COMMUNICATIONS ON PRACTICE

Making Hidden Collections Visible

A Case Study of Human–AI Collaboration in Archival Metadata Generation

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Introduction

Archives and special collections increasingly face an imbalance between the rapid expansion of digitized materials and the slower pace of descriptive metadata creation needed to support discovery and access. This article presents a case study of a pilot project conducted at American University Library to evaluate JSTOR Seeklight, an artificial intelligence (AI)-assisted tool designed to generate descriptive metadata and transcription for digitized archival materials. Academic libraries have long served as stewards of unique and irreplaceable primary resources housed in archives and special collections. A substantial portion of these materials remains confined to physical formats, discoverable only through limited or incomplete description and accessible primarily to on-site researchers.[1] Despite decades of professional attention to improving access and discovery of these materials, progress has often been incremental. At the same time, the scope of digital stewardship has expanded well beyond the initial act of resource digitization.

Contemporary digital stewardship encompasses the full life cycle of digital assets, including selection and rights assessment, digitization workflows, descriptive metadata creation, discovery systems integration, preservation storage, and long-term governance and sustainability.[2] The Digital Preservation Coalition's *Digital Preservation Handbook* frames preservation as an ongoing organizational commitment that integrates policy, infrastructure, and workflows rather than a one-time technical task. Crucially, description and access are not secondary outcomes of stewardship; they are central to its purpose.[3]

Simultaneously, archives and special collections staff continue to confront persistent backlogs and hidden collections, a challenge widely documented in the archival literature.[4] Calls to recalibrate labor-intensive descriptive practices in favor of scalable access—most notably articulated in Greene and Meissner's "More Product, Less Process"—underscores how traditional processing norms can inadvertently delay availability to users.[5] In practice, digitization capacity frequently outpaces descriptive capacity. Although scanning can be accelerated through investment in equipment and staffing, metadata creation remains constrained by specialized expertise, time, and uneven staffing levels, producing a critical discovery bottleneck.

Within this context, academic libraries are increasingly experimenting with AI-assisted description—not as a substitute for professional judgment, but as a means of increasing throughput, improving baseline discovery, and creating scalable foundations for human review. Emerging scholarship

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suggests that AI in archival description should not be understood as professional displacement, but instead as a catalyst for evolving competencies. Automation is likely to reshape core functions, requiring archivists and metadata professionals to cultivate new skills in data literacy, algorithmic oversight, ethical decision-making, and quality control.[6] Early experiments with generative AI tools for description, subject extraction, and image recognition demonstrate significant potential to reduce backlogs and enhance discoverability, particularly in large-scale digitization initiatives.[7] At the same time, practitioners emphasize the importance of iterative experimentation—piloting tools on limited collections, benchmarking outputs against human-created records, and establishing local governance frameworks—so that AI adoption becomes a structured learning process rather than a one-time technological shift.[8]

Equally significant is the human dimension of this work. The introduction of AI tools represents not only a technical adjustment but also an organizational change management effort. For archival and technical services professionals, AI may evoke both curiosity and concern—raising questions about professional identity, quality standards, and the future of expertise. Positioning AI exploration as a supported learning opportunity—one with clear guardrails, shared evaluation criteria, and psychological safety—has emerged as a central leadership responsibility in contemporary digital stewardship.

Institutional Background and Leadership Intent

At American University Library, expanding access to primary resources in archives and special collections has been a strategic priority. As digitization capacity increased through sustained investments in staffing and equipment, a structural imbalance became increasingly apparent: the library could scan materials at a growing pace, but the creation of high-quality descriptive metadata—essential for discovery, access, and reuse—remained a persistent bottleneck.

Metadata creation for archival collections is labor intensive, requires specialized expertise, and depends on sustained staffing capacity that is difficult to scale. Even under optimal conditions, traditional metadata workflows can delay access for months or years after digitization. During periods of staff vacancies or competing priorities, that gap widens further. As a result, large portions of digitized content remain scanned but effectively invisible to users. This imbalance between digitization throughput and descriptive capacity prompted the library to explore responsible and scalable approaches to metadata generation that could increase access without compromising professional standards.

The JSTOR Seeklight pilot emerged from this strategic challenge.[9] As an AI-enabled tool designed to generate descriptive metadata and text transcription at scale, Seeklight offered an opportunity to test whether batch metadata generation could meaningfully accelerate discovery for selected archival materials while preserving human oversight, ethical stewardship, and metadata quality. Our participation as a Charter Member positioned the library not simply as a consumer of a new technology but as an active contributor to its development—shaping use cases, workflows, assessment strategies, and ethical guardrails alongside peer institutions.

