and served as director from 1896 to 1905. Translated from Dutch: 'De 4300 jaren oude olifantstanden behoren bij mij niet te houden' (NL-LdnRMV-A1-25-150).

the two 'elephant's teeth' started on 4 September 1897 but the potential sale was narrowed down to one tusk at the request of Schmitz on 22 September, which was then sent on view to the Netherlands (NL-LdnRMV-A1-24-533). Wolff had a long-standing history of the journey to Leiden; Wolff charged only £46 instead of the original £50 (NL-LdnRMV-A1-24-536). This acquisition was very early, as only in November 1897 William Downing Webster, the British ethnographic dealer who traded a large number of objects from Africa, offered his first two tusks for sale in his catalogues (Plankensteiner 2007: 21-40). Moreover, Schmitz paid less than the market value at the time. Nevertheless, in his letters M. Wolff describes payment difficulties on the part of the museum (NL-LdnRMV-A1-26-312/313). The tusk arrived on, or shortly before, 10 October 1897.

The tusk arrived on, or shortly before, 10 October 1897.

On 21 December 1897 (DB-LdnRMV-A1-24-533) the museum was well aware that objects from the Benin expedition might come on the market: 'From the Kingdom of Benin, as a result of the punitive expedition of the English, the art treasures have

5 Translated from Dutch: 'Uit het Koninkrijk Benin zijn tentoongesteld de staafspelden die door Dr. H.P.N. Muller voor ons dag gekomen, waarvan dapper in zijn "Afrika" gewegeide en van vele bestaan heeft gesproken. De staafspelden uit de tweede helft van de 17th eeuw, Offer Dapier (1636-1689) was een Dutch artschilder en schrijver wiens boek "Naauwkeurige beschrijving van Afrikaansche Gevestigde Kolonie" geschreven is in 1668, contains a description and engraving of the Kingdom of Benin. Its art and culture were highly developed. In the African continent he himself but relied on the descriptions of others (Molhuysen, Blok & Vossius 1697: 554-555; Haksma Muller & van der Lijn 1995).

26

M. WOLFF
SHELL MERCHANT
& MANUFACTURER OF SEASIDE NOVELTIES
434 COMMERCIAL ROAD.
LONDON. E. 1897. Aug 1897

Figure 1: Letterhead correspondence from M. Wolff. National Museum van Wereldculturen, NL-LdnRMV-A1-24-532.



ex:obj a crm:E24_Physical_Human-Made_Thing ;
crm:P1_is_identified_by ... ;
...
...
ex:production a crm:E12_Production ;
crm:P14_carried_out_by ... ;
crm:P7 Took place_at ... ;
...
...
ex:acquisition_theory#1
ex:acquisition_1 a crm:E8_Acquisition ;
crm:P22_transferred_title_to ex:actor_3 ;
crm:P23_transferred_title_of ex:object_1 ;
crm:P24_transferred_title_of ex:obj ;
crm:P9_consists_of ex:sub-activity_1 .

ex:sub-activity_1 a crm:E7_Activity ;
rdfs:label "Pedigree: vroege eigenaar",
"Dr. H.P.N. (Hendrik Pieter Nicolaas) Muller voor
1938" ;
crm:P14_carried_out_by ex:actor_1 ;
crm:P7 Took place_at ex:place_1 ;
crm:P4_has_time-span ex:timespan_1 .

ex:acquisition_theory#2
ex:acquisition_2 a crm:E8_Acquisition ;
crm:P22_transferred_title_to ex:actor_3 ;
crm:P24_transferred_title_of ex:obj ;
crm:P9_consists_of ex:sub-activity_2 .

