



## **RE-ENVISIONING JAPAN:**

### *Ephemeral Film Recuperation, Restoration, and Digital Curation*

Joanne Bernardi, Nora Dimmock, Josh Romphf (Univ. of Rochester)

AMIA, 11/10/2016

- I. *Re-envisioning 20<sup>TH</sup> Century Japan: Finding films in context*
- II. *Recuperating Ephemeral Films: Open source tools for digital restoration*
- III. *Digitizing Films in an Academic Context: Planning strategies for a large-scale collaborative project*

## THE PROJECT:

*“Re-Envisioning Japan: Japan as Destination in 20<sup>th</sup> Century Visual and Material Culture”*

Joanne Bernardi

Associate Professor

Japanese and Film and Media Studies

# PROJECT BACKSTORY

## Asakusa

Tokyo's entertainment district



Topical postcards as visual record of place,  
Particularly urban landscapes, e.g.

## Tokyo and Yokohama

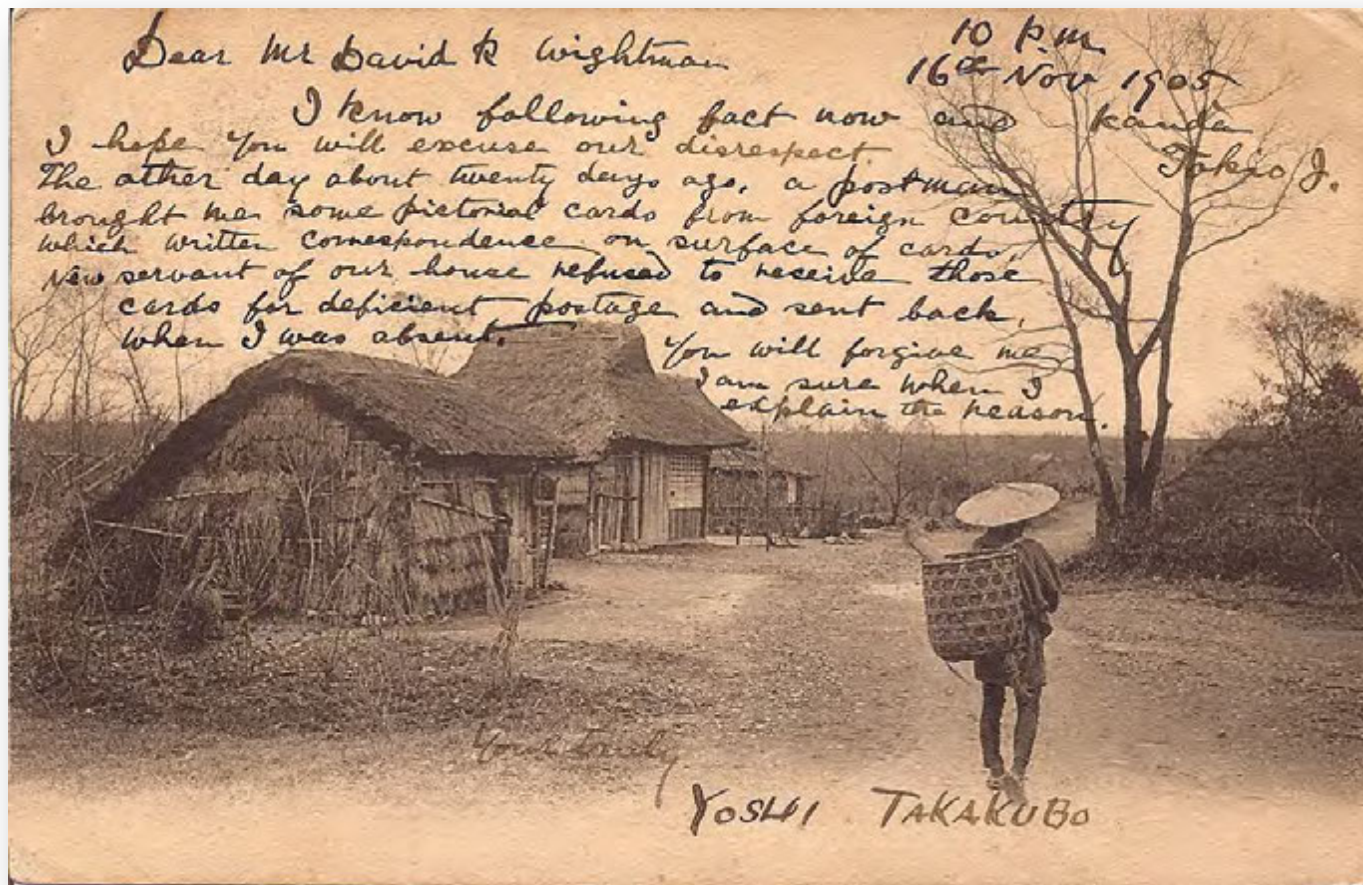
Benten-dori  
main street, Yokohama





Global circulation  
 of objects and images . . .

... and traces of **personal encounters** at a distance



(1905)

10 p.m. 16<sup>th</sup> Nov. 1905 Kanda Tokio J.

**“Dear Mr David R Wightman – I know following fact now and I hope you will excuse our disrespect.** The other day about twenty days ago, a postman brought me some pictorial cards from foreign country . . . . New servant of our house refused to receive those cards for deficient postage and sent back, when I was absent. You will forgive me I am sure when I explain the reason.

Your truly, YOSHI TAKAKUBO





Exposition Universelle 1900 Paris



St. Louis World's Fair 1904



Japan-British Exhibition 1910



Panama-California Exposition 1915 San Diego



# JAPAN IN THE WORLD



“Today we chin with China,  
and faraway Japan. . .” (1926)

