# Communal data imaginaries in digital archives

*Work in progress document for the proposal   
of a dissertation in digital humanities, March 2022*

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## Abstract

The infrastructure of an archive manifests its participatory ontology and shapes the possible space for epistemological practices. This research proposal wants to look at the development of a digital image archive from an infrastructural point of view and inquire how design decisions and technical implementations on that level influence its participatory character. The specific focus of this work is the inquiry into the imaginaries and models of communal managed data, which is regarded as the core materiality of a digital archive.

## Context

This proposal relates to the issues and goals of the parent research project *Participatory Knowledge Practices in Analogue and Digital Image Archives (PIA)*[[1]](#footnote-1). Specifically, it relates to the subproject B2.3, which is the software development for the implementation of the user interface and is adapted for this proposal to fit my profile. The scope of B2.3 has expanded to the point, that the development includes the full stack of technologies necessary to run a digital archival platform.

## Introduction

Archival infrastructures enable and regulate the flow of resources, archival material, and knowledge between several actors, some of which can be positioned inside of the archival infrastructure and some of which are located on the outside. Derrida made this observation when he noted that archives need certain exteriority, an outside.

“As “[t]here is no archive without a place of consignation, without a technique of repetition, and without a certain exteriority”, there is “[n]o archive without outside”” (Sieber, 2016, p. 27)

In his analysis he refers to the localization of the archive, pointing toward its materiality. Not explicitly mentioned but included is the social outside. Human actants who are not part of the archive’s many inner processes but who help sustain it, for example through financing it, delivering material, or enriching the existing.

“Already in the ancient residences of superior magistrates filing official documents, archives, according to Derrida, “needed at once a guardian and a localization”, and thus “could neither do without substrate nor without residence”. Archives therefore “take place in a domiciliation”, and their ‘documents’ are “only kept and classified under the title of the archive by virtue of a privileged topology”” (Sieber, 2016, p. 26)

Derrida, as well as Latour (Sieber, 2016), locate the source of this division within socio-political power structures. Control over an archive and its content is upholding the control over social and political structures. I would argue, that this division is as well a question of limited resources. There is only that much content an archival infrastructure can contain and effectively maintain (source). Bot of this limitation, imposed by social-political as well as natural processes, are challenged by the digital paradigm.

At once, the limits given by physical laws are lifted through the sheer endless amount of space. Whatever can be digitalized can be stored. This poses new challenges and asks for ways of organizing and making digital archival material discoverable. An approach that holds much promise is the softening of the classical expert role, in which highly specialized and privileged people are the sole guardians of an archive (source).

In PIA, we inquire about the participatory potentials of digital image archives in comparison to their analog versions, and how to expand on that potential where present. Where some parts of the project occupy themselves with the relationship said experts have with amateurs and how to engage the latter in participation, others inquire on how an archival interface needs to be designed to encourage participation on an interface and experience level.

Looking at archives from an infrastructural point of view, we can see that decisions on that level shape the space of possibilities in the interaction with the users. Nick Seaver, an anthropologist of socio-technological matters, studied the development of music recommendation systems. He observed how the developer’s perception of the user of these systems shaped the infrastructure, which in turn marred the space of participation within the system (Seaver, 2021). The users became visible to the system only through desirable data points.

I work with the term or concept of infrastructure as outlined and championed by Susan Leigh Star and Brian Larkin. Larkin (2013). The infrastructure then becomes a socio-material assemblage (Rippa, 2020) that reaches farther than its mere technicalities. Infrastructure is not just the server on which images are archived, but also the technical and visual interfaces through which these can be accessed, the protocols and standards that regulate exchange, and the user and role management in place which dictate who is an expert, and who is a citizen scientist.

“But infrastructures also exist as forms separate from their purely technical functioning, and they need to be analyzed as concrete semiotic and aesthetic vehicles oriented to addressees. They emerge out of and store within them forms of desire and fantasy and can take on fetish-like aspects that sometimes can be wholly autonomous from their technical function.” (Larkin, 2013)

Due to the scope of the project as well as this research proposal, the infrastructure of the digital image archive must be inquired through a specific lens. I suggest using *data* as a boundary object as it is most fitting to my profile as an interface between digital humanities, design, and as a service provider to the team of cultural anthropology.

## Problems and general questions

Interesting in this context is the comparison to public libraries, which have similar epistemological functions, but a different approach towards the public, the outside. Libraries, says Shannon Mattern, “are designed through really robust programs of civic engagement”, and “that [the] really diverse local community is often invited into the design process” (*Shannon Mattern*, 2022). The outcome of those processes is often, that the community feels a sense of ownership in this particular place.

I argue that we are partially trying to achieve this engagement and shared ownership but from the position of an archive. To be able to do so we need to figure out ways to apply this kind of thinking to the archive’s infrastructure. This problem becomes especially interesting regarding the concept of data, which I regard as the principal content holder and one of the most important aspects of a digital archive.