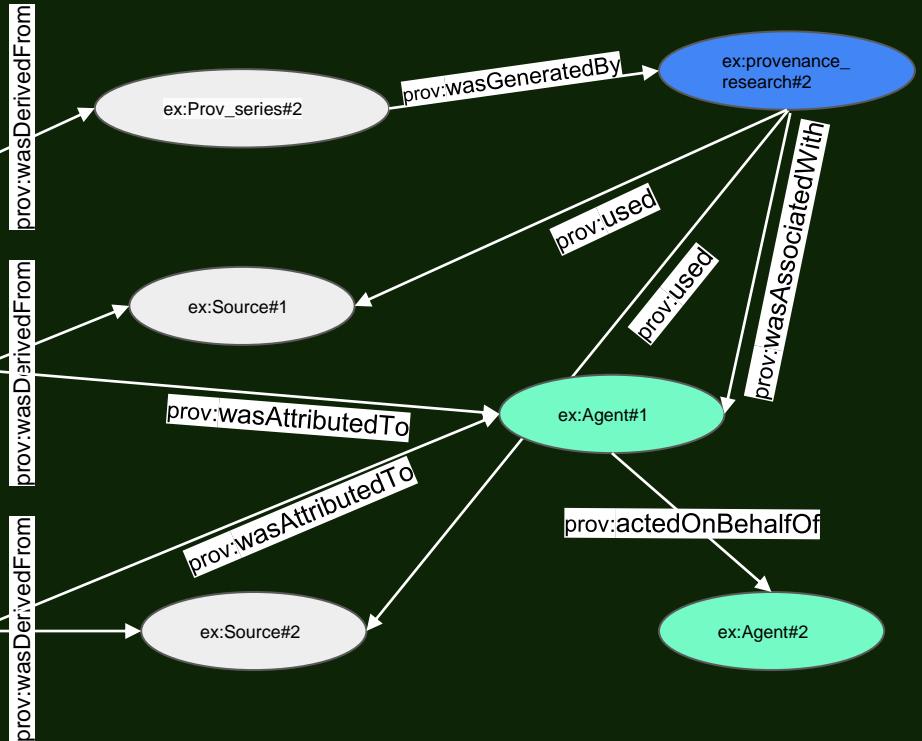
ex:sub-activity_2 a crm:E7_Activity ;
rdfs:label "Legaat in 1946 van Dr. H.P.N." ;
crm:P7 Took place_at ex:place_2 ;
crm:P4_has_time-span ex:timespan_2 .

F. W. Veys, Ed., The Benin collections at the National Museum of World Cultures. Leiden: Nationaal Museum van Wereldculturen, 2021.



Sarah Shoilee

PROV-O, CIDOC-CRM, Named Graphs to support provenance researchers.



A photograph of a person from the side and back, wearing a virtual reality headset and holding a VR controller. They are standing outdoors in a tropical environment with many palm trees. The person is wearing a plaid shirt. The image serves as a background for the text.

Presenting
polyvocal
knowledge

Argumentation for **explainable** inconsistency resolving in **polyvocal** knowledge graphs



Loan Ho

Consider $\mathcal{K}_1 = \{\mathcal{R}_1, \mathcal{C}_1, \mathcal{F}_1\}$ where:

$$\mathcal{R}_1 = \{R : \forall x \text{Person}(x) \rightarrow \exists y \text{hasDeathdate}(x, y)\},$$

$$\mathcal{C}_1 = \{C : \forall x, y, z \text{Person}(x) \wedge \text{hasDeathdate}(x, y) \wedge \text{hasDeathdate}(x, z) \rightarrow y = z\},$$

$$\begin{aligned} \mathcal{F}_1 = & \{f_1 : \text{Person}(\text{Thorbecke}), f_2 : \text{hasDeathdate}(\text{Thorbecke}, 14/10/1860), \\ & f_3 : \text{hasDeathdate}(\text{Thorbecke}, 10/10/1860)\} \end{aligned}$$

$$A_2 = (\{\text{Person}(\text{Thorbecke})\}, \{\text{hasDeathdate}(\text{Thorbecke}, 10/10/1860)\})$$

$$\left[\forall x, y, z \text{Person}(x) \wedge \text{hasDeathdate}(x, y) \wedge \text{hasDeathdate}(x, z) \rightarrow y = z \right]$$