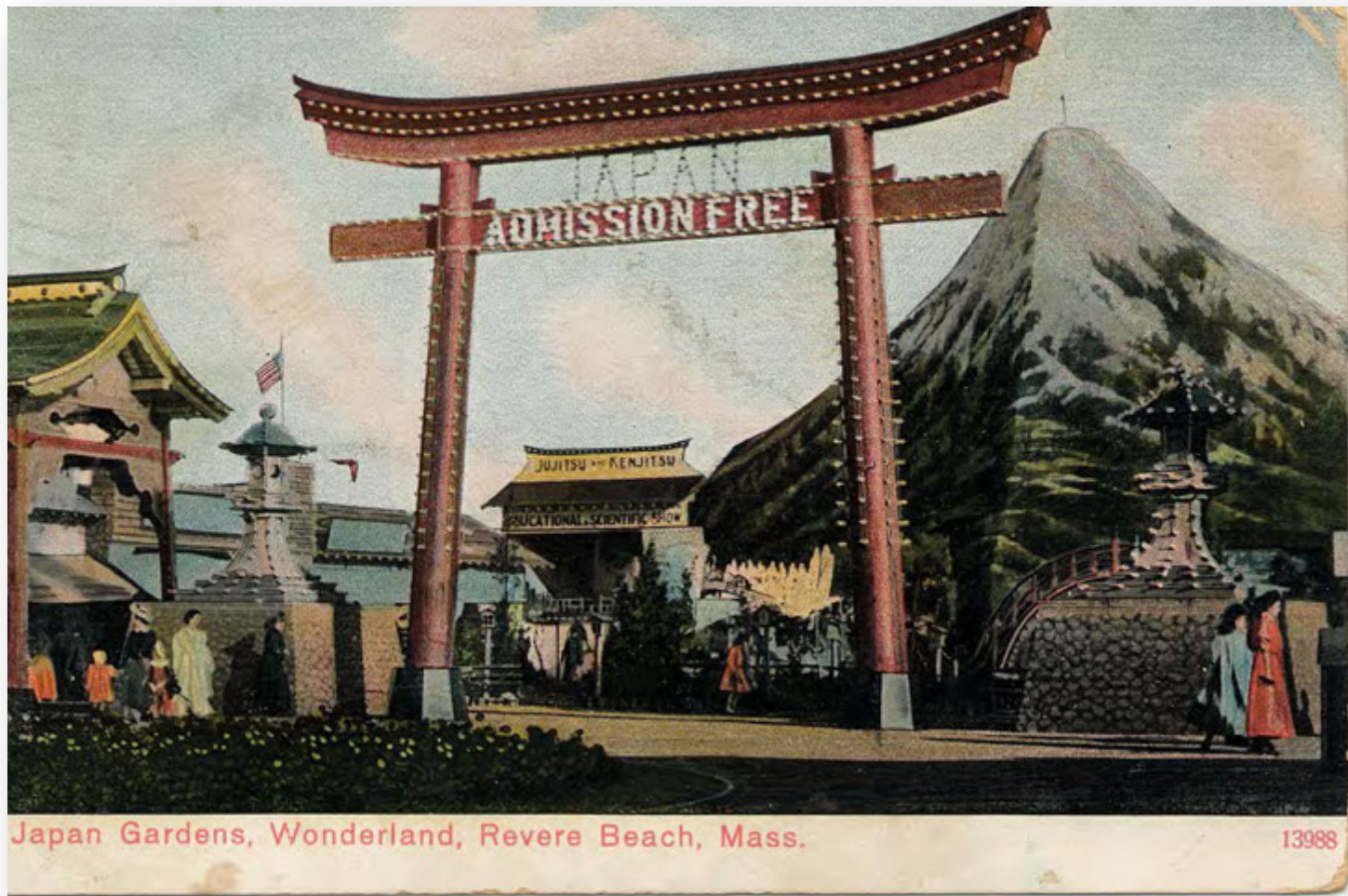
Y.M.C.A.  
(n.d.)  
→



“Japan’s mission  
is to harmonize  
the  
Civilization of the  
East and West”  
USA (n.d.)

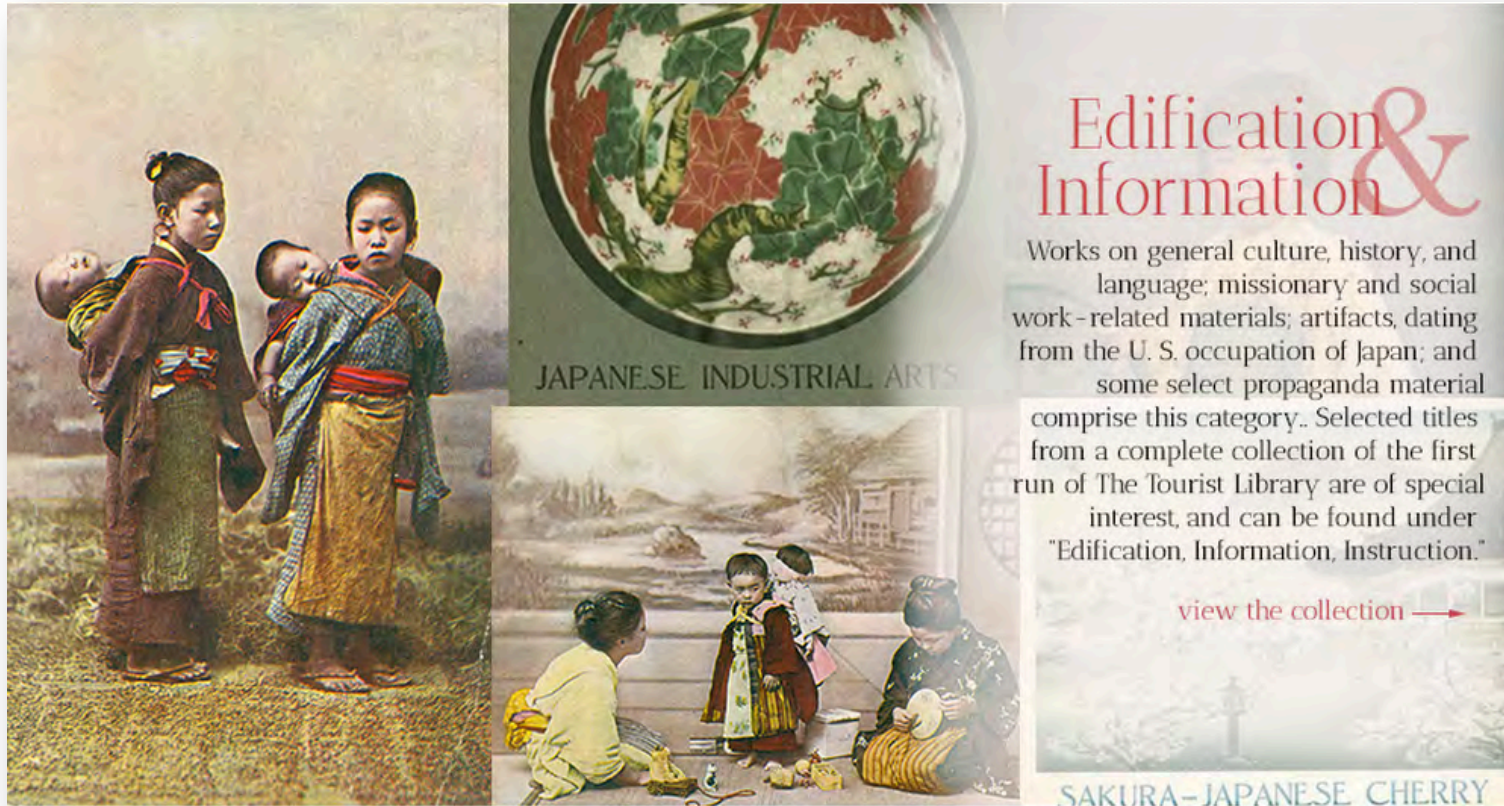


“For the Rights of Mankind” (1917)



*Japan conjured up as amusement park: Japan Gardens, Wonderland, Revere Beach, Massachusetts (1906-1911)*

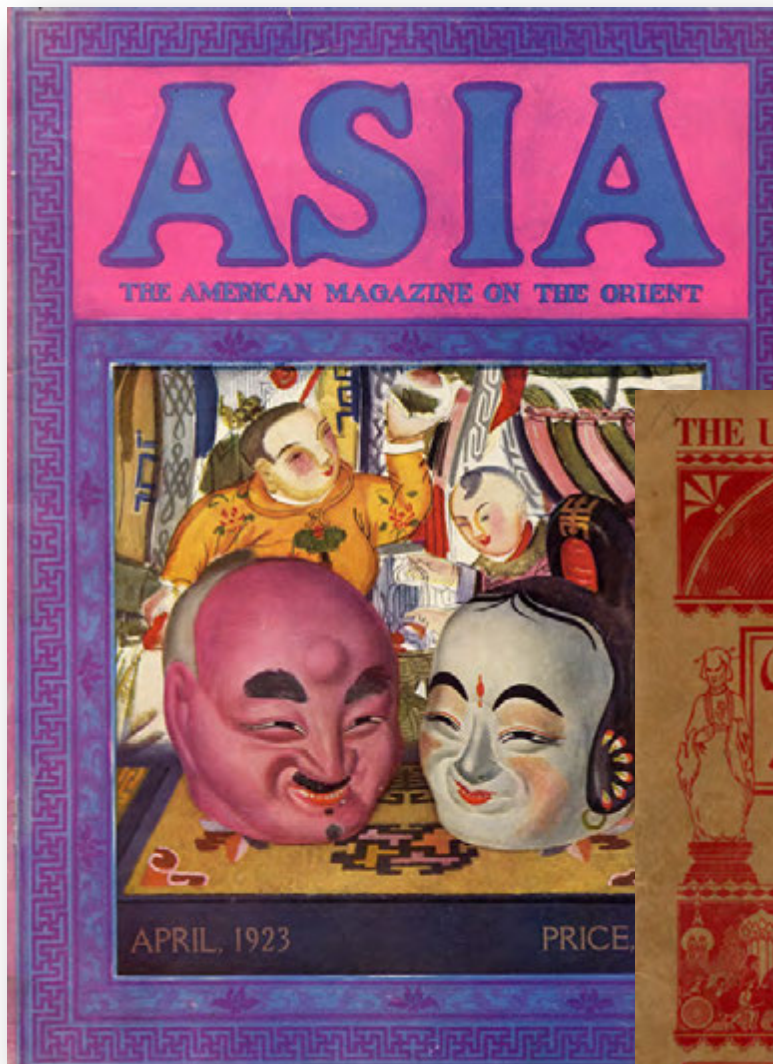




## EDIFICATION & INFORMATION:

General culture, history, language, social work,  
US Occupation (1945-1952), US WW II propaganda





