ethnographic museum
University of Zurich

University of Zurich[UZH]

Provenance Hacks: Digital Interfaces for Visualising Collection Origins

Final Report

Project funded by the Federal Office of Culture as a contribution to "Provenance research on cultural assets from colonial and archaeological contexts" for museums and third-party collections 2025-2026

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Ethnographic Museum at the University of Zurich

Report written by Prof. Dr. Alice Hertzog-Fraser and Marina Berazategui

Zurich, 30 June 2026

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Management Summary

a. Brief introduction to the Ethnographic Museum at the University of Zurich

The Ethnographic Museum at the University of Zurich (EMZ) houses cultural artefacts from around the world, many of which were collected during the colonial period. Today, the museum critically engages with these histories through collaborative exhibitions, teaching, and research projects developed with communities of origin and diaspora communities in Switzerland. Provenance research has become a key institutional priority within the museum's broader reflection on global interconnected histories and contemporary societal challenges.

b. Brief introduction to the collection under investigation

The museum's collection, comprising 61,889 objects, originated from the holdings of the Ethnographic Society of Zurich, founded in 1888. In 1899, the society merged with the Geographic Society to form the Geographic-Ethnographic Society of Zurich, reflecting the close links between ethnographic collecting and colonial-era scientific networks. The collection was donated to the University of Zurich in 1913 and forms the basis of today's museum in the Old Botanical Garden in Zurich.

c. Brief summary of the research project and results

Combining provenance data consolidation with a design-thinking methodology, the project "Provenance Hacks: Digital Interfaces for Visualising Collection Origins" produced an interactive digital data visualisation that provides users with an overview of the museum's collection, making provenance information more transparent and accessible. While allowing users to explore the whole collection using four configurations (continent and country of origin, acquisition date, levels of provenance and actors documentation) the project also critically reflects on blurry and missing information as well as on the colonial contexts in which the objects were collected and documented. In particular, the configurations relating to the provenance, and actors documentation highlight the unequal nature of historical documentation practices, showing that deliverers, including collectors, donors, and scientists were far more frequently identified by name than makers or original owners from source communities, thus systematically erasing some individuals and life trajectories from the museum's records.

Research Report

The “Provenance Hacks” project was designed to visualise collection data, introduce more transparency and communicate aggregated provenance data to the general public. The project produced a data visualisation that provides an overview of the collection including objects’ entry date at the museum, their geographic origin, the levels of provenance, and actors documentation.

The main research questions were as follows: Where do the objects come from? When did they enter the collection? And who was involved in their acquisition? A particular focus was on undocumented provenance data, given that the missing and blurry information is revealing of the history of museum documentation and the colonial ways of thinking that underpin it[1]. In a second step, the following research questions were thus incorporated: Which individuals have been documented in relation to the collection and which have not? Whose names are recorded in the museum database and archives? And who was made absent or invisible by museum documentation? If provenance is understood as a chain of ownership transfers, how complete is our documentation of the provenance of the collection as a whole?

a. Background and state of research at the start of the project

The project “Provenance Hacks” was first submitted to the Federal Office of Culture in 2024. At the time, the Ethnographic Museum at the University of Zurich (EMZ) was under the leadership of Prof. Dr. Mareile Flitsch, who had established a provenance research position held by Dr. Alice Hertzog.

Previous provenance research projects on the Chinese collections from the Boxer War and Benin Collections from the 1897 looting had established provenance as both a central concern and as an important theme of science communication in the museum’s activities. However, access to information about the whole collection was relatively limited, and it was difficult for external audiences to gain insight into the museum’s holdings.

The website also provided only brief descriptions of the collection, with a few lines dedicated to each continent, despite the collection comprising more than 60,000 objects. The museum team was also cautious about making the collections available online for a variety of reasons, including considerations related to object copyright, ownership, and the rights of source communities. The museum had produced basic

[1] Turner, Hannah. *Cataloguing Culture : Legacies of Colonialism in Museum Documentation*. UBC Press, 2020; Bachmann, Samuel and Marina Berazategui. “Documenting Coloniality”, in: *Boas Blog. DCNtR Debate #2. Thinking About the Archive & Provenance Research*, 2022, https://boasblogs.org/dcntr-debates/debate-2/documentingcoloniality/.

visualisations of the collections database that were used to communicate to visitors where the collections originated from and when they arrived at the museum – but there was room for improvement (see Figure 1–5).

Following on from an initial experience at GLAMhack23, the project "Provenance Hacks" was devised as a stepping-stone towards publishing the whole collection online and enabling further provenance research projects on specific areas of the collection.

b. Project timeline, team members and responsibilities

The project timeline was shifted from the initial proposal because the project manager, Prof. Dr. Alice Hertzog, was appointed director. After she took office in August 2025, the project began in September 2025, running until June 2026.

As announced, the project was divided into eight work packages. The first two, data consolidation and completion (WP1-2), ran in parallel with the design thinking phases (WP3-8), ensuring that the data preparation was adapted to the aims of the design thinking process. Administrative and coordination tasks were carried out throughout the project, ensuring that budgets and schedules were continuously adjusted to the needs of the project.

	2025				2026					
	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.
WP1-2: Data consolidation and completion										
General data consolidation										
Data field: "entry date"										
Data field: "geographic origin"										
Data field: "actors"										
Final export and data delivery										
WP3-8: Design thinking										
WP3: Empathise										
WP4: Define										
Workshop: 03.10										
WP5: Ideate										
Workshops: 14.11 and 17.12										
WP6: Prototype										
Workshop: 22–23.01										
WP7: Test										
WP8: Implementation										
Coordination/Administration										

Internal core project team:

- **Marina Berazategui**: Administration, Coordination, Conceptualisation, Provenance research, Data consolidation and completion (WP1-8)
- **Joris Burla**: Technical support, Data analysis and preparation (WP1-8)
- **Alice Hertzog-Fraser**: Project leadership, Conceptualisation (WP3-8)
- **Amir Mommartz**: Provenance research, Data consolidation and completion (WP1-2)
- **Rebekka Sutter**: Provenance research, Data consolidation and completion (WP1-2)
- **Daniela Zurbrügg**: Conceptualisation, Provenance research, Data consolidation and completion (WP1-8)

External partners:

- **Melanie Imfeld**: Design thinking (WP3-8)
- **Jonas Scheiwiller supported by Amber Beuth**, wearelucid : Programming (WP3-8)

Further internal museum staff:

- **Melissa Caflisch**: Communications
- **Paula Melinsky**: Finances and human resources
- **Andrea Staub**: Provenance research
- **Barbara Welter-Thaler**: Project management
- **Martina Wernsdörfer, Alexis Malefakis, Maike Powroznik**: Provenance research

c. Methodological approach and publication of results

Data cleaning and consolidation

Throughout the project, the team carried out data completion and consolidation. Following the first internal workshop on 3 October 2025, the team identified the data fields required for the data visualisation. For each field or group of fields (entry date, geographical origin, and actors), the team discussed a plan and prioritisation of the cleaning and standardisation tasks, and allocated them accordingly.