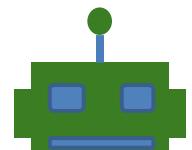
$$A_1 = (\{\text{Person}(\text{Thorbecke})\}, \{\text{hasDeathdate}(\text{Thorbecke}, 14/10/1860)\})$$

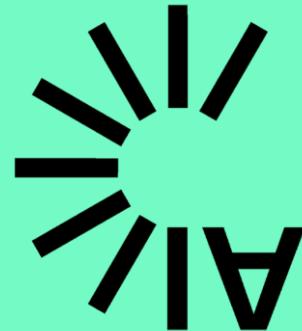


User: Why not
 $\text{hasDeathdate}(\text{Thorbecke}, 10/10/1860)$
given that A_2 ? ⁸

User: I understood "why 10/10/1860 is
not Thorbecke's death date"

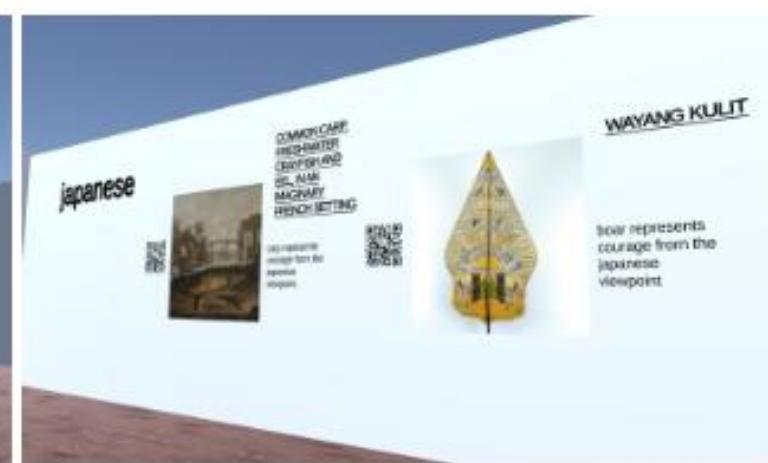