1923



1916



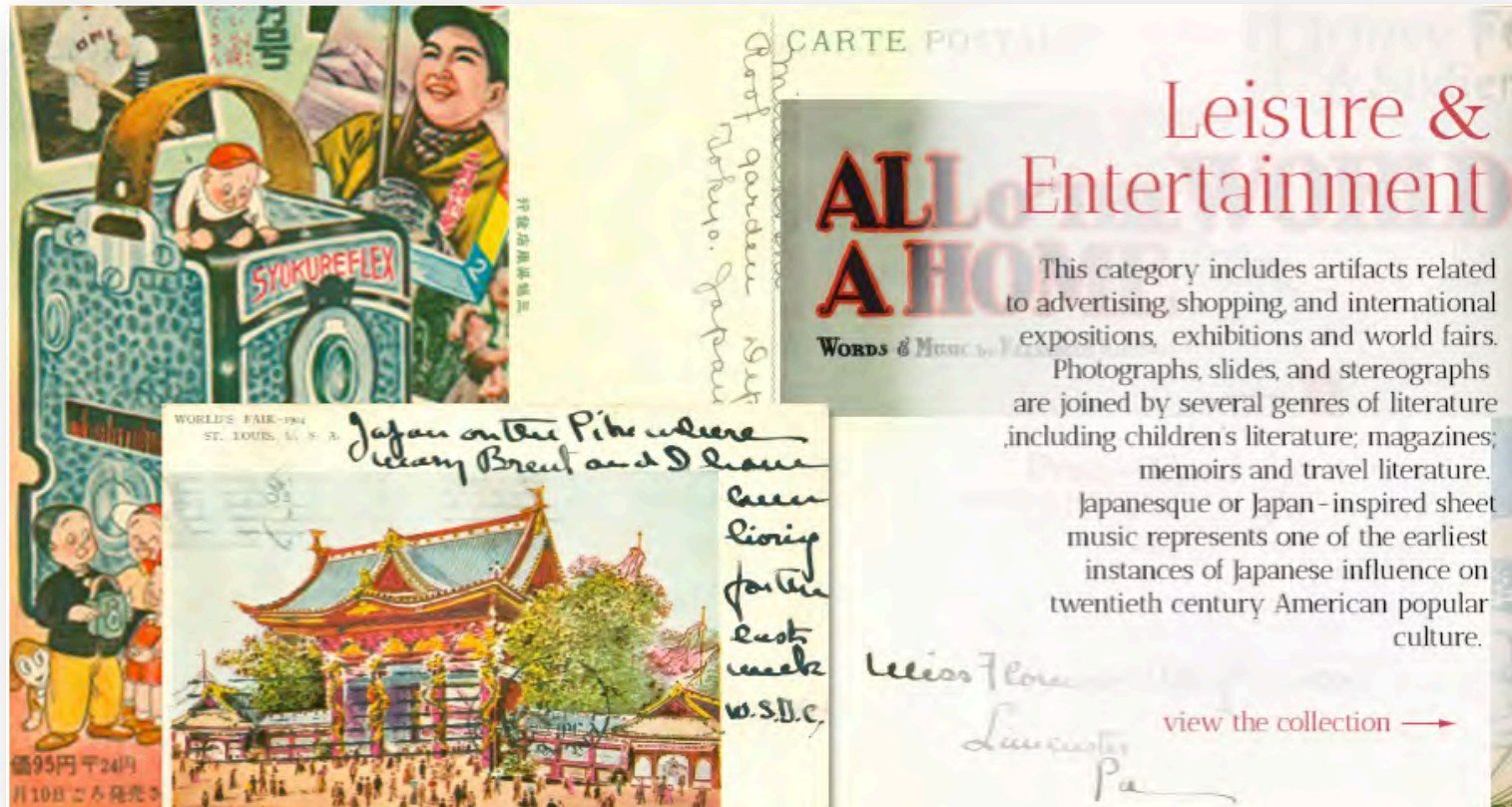
1935

Magazines, assorted publications



## Propaganda and Postwar Allied Occupation





## LEISURE & ENTERTAINMENT:

Advertising, shopping, World Fairs, Photographs,  
Slides, Stereographs, Literature, Sheet Music





Images,  
objects not  
of Japanese  
origin

Singer Co.  
promotional item:  
Popular  
consumption---  
product and  
edification

**JAPAN.**

THE Japanese are a progressive race, generally small of stature, but strong and graceful. They are patriotic and intelligent; even the lower classes being less ignorant than corresponding classes in Europe. The women, who enjoy much more freedom than their Asiatic sisters, have held an important place in the field of politics, of art and of letters. Gentleness of voice and manner, implicit obedience and politeness, are essentially characteristic of Japanese women.

A girl must, unless she be a nobleman's daughter, know how to cut and make clothing, wash it, and attend to all household duties. The picturesque, flowing dress, which has so long been associated with the Japanese, is fast disappearing in favor of the tight-fitting Paris fashions; but the women of the middle and lower classes, many of whom are engaged in manufactures, still cling to the older and more comfortable style shown in the illustration.

Singer agencies are to be found in the principal commercial cities of Japan, and the use of Singer sewing-machines is constantly increasing.

**But One Standard of Quality**

There are three distinct types of Singer sewing-machines for family use, but there is only one standard of quality—

**The Best.**

There is a wide range of prices, depending on the style of cabinet work and ornamentation, but whether the price be the lowest or the highest, the working quality of the machine is the same and has been fully tested before leaving the factory.



Sheet music: Orientalist  
fantasy and entertainment





Image 6 of 12  
 CLICK ON "READ MORE" TO LISTEN: Philip C. Carli (Piano), Lulu Cossich (Soloist). "An Oriental Serenade." Words by George Totten Smith, music by Emil Biermann. Published by Leo Feist, New York. Copyright 1902 by Leo Feist. [1073]


Read More

Previous Play Next full X Close



Yama San

100% 1 / 6



Listen to "Yama San"

2:45

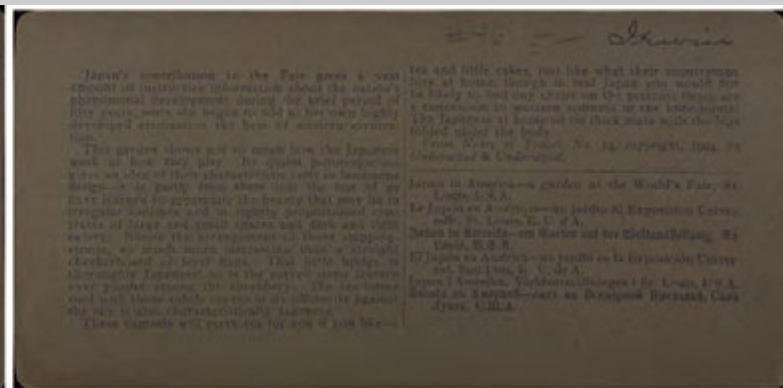
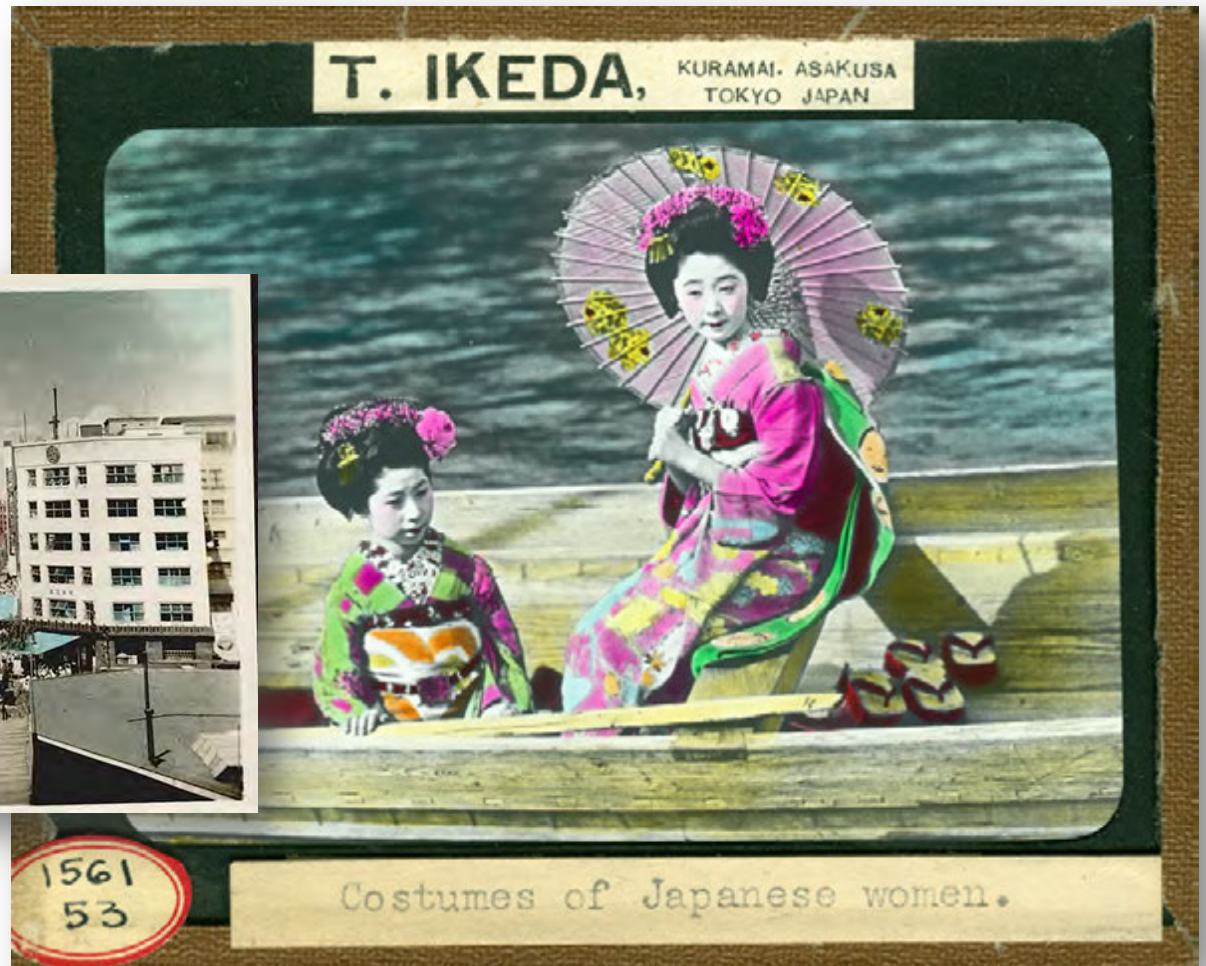
## RECORDED SHEET MUSIC

