Future Proof: Preserving and Providing Access to Columbia's Audio Visual Collections

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VRA 2020, Baltimore

16 June 2020



Background

- 2015: Libraries' Strategic Directions (SD) launched, Provost's Advisory Committee on Libraries re-convened
 - Expedited processing/cataloging, improve discovery/access
 - 2016 PACL report: special concerns over audiovisual formats and hidden collections
- 2016-2018: Hidden Collections & Preservation of Time-Based Media initiatives (SD Advance Knowledge)
- 2018-2019: Time-Based Media Pilot Project: Two concurrent phases
 - Previously digitized content unavailable to users (DCG)
 - Columbia Center for Oral History (CCOH)
- 2019-2021: Mellon-funded continuation (re-named AMI [Audio Moving Image])

Project Scope: Pilot phase, 2018-2019

Comprising special collections from:

- Rare Book and Manuscript Library
- Columbia Center for Oral History
- University Archives
- C.V. Starr East Asian Library
- Avery Fine Art and Architectural Library
- Burke Library at Union Theological Seminary
- Gabe M. Wiener Music & Arts Library
- Lehman Social Sciences Library / Global Studies Division

Material types:

- 10,000[~] physical objects: audio cassettes, audio reels, audio discs, videotapes, films
- 6,500[~] intellectual entities



Stakeholders

- Time-Based Media Initiative Steering Committee
- **Distinctive Collections Group (DCG)**: directors of special collections libraries (CUL)
- Columbia Center for Oral History (CCOH): curatorial, archival processing, metadata remediation and enhancement
- **Preservation and Digital Conversion Division (PDCD)**: digitization preparation, vendor liaison, quality control
- **Digital Library and Scholarly Technology (DLST)**: digital preservation, asset management, software and web development (including homegrown DAMS: Hyacinth)
- Original and Special Materials Cataloging (OSMC): metadata remediation and enhancement
- Additional staff implicated at all special collections units



Working across departments

Workflow: Previously digitized content (DCG))

TIME-BASED MEDIA DIGITIZATION - ARCHIVAL COLLECTIONS

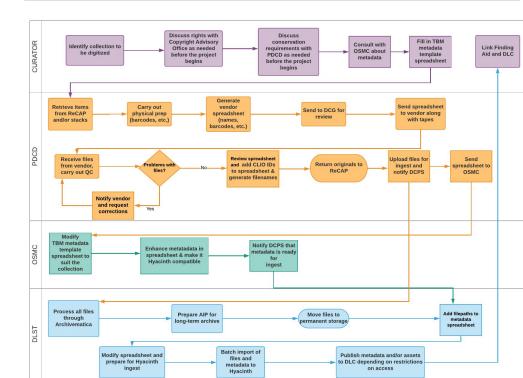
Departments:

Curator (Rare Book and Manuscript Library etc.)

Preservation & Digital Conversion Division

Original and Special Materials Cataloging

Digital Library & Scholarly Technologies



Collaboration points:

Violeta Ilik | May 21, 2019

Evaluating selections and preparing deadlines

Creating or augmenting initial metadata spreadsheet per collection with technical metadata

Remediating and enhancing metadata per specifications for ingest

Unifying descriptive, preservation, and technical metadata; publishing content

Digital Preservation at CUL

CUL Long-term Preservation Responsibility

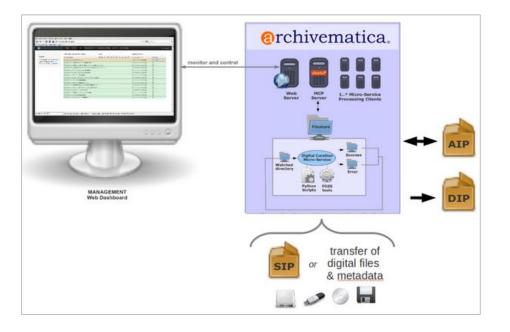
CUL is committed to preserving for the long-term:

- All master files (the highest-quality available version of the resource in an open, uncompressed file format) created as part of CUL collection digitization projects
- All master files created during external collection digitization projects that CUL assumes responsibility for preserving
- All digital content deposited into Academic Commons, our institutional repository, regardless of the file format
- Born- and delivered-digital resources that are accessioned as part of archival collections, regardless of the file format