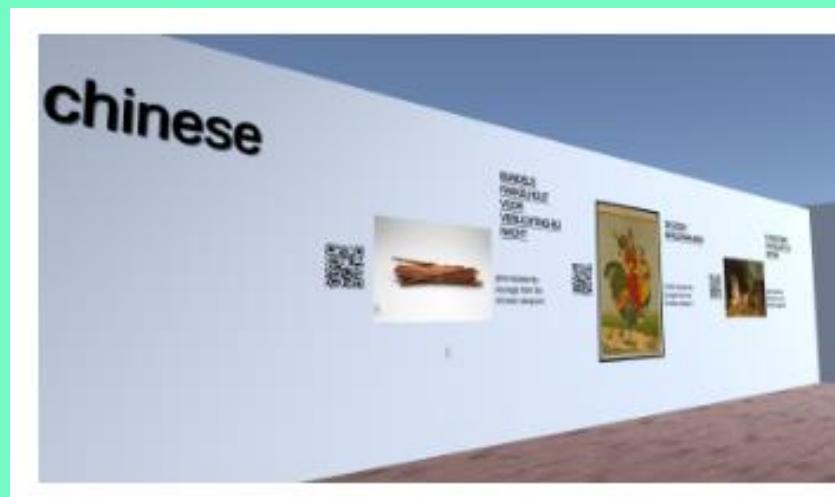
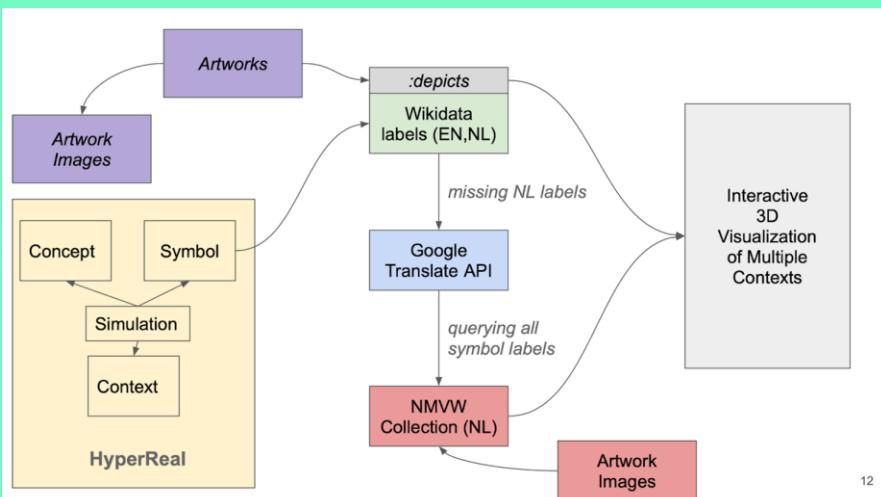
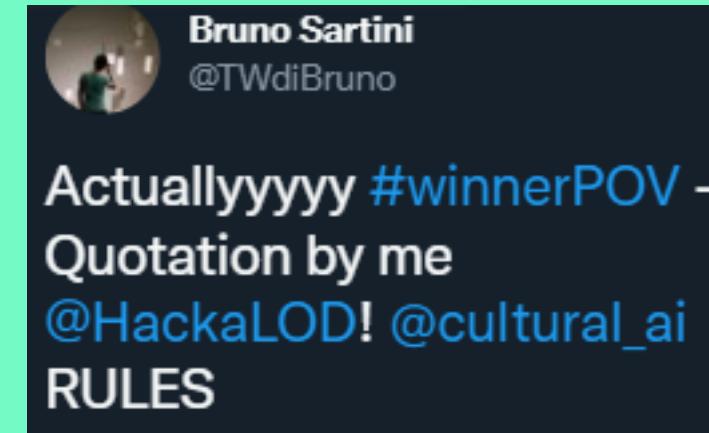
Reasoner: Because
 $\text{hasDeathdate}(\text{Thorbecke}, 10/10/1860)$ ⁹
the following constraint is violated:
 $\forall x, y, z \text{Person}(x) \wedge \text{hasDeathdate}(x, y) \wedge \text{hasDeathdate}(x, z) \rightarrow y = z$,