YAMA SAN (1902)

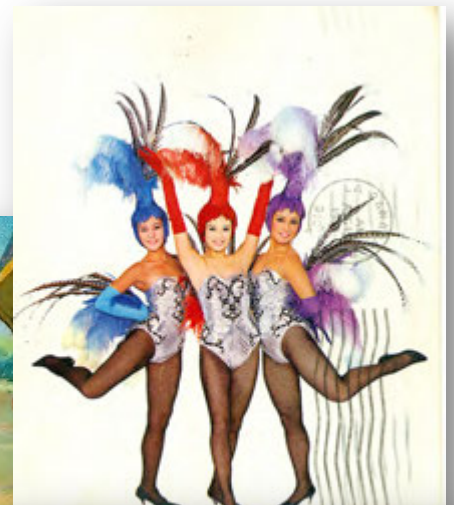
<http://rej.lib.rochester.edu/viewer/26>



## Photographs, Glass slides, Stereographs







Advertisements, entertainment, children's literature





## TOURISM & TRAVEL:

Brochures, Guide Books, Hotels, Travel (Air, Land, Sea)

# Travel Brochures, Postcards: Railways and Shipping Lines promotional material touting Japan as a “two-hemisphere attraction”



Board of Tourist Industry,  
Japanese Government Railways  
(n.d., c. late 1930s)



(n.d.)

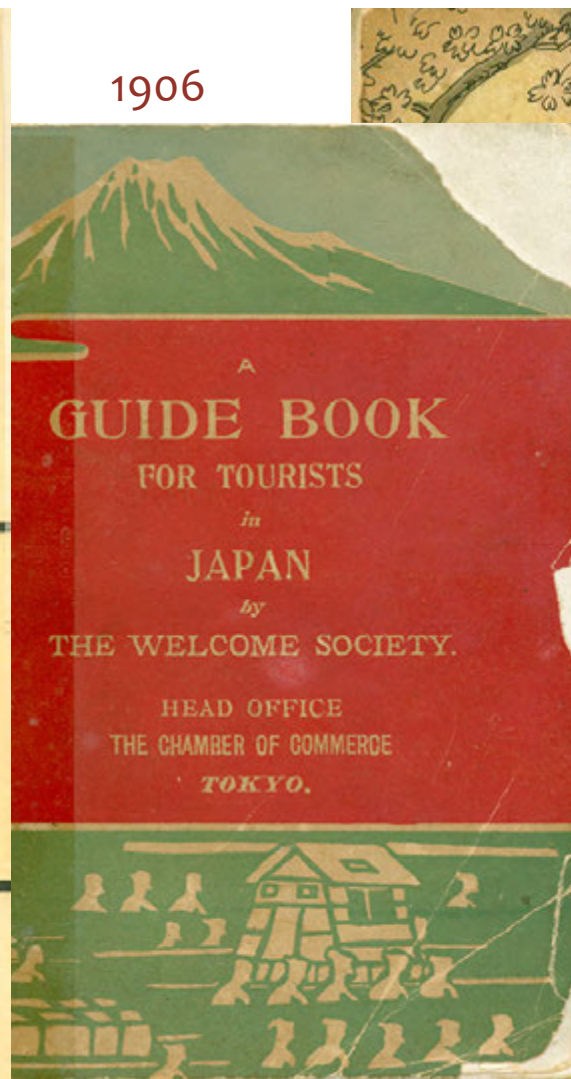


Nippon Yusen Kaisha (N.Y. K.  
Shipping Line) ephemera





1935



1906



Esperanto Guide, Japan Gov. Railways 1927

# THE FILMS



Moving images defined the 20<sup>th</sup> century in an unprecedented way--  
REJ includes recuperated 16mm, Regular (Standard) 8mm, Super 8mm  
& Archival films



# PEDAGOGY

*Japan an Introduction* (originally written and prod. By Wayne Mitchell)

Multiple variations, 1951-1998, as studied in “Tourist Japan” (2002-present)

# LOOKING FORWARD

- ENCOUNTERS
- “*ROUTES*”



**“Encounters:”** comprehending human experience on a granular level through narratives embodied by individual objects

## THE WORLD'S FAIR IN A NUTSHELL

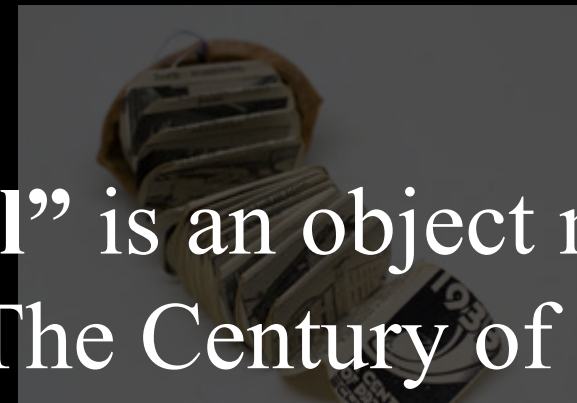
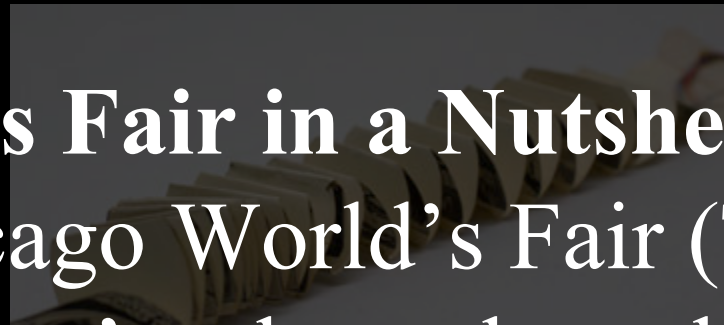
**“A CENTURY OF PROGRESS”**  
1933 Chicago World's Fair



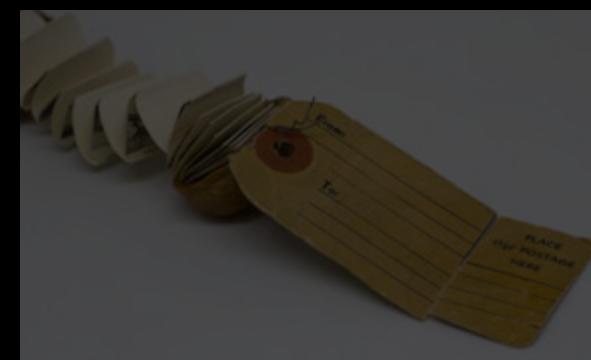


[Quicktime Movie]





**“The World’s Fair in a Nutshell”** is an object made for the 1933 Chicago World’s Fair (The Century of Progress Exposition). Let’s take a closer look at the Nutshell.