During the data cleaning and consolidation phase, the project team worked to standardise the data in the fields required for the visualisation. In addition, internal sources such as written records and old inventory books were consulted in order to complete certain missing data fields. We made a conscious decision not to incorporate external sources so that the data visualisation would provide an overview of the state of the museum's internal documentation and highlight gaps and future research needs.

For the date of entry and geographical origin, if a field could not be determined with certainty after consulting the internal records, it was marked as 'undocumented' to indicate that the internal records did not provide this information.

For the actors, the data already available in the database was validated for the fields “deliverer”, “collector”, and “maker”. Although these fields have not been consistently filled out throughout the museum’s history, the team has defined them for the project as follows: “deliverer” refers to the person or institution that donated or sold the object to the museum; “maker” refers to the person who made the object; and “collector” has been renamed “previous owner” for the project, and defined as all the people who owned the object between its creation and its entry into the museum.

The actors’ names in these three fields were standardised across the data set. Moreover, information concerning the actors was, where possible, enhanced with information on gender, date and place of birth, date and place of death, nationality, and professions. When data was available, the team also noted relationships between the actors. All sources were documented in the project materials, providing a research index for future research on provenance actors. By including normative data in the collection database, the project has significantly improved data interoperability.

Design Thinking

Alongside the data completion and consolidation, the project implemented a design thinking methodology, based on five iterative phases: *empathise*, *define*, *ideate*, *prototype,* and *test* (see Figure 6). During the e*mpathise* phase (WP3), interviews were conducted with the museum team and external partners to ensure that the needs of these different audiences were taken into account. On 3 October 2025, the internal team gathered for a workshop to launch the *define* phase (WP4, see Figure 7). The aim of this workshop was to summarise the key questions that the data visualisation should address. Following this, the designer Melanie Imfeld worked on developing three visual concepts (see Figures 8-10), which were discussed during an initial workshop on 14 November 2025 to launch the *ideate* phase (WP5). Two of these concepts were selected by the team and were subsequently refined by the designer (see Figures 11-12). The second workshop of this phase on 17 December 2025 led to the final selection of the visual concept “Konfigurierbarer Raum”. By representing each object as a storage crate in a 3D room, this concept creates a scalable and intuitive way of navigating the collection as a whole and was taken forward into the *prototype* phase. At the start of the *prototype* phase the whole team came together for a two-day workshop on 22–23 January 2026 (see Figures 13-15). This workshop enabled us to flesh out the overall design and refine each configuration.

Designer Melanie Imfeld then refined this concept (WP6, see Figures 16–19) and programmer Jonas Scheiwiller, supported by Amber Beuth, implemented the configurations. During the *test* and *implementation* phases (WP7-8), several rounds of back-and-forth discussions took place between the museum team, the programmer and the designer to fine-tune the data visualisation. The four configurations were finally

tested and validated by a workshop on 19 June 2026, attended by participants of the 2023 edition of GLAMhack, who had initiated the data visualisation project.

Data publication

Over the course of the summer 2026, the data visualisation will be published online at the following URL: https://musethno-collections.ch/en and linked to the website of the EMZ.

With regard to the publication of research data, we have followed the recommendations of the Federal Office of Culture. We have chosen not to disclose personal information such as date of birth, profession(s), and nationality for any individuals who may still be alive or who we assumed may still be alive.

d. Collection statistics

This project analysed the full collection of the EMZ, excluding the photographic and audio collection as well as the archives. Over the course of the project, data cleaning revealed that the museum, initially thought to hold around 50,000 objects, in fact holds 61,889 objects as of the end of the project.

Over the course of the project, the team was able to fill several fields. For example, at the beginning of the project 23,214 data sets were missing acquisition dates. This number has now been reduced to 9,998 objects. Information concerning geographic origin was missing from 5,692 data sets, compared with 3,650 objects today.

In the case of provenance actors, the name of the person who delivered the item to the museum, recorded in the database as “deliverer”, was missing from 13,556 data sets; this number has now been reduced to 9,236 objects. The same applies to the data field “collector”: at the start of this project this information was missing from 19,988 data sets and is now missing for 13,650 objects. However, the data available for the data field “maker”, i.e., the names of producers, appears to have decreased over the course of the project. Initially, this field was completed for 5,912 data sets, whereas it is now documented for only 3,912. This is because data cleaning identified that this field had often been completed with inaccurate data, for example the names of entire ethnic groups or geographical regions, instead of individuals.

These numbers reflect colonial ways of thinking and show that, unlike an object in an art museum, an ethnographic artefact was not regarded as a personal creation reflecting an

individual's artistry. Rather, it was seen as tangible evidence of cultural practices, thereby essentialising culture and rendering individuals invisible[2].

e. Provenance research and presentation of the data visualisation

The visualisation is organised around four main configurations that allow users to reorganise and explore the collection from different provenance perspectives. Acknowledging that the museum database and archives are both incomplete and shaped by historical colonial documentation practices, the interface communicates not only what is known about the collections, but also the gaps, uncertainties, and silences that remain.

The first configuration groups objects geographically by continent and country, while also highlighting undocumented objects and acknowledging the limits of present-day territorial categories in representing historical colonial contexts.

The second configuration organises the collection chronologically according to the decade in which objects entered the museum, enabling users to identify major acquisition periods and the actors associated with them.

The third configuration focuses on the level of provenance documentation, distinguishing between well-documented, partially documented, poorly documented, and undocumented objects. This scale is based on internally defined criteria relating to the identification of the different actors involved in an object's trajectory before its entry into the museum. Objects categorised as "well documented" are those for which all known provenance actors are identified, including makers, possible previous owners and deliverers. "Partially documented" objects generally lack information concerning the maker, while other provenance actors are namely documented. "Poorly documented" objects are those for which only the deliverer to the museum is known. "Undocumented" objects contain no provenance actors in the museum database or archives.

Finally, the "actors" configuration foregrounds the unequal nature of historical documentation practices by demonstrating that makers and original owners from source communities are far less frequently identified by name than deliverers, including collectors, donors, scientists, or dealers associated with the acquisition of the collections. This configuration highlights structural colonial patterns within the database, showing that many makers and other participants in the objects' histories remain totally absent from the archival record.