Data is generally viewed as technical means. This is due to not many people beyond technological specialists understanding the processes needed to constitute and maintain data objects. This leaves little space for anthropologists, designers, and amateurs to co-create and develop a shared understanding of what data is and could be. Data should be considered a central aspect of the digital archive and thus be designed, conceived, and developed by all relevant stakeholders.

What we need in a participatory digital archive is not only a technical framework for constituting and maintaining data objects but also imaginaries and legal procedures for communal management of data. This calls for an interdisciplinary approach, in which not only technological solutions are devised but equally communicated and designed in communal and participatory ways.

## Data as transversal materiality

Data is the precursor of information, often comprising individual facts or pieces of information. This can be a date, a title, or the description of an image. For the sake of this proposal, even an image itself can be considered data. Contemporary data constitution is relational and often pertains to a format. A date is not much worth on its own. But if it is denominated as a birthday of a specific person, it becomes very valuable.

Whereas the tech industry at large is interested in collecting and farming data as a means of financial incentive, the digital archive has the chance to develop an alternative imaginary towards communal stewardship of the cultural heritage contained in data. This means that we need equal parts technical solutions, designerly interventions, and community building to build participatory archival infrastructures.

Within the infrastructure of a digital archive, data becomes a boundary object between the many actants that partake in archival activities. It draws a transversal line from the outside to the inside, and back again. Various actants add various pieces of data to an archive, through various kinds of processes. All these actants narratives are more or less loosely entangled with the content of the archive. Might it be as a researcher, inquiring about our history, as an archive maintainer cleaning up data and organizing it, or might it be as an amateur weaving their memories into the archive through participatory processes. All of these people have a stake, as well as shared ownership, of the archive’s data, although seldomly mirrored legally.

The Projects central research questions would then be as follows.

* What are communal and participative models and imaginaries of constituting and caring for data within a digital image archive?
* How does the data infrastructure need to be designed and built to support such communal and participative models?

## Research Design

Given my background in design research I’ll retort to methods and frameworks from this field, which are hybrids of ethnographic research and practice-based approaches and, in my specific care, are often informed by models of human-computer interaction.

The outline of the project can be broken into two main parts. The first phase cares about identifying current models and imaginaries and how they find their way into concrete projects, such as digital archives. Part of this phase are interviews as well as studying relevant archival projects, their technical aspects, design, and their foundational documents. These include amongst other things technical documentation or protocols which contain design decisions. The result of this phase is a set of relevant models that can be implemented and tested in the second phase.

The first phase links to different other aspects of PIA. Of special interest here are the following aspects. How are designerly decisions towards the interface and its various tools and processes creating the base for participation and community, respectively a communal imaginary of data? How are communal models of data management realized on a technical layer? How is the archive as an institution serving as an archival infrastructure for a larger than itself public, similar to the conception of a library?

The designerly decisions are evaluated through the typology of participation (source), but with a focus on the products and effects on the constitution of data. The analysis of existing archives is based on ethnographic approaches outlined by Susan Leigh Star. An important aspect will be the creation and analysis of a catalog of existing models of sharing and maintaining data, from the industry as well as academic spheres.

The second phase contains two main approaches, prototypes, and communal development. The first would be to build prototypes that implement results from the first phase and makes them testable. The testing would be made in two formats. Workshops are considered shorter but intensive singular events, to test functionalities. To work on data imaginaries and models, I consider building small communities, which actively take part in the development of the imaginaries and models.

A prototype is then not just a technological solution, but also an approach that links the data imaginaries and models to a community. The prototypes will be able to stand by themselves, as ontological propositions. In the process, fitting prototypes and approaches will find their way into the PIA platform to complement the missing parts identified earlier in this proposal.

### Methods Outline

* Phase 1
  + Literature review
    - Analyzing the different models for shared data responsibilities and ownership, such as commons or trust models
  + Analyzing similar projects’ infrastructure and development processes (Comparison, Actor-Network-Theory)
    - ANT analysis
    - Expert interviews
    - Mapping of the different forms data takes throughout it
  + Analyzing the technical infrastructure and its influence on participation
    - Analysis of X examples of other comparable projects’ design and development and the emergence of affordances
  + Expert interviews with all human actants that are tasked with the conception and creation of (non-human actants) structures, tools, interfaces, and so forth that constitute, shape, transform, read and write data in all its forms.
* Phase 2
  + Practice-based Research (prototype)
    - Documenting and analyzing the development process of all relevant actants (Process-documentation)
  + Participatory research with and through a community with a focus on the technical development of a digital image archive

## Relevance

Generate knowledge about the infrastructure of a digital image archive from a multi-disciplinary perspective that includes anthropology, technological aspects as well as design research.

Development of alternative communal data imaginaries and models, that are opposed to the current big data paradigm, which is driven by data-extractivism and financial incentives.

This research proposal is considering expanding the current participatory approach toward community building. Thinking participatory on the level of infrastructure enables the project to exist sustainably. It opens the infrastructure to a community that can carry and support the project after the end of the project.

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1. <https://p3.snf.ch/project-193788> [↑](#footnote-ref-1)