The nutshell is real.



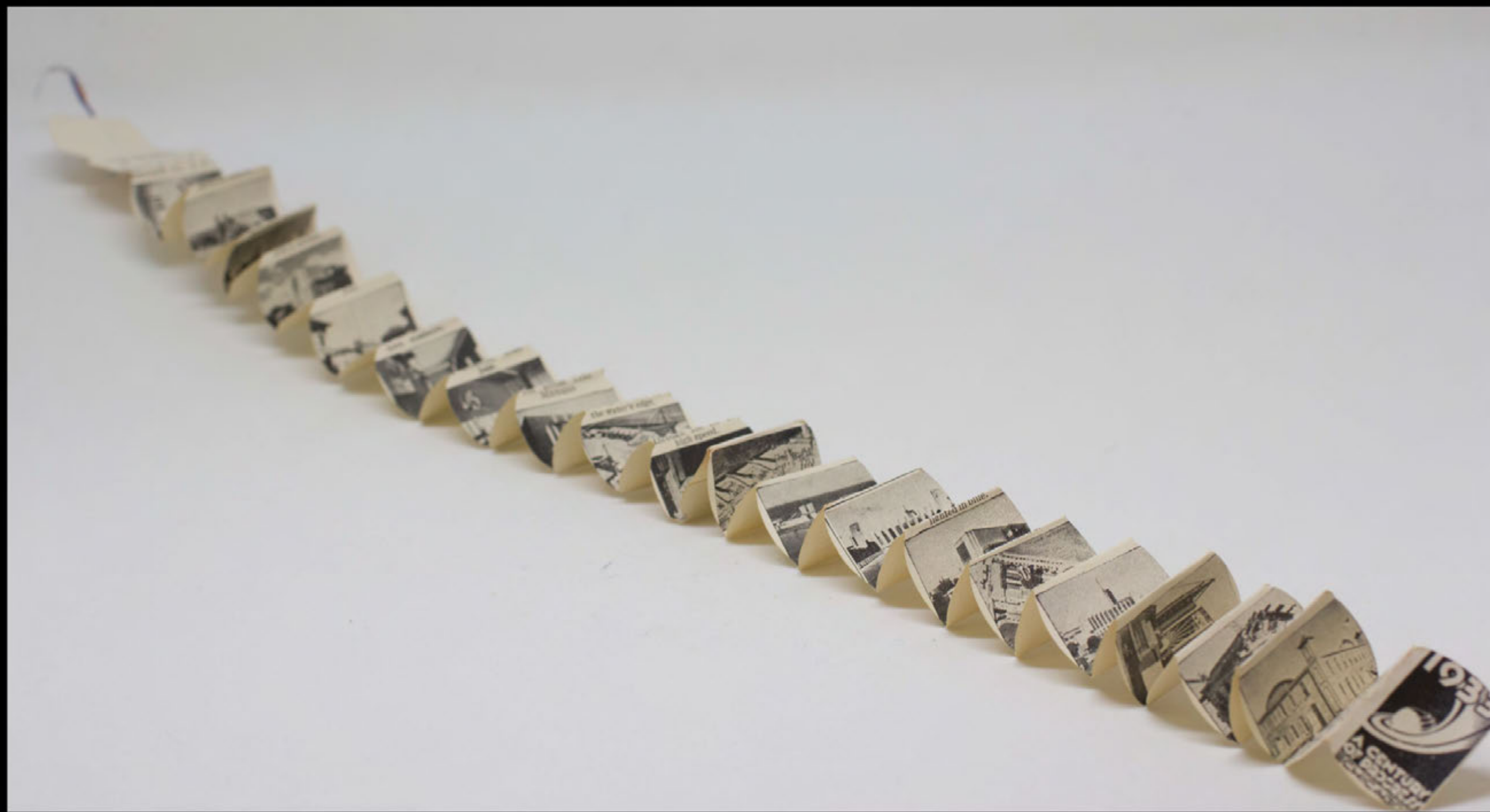


It opens.

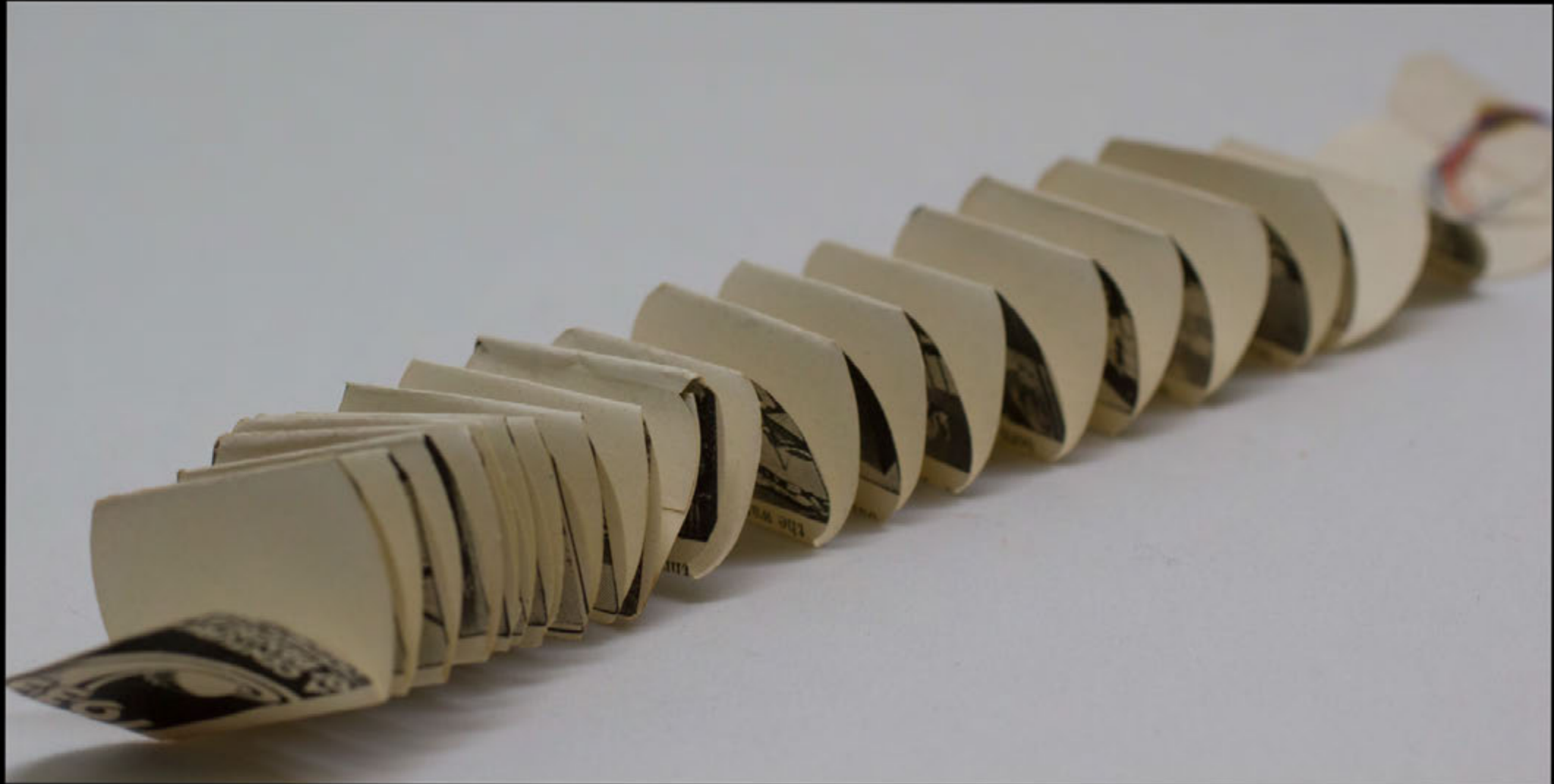




Tucked inside: a strip of paper, alternating images and text on accordion-style folds.