Digital Preservation: Previously Digitized Content

Preservation of digital content using Archivematica



- Open-source OAIS-compliant digital preservation system
- Ingests Submission Information Packages (SIPs) and prepares standards-based Archival Information Packages (AIPs) for long-term storage
- Performs automated and customizable digital preservation actions
- Generates METS files containing technical, structural, descriptive, rights, and PREMIS preservation metadata



Digital Preservation: Previously Digitized Content

Archivematica: Content Preparation

Content pre-processing:

- Receiving AV content (preservation and access formats) from external vendor
- Quality Control
- Compiling Submission Information Packages (SIPs)
 - One or multiple SIPs for each collection, depending on the collection size
 - SIP size < 1.4 TB
 - Number of files in SIP < 20,000
- Resolving issues related to digital content and metadata

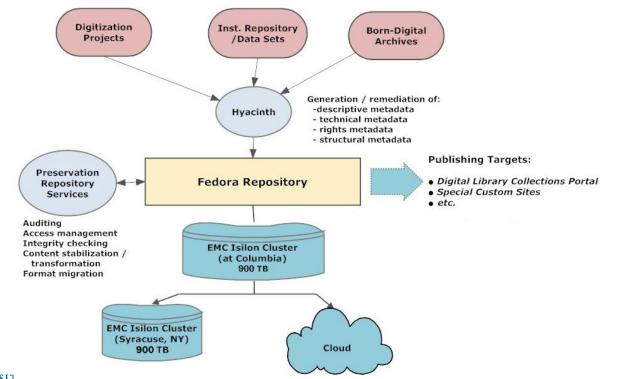
Challenges:

- Digitization was performed on project basis
- Digitization vendors as well as requirements to file formats, directory structure, and metadata varied between projects
- Digital content associated with the same project located in multiple places and needs to be consolidated



CUL Digital Preservation Architecture

Columbia University Libraries Digital Preservation Architecture



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What is Hyacinth?

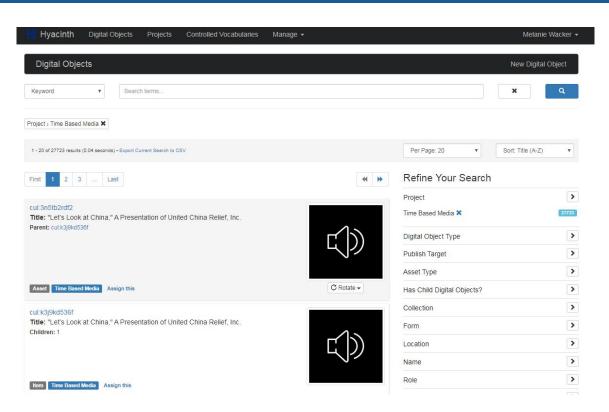
- Developed by CUL applications team
- Content management for a Fedora repository
- Input through web UI or .csv
- Controlled vocabulary management
- DOI registration (DataCite)
- Automated record creation
- Multimedia annotation



Wright, Frank Lloyd, 1867-1959 (Architect)



Metadata: Previously Digitized Content (DCG)



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Hyacinth: DAMS developed in-house

Hierarchical data model: Item (intellectual unit) Asset (file)

MODS-based: all data must be ported into MODS XML and output for front-end display

Data dictionary and local controlled vocabularies documented on CUL wiki

11

Metadata: Previously Digitized Content (DCG)

1	Repository	Collection Name	Barcode	Title	Original Format	Date	CLIO ID
2	RBML	Vladimir Babishvili		Act 3, sc. 1-2	audio analog reel		9501969
3	RBML	Vladimir Babishvili		N. Bregvadze, V. Godzaishvili	audio analog reel		9501969
4	RBML	Vladimir Babishvili	1 - 0	Cont. Georgian Songs	audio analog reel		9501969
5	RBML	Vladimir Babishvili	1	Godziashvili on Barat, part 1	audio analog reel		9501969

- Metadata received from preservation department in semi-standardized format
- Substantial intervention required
- Metadata remediated, enhanced and translated into hierarchical data model via LibreOffice/Google Sheets and OpenRefine
- Sheets commonly get unwieldy due to the need to accommodate complex fields in a flat format