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[2] Turner, Hannah. *Cataloguing Culture : Legacies of Colonialism in Museum Documentation*. UBC Press, 2020.

f. Biographical research

In order to prepare the data for the project, the team researched 519 provenance actors (of approximately 3,000 persons documented in the database) linked to twenty or more objects in the museum database (see Appendix a.). This was a departure from the original objective to research the hundred most significant actors and the result of the project's scope expanding. The biographies researched can be consulted in the actors configuration of the data visualisation.

The aim was to establish typical profiles of the individuals documented in the database, revealing recurring patterns in the collection history, with most actors identified as deliverers. The project has made the discrepancies between known (mostly European) deliverers and the names of the makers of the collections from the source communities all the more salient. This highlights one way in which colonial violence has contributed to the erasure of people and narratives from the database and the museum's archives.

g. Institutional history relevant to the project

Engagement with the institutional history of the EMZ was not a primary focus of the project. However, the project, and the actors analysis in particular, nevertheless helped to establish and strengthen information on the links between different actors and institutions. The project documented potential relations and links among provenance actors, notably among members of the Geographic-Ethnographic Society of Zurich.

h. Historical contexts researched during the project

Research on the broader historical contexts, including the Swiss and wider European contexts as well as the local context of the regions of origin, was not a primary focus of the initiative. While relevant contextual information was considered where necessary to support provenance research, the project concentrated mainly on improving basic provenance data within the collections database. The project *Provenance Hacks* was a necessary first step paving the way for more detailed and contextual provenance research projects in the future.

i. (Inter)national (research) networks established during the project

The idea for this project first emerged during the September 2023 edition of the Swiss Open Cultural Data Hackathon GLAMHack23, which brought together cultural institutions, software developers, digital humanists, and artists. This network remained important throughout the project. On 11 May 2026, Marina Berazategui presented the project to an information session for the GLAMhack26 taking place in Winterthur in

November 2026. The participants in the challenge of GLAMhack23 provided feedback on the prototypes and contributed to a validation workshop on 19 June 2026.

The project also built on professional networks established through the Swiss Benin Initiative. Marina Berazategui first collaborated with Prof. Dr. Alice Hertzog in this context while working at the Bern Historical Museum. Designer Melanie Imfeld had previously collaborated with Prof. Dr. Alice Hertzog on the visualisation of object biographies of looted Benin artefacts. Successive rounds of Federal Office of Culture funding helped to sustain and consolidate these collaborations across institutions and projects.

The project was further presented within new professional networks, including at the annual meeting of directors of German-speaking ethnographic museums in March 2026, where feedback was gathered on the visualisation of collections data (see Figure 20). It also opened up new discussions on the use of artificial intelligence for reverse image searches to identify undocumented objects. This led to follow-up proposals submitted to the Citizen Science Initiative Zurich and the Swiss Universities Open Science initiative, as well as to collaborations with Laboratory for Experimental Museology in Lausanne and Local Contexts at the University of Zurich, a global initiative supporting Indigenous authority over cultural heritage data.

Summary

a. Evaluation of the results

The project “Provenance Hacks” achieved its main objective of making aggregated provenance information on the museum’s collections more transparent and accessible. Through the consolidation and standardisation of data across more than 60,000 objects, the project significantly improved the quality and interoperability of the museum’s provenance documentation while also identifying major gaps and uncertainties within the collection database.

The project developed an interactive digital interface allowing users to explore the collection through four configurations: continent and country of origin, acquisition date, level of provenance, and actors documentation. Rather than presenting provenance as complete or neutral knowledge, the visualisation highlights the asymmetry and silences within the archival record. In particular, the project demonstrates that deliverers, including collectors, donors, and scientists are far more frequently documented than makers and original owners from source communities, reflecting broader colonial structures embedded within museum documentation practices. The project combined provenance research with design thinking and digital humanities methodologies. At the same time, it revealed the limitations of historical museum databases and the need to critically reassess inherited documentation standards and categories.

b. Open questions and further research needs

The project raised several questions for future research. One question concerns the long-term interoperability and transferability of the provenance documentation scale developed during the project. While effective within the museum’s collection, further work is required to assess whether such indicators could be adapted across institutions and collection contexts.

The project also highlighted the need for continued and more in-depth provenance research on undocumented or poorly documented objects, particularly concerning makers, source communities, and the circulation histories of objects prior to their arrival in the museum. Future work will therefore require more collaborative and community-based approaches to provenance research.

Finally, the project opened up broader reflections on the ethics of online accessibility, including questions of ownership, copyright, cultural sensitivity, and the rights of source communities, as well as new methodological directions involving artificial intelligence and open science infrastructures.

Figures

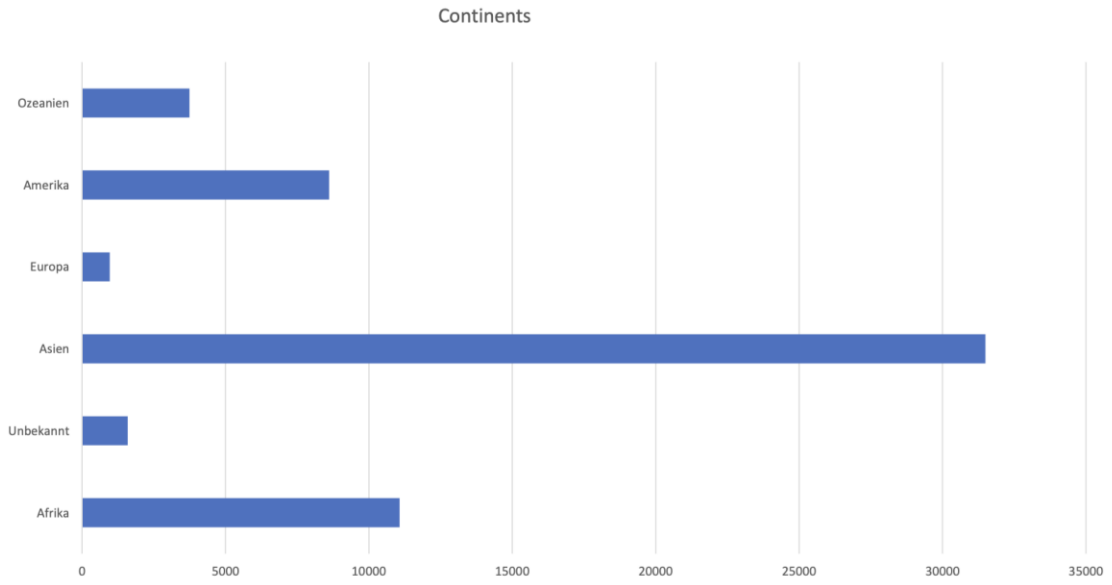


Figure 1: Visualisation of the geographic origin of the collection by continent.