Photographs of fair locations alternate with descriptive captions. On the first fold: the Fair logo, date (1933) and theme, “A Century of Progress.”





Select locations include administrative buildings and re-creations of U.S. historical sites (e.g., “the Wigwam” and a log cabin replica of Abraham Lincoln’s birthplace).



These images and descriptions memorialize the past and celebrate the future.



**BLOCKHOUSE  
AND BARRACKS**  
Of the "Third Fort  
Dearborn." Near here  
stood the original block-  
house and barracks of the  
old fort whose inhabi-  
tants were victims in  
1812 of the Dear-  
born massacre.



**SIMPLICITY**  
Of modern architec-  
tural design is shown in  
this photographic study  
of the exhibition hall,  
through which all visitors  
to the Administration  
Building of A Century  
high speed.



Entertainment called the “Sky Ride” is referred to in the future tense—was the Nutshell made before the Fair opened?

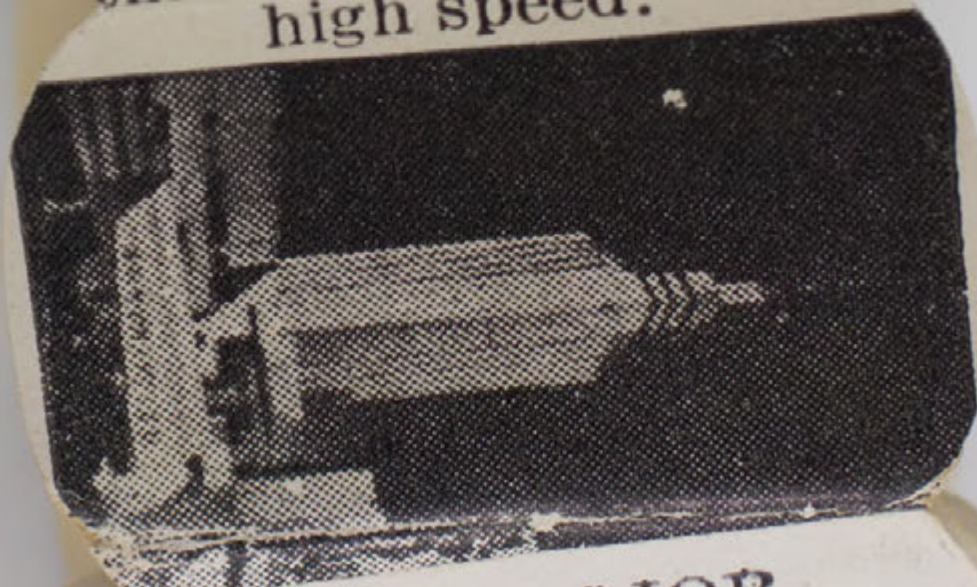


the water's edge.



### "SKY RIDE"

Will be one of the features of the Fair. Two steel towers 600 feet high and 2,000 feet apart will be connected by cables carrying rocket cars which will shoot through the air at high speed.



The Nutshell appeals to the imagination of the recipient.  
The “Sky Ride” promises high speed rocket cars shooting  
through the air—a novel, delightful experience!

One Nutshell half has a tag: “The World’s Fair in a Nutshell” (aptly named). This half of the shell has the brand stamp, “Diamond,” still used today.

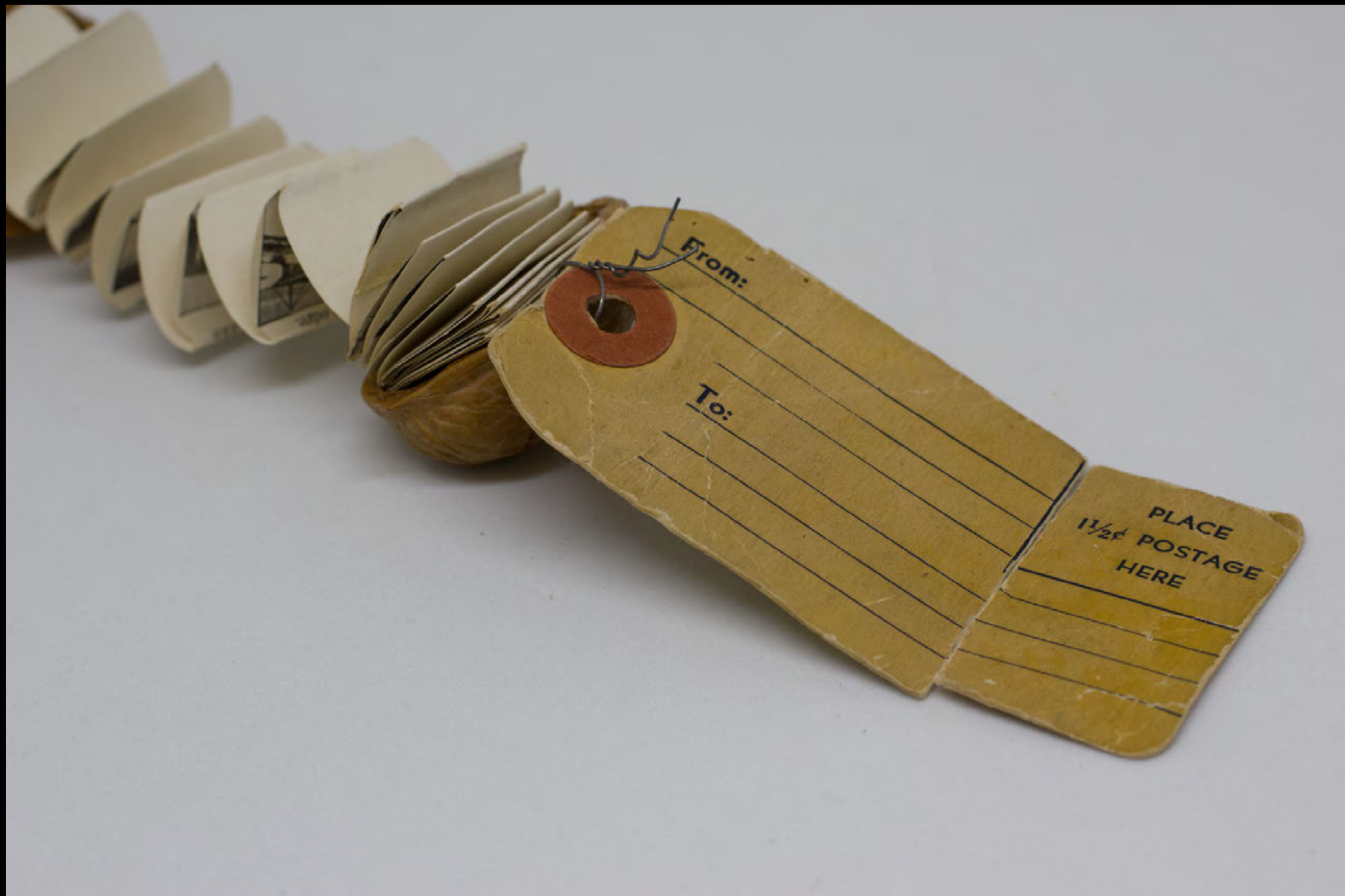






The tag is a mailing label. This also suggests the Nutshell might have been used to promote the Fair even before it opened.



