BEAUTIFUL DATA
A FIELD GUIDE FOR EXPLORING OPEN COLLECTIONS

Based on a workshop held June 16-27, 2014, at metaLAB (at) Harvard supported by a grant from the Getty Foundation
# INTRO

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INTRO
HOW TO USE THIS GUIDE

What is this guide?

This booklet documents Beautiful Data, a two-week institute supported by a grant from the Getty Foundation, which brought a group of curators, technologists, and scholars to metaLAB (at) Harvard to work with questions of open collections and how we might make use of them. In presenting this documentation, our goal is to “open-source” the workshop and allow its content, dialogue, and processes to continue to evolve and serve as resources. To that end, our hope is that the guide will simultaneously act as document and as springboard for further exploration.

In this spirit, the guide aims to communicate not only the ideas that came out of the workshop, but also the relationships between these ideas and the processes and flows of information that surround them. Following the modes of the workshop, critical thought and discussion are seen side-by-side with examples of or invitations to experimenting and making things. While the five sections of the guide - people, questions, dialogue, provocations, and making - are organized with a sense of the trajectory from conceptual grounding and big questions to projects and interventions, each page offers an environment that draws from various modes in service of this trajectory. These elements may include theory, quotations, maps, case studies, activities, prototypes, or other modes, and they will often link to networks and resources that extend beyond the limited pages of the guide itself.

How can you use the guide?

The guide is intended to lend itself to a variety of uses and engagements. It can be used on its own, in connection with other materials, with groups or on your own. It can be used holistically, or you can draw from individual elements like case studies and activities - whatever seems most useful for you. We hope this material provides entry points, context, and springboards for consideration of and experimentation with the possibilities of open collections.
The turn toward openness in collections has implications for ways of working and sharing, both within and across institutions. As these shifts play out, people and all that they bring - perspectives, approaches, experiences, skills - shape the ways we make use of open collections. How might we foster new modes of collaboration and connection within the context of openness?

In work with museums and institutions, it can be easy to see people in terms of the boxes they occupy on an organizational chart. The boxes, groupings, and structures vary by organization, but a given museum might look something like this:

Of course, the people within these boxes bring more to the table than can be communicated by their titles. What happens when space exists for these elements to be remixed and for collaborations to develop, within and across institutions?
Over the course of the Beautiful Data workshop, practitioners from diverse fields and institutions formed a uniquely interactive network of experience and approaches. Together, they expanded shared vocabularies, grappled with conceptual and critical questions, created models and prototypes, and developed a range of projects.

Their interactions and collaborations point to possibilities for modes of working and sharing as the implications of openness in collections and institutions continue to evolve. Below is a sample of modes of collaboration that emerged in one of the workshop’s project rooms:

### MODES OF COLLABORATION

### WHAT WE SAW HAPPENING

#### FEEDBACK

*An educator giving feedback to a developer on a collections interface, with a focus on visitor usability and facilitating learning.*

#### CONTEXT

*A digital assets staff member and a museum director digging into primary sources together to get more context for their projects.*

#### BRAINSTORMING

*A scholar and a designer brainstorming and prototyping digital interfaces for exhibition publications.*

#### RESOURCES & TOOLS/SKILLS

*Members of communications, information technology, and digital assets teams sharing their institutions’ online collections resources and helping each other use APIs for a range of projects.*

#### NEW LENSES

*A curator working with a designer and an educator to get new lenses on ways of approaching storytelling around a specific collection of paintings.*
Beautiful Data’s participants came to the workshop with a range of questions, curiosities, and goals. On Day 1, we asked participants to write down the questions they hoped to explore, and we collectively generated some guiding themes based on these questions and initial discussions. The questions and themes represent both the interests of diverse professionals and the wide-ranging implications of turns toward openness in work with collections and collections data. As a group or individually, these areas of inquiry provide entry points for exploration of open collections and the ways we can make use of them.

**QUESTIONS**

**THEMES FOR EXPLORATION**

- How can working with data be a creative practice?
- Why do we want to make data open, and how does the ‘why’ inform the ‘how’?
- What’s beyond the obvious with open data?
- What are new tools for making museum collections accessible?
- How can we see museum collections history in new ways?
- Where do visitors fit in?
- How do we work with the data embedded in images and objects?
- How can open collections expand interpretation boundaries?
- What are the limits of current interaction design best practices in relation to big data?
- What are new modes of bridging the physical/digital divide?
- How do we express affect and analysis in the narrative presentation of data?
- What are strategies for collaborating with people with diverse skill sets and interests?
- How do we take risks within institutions?
With participants’ questions and themes for exploration as a foundation, Beautiful Data participants and presenters drove dialogue on the issues surrounding open collections through critical discussions, group work, and prototyping sessions. We have divided this dialogue into three broad areas: transparency, authority, and publics; data and visualizations; and designing for analog/digital experiences. The following pages offer various modes of engaging with each of these areas, from case studies to conceptual exercises. These pages do not aim to be comprehensive records of the workshop; rather, they provide entry points to the workshop’s dialogue and processes, linking a range of materials that may be useful in explorations of work with open collections.
**TRANSPARENCY, AUTHORITY, AND PUBLICS**