From a leadership perspective, the intent behind this project was not automation for its own sake. Rather, the goal was to address a structural access problem that disproportionately affects archives and special collections: the accumulation of valuable materials that remain under-described and underutilized due to capacity constraints. By experimenting with AI-assisted metadata generation, the library sought to reduce the time between digitization and access, prioritize service to researchers, and extend the reach of our collections beyond local users to broader research communities. At the same time, the project was designed to assess organizational readiness by examining how new tools might reshape workflows, redistribute labor, require new competencies, and strengthen cross-departmental collaboration.

Equally important, this exploration aligned with the library's broader commitment to human-centered and ethical uses of emerging technologies. The Seeklight project was intentionally framed as a hybrid model in which AI-generated metadata serves as a starting point, rather than an end point. Human review, quality control, and professional judgment remain central to the process. This approach reflects a leadership philosophy that views AI as an augmentation of expertise rather than a replacement—supporting staff productivity while maintaining accountability, transparency, and long-term sustainability.

In this sense, the Seeklight pilot represents more than a technical experiment. It is a strategic response to long-standing access barriers in archives and special collections, a service innovation aimed at accelerating discovery, and an organizational learning opportunity that informs how academic libraries can responsibly integrate AI into core descriptive practices. The outcomes of this project—both its successes and limitations—offer insights for research libraries seeking scalable, ethical solutions to the challenge of making hidden collections visible in an era of expanding digital expectations.

Project

Goals and Rationale

For several years, Technical Services and Archives and Special Collections departments have worked to strengthen cross-department collaboration, and the Seeklight pilot project aligns closely with this work. Under new leadership and evolving workflows, print cataloging volume has decreased while demand for archival descriptions has increased. In response, the director of technical services and head archivist for special collections and digital initiatives have focused on expanding metadata support for archival materials and building capacity for sustained collaboration. These efforts have included developing workflows for print and rare materials, repurposing a vacant position in Technical Services to manage cross-department workflows and metadata production for Archives, and reallocating another position to expand support for digitizing archival collections.

We initiated the Seeklight project to improve the discoverability of the library's digitized archival resources. A primary objective was to accelerate the creation of accurate descriptive metadata so that materials could be made available to users more quickly following digitization. The project also sought

a scalable solution capable of efficiently processing large volumes of archival content and generating consistent descriptive metadata despite limited staff capacity or subject expertise. By incorporating AI-assisted description into existing workflows, we aimed to support sustainable metadata creation across diverse collections and reduce the impact of staffing gaps. An additional goal of the pilot was to establish policies and procedures for integrating AI-assisted description into established descriptive practices.

The head archivist determined which collections and materials were appropriate for inclusion in the Seeklight workflow. Not all library materials are suitable for AI-generated description, and selected collections must comply with American University policies regarding data classification and the use of AI.[10] Additional considerations include federal privacy laws, deed of gift restrictions and donor intent, copyright and ownership status, and broader privacy concerns.

Beyond these requirements, we determined that using a diverse set of collections for initial testing would provide a better understanding of Seeklight's capabilities and limitations. We selected five different collections representing a range of formats, including photographs, handwritten and typed letters, posters, historical real-estate appraisals, blueprints and drawings, and historical business and financial records. These collections enabled us to evaluate Seeklight's performance across multiple-use cases, including handwritten materials, transcription quality, folder-level versus item-level description, and visual materials with minimal contextual information.

All selected collections were intentionally limited in size, to enable rapid review of outputs and comparison across projects. This approach supported our goal of identifying which materials are best suited to Seeklight, which ones may be appropriate for large-scale ingest and metadata generation, and where additional review, remediation, or alternative workflows may be necessary. The initial collections that we loaded were as follows:

- Martin Hupka images—Peace Corps volunteer in Colombia 1963–1965
  - 444 images, partially described (unfinished) collection, previously processed by project staff
  - Selected to evaluate human- vs. AI-generated metadata
- Anne Williams correspondence—Peace Corps volunteer in India 1965–1967
  - 119 letters
  - Selected to evaluate description for handwritten material and test new transcription feature
- Patrick Frazier Political and Social Movements oversize posters—protest posters from the 1960s and 1970s
  - 188 posters
  - Selected to test visual material with little written information
- Shannon & Luchs real-estate collection—real estate firm that developed and redeveloped areas of Washington, D.C., in the 1920s to 1970s
  - 356 folders of mixed materials
  - Selected to test descriptions at the folder level