Virtual exhibitions

“... give people - no matter their background or expertise - a simple way to explore how the meanings of symbols depicted in artworks shift across cultures.”



Virtual Reality for Polyvocal exhibitions



Stefania Conte

Isabel Florence Franke

Claudia Libbi

Tilo Hartmann

Victor de Boer

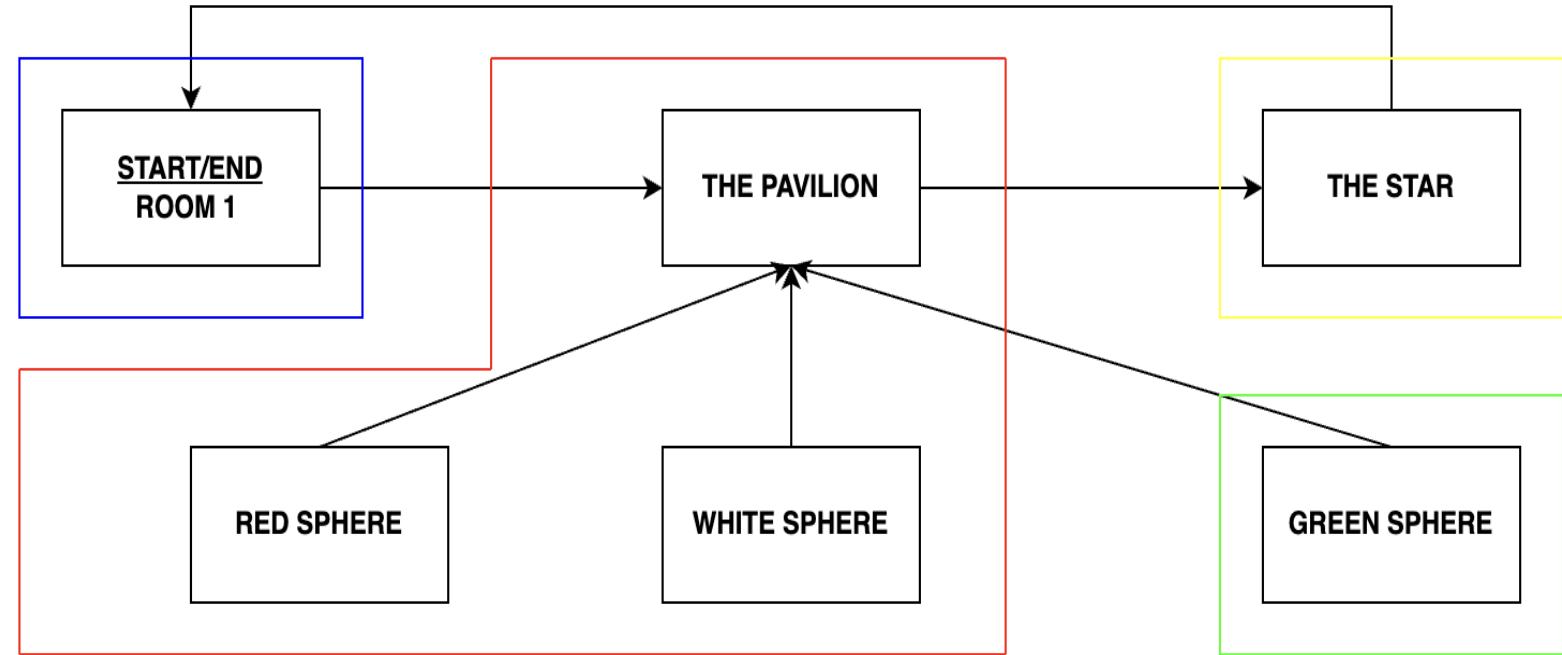
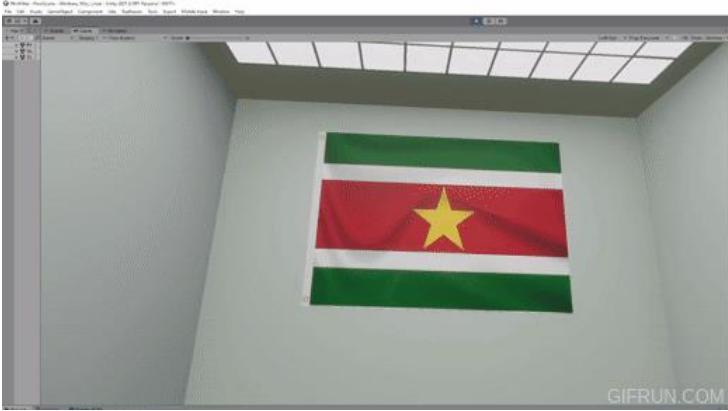
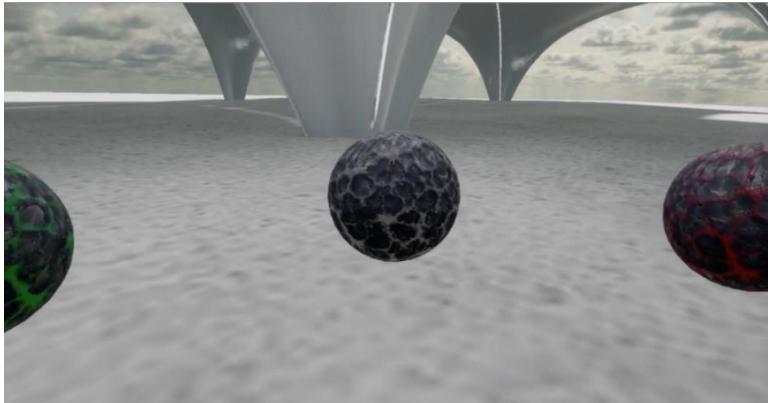