Our engagements with open collections and collections data both reflect and shape larger shifts in the ways in which knowledge and cultural assets are accessed, structured, and networked. In conversational strands spread across multiple days of the workshop, we talked through the evolving relationships between transparency, authority, and publics, thinking critically about the values and processes we bring to collections-based work. Drawing from theory, case studies, and our own experiences, these discussions point to underlying themes for projects across institutions and fields.
Keep In Development

When considering the themes of transparency, authority, and publics, we encountered questions of “process” repeatedly. How did we hear participants and guests discussing this concern for process? A few excerpts:

“Rather than focusing exclusively on perfection, try to keep everything in development.”

“Work to show that this is not finished, that it’s contingent. What would it look like to be becoming a 21st-century museum?”

“We reassure the people we work with that the process is healthy, that it will all turn into something with integrity.”

“As part of the process, you can build what you learn from use of the collection back into the collection.”

“We don’t always have to build the perfect API. Things can be kind of stupid in a good way.”

What Are Virtues of Curating?

As we move toward new models of structuring knowledge, co-creating, and engaging with diverse publics, where does curation fit in? In the context of expanded access to information and media - and rapidly shifting landscapes for institutions - what do we see as virtues of curating, characteristics of curation at its most effective and valuable? In small group discussions, Beautiful Data participants identified a range of virtues of curating, many of which are identified below. How can these virtues be brought to bear on ongoing projects and work with open collections?
DATA AND VISUALIZATIONS

Visualizations offer exciting possibilities for telling stories and communicating ideas using collections data. At the same time, the construction and use of data visualizations raise critical questions: questions about the processes of grappling with data, questions about how we interact with visualizations, and questions of what visualization and the humanities offer each other. We explored our own relationships to visualization, looked in-depth at case studies, and used low-tech methods to get experience with the processes of working with data and visualizations.

1. **THE LIFE AND DEATH OF DATA, METALAB’**
   This project visualizes accessions data from the Arnold Arboretum’s living collection of trees. We talked about visualization as spatial metaphor and the unexpected stories visualization can surface.

2. **NIKEFUEL WEATHER ACTIVITY, FATHOM’**
   This website connects Nike+ FuelBand data with local weather activity, allowing users to see how weather affects movement patterns around the country. We talked about layering, stories operating at different levels, and allowing the user to add to the story.

3. **PORT TO PORT, SPATIAL INFORMATION DESIGN LAB’**
   This project aims to show the massive, but largely unseen, shipping activity that moves goods worldwide, visualizing energy shipment routes. We talked about looking for the politics behind data and about curating data to tell a story.

**SOME QUESTIONS TO CONSIDER WHEN WORKING WITH DATA VISUALIZATIONS**

**SOME METRICS**
- What agendas and biases are built into the data, and how can we see the politics behind the data?
- To what extent should complexity be simplified, or not, to tell a story?
- What are the affordances, assumptions, limitations, omissions, and artifacts of a given visualization?
- What are the underlying metaphors of a visualization?

**GOING FURTHER**
- How can visualization avoid being “eye candy” and show failures and the process of grappling with data?
- How can visualization create metrics, fields, or approaches that we can add back into the data?

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WHEN IT COMES TO DATA VISUALIZATION, WHERE ARE PEOPLE COMING FROM?

<table>
<thead>
<tr>
<th>Little experience, lots of curiosity</th>
<th>Aesthetic questions</th>
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<tr>
<td>Comfort with one element (datasets/tech/storytelling), but less comfort with other elements</td>
<td>Wariness of misuse of visualizations</td>
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<td>Skepticism, suspicion, agnosticism</td>
<td>Excitement and wonder</td>
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<td>Experience seeing and using visualizations, but not making them</td>
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ACTIVITY: LOW-TECH VISUALIZATIONS

**GOAL:** Get experience with the critical processes of working with data and making visualizations, regardless of your experience or comfort level.

1. If working with a large group, find a fair, fun way to divide it into groups of 3-5 people each.

2. Provide a common dataset to all groups. You can use your own data or easily accessible datasets, like Census data.

3. Give each group a unique set of materials to work with, avoiding overlap between groups if possible. These materials should be simple and easy to work with. Suggested materials: Legos, pipe cleaners, colored paper, Post-its, string.