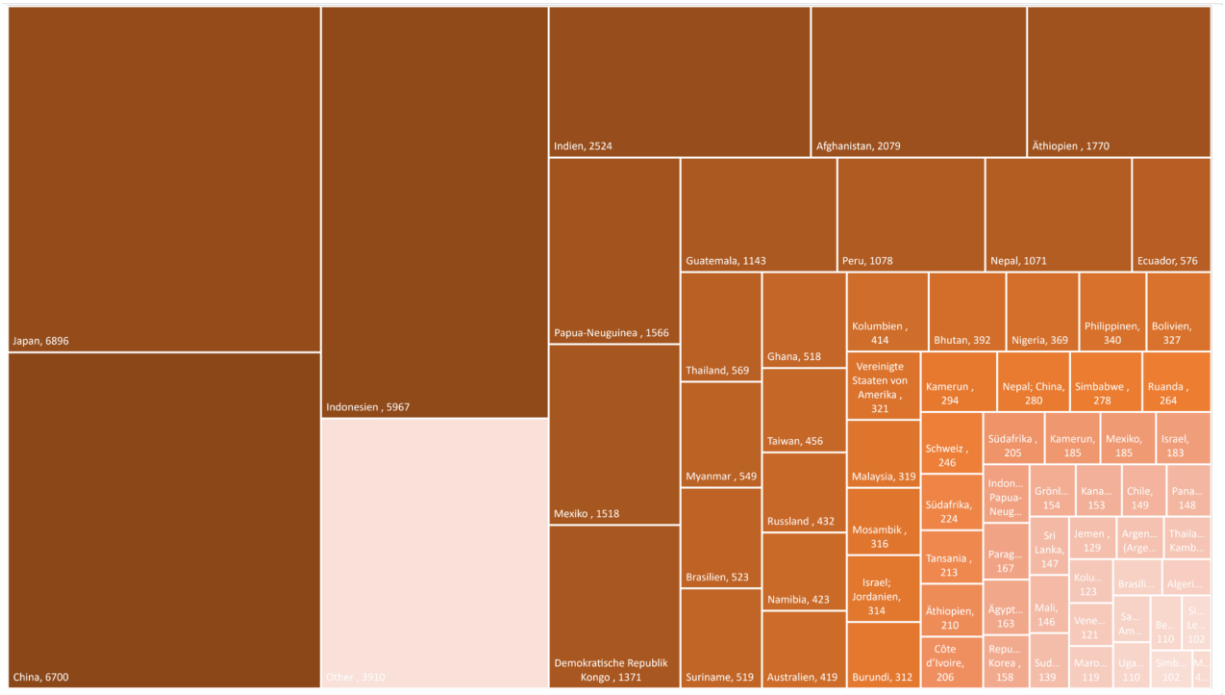


Figure 2: Visualisation of the geographic origin of the collection by country.

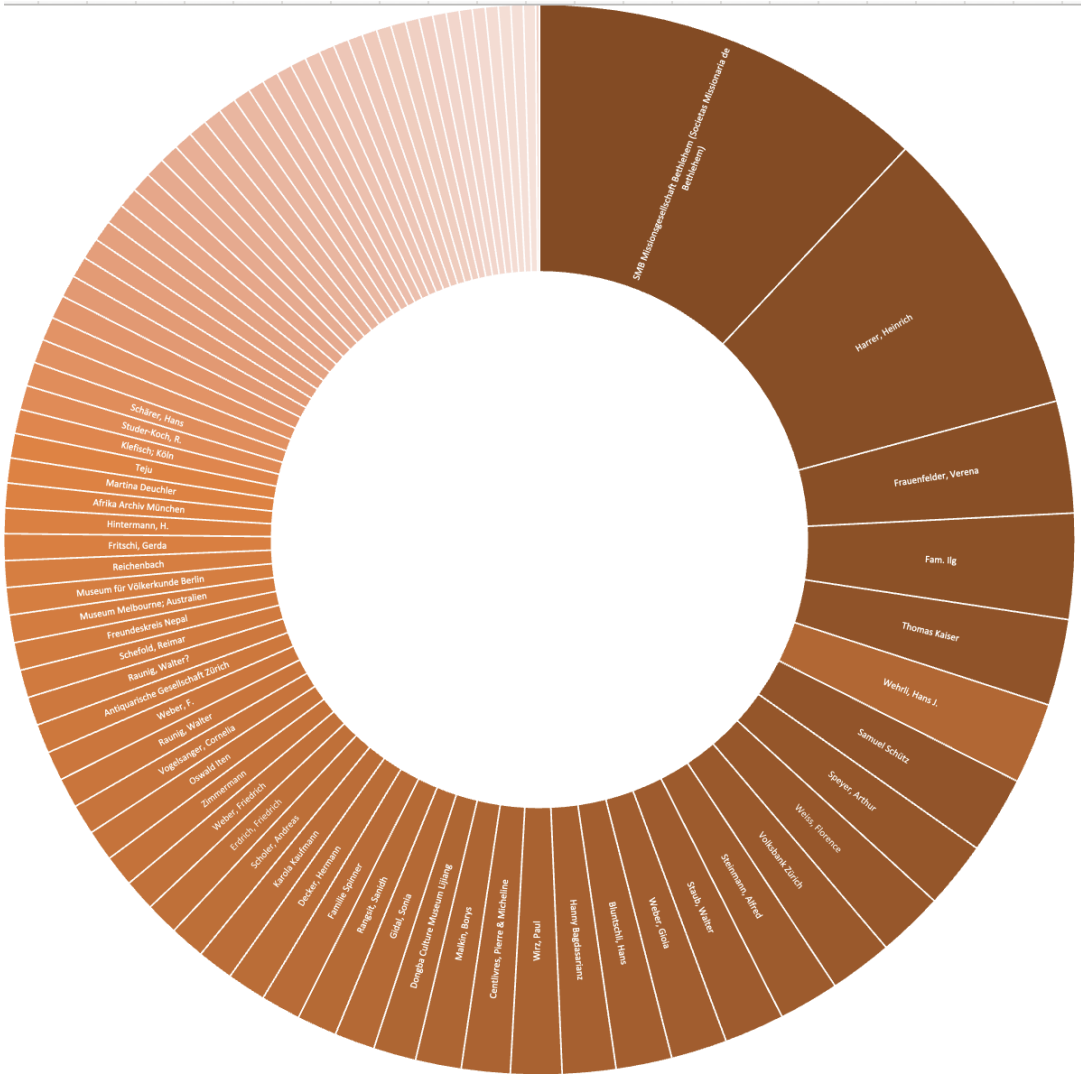


Figure 3: Visualisation of provenance actors in the collection.