Figure 2: Flowchart of the VR experience. The colored polygons represent different virtual “sub-environments” within the VR exhibition. The black text boxes refer to different scenes in the experience; names correspond to section 3.3.3. where each is described in detail.



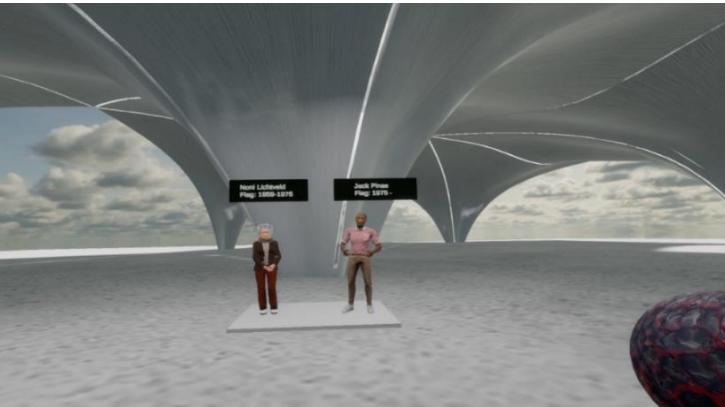
Enlarged Surinamese flag and a brief description of its color's meaning represented in the first room; it resembles a usual museum environment.



Pavilion environment with interactive spheres from the participants' perspective



Books triggered by the red sphere. The front page respectively describe The Battle of Suriname, Suriname coup d'Etat, Suriname Guerrilla War and Slavery history of Suriname.



Noni Lichtveld and Jack Pinas are respectively represented with the timelines of the different flag designs



Analogous Surinamese environment achieved through Gaia Pro 2021. Agricultural goods and auditory stimuli are the main feature of this event



The star appears once the participant experiences all the other events triggered by the sphere

User study

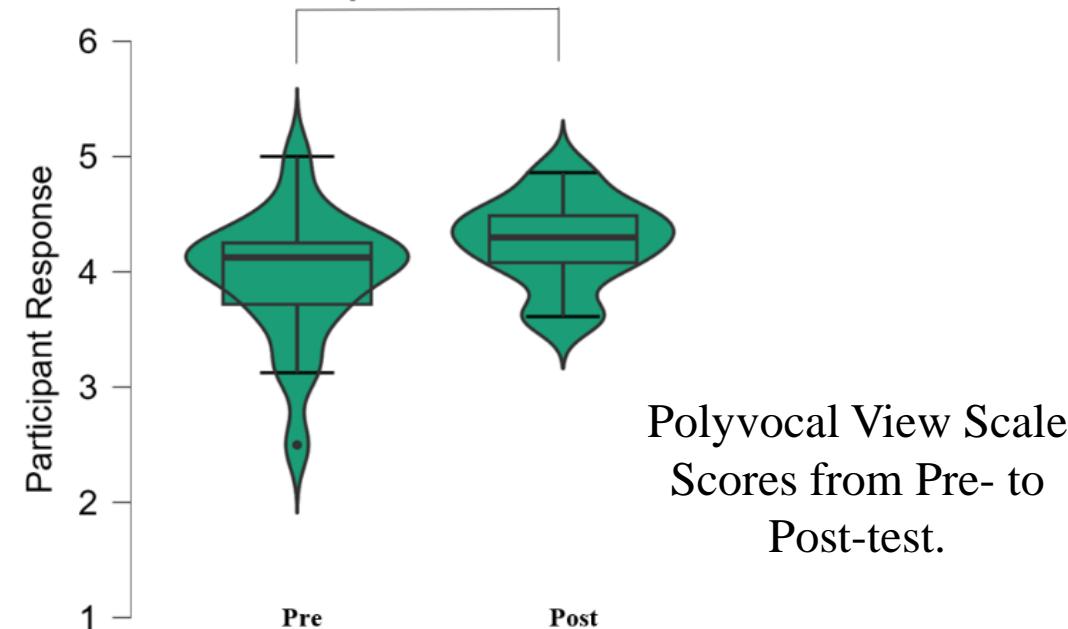
20 participants, run at VU,
Pre- and post-test Polyvocality
metrics