- Paul Jurmo images—Peace Corps volunteer in the Gambia from 1976 to 1979
  - 191 images
  - Selected to test no-context images

Governance and Staffing Model

The head archivist and the director of technical services jointly lead the integration of the Seeklight platform into local workflows. Together, they designed the project structure, established staff roles, and developed assessment strategies for evaluating Seeklight outputs. The head archivist oversees project setup, including file uploads, entry of contextual information into the platform's Context Box, and generation and evaluation of transcript outputs. The director of technical services oversees sample metadata review across collections, develops staff guidance and oversight procedures, and conducts secondary review of descriptive metadata. Both managers collaborate on field mappings, role assignments, and assessment methodologies.

Two library specialists in Technical Services review item-level descriptions for materials ingested into Seeklight. The acquisitions specialist also performs copy cataloging and contributes descriptive work for digitized collections. The resource description specialist provides traditional cataloging expertise. Both specialists bring extensive experience creating item-level descriptions for digitized materials in special collections.

During implementation, additional staff across the library provided targeted support. The coordinator of original cataloging advised on metadata standards, the library systems coordinator supported initial technical setup, and the library systems and assessment administrator contributed to workflow development, including the creation of a custom application to split transcript exports from Seeklight for ingest into Quartex, the library's digital collection platform.[11] The library assessment coordinator developed the assessment framework based on input from project leadership. As our proficiency with the platform grows and local documentation becomes more robust, these roles are expected to evolve.

Once workflows and local practices are fully established, day-to-day responsibilities will transition to the library's digitization coordinator and metadata coordinator. The digitization coordinator will assume responsibility for creating projects in Seeklight, adding contextual information during ingest, and generating transcripts. The metadata coordinator will oversee quality control, supervise the two specialists, and manage metadata refinement and ingest into Quartex.

The metadata coordinator position is currently vacant, creating a significant gap in fully realizing the potential of the project. This role is responsible for coordinating metadata work across Technical Services and Archives, managing workflows, reviewing descriptive metadata for digitized collections, and loading completed projects into the library's digital asset management system. While this position is vacant, the director of technical services has assumed some of these responsibilities. Although Seeklight does not replace the expertise required for this position, it has helped mitigate workflow delays by enabling progress on descriptive projects that would otherwise have been paused or progressed much more slowly.

Metadata

Seeklight generates metadata using the Dublin Core schema, which provides a relatively minimal set of fields compared with the descriptive, technical, and administrative metadata applied to records in Quartex, which uses a local schema based on MODS.[12] Of the fifteen fields generated by Seeklight, we use seven for all records and apply five additional fields conditionally based on material formats. The remaining three fields are not used (table 1).

Table 1. Metadata Mapping for Seeklight

Field	Field Definition	Using	Mapped to	Notes
Title	The name given to the resource. Typically, a Title will be a name by which the resource is formally known.	Always	Title	
Creator	An entity primarily responsible for making the content of the resource. Examples of a Creator include a person, an organization, or a service.	Always	Creator	
Date	A date associated with an event in the life cycle of the resource.	Always	Date Created	Uses ISO 8601. Duplicate field to Date Created EDTF in Quartex formatting.
Type	The nature or genre of the content of the resource. Type includes terms describing general categories, functions, genres, or aggregation levels for content.	Always	Genre	Remediate with AAT terms outside JSTOR environment.
Description	An account of the content of the resource. Description may include, but is not limited to, an abstract, table of contents, reference to a graphical representation of content, or a free-text account of the content.	Always	Description	
Subject	The topic of the content of the resource. Typically, a Subject will be expressed as keywords, key phrases, or classification codes that describe the topic of the resource. Recommended best practice is to select a value from a controlled vocabulary or formal classification scheme.	Always	Subject – Topical	Uses appropriate delimiter. Library of Congress Subject Heading (LCSH). Not geographically subdivided. Decision point needed.
Named entities	Proper names associated with the record.	Always	Subjects – Name	Uses appropriate delimiter. Possibly verify against LCNAF. Decision point needed.
Volume		Conditionally	Volume	Only applies to a publication collection.
Issue		Conditionally	Issue	Only applies to a publication collection.