A	В	Q	R	S	0
_project.string_key	_digital_object_type.string_key	title-1:title_sort_portion	restriction_on_access-1:restriction_on_access_value	use_and_reproduction-1:use_and_reproduction_term.value	use and reproduction-1:use and reproduction term.uri
TBM	item	Act 3, scenes 1-2	On-site Access	In copyright	http://rightsstatements.org/vocab/InC/1.0/
TBM	asset	Act 3, sc. 1-2 (master)			
TBM	asset	Act 3, sc. 1-2			
TBM	item	N. Bregvadze, V. Godzaishvili	On-site Access	In copyright	http://rightsstatements.org/vocab/InC/1.0/
TBM	asset	N. Bregvadze, V. Godzaishvili (master)			
TBM	asset	N. Bregvadze, V. Godzaishvili		200400000000000000000000000000000000000	
TBM	item	Cont. Georgian Songs	On-site Access	In copyright	http://rightsstatements.org/vocab/InC/1.0/



Metadata: Previously Digitized Content (DCG)

epository	Collection Name	Barcode	Title	Original Format	Date	CLIO ID	Physical Object	No. of Physical (Identifer (Intellectual item filename)
	Maryse Conde Paners	ohro048445	Club Horizon	Audio analog		10258879	1	1	RBML_MaryseConde_Club_Horizon_xxxxxxxx_10258879_01
Ap	ply Operation H	listory							ML_MaryseConde_Club_Horizon_xxxxxxxx10258879_01
2									ML_MaryseConde_Club_Horizon_xxxxxxxxx10258879_01
Pa	iste an extracted JS	ON history o	t operations to	perform:				12	ML_MaryseConde_Club_Horizon_xxxxxxxx10258879_01
	{							Î.	ML_MaryseConde_Conde_1231990_10258879_01
	"description" "oldColumnName "newColumnName	: "Rename e": "Repos	column Repository",		n-1:loca	tion_term.	value",		ML_MaryseConde_Conde_Heremakhonon_xxxxxxxx_102588
	{ "op": "core/co			ection Name to co	llection	-1:collect	ion term value"		ML_MaryseConde_Conde_Segou_xxxxxxxx_10258879_01
	"oldColumnName	e": "Colle	ction Name"	,		-1.0011000	ion_cerm.value ,		ML_MaryseConde_Conde_du_no_2_xxxxxxx10258879_01
	}, }			receion_cerm. outu	-				ML_MaryseConde_Conde_du_no_2_xxxxxxxx10258879_01
•	"description" "oldColumnName	: "Rename e": "Barco	column Barco de",			ternal_not	e_value",		ML_MaryseConde_Maximin_Interview_xxxx1984_10258879_0
	<pre>}, { "op": "core/te"</pre>	ext-transf	orm",						
	Maryse Conde Mon248445 Club Horizon Audio analog 10258879 1 1 RBML_MaryseConde_Club_Horizon_x0000000, 10256 pply Operation History Mu_MaryseConde_Club_Horizon_x0000000, 10256 Mu_MaryseConde_Club_Horizon_x0000000, 10256 Mu_MaryseConde_Club_Horizon_x0000000, 10256 research ************************************								
	"expression":	"grel:val	ue.replace()					-	
4								 Ii 	
Pe	"expression": "onError": "ka	"grel:val eep-origin	ue.replace()					• //	

Processing metadata in OpenRefine

Five JSON task lists

- a) Initial standardization
- b) Pre-reconciliation
- c) Post-reconciliation
- d) Column sort
- e) Generate item/asset structure



Working across departments

Workflow: Columbia Center for Oral History (CCOH)

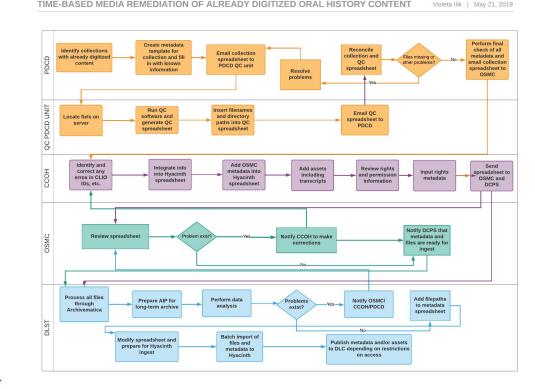
Departments:

Preservation & Digital Conversion Division

Curator (Oral Histories)

Original and Special Materials Cataloging

Digital Library & Scholarly Technologies



Collaboration points:

Identifying what oral histories had been previously digitized and collating assets (audio, transcripts

Developing metadata standards for oral histories, remediating legacy records

Refining asset structure to account for legacy practice of recording multiple oral histories onto single master tape

Unifying descriptive, preservation, and technical metadata; syncing ILS and DAMS metadata; publishing content

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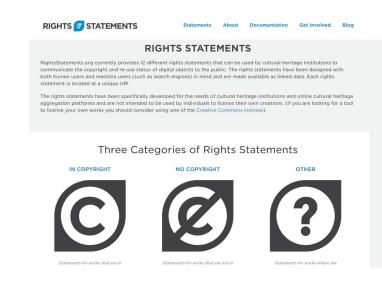
Side implications of project

Accessibility/usability of materials: from separate Carnegie grant project

- Rights module for parsing and displaying restrictions
- Synchronized transcription for oral history audio/video

Collection management

- Inventories
- Reference priorities





Hyacinth and Collection Maintenance

Hyacinth Digital Objects Controlled Vocabularies Manage -

« Digital Objects

Manage Child Assets New Child Asset G Parents

Item: Oral history interview with Alexander Barkan 1966

Project:	Time Based Media	
PID:	cul:280gb5mnfw	
DOI:	doi:10.7916/d8-w1bz-bc63	
Child Objects:	3 Child Objects »	
View As:	JSON, MODS XML	
Item History:	Record Info	



Alex Whelan -

« Back to Parent

Item: Oral history interview with Alexander Barkan 1966

Project Time Based Media PID: cul:280gb5mnfw

3 Total

4

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Child Digital Objects

Descriptive Metadata

Title	
Sort Portion	Oral history interview with Alexander Barkan 1966
Collection 1	
Value	Social security project
Name 1	
Value Primary?	Barkan, Alexander E true
Role 1	
Value	interviewee
Name 2	
Value	Corning, Peter A., 1935-
Role 1	
Value	interviewer

PID: cul:4mw6m907jv Title: audio Original Filename: CCOH_Barkan_Alexander_13556857_01_r.wav Asset

PID: cul:d51c59z209 Title: transcript Original Filename: CCOH_Barkan_Alexander_4072361.pdf Asset

PID: cul:kh189321b4 Title: master audio part 2

Original Filename: CCOH_Arner_Fred_13556132_01_02_m.wav

Item view

Child assets list



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Save

Hyacinth and Collection Maintenance

Hyacinth Digital Objects Controlled Vocabularies Manage - Alex Whelan -

« Digital Objects

🖸 Transcript 🖸 Annotation 🖸 Synchronized Transcript 🖸 Captions 🗹 Parents Assign This Edit

Asset: master audio part 2

Project:	Time Based Media	Asset			
PID:	cul:kh189321b4				
01:	doi:10.7916/d8-skyj-q961				
Parents	cul:6m905qfwqn, cul:280gb5mnfw		Rights		
View As:	JSON, MODS XML XACML XML		-		
Asset History:	Record Info		Restriction on Access [Depre-	cated] 1	😑 🗕 🕈 🛨
Original Filename:	CCOH_Arner_Fred_13556132_01_02_m.wav		Value		
Original File Path:	/CCOH_SocialSecurityProject_4072542/Rendered/CCOH_Arner_Fred_13556132/Master /CCOH_Arner_Fred_13556132_01_02_m.wav	•	Use and Reproduction		
Download Original:	Download (629.59 MB) [629585302 bytes]		Value	In Copyright 🔀	
Filesystem Location:	/digital/preservation/RBML/tbm/RBML_CCOH_SocialSecurity_001-1cf1e681-9f17-40de- bb6e-		Embargo Release Date		
	e99a1256f37d/data/objects/CCOH_SocialSecurityProject_4072542/Rendered/CCOH_Ar ner_Fred_13556132/Master/CCOH_Amer_Fred_13556132_01_02_m.wav		Date	YYYY-MM-DD	
Download Service Copy:	N/A	View Media	Copyright Note 1		🗖 🖡 🕇 🛨
Service Copy Location:	N/A		Value		
Download Access Copy:	Ownload (35.49 MB) [35487678 bytes]				
Access Copy Location:	/digital/access/derivativo/9b/a4/dt/9ba4dtf446918afd2fb8c520957583322431009dd95c22 c5c22dac2645646a25/access.m4a				B
Checksum:	sha256:335550a8037fcf251333c6f4ac315f3404d342b12632bb5bd200b0bb79d7808d		Published Access	Control	