Based on validated existing + new
questions

Qualitative analysis of think
aloud

opinion that is being formed,
position in relation to exhibition,
background in relation to
knowledge being obtained.

$p < .001, d = 0.66$



Polyvocal View Scale
Scores from Pre- to
Post-test.

Designed digital (VR) exhibition successful in promoting the desired “polyvocal view” in participants.
increase in the richness of participants’ perspectives towards the subject of the exhibition (flag)
a trend towards a neutral awareness of multiple, coexisting, and sometimes conflicting perspectives.

Interaction patterns for polyvocal knowledge acquisition

Project coordinators: Victor de Boer and Shenghui Wang

In this project, we will investigate how ***polyvocal, multi-perspective knowledge*** can be elicited in Hybrid Intelligence scenarios through ***interactions with various end users***. These users will be ***diverse*** in terms of culture, geography, gender etc. One important research question is how to elicit such information in an ***ethical*** and ***responsible*** manner.

Interested in doing a PhD?
<https://tinyurl.com/polyvocalphd>



UNIVERSITY
OF TWENTE.

Moving forward

Semantic Web technology (Knowledge Graphs) provide means for representing polyvocal heritage

Challenges remain on

- how to get (to) these voices
- how to model their perspectives
- how to present these voices to variety of end-users

Provenance is key

In the Cultural AI Lab we'll keep working on this in interdisciplinary teams

We don't have all the answers

We don't have all the perspectives



Thanks

Marieke van Erp, Laura Hollink, the Cultural AI Lab, all the PhD, Msc and Bsc students, the “between art data and culture” group, Network Institute

<http://www.victordeboer.com>

<https://www.cultural-ai.nl/>

@victordeboer



RIJKS MUSEUM



Against Opacity

How to allow source community members to annotate colonial heritage objects

Colonial Heritage
colonialheritage



Welcome to the Colonial Collections data hub! The goal of the project is making datasets from archives and museums more transparent. The datasets will contain data that contributes to provenance research of objects collected in the colonial period. Opacity is considered as any hindrance that limits users in accessing data.

Against Opacity is the Dutch Consortium for the return of objects collected within colonial contexts and the question of trust, transparency and access. The Consortium consists of: Rijksdienst voor het Cultureel Erfgoed (RCE), Rijksmuseum Amsterdam, NIOD, Bronbeek Museum, National Museum of World Cultures.

Search...

15 DATASETS 4 STORIES 55 QUERIES

K Knowledge Graph
by Colonial Collections Consortium
41.951.237 statements
The knowledge graph of Colonial Collections. It contains heritage information from data providers, combined with information from other sources, e.g. terms from thesauri and dataset descriptions from the Dataset Register of the Dutch Digital Heritage Network (NDE).
Feel free to use this dataset, but please be aware that it can change at any time so long as the Colonial Collections project is not finished.

C Colonial Objects
by RCE
0 statements
This dataset is published by a TriplyETL pipeline: [internal link](#)
[13289 22908](#)

N NMVW Collection Archives
by Bronbeek
3.028.039 statements