Field	Field Definition	Using	Mapped to	Notes
Language	A language of the intellectual content of the resource.	Conditionally	Language	Only applies to text-based materials.
Coverage	The extent or scope of the content of the resource. Coverage will typically include spatial location (a place name or geographic coordinates), temporal period (a period label, date, or date range), or jurisdiction (such as a named administrative entity). Concatenated field containing values: style, culture, period, and location.	Conditionally	Geographic Location	JSTOR has split the field for newly ingested items. We do not use any of these fields. Fine art terms are not applicable to our purposes. We use location, but this is not always helpfully applied as we follow TGN. May consider using that field dependent on collection.
Publisher	The entity responsible for making the resource available. Examples of a Publisher include a person, an organization, or a service.	Conditionally	Publisher	Only applies to published materials, which does not fit the profile for the majority of our items.
Resource type	An internal controlled vocabulary that specifies the general type of the original resource.	No		We have our own controlled vocabulary that we will use.
Format	The physical or digital manifestation of the resource. Concatenated field containing values: medium, technique, material, and measurement.	No		JSTOR has split the field for newly ingested items. We do not use any of these fields. Fine art terms are not applicable to our purposes.
Keywords		No		

The two specialists—our project staff—review, edit, and enhance five key metadata fields: titles, Library of Congress Subject Headings (LCSH), descriptions, named entities, and creators. The resource description specialist focuses primarily on controlled vocabulary elements, while the acquisitions specialist reviews free-text fields, such as titles and descriptions, based on their respective expertise and experience working with special collections metadata.

After staff revise these elements according to local standards, the director of technical services enhances and formats the records, adds missing fields, and performs additional cleanup to ensure consistency with established practices. This work includes formatting dates and reconciling AI-generated genre terms with the library's preferred controlled vocabularies.[13] The director of technical services then exports the records from Seeklight, formats them for ingest, and adds locally required fields, including a note, such as "This asset is described with AI-generated metadata and may not be 100% accurate. Please see our AI Statement for more information," along with a local AI statement.[14] These additions provide transparency by informing users that the digital asset includes AI-generated metadata that may not be fully accurate and by directing them to the library's Policy on the Use of AI-Generated Descriptive Metadata.[15]

Discussion

Project Assessment

As described in the earlier project sections, the Seeklight pilot was designed to test the viability of AI-assisted metadata generation across several different archival formats and descriptive contexts. At the time of writing, Technical Services staff had completed a review of two of the five identified pilot collections, and the head archivist had conducted an initial review of the remaining three collections to determine whether further metadata review using the Seeklight tool is viable.

It is important to note that the Seeklight platform remains under active development. Additional functionality has been introduced since the launch of our initial assessments and pilot projects. Although our findings remain relevant for understanding how the tool performs in current archival workflows, features that may have influenced some outcomes are discussed later in the Changes to Seeklight Functionality section.

Martin Hupka Images[16]

Project staff completed their review of the Martin Hupka image collection, focusing on the title, description, subject headings, and named entities fields. This collection was selected for testing because it had been partially processed prior to our participation in the Seeklight pilot. As a result, project staff had developed substantial familiarity with the subject matter. Additionally, the donor provided item-level descriptions for the majority of the images, including place names, named individuals, and activities depicted in the photographs, which reduced uncertainty during assessment and increased staff confidence in reviewing the generated metadata.

At the time of uploading the collection to Seeklight, we were unsure of how to capture existing item-level descriptions within the tool's bulk-applied Context Box. Consequently, reviewers spent considerable time applying their prior knowledge of the collection to metadata remediation and verifying Seeklight-generated metadata against the donor-provided descriptions. Using a specific image from the Hupka Collection as an example (see figure 1), the donor had identified the names of the individual Peace Corps Volunteers depicted in an image, which Seeklight would not know unless prompted. The original Seeklight-generated title was "Three men eating watermelon on a bench," but our project staff was able to input the names of all three individuals, as well as indicate the three were Peace Corps Volunteers. The title updated by our staff was "Leon, John, and Martin Hupka eating watermelons on a bench."[17]

Figure 1. Example of a digital image that required human revision of Seeklight-generated title.

We also noticed that keywords applied in bulk through the Context Box frequently appeared as subject headings, regardless of their relevance to individual images. For example, the following description was applied to all 444 images: "This collection features photographs taken by Martin Hupka during his Peace Corps service in Colombia, working in community development from 1963 to 1965." For figure 1, the generated subject headings were "young men," "watermelons," "outdoor life," "nineteen sixties," and "community development." Project staff subsequently removed extraneous and irrelevant subject headings during metadata cleanup.