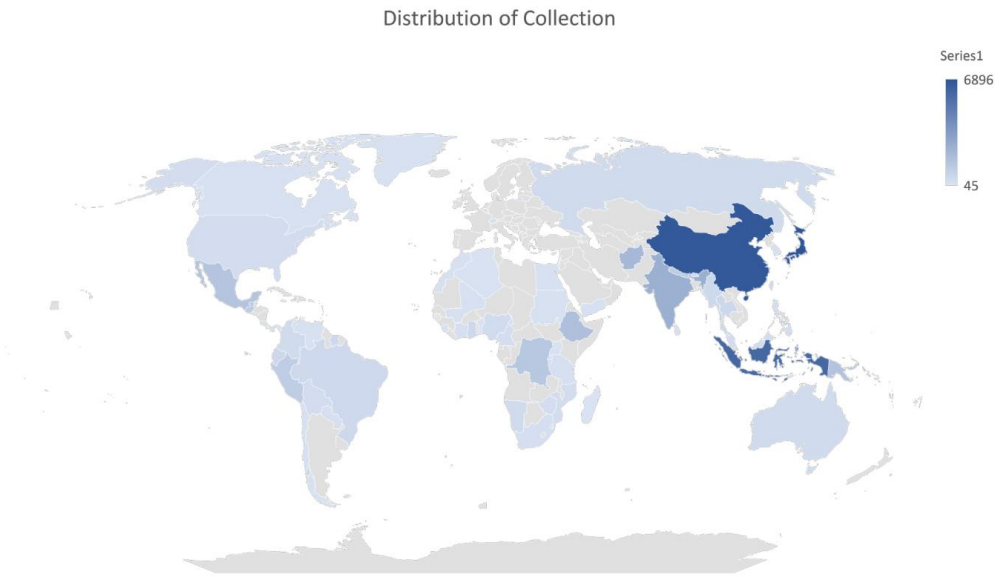


Figure 4: Visualisation of the distribution of the collection.

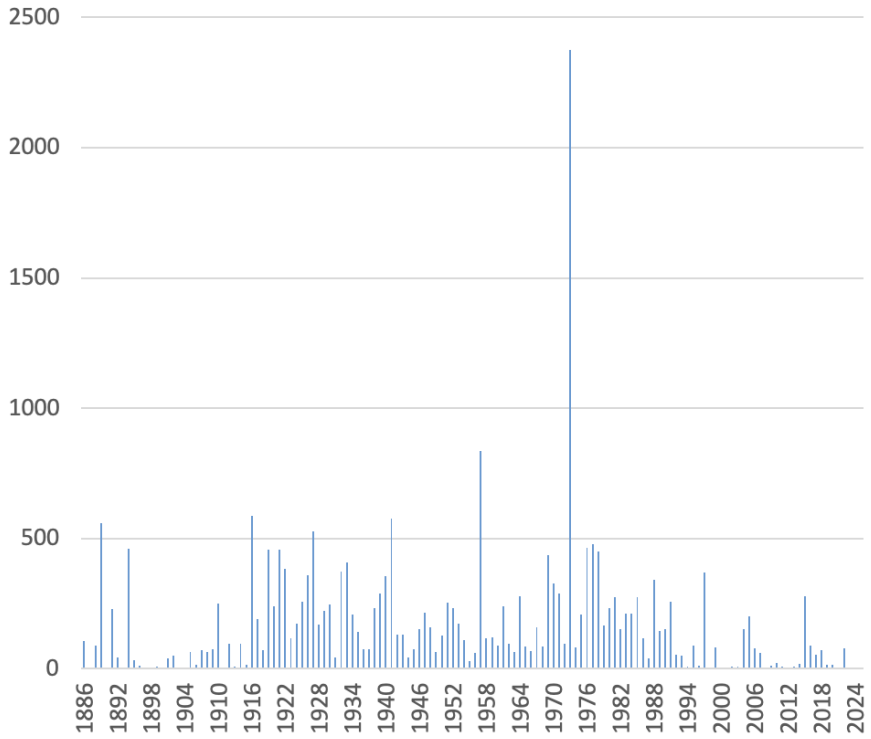


Figure 5: Visualisation of the dates of acquisition of the collection.

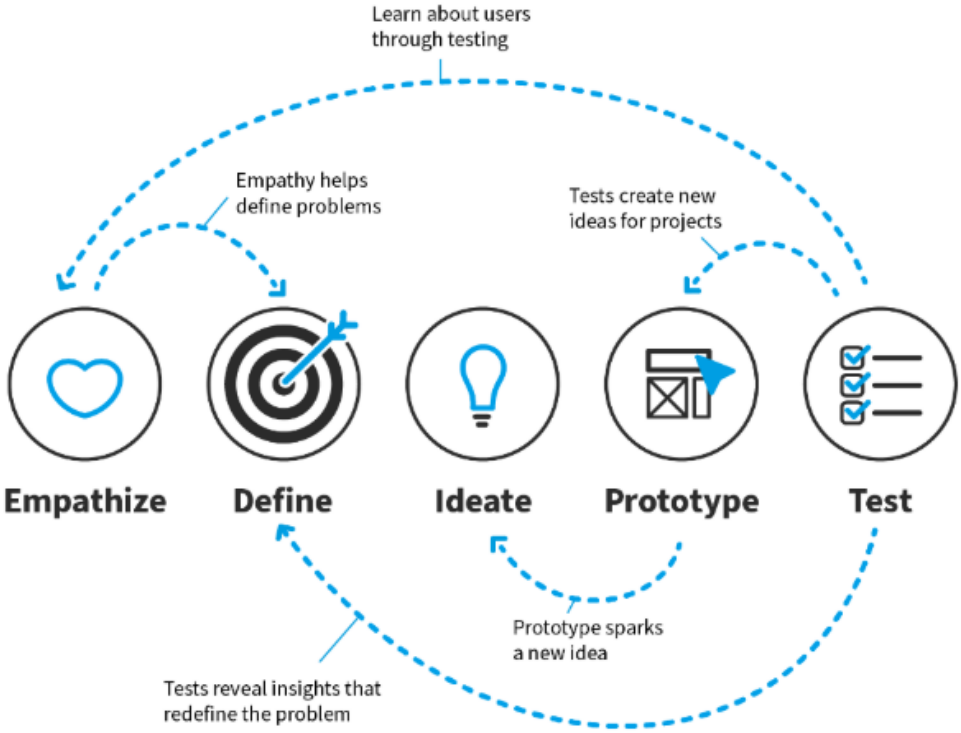


Figure 6: Design thinking diagram (Source: Interaction Design Foundation).