Descriptive Metadata

Title			
Sort Portion	master audio part 2		
Physical Information			
Form 1 Value			
Value	sound recordings		

Asset view



Restriction on Access 1		🚍 + + 🛨
Value	Closed	¥
Restricted Access Location 1		🚍 + + 🛨
Location Term	- Select a value -	
Asset Embargo Date	YYYY-MM-DD	
Restricted Access Affiliation 1		= + + =
Value		

Identifiers

cul kh189321b4	- +
dfd1141c-45a0-4da1-8805-f91a02ec2230	- +

Editing view

Published Access Control

Hyacinth and Collection Maintenance

Rights		DIGITAL COLLEC	TIONS Start a new search
Use and Reproduction			
Value	In Copyright	Ferguson, Herma	n, 2003 June 27 🔊
Published Access Control			the reading room of the Rare Book & Manuscript Library. Please make arrangements in advance of your visit. Contact rbm@ilbrary.columbia.edu.
Restriction on Access 1			
Value	On-site Access	Name	Ferguson, Herman Benjamin (Interviewee); Marable, Manning, 1950-2011 (Interviewer,Former owner)
Restricted Access Location 1		Title:	Ferguson, Herman, 2003 June 27
Location Term	Reading Room, Rare Book & Manuscript Library, Columbia University		Malcolm X Project records, 1960-2008 Series VII: Oral Histories, 2001-2009. Box no. Box 18, MS#1735
Destriction on Access 2		Subjects:	African American Muslims; Black nationalism; African American civil rights workers; United States; Ferguson, Herman Benjamin; X, Malcolm, 1925-1965; Organization of Afro-American Unity
Restriction on Access 2		Format:	oral histories; video recordings
Value	Specified Group/UNI Access	Place of Origin:	New York (N.Y.)?
Destricted Assess Affiliation 4	Son construction (International and the special sector)		June 27, 2003
Restricted Access Affiliation 1			1 video file (176 minutes)
Value	LIB role-ext-TimeBasedMedia		Original format: VHS
		Language: Library Location:	English Rare Book & Manuscript Library, Columbia University Browse Location's Digital Content

On-site access example



Collections Access during COVID-19

DIGITAL COLLEC	TIONS Start a new search Q								
KK 5 of 9 ← →									
Ferguson, Hermar	n, 2003 June 27 🔊								
This item is accessible in the reading room of the Rare Book & Manuscript Library. Please make arrangements in advance of your visit. Contact rbml@library.columbia.edu. Online access to this material is restricted to the Columbia University community and is made available as a temporary emergency measure during the COVID-19 health crisis. Use of this material may be subject to the copyright law of the United States (Title 17, United States Code) or to license or other rights management terms and conditions. The person using the materials is solely responsible for assessing whether the material is copyright protected, whether their intended uses are fair or whether permission is required for their uses from the copyright owner. For more information about copyright, fair use and permissions, refer to Columbia University Library's Copyright Advisory Services at https://copyright.columbia.edu. Columbia University affiliates may log on for access to this content here.									
Name:	Ferguson, Herman Benjamin (Interviewee), Marable, Manning, 1950-2011 (Interviewer,Former owner)								
Title:	Ferguson, Herman, 2003 June 27								
Collection Name:	Malcolm X Project records, 1960-2008								
Archival Context:	Series VII: Oral Histories, 2001-2009. Box no. Box 18, MS#1735								
Subjects:	African American Muslims; Black nationalism; African American civil rights workers; United States; Ferguson, Herman Benjamin; X, Malcolm, 1925-1965; Organization of Afro-American Unity								
Format:	oral histories; video recordings								
Place of Origin:	New York (N.Y.)?								
Date:	June 27, 2003								
Physical Description:	1 video file (176 minutes)								
Note:	Original format: VHS								

Online Access for Columbia users during COVID-19



Challenges

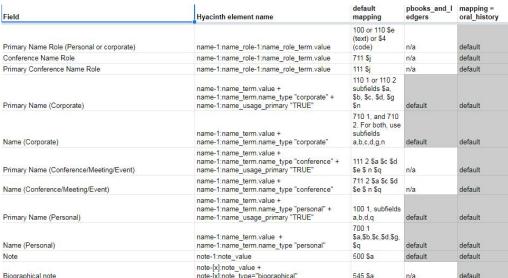
Scale of Operation

- Project planning around earlier steps
- Overlapping project deadlines
- Bottlenecking
- Cross-departmental communication