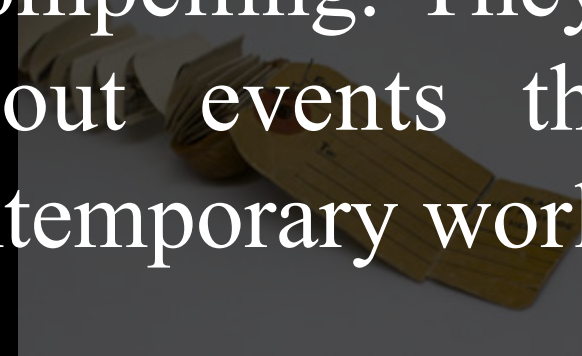
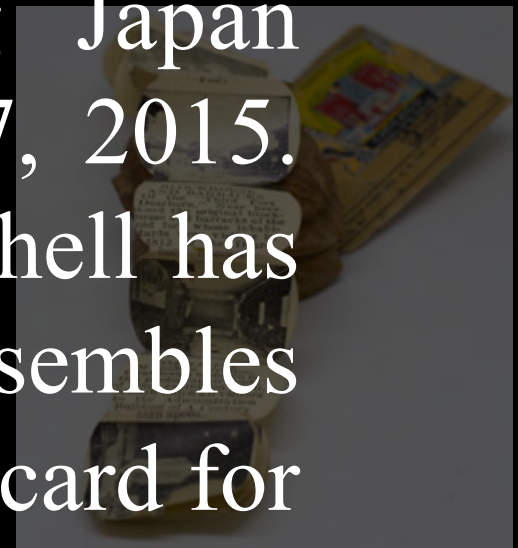
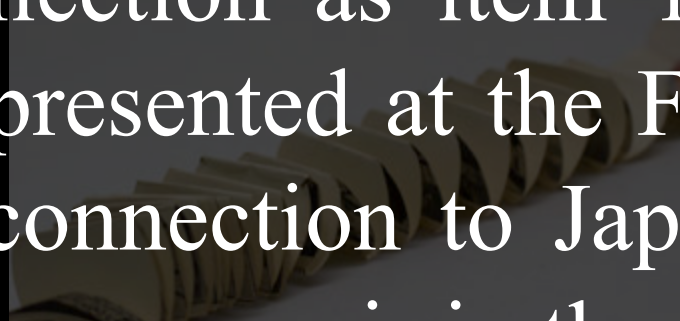
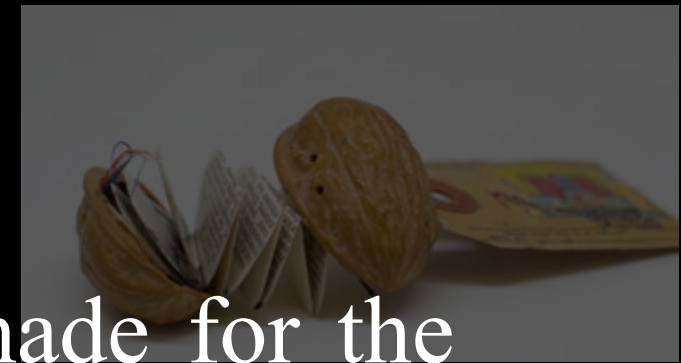


Visions of the future and technological progress are key to the Nutshell's rhetoric. "I WILL" is written beneath the "Spirit of Chicago;" building captions celebrate the simplicity of modern architecture; exhibits focus on emerging communication technologies.





**“The World’s Fair in a Nutshell”** was made for the 1933 Chicago World’s Fair (The Century of Progress Exposition). It entered the Re-Envisioning Japan Research Collection as item 1521 on Sept. 17, 2015. Japan was represented at the Fair, but the Nutshell has no apparent connection to Japan; its design resembles that of an older souvenir in the collection, a postcard for the 1911 Exposition de Charleroi Village Japonais. In hand, these small objects are compelling. They conceal a wealth of information about events that were microcosmic distillations of contemporary world views.





The A.C. Gilbert Co.  
Atomic Bomb  
Dexterity Toy  
c. 1945





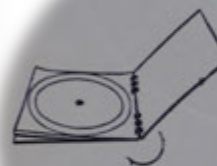


## *This is Japan in Sounds*

Asahi Sonopresse, 1960  
6 - 33 $\frac{1}{3}$  LPs (sonosheets)



### How to Use the Sono-sheets



Fold book flat at  
desired Sono-Sheet.

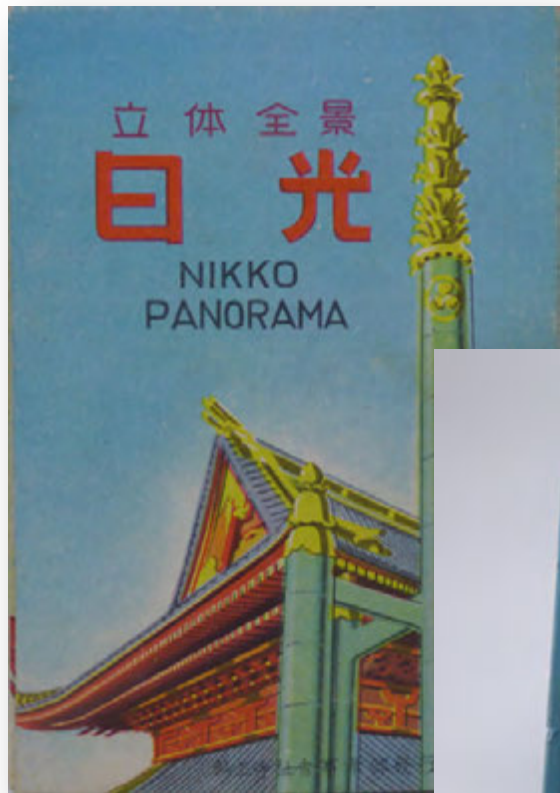


Attach plastic  
clip on book's  
open edge.



Place on play-  
er using 33  $\frac{1}{3}$   
speed.  
The records are  
one-sided,  
playing  
inc

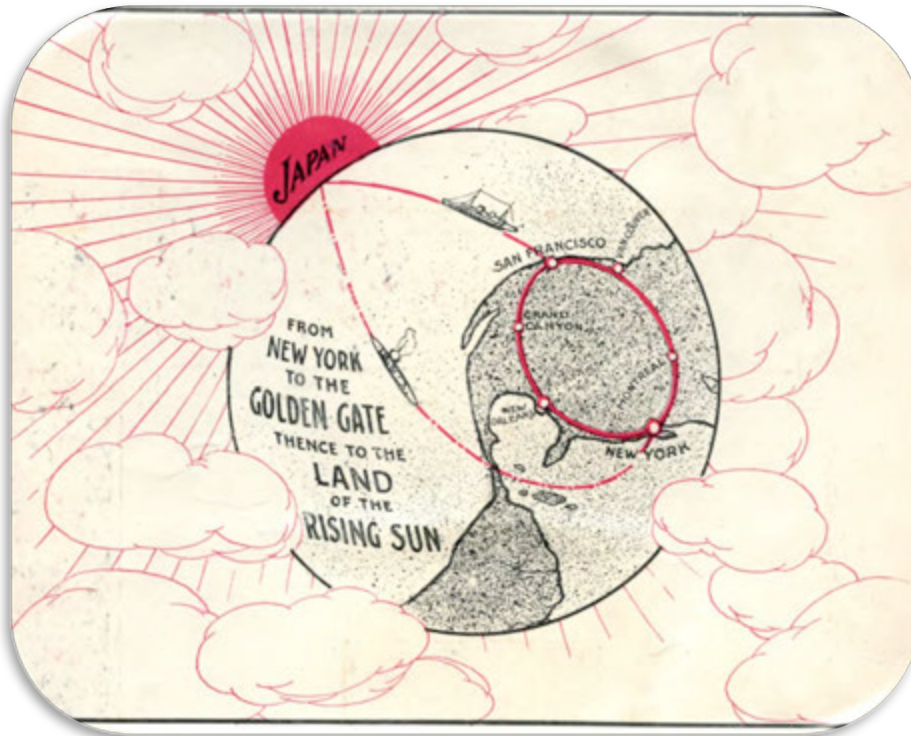




Nikko Panorama Postcard (n.d.)



**Multimodal scholarship:** accommodates the dynamic variety of human experience



**“Routes”** – a web-based publishing platform promoting an interdisciplinary community of practice for **object-based scholarship** and **pedagogy** for the study of **Japan** and **border crossings** between Japan and the wider world



*Recuperating Ephemeral Films:  
open source tools for digital restoration*

Josh Romphf,  
Programmer – Digital Scholarship Lab  
River Campus Libraries  
University of Rochester



# Digital Assets

Over 3TB of images  
~ 2TB of video

# Digital Assets

Originally, all access materials were hosted on a highly customized WordPress site.

Not an ideal situation for metadata curation, digital asset management, exposing item relationships, etc.

Hamstrung by modified plugins : (

# Digital Assets

Migrating well over 1000 multimedia elements to Omeka – allowing for rich item type metadata and streamlined plugin development.



# Digital Assets

Easier interoperability with newer frameworks not supported in popular content management systems.

REST API allows for decoupled or “headless” applications that extend beyond the CMS.

# Moving Image Pipeline

16mm + Super8 scanned @ Eastman Digital Services ->  
Apple ProRes 422

Thanks Kyle + Gordon!

8mm scanned @ George Eastman Museum -> .tif image  
sequences

Thanks Sophia + Jeff!