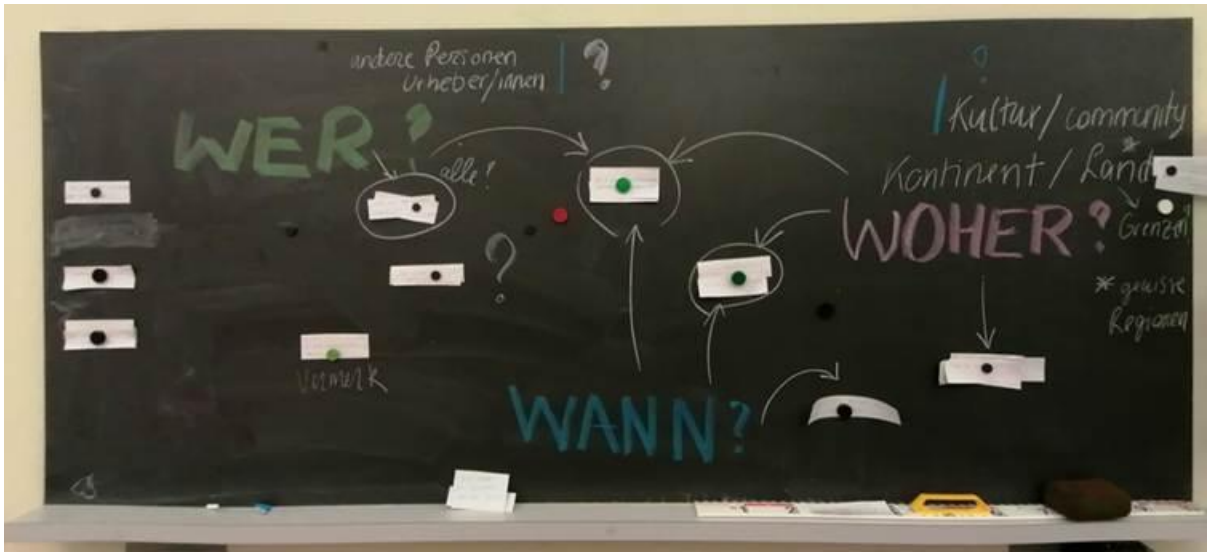
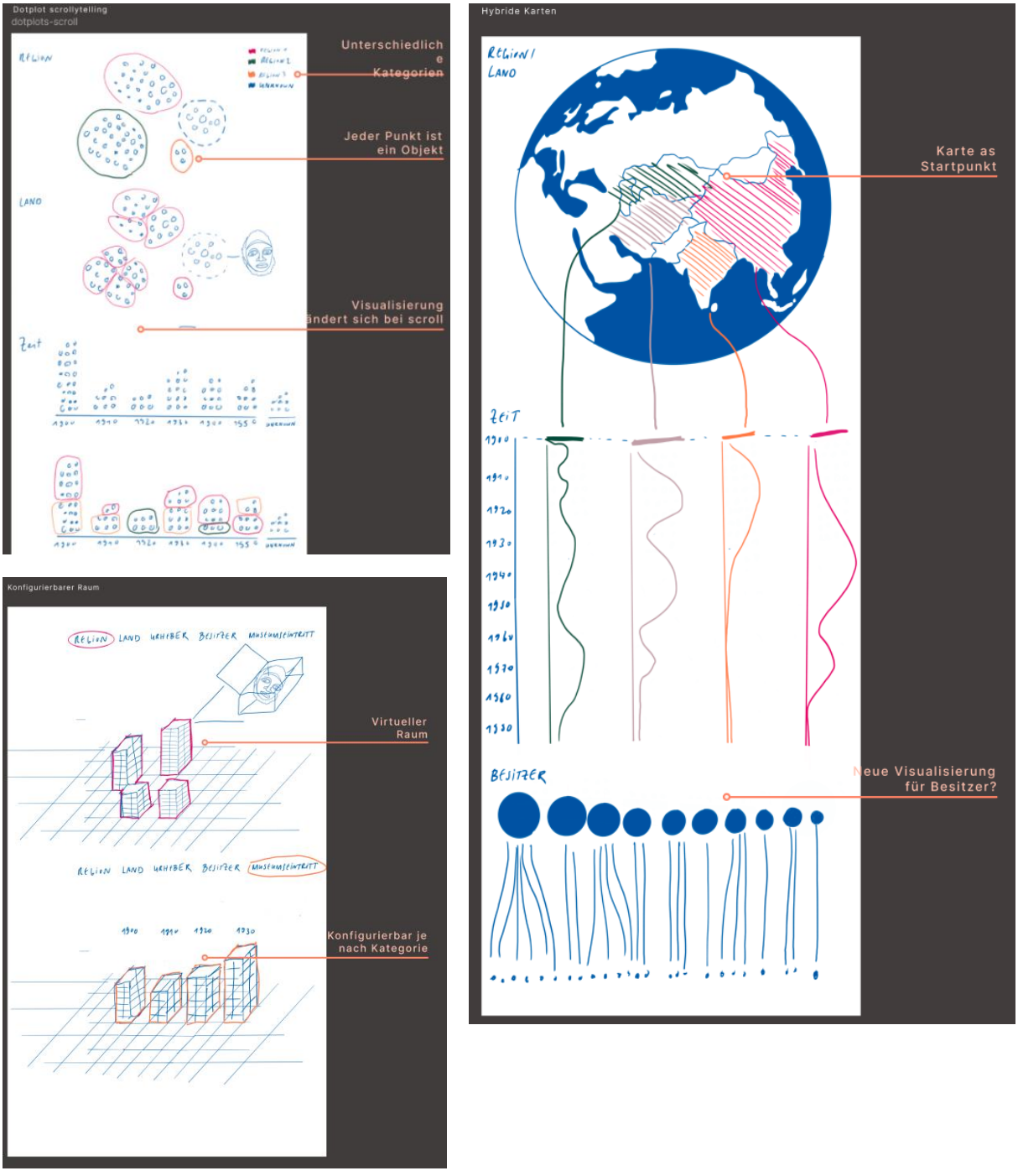
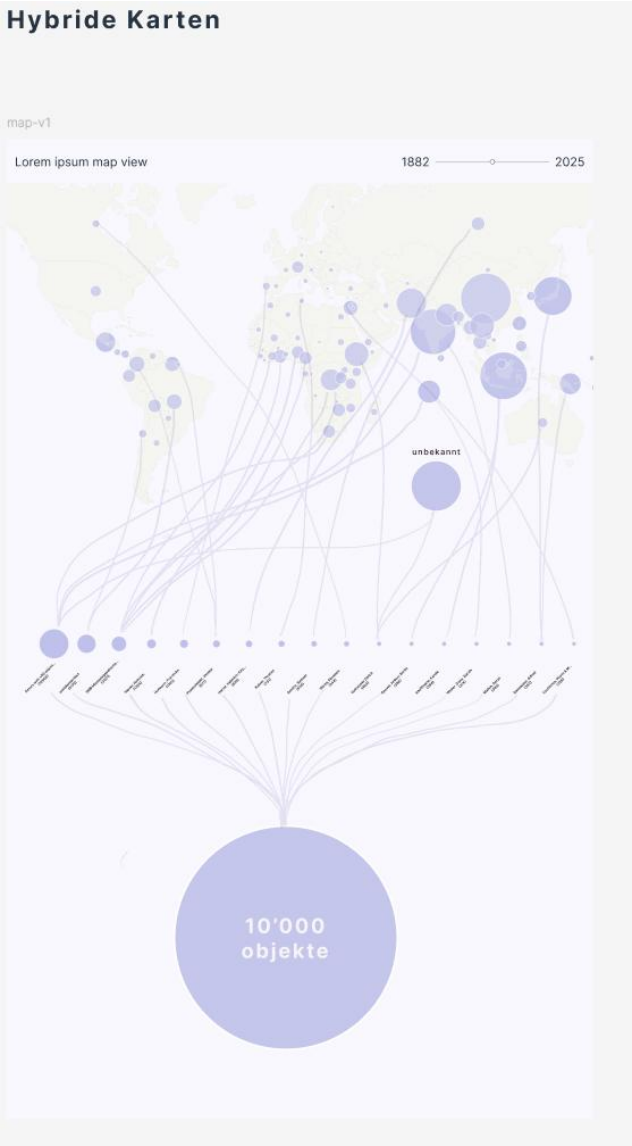
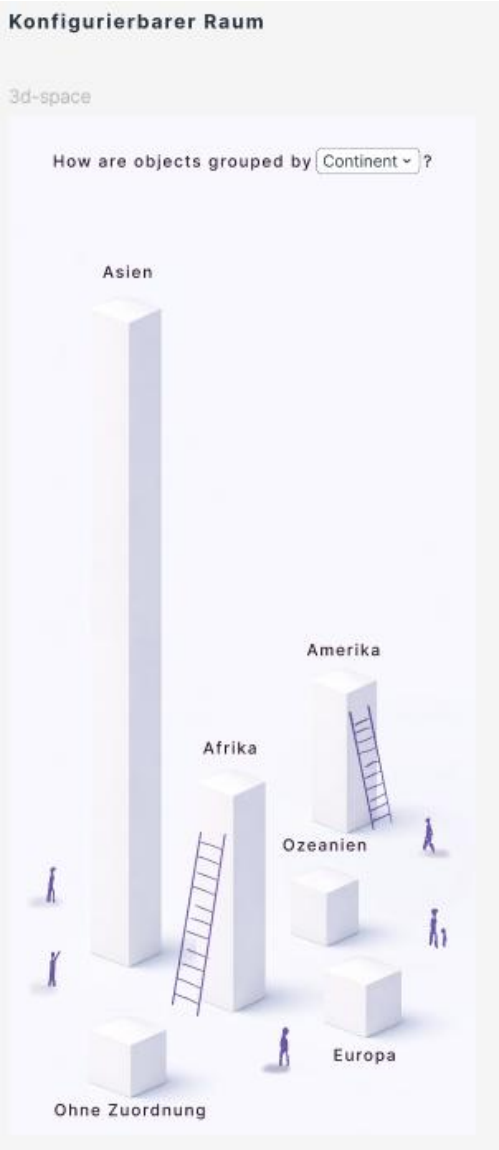