4. Each group should make a material prototype of a data visualization using the dataset and materials at hand. As a group, work to resolve the following questions about your visualization prototype:

   - What are the relevant fields?
   - What needs to be cleaned/filtered?
   - What’s the mapping or metaphor?
   - What’s the role of color/size?
   - How do you interact with it?
   - How are patterns and trends visible?
   - How is the invisible surfaced?
   - What can’t be known before it’s made?
   - What will be left out?
   - Who will it be accessible to?

5. After each group has worked for a set amount of time, present prototypes and discuss.

PROTOTYPE EXAMPLES
DESIGNING FOR ANALOG/DIGITAL EXPERIENCES

What does “crossing the analog/digital divide” look like in work with collections? This question is especially present in discussions of how we design for a range of experiences and interactions with objects and collections, both within and beyond the physical spaces of institutions. We explored analog/digital experiences by thinking through key words and concepts, analyzing case studies, and prototyping analog/digital environments for interactions with objects.

1. METROPOLITAN MUSEUM, AMERICAN WING

A guiding idea: “putting a creative turn on the value of transparency”

Small Design Firm developed a new approach to technology in the Met’s American Wing, encompassing wayfinding, redesigned labels, and interactive elements that allow visitors to explore the wing’s roughly 15,000-object collection in a range of ways. We talked about communicating the scale and materiality of a collection and its objects. We also talked about how the comprehensive approach to technology in the American Wing took the pre-existing value of transparency and applied this value in new directions.

2. AMERICAN FOLK ART MUSEUM, INFINITE VARIETY

A guiding idea: “allowing for the unexpected”

Thinc Design created an installation to display hundreds of quilts in a tiered, circular manner, creating ascending pavilions within a massive exhibition space. The exhibition, which was aimed at creating a moment of open-ended, non-interpreted experience with the quilts, also came to include a mobile app that took a different approach: the app guided users quilt-by-quilt and utilized iPads in the space. We talked about allowing for unexpected uses of digital elements and the ways in which playing with juxtapositions in scale and physicality can add resonance to these elements.

WORDS

Certain words frequently come up in conversations about the analog, the digital, and where they meet. These words simultaneously provide a toolkit for thought and offer opportunities for grappling with the concepts that underlie their use. Interrogate and explore the meanings of these words and groupings: where do they overlap, diverge, raise questions?

- forging
- copy
- replica
- authentic
- real
- online
- digital
- analog
- animate
- facts
- data
- affect
- catalogs
- objects
- annotation
- physical
- hyper
- virtual

- We worked through these words in a collaborative definitions activity, as written up here.
Drawing from the critical dialogue and case studies surrounding “crossing the analog/digital divide,” Beautiful Data participants prototyped object-based analog/digital experiences. Using an assigned object (which came with a fictional history) as a starting point, groups created prototypes of physical and digital environments for display of and interaction with the object. These playful takes on analog/digital provide springboards for thinking through object-based practices in rapidly evolving contexts. To the right are two examples:

**HOLY WATER**

The object that formed the starting point: *Holy Water Bottle*

A guiding idea: “moving from objects to contexts.”

The user enters the space, following a timed entry system so that only a certain number of visitors are in the space at a given time. The environment is laid out in a spiral, with the user following a path toward the space’s center. The room is dim, with lights focusing on solitary objects, which are displayed as objects of reverence and in purely formal terms. Technology intervenes in the center of the space, as the user bumps her phone (or a phone provided by the museum) against a phone that is prominently displayed. The phone triggers various experiences and content around the objects in the space.

An augmented environment surrounds the user as she moves back through the spiral space toward the exit, now viewing the same objects not in formal terms, but through the elements of cultural heritage and cultural comparisons the phone provides.

**STAND**

The object that formed the starting point: *The Empty Pedestal*

A guiding idea: “intentional cacophony.”

The user is both visitor and creator, as he is prompted to find a photo of something he puts on a pedestal, put that image on the pedestal, and make a Vine around this action. The environment is one of irreverent “intentional cacophony,” centered on users’ actions and interactions with the pedestal. The pedestal is presented not as formal object, but as a metaphor and jumping-off point for visitors’ story iterations.