# Moving Image Pipeline

Automated Image Processing:

Denoising of 8mm scanner's camera artifacts

Automatic color grading (if necessary)

Slight dirt and dust removal

Recombination / animation of .tif image sequences for  
8mm scans



# Moving Image Pipeline

OpenCV – Computer Vision and Image Processing

Currently maintained by Willow Garage

A treasure trove of optimized image processing and  
machine learning algorithms

<https://github.com/opencv/opencv>

# Moving Image Pipeline

OpenCV – used primarily for localized denoising and inpainting (dirt and dust removal) / more experimental computer vision research

# Moving Image Pipeline

Also worth mentioning: OpenImageIO

Maintained by former Pixar developer

No computer vision – strictly for image processing (io)

Support for several industry standard image formats  
with a fairly high level API (DPX, Cineon, JPEG-2000)



# Moving Image Pipeline

FFMPEG – needs no introduction.

Used to optimize files for streaming and native browser playback (no plugins required)

# Moving Image Pipeline

Native browser video playback / HTML5 video support is somewhat of a nightmare

Producing 2 access files to cover all browsers:

H.264 encoding / mp4 container (Chrome, \*Firefox, Safari, Opera, IE)

VP9 encoding / webm container (Chrome, Firefox)

# Moving Image Pipeline

If any lower - level video player customization is desired, HTML5 video API is the only game in town for native browser support.

VideoJS – a highly customizable HTML5 player framework

<https://github.com/videojs/video.js>



# Digital Access

How do we represent archival moving images in a browser-based environment?

# Other Experiments

Computer Vision and Deep Learning

# Other Experiments

Frame boundary detection / image segmentation for  
access



DAY AN GOLF CLUB



# Other Experiments

Attempts at automated color correction for faded images:

Gray World

Histogram Equalization

Retinex (worked out the best!)



# Other Experiments

Retinex (Retina + Cortex) – developed by Edwin Land, founder of Polaroid.

An attempt at white balance that is more akin to how humans perceive color.

# Other Experiments

Torch – a deep learning framework for the Lua programming language



# Other Experiments

Image “style” transfer trained on MIT’s Places dataset.

Izuka, Simo-Serra, and Ishikawa

# Other Experiments



# Other Experiments

A case for “archival” training sets. If we can train from the ideal image, we can replicate its color map / profile.

# Other Experiments

Torch + Deep Flow (Ryan Baumann, Duke Collaboratory  
for Classics Computing)

Computing the optical flow between two images and  
blending them.





*[Learning about Japan/Agfa, 1937]*  
16mm amateur film, 4:38

*Digitizing Films in an Academic Context:  
Planning strategies for a  
large-scale collaborative project*

Nora Dimmock  
Assistant Dean for IT, Research and Digital Scholarship  
Director of the Digital Scholarship Lab  
University of Rochester

# Our Beginnings



# Films in the Larger Library Context





# The First Digital Turn in Libraries

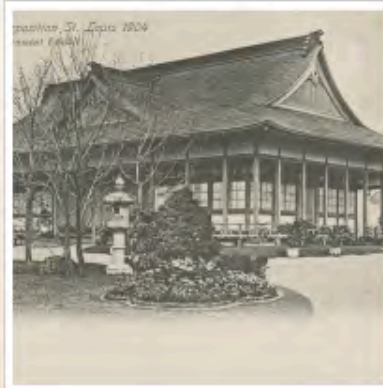
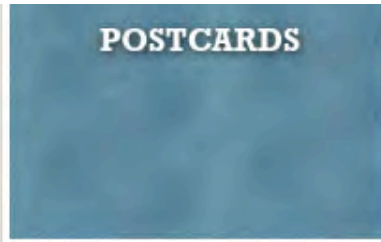
- Digitization as a preservation strategy
- Privileging of narrative over materiality



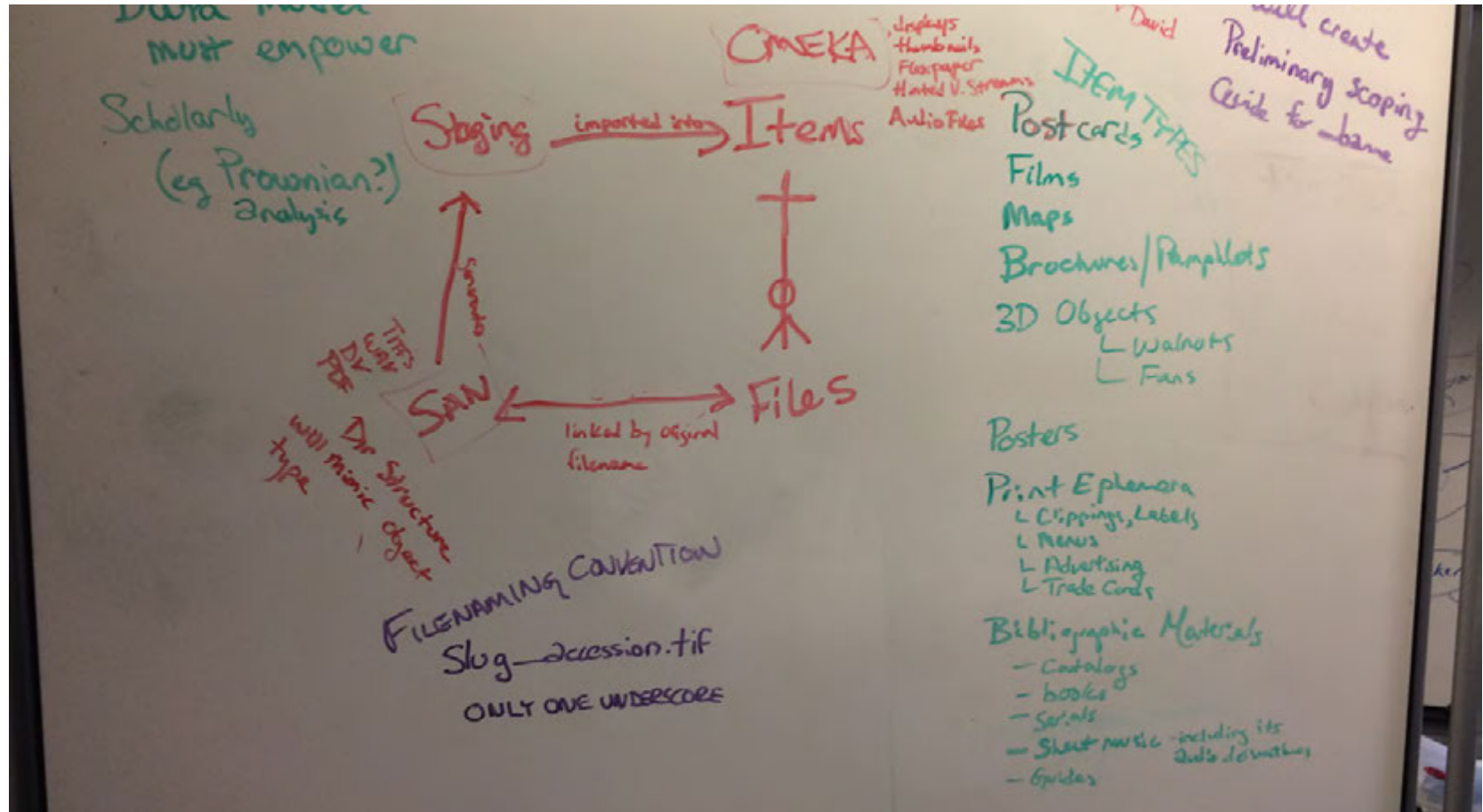
# Digital Humanities

- Opportunity to move from service point to partnership model
- Space to engage in disciplinary research
- Expanded role in faculty research
- Re-skilling and refocusing human and capital resources
- New frameworks for scholarship and research

# Re-Envisioning Japan



# Data and Metadata Modeling





# Full Circle

## rej\_film

- Title
  - Alternate Title
  - Series Title
- Description
  - Thumbnail
  - Condition
  - Edge Code
  - Gauge
  - Duration
  - Length
  - Process
  - Stock
  - Sound (y/n)
    - Type
    - Note
  - Color or B/W
- Creator
  - Producer\*
  - Director\*



# Re-Envisioning Digital Scholarship

- Object-based pedagogy and scholarship over text only modes
- Nod to visual and material culture studies
- Sneaking Film into Special Collections
- Humanists not programmers
- Research teams over web developers
- Engagement over transaction

<http://humanities.lib.rochester.edu/rej/>

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