Production hurdles

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- The nature of audio-visual metadata
 - Working with legacy metadata
 - Creating minimal-level standards
- Changes in requirements
 - File specs (e.g. "rendered" files)
 - Item/asset structure vs. asset-only (regularly enabling new metadata fields)
 - Mapping MARC-to-Hyacinth (homegrown DAM)
- Re-designing digital asset management in real time
 - Hyacinth 3



Project Documentation, Communication & Tracking

- Project documentation on the DLST Project Wiki -- including tracking spreadsheet
- Data Dictionary Wiki documenting commonly used elements for audio/visual materials
- Metadata Wiki documenting decisions, files and notes
- Hyacinth Column Headings Wiki containing directions on conversion to ingest format
- OpenRefine Wiki documenting conversion scripts and GREL code snippets
- JIRA for specific technical issues



Project Documentation, Communication & Tracking

2) Frank Lloyd Wright audio (Taliesin Fellowship Talks) (approved by Dina 7/9/2019) (IN HYACINTH)

PRD Metadata for Remediation (posted 07/03/2019)

AIP file inventory

OSMC remediated metadata (posted 8/15/2019; csv generated via LibreOffice)

Remediated metadata completed by DLST (8/26/2019)

Content and metadata imported to Hyacinth (9/5/2019). (need permission to see it. Please email Violeta at vi2143@columbia.edu for access)



Project Statistics & Assessment

Name of Collection / Content (with link to CLIO collection record)	Custodia I Division	PDCD Spreadsheet Posted (with link)	physical		number of	Number of Master Files	(with date if	OSMC Revised Spreadsheet Posted (with link)	through Archivematica	Content ingested into Hyacinth (with Hyacinth link)	Content published to DLC (staging)	Content published to DLC production	Completed?
Totals			4165	5816	5302	6043							
Abe Kobo Collection	Starr	11/12/2018	1	1	1	2	11/13/2018	12/06/2018	<u>11/16/2018</u>	12/14/2018	12/14/2018	07/18/2019	Y
Abraham Anderson interviews with Diana Trilling	RBML	07/05/2019	4	1	1	6	07/09/2019	07/18/2019	7/9/2019	07/29/2019	07/29/2019	07/29/2019	Y
Albert Ellis Papers	RBML	01/19/2019	1	1	1	2	01/29/2018	01/29/2018	<u>1/29/2019</u>	01/31/2019	01/31/2019	07/18/2019	Y
Albert Goldman Papers	RBML	11/12/2018	207	181	172	324	11/13/2018	02/19/2019	<u>12/6/2018</u>	02/27/2019	02/27/2019	07/18/2019	Y
Albert Goldman Papers Pt. 2	RBML	01/03/2019	5	5	??	6	01/04/2019	04/16/2019	<u>1/10/2016</u>	04/19/2019	4/19/2019	07/18/2019	Y
American Bureau for Medical Aid to China Records	RBML	02/19/2019	28	22	22	38	03/27/2019	05/07/2019	<u>6/19/2019</u>	07/09/2019	7/9/2019	07/18/2019	Y
Amiri Baraka Papers	RBML	09/26/2018	225	194	183	379	09/26/2018	10/24/2018	<u>10/10/2018</u>	<u>11/14/2018</u>	12/14/2018	07/18/2019	Y
Amos Vogel Papers	RBML	11/12/2018	1	1	1	1	11/13/2018	12/4/2018	<u>11/16/2018</u>	12/14/2018	12/14/2018	07/18/2019	Y
Andrew W. Cordier Papers	RBML	10/01/2018	51	38	38	63	10/01/2018	11/27/2018	10/09/2018	12/03/2018	12/14/2018	07/18/2019	Y
Angelika Balabanova Sound Tapes	RBML	07/24/2018	11	5	5	11	7/24/2018	08/02/2018	09/12/2018	10/25/2018	12/14/2018	07/18/2019	Y
Arthur Mitchell Collection	RBML	11/12/2018	43	41	40	43	<u>11/13/2018</u>	04/16/2019	02/01/2019	4/19/2019	4/19/2019	07/18/2019	Y
Bella Abzug Papers	RBML	01/08/2019	42	40	35	55	4/16/2019	05/01/2019	6/14/2019	6/25/2019	6/25/2019	07/18/2019	Y
Barbara Curtis Adachi Bunraku Collection	Starr	11/12/2018	7	7	7	14	11/13/2018	12/10/2018	<u>11/16/2018</u>	01/10/2019	01/10/2019	07/18/2019	Y
Barney Rosset Papers	RBML	11/12/2018	1	1	1	1	11/13/2018	12/12/2018	<u>11/16/2018</u>	01/17/2019	01/17/2019	07/18/2019	Y
Bob Fass (TBM)	RBML	COMPLETED		2381	2381			9/26/2019	8/17/2019 (9 inventory files)	2019	2019	2019	Y
C L R James Papers	RBML	11/12/2018	6	6	6	10	11/13/2018	12/17/2018	<u>11/16/2018</u>	01/17/2019	01/17/2019	07/18/2019	Y
Chaliapin Family Papers	RBML	11/12/2018	1	1	1	1	11/13/2018	12/26/2018	<u>11/16/2018</u>	1/2/2019	01/02/2019	07/18/2019	Y
Chinese Independent Film Archive: Zi'en Cui	Starr	09/06/2018	2	1	1	2	09/06/2018	09/07/2018	09/27/2018	10/23/2018	12/14/2018	07/18/2019	Y
Cecile Starr Papers	RBML	<u>11/12/2018</u>	1	1	1	2	11/13/2018	12/12/2018	<u>11/16/2018</u>	01/17/2019	01/17/2019	07/18/2019	Y
Columbia University historical recordings collection	RBML	01/08/2019	8	8	8	12	01/16/2019	01/31/2019	<u>2/15/2019</u>	02/27/2019	02/27/2019	07/18/2019	Y
Columbia University Media Collection	Univ Arch	12/14/2018	2	2	2	3	01/02/2019	01/03/2019	<u>1/15/2019</u>	01/22/2019	01/22/2019	07/18/2019	Y
Columbiana Library	Univ Arch	12/17/2018	1	1	1	2	01/02/2019	03/25/2019	01/15/2019	04/17/2019	04/17/2019	07/18/2019	Y
Conant Audio-Visual Collection	Starr	02/14/2019	83	74	70	87	2/14/2019	07/09/2019	06/07/2019 (2 inventory files)	8/5/2019	8/5/2019	8/5/2019	