Technology is an integral part of the experience, as visitors “prototype in audio/visual form” and make their own Vines using their ideas in connection with the pedestal. An augmented environment is created by the simultaneous prototyping and sharing in which users are engaged, as the objects are used and put into conversation in various ways. This environment extends beyond the physical space, as Vines are inherently shareable.
A lot of big concepts underlie the dialogue of Beautiful Data. To help us go from wrestling with these concepts to diving in and making stuff, we find specific provocations - derived from wide-ranging dialogue, but constrained enough to push one in a particular direction - useful for driving thought and action. To the right are a few provoking questions and directions that came out of our processes and the content of the previous pages. In your explorations, feel free to use these provocations as springboards or to make up your own and go from there.

1. **PROVOCATIONS**

    **SPRINGBOARDS AND ENTRY POINTS**

    A lot of big concepts underlie the dialogue of Beautiful Data. To help us go from wrestling with these concepts to diving in and making stuff, we find specific provocations - derived from wide-ranging dialogue, but constrained enough to push one in a particular direction - useful for driving thought and action. To the right are a few provoking questions and directions that came out of our processes and the content of the previous pages. In your explorations, feel free to use these provocations as springboards or to make up your own and go from there.

    **TRANSPARENCY, AUTHORITY, AND PUBLICS**

    **NEW WAYS OF STRUCTURING KNOWLEDGE**

    Pick an exhibit label or an object description from an online collections page. Rewrite it, Wikipedia style - linking elsewhere and showing sources, controversies, or questions.

    **THE VIRTUES OF CURATING**

    Write down one thing you see as a virtue of curating and one collection that interests you. Prototype a crowdsourcing project focused on telling a story with this collection, keeping your virtue in mind.

    **DATA AND VISUALIZATIONS**

    **TELLING COMPPELLING DATA STORIES**

    Look at a dataset, find a story, and tell that story in a six-page picture book.

    **LOOKING CRITICALLY AT VISUALIZATIONS**

    Look at a data visualization and ask this question: what are the assumptions of this visualization? Pick one assumption and sketch out what a visualization revised to avoid this assumption would look like.

    **DESIGNING FOR ANALOG/DIGITAL EXPERIENCES**

    **PUTTING CREATIVE TURNS ON PRE-EXISTING VALUES**

    Read your institution’s mission statement and choose a value stated or implied in this mission statement. Then pick a recent or upcoming exhibition and prototype a digital component with this value as your guiding principle.

    **DESIGNING FOR A SPECTRUM OF HUMAN ABILITIES AND NEEDS**

    Choose a digital environment - a mobile app, a page on your website, a collections interface - and make a digital “curb cut” for it.

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1. This is inspired by the work of Data Therapy’s Rahul Bhargava, who led a session at Beautiful Data. Check out [http://datatherapy.wordpress.com/](http://datatherapy.wordpress.com/) for more activities around telling stories with data.

2. Sara Hendren of Abler introduced us to this concept: Sidewalk curb cuts were implemented largely because of disability rights advocacy; they now benefit many users of public spaces. What would a “curb cut” for a digital product – perhaps initially geared toward a specific user, but ultimately beneficial to all – look like?
In lieu of a “conclusion” to this guide, we’re offering a call to action, remixing, and experimentation. As part of Beautiful Data, participants moved from critical dialogue and group activities to project development, working both collaboratively and individually to execute their ideas about engaging with open collections. At the workshop’s conclusion, projects varied in scale and form, and they - and ways of thinking stemming from Beautiful Data - will continue to evolve. As you encounter these concepts and approaches, we encourage you to experiment with new ideas, try things out, and make stuff - all part of the ongoing processes of working with open collections and the possibilities they suggest.

SOME QUESTIONS TO GET YOU STARTED:

What’s your goal?
Who is this project for, or who is your audience?

Do you have a sense of the scope/scale at which you think your project will operate?

What skills or perspectives do you bring?
What skills or perspectives could others bring that would be useful?

What tools do you have?
What tools do you need?

What are your constraints?
How can you experiment within these constraints?

COLOUR LENS
Richard Barrett-Small’s project, Colour Lens, uses color as a means of exploring collections.

BACKSTORY
Florian Kraeutli’s visualization tool, Backstory, lets users navigate through revisions of Wikipedia articles.

MUSEUMS OF THE LIVING DEAD
With Museums of the Living Dead
Steven Lubar and Kristina Van Dyke approach museums through the life histories of their objects.

ICA SONIFICATION
Rebecca Huff Hunter’s project, ICA Sonification, takes a creative approach to ICA Philadelphia exhibitions data.
ACKNOWLEDGEMENTS

This field guide was drawn from the work of the participants, guests, and staff who took part in Beautiful Data. Beautiful Data was hosted by metaLAB (at) Harvard from June 16 to June 27, 2014, supported by a grant from the Getty Foundation.

For more workshop content and resources, please visit Beautiful Data’s website at beautifuldata.metalab.harvard.edu.

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