Figure 7: Results of the first internal workshop on key questions to be answered by the data visualisations, held on 3 October 2025.

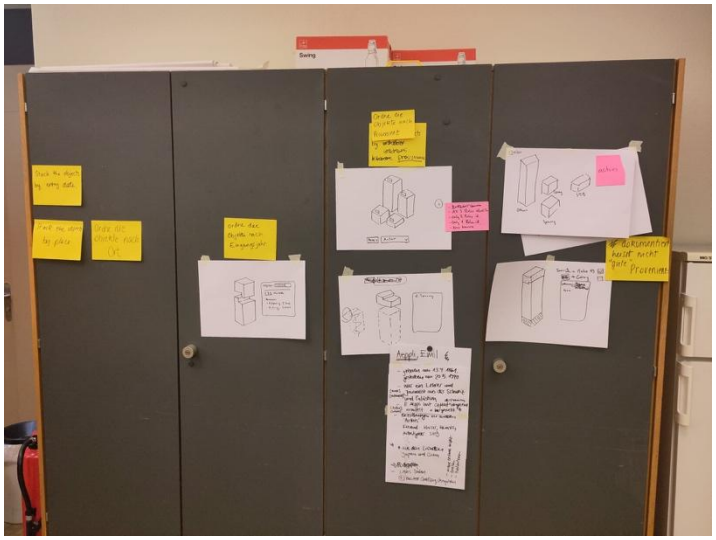


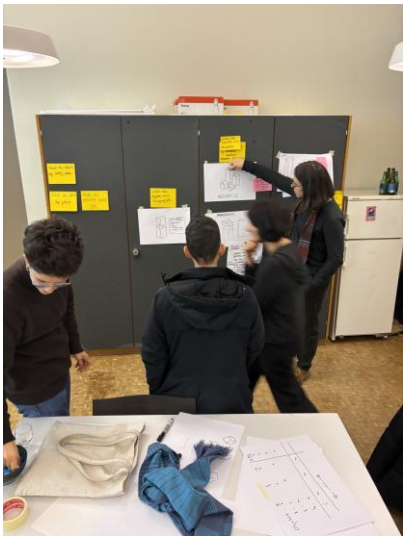
Figures 8-10: The first three visual concepts that were discussed by the team during the first design workshop on 14 November 2025: "Dotpot Scrollytelling", "Hybride Karten" und "Konfigurierbarer Raum".