Within this collection, the tool performed most successfully in generating titles. The remaining fields required remediation in the majority of records, largely because project staff were able to incorporate more detailed contextual information than Seeklight could generate from the limited context available to the system. Additionally, Seeklight failed to generate subject headings for a substantial number of records due to a system glitch during the ingest of this collection. The platform does not allow metadata generation without deleting and reingesting a batch, which we opted not to do. The lack of subject headings in these records complicated the evaluation of field quality. Based on our experience reviewing Seeklight-generated subject metadata across collections, however, we would have expected a higher degree of remediation in the subject field.

Patrick Frazier Social and Political Movements Oversize Posters[18]

Project staff also completed a full review of the Patrick Frazier poster collection, focusing on the title, description, subject headings, named entities, and creator fields. This collection was selected for testing because the posters represent a visual medium, many of which include textual elements that provide Seeklight with additional context for metadata generation. This format proved to be particularly successful for generating titles and descriptions. Most remediation work focused on fields that required validation against controlled vocabularies or authority files that are not incorporated in Seeklight.

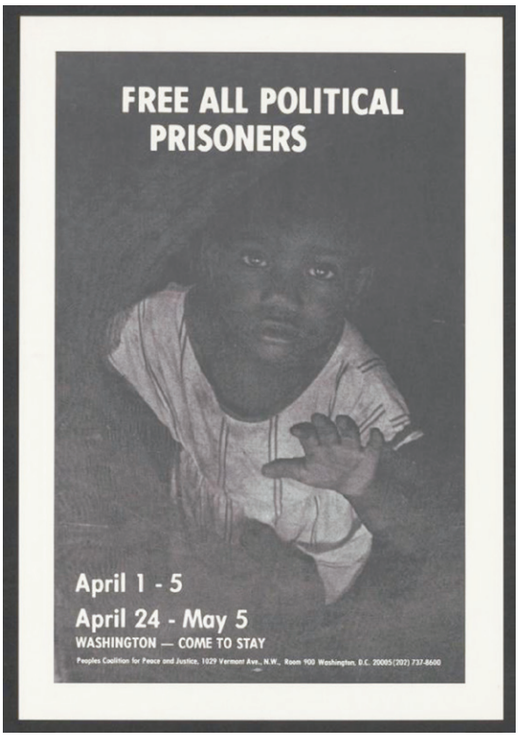

Figure 2. Additional example of a digital image that required human revision of Seeklight-generated title.

Results indicate that the title field performed especially well, with 174 of 180 items acceptable without revision. Titles that required revision were generally not incorrect but required stylistic or structural adjustments. For example, a Seeklight-generated title, "Poster advocating for the release of political prisoners," was revised by project staff to "Free All Political Prisoners protest poster" (figure 2).[19]

The description field showed slightly greater variability in quality but was still largely acceptable without the need for

revision. A total of 152 of 180 descriptions were acceptable without edits. Seeklight-generated descriptions typically captured each poster's visual composition and artistic qualities, alongside relevant contextual information. For example, descriptions often addressed layout, imagery, and stylistic elements, while incorporating contextual interpretation informed by the textual content present on the poster.

Figure 3. Example of a digital image that required human revision of Seeklight-generated description.

Descriptions that required revision generally involved incorrect interpretation of the image context or omission or misidentification of individuals depicted. For example, Seeklight generated the following description for figure 3: "Poster featuring a caricature illustration of three men in military and political attire plotting over a map with missile markers. The text reads 'STOP THEM! they can't stop themselves' and advertises a March on Washington and San Francisco organized by the National Peace Action Coalition, scheduled for April 24, 1971. The artist's signature, 'Edward Sorel '71,' appears at the top right." Project staff revised this description as follows: "A protest poster featuring a political cartoon by Edward Sorel at the top, depicting three men (Richard Nixon as Napoleon, along with Hubert Humphrey and Henry Kissinger) in military and political attire plotting over a map with missile markers. The bold red and black text below reads: 'STOP THEM! they can't stop themselves.' The poster advertises a march on Washington and San Francisco on April 24, 1971, organized by the National Peace Action Coalition."[20]