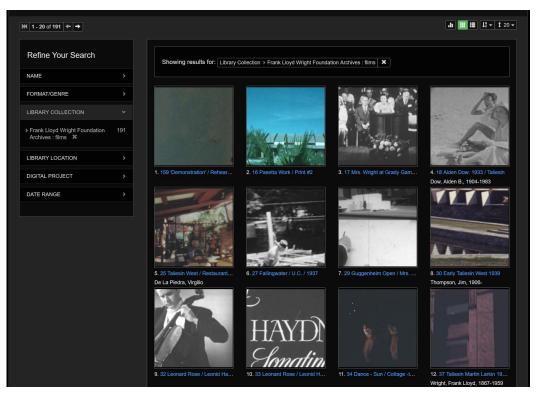


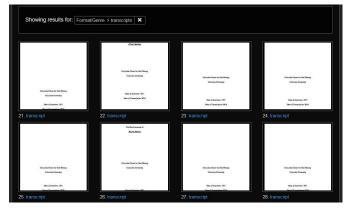
Unhiding the past

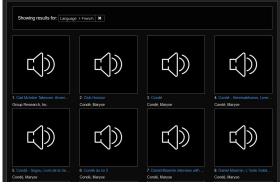
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Examples of finished collections/items/assets







Phase 2 (Oct. 2019 -): Even More Materials

- Funded by Mellon Foundation and re-named "AMI Mellon"
- Workflows and documentation are stable, but perhaps not final
- Added positions, but also adding production specs
 - Current charter cites 60,000 additional items to be processed 2019-2021

Future Directions

- ArchivesSpace Integration
 - Clean-up of legacy finding aids
 - Linking between ArchivesSpace and digital assets/metadata
- Hyacinth 3 (DAMS)



Questions?



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Dina Sokolova: ds2057@columbia.edu
Melanie Wacker: mw2064@columbia.edu