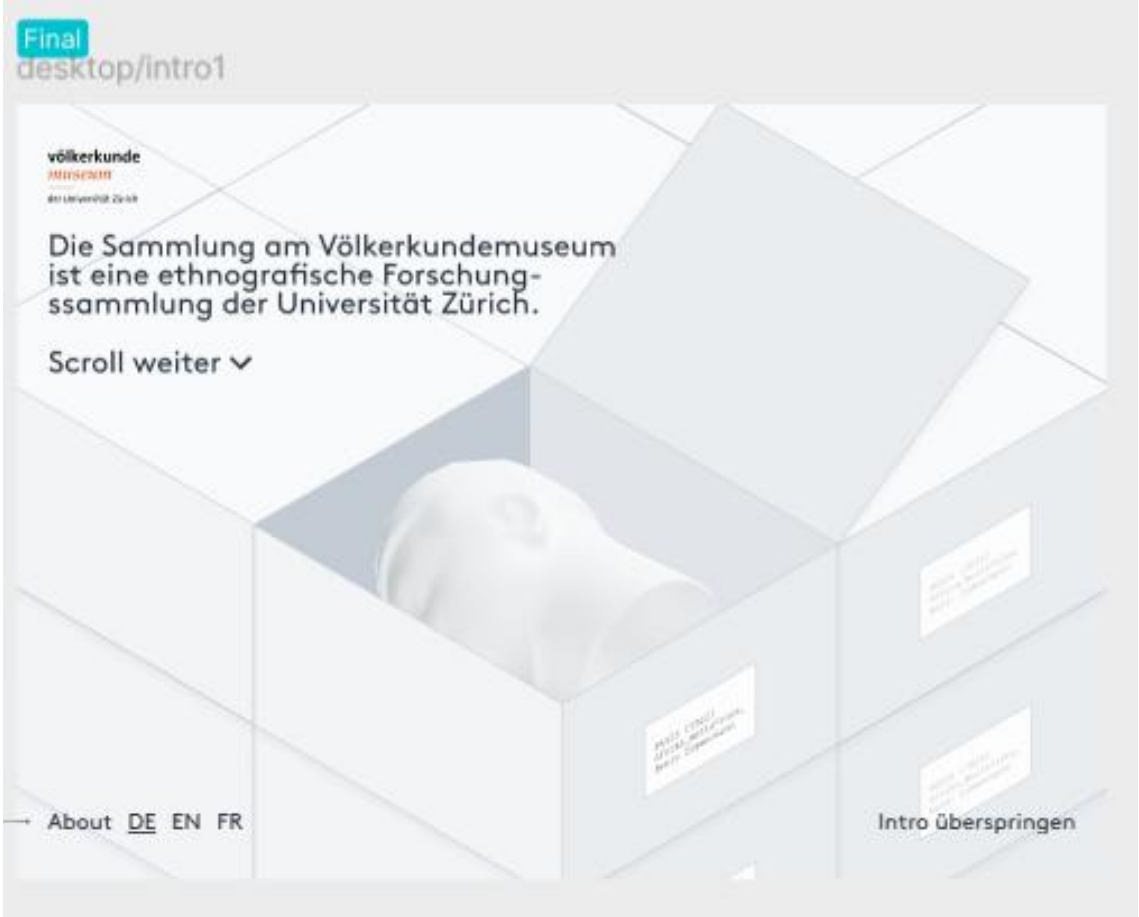
Figures 11-12: The two visual concepts on which the team worked during the second design-workshop on 17 December 2025: "Hybride Karten" and "Konfigurierbarer Raum".

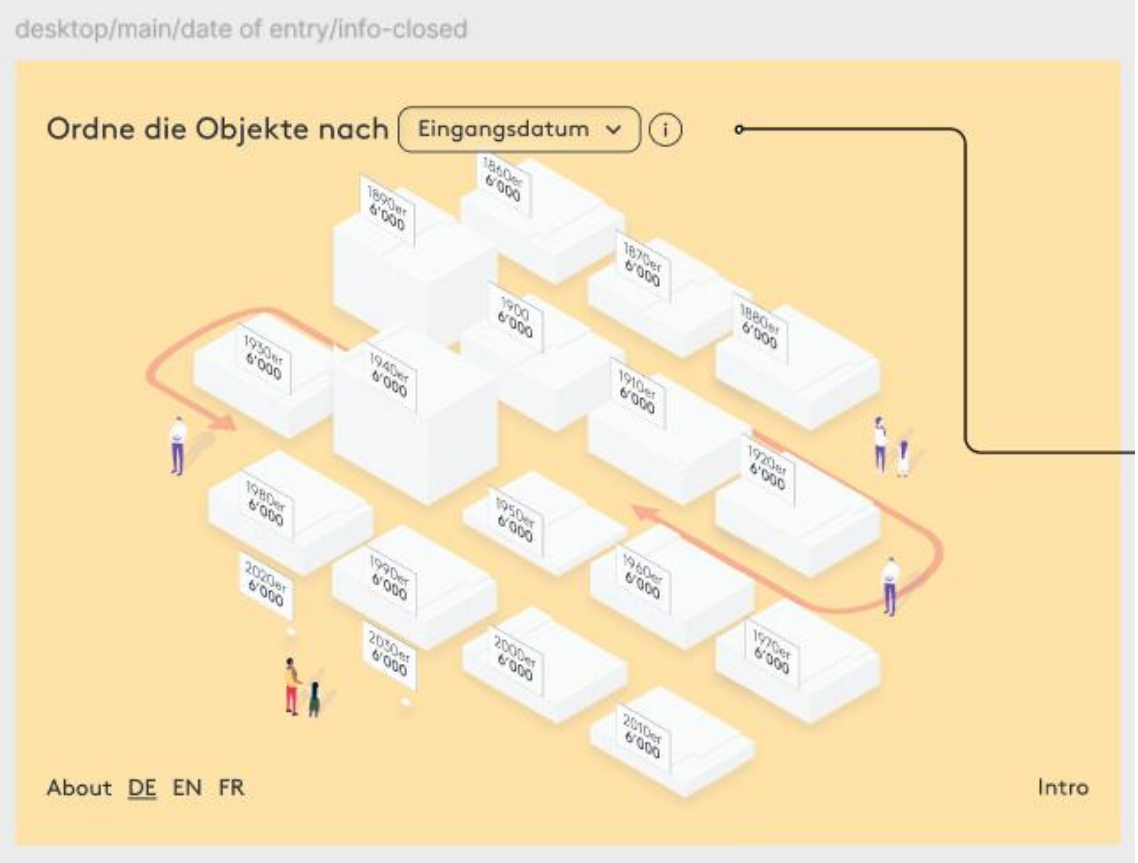






Figures 13-15: Results of the 2-day workshop held on 22 -23 January 2026, during which the team worked in depth on the chosen prototype "Konfigurierbarer Raum".


Final
desktop/intro1
völkerkunde
museum
Die Sammlung am Völkerkundemuseum ist eine ethnografische Forschungs-sammlung der Universität Zürich.
Scroll weiter
About DE EN FR
Intro überspringen


desktop/main/date of entry/info-closed
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2020er 6'000
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About DE EN FR
Intro





Figures 16-19: Design prototypes, 12 May 2025.



Figure 20: Meeting of museum directors - Museum Fünf Kontinente, 20 March 2026.