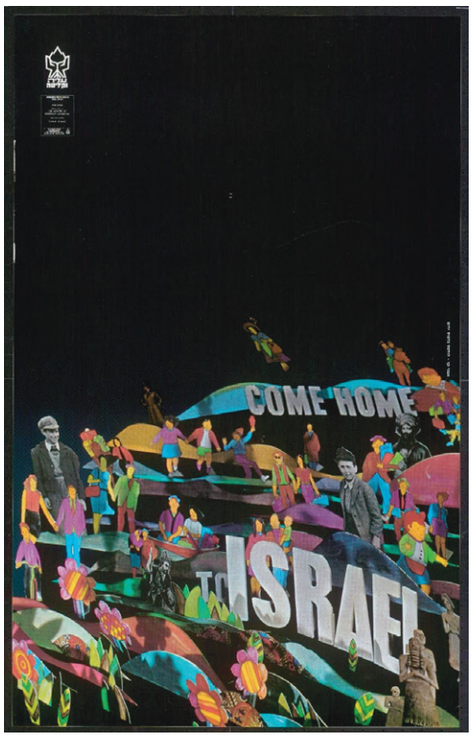

Figure 4. Additional example of a digital image that required human revision of Seeklight-generated description.

Revision was also required when Seeklight-generated descriptions overemphasized visual elements at the expense of contextual meaning. For example, Seeklight generated the following description for figure 4: "A color poster featuring the slogan 'Come Home to Israel' in large, bold letters across a stylized landscape. The lower portion of the poster is filled with illustrated and photographic cut-outs of people, flowers, and abstract shapes, suggesting a diverse and welcoming community. The upper left corner displays a logo and Hebrew text. The overall design uses collage techniques and vibrant colors." Our project staff edited it as: "A promotional poster featuring a collage of illustrated and photographic figures

walking and interacting on a stylized, colorful landscape. The large, bold text reads 'COME HOME TO ISRAEL.' The upper left corner displays a logo and Hebrew text."[21]

Seeklight showed more limitations in generating subject headings, named entities, and creator information. Only twenty of 180 subject headings were acceptable without revision. Although most headings were usable, they often required modification to conform to LCSH conventions, such as the addition of geographic subdivisions. The tool also struggled with repetitive headings or terms that appeared correct but were misapplied according to LCSH definitions.

Additionally, named entities were generated without reference to an authority file, requiring staff to reconcile them with the Library of Congress Name Authority File (LCNAF). Only five of 180 named entity fields required no remediation. Similarly, many creator fields were left blank, necessitating staff intervention; 107 of 180 records required remediation in this field.

Preliminary Review of Remaining Pilot Collections

Shannon & Luchs Real-Estate Collection[22]

The Shannon & Luchs collection proved to be one of the most complicated cases, alongside the Hupka images, for testing Seeklight. This collection was selected to evaluate how effectively the tool could generate metadata for archival materials digitized and presented at the folder level.

It is important to note that JSTOR did not recommend Seeklight for folder-level description. The tool is primarily designed for item-level and compound-object description. Nevertheless, we decided to test the system with this type of material to better understand its limitations.

The collection consists primarily of real-estate appraisal files documenting neighborhoods in Washington, D.C., many of which have since been demolished. These files are organized alphabetically by client name and contain heterogeneous materials that are difficult to parse into discrete items. Any digitized collection made publicly accessible would likely rely heavily on full-text searching for discovery. Attempting to discern relationships among documents in a folder or reliably separating them into items would be so time and resource intensive that it could result in inaccurate interpretation.

Seeklight-generated metadata appeared plausible at first glance and reflected patterns seen in other collections. However, the tool samples content within folders rather than analyzing the entire folder structure. As a result, the generated metadata lacked the depth and contextual completeness that is required for archival description of these materials. An example of a Seeklight-generated title and description is as follows:

- Title: "Appraisal Files and Correspondence on Commercial Properties, Washington, D.C."
- Description: "A compilation of appraisal reports, correspondence, and supporting documentation related to commercial and residential properties in Washington, D.C., primarily generated by Shannon & Luchs Company and associated real estate professionals. The documents include property appraisals, valuation methodologies, legal correspondence, lease agreements, and

> financial calculations. The materials detail property characteristics, neighborhood context, rental income, trust arrangements, and market conditions. The series documents the appraisal process, communication between appraisers, clients, and legal representatives, and includes sample leases and valuation justifications for estate and tax purposes."

This description largely reflects the contextual information provided in the Context Box rather than an actual analysis of the contents of the 111-page digital object. This collection would be worth deleting and reingesting to test more robust prompting using the Context Box, as discussed later in the Changes to Seeklight Functionality section.

Anne Williams Correspondence

The Anne Williams correspondence collection was selected to test Seeklight's transcription tool, which was not available when we first joined the Charter Member program but was later introduced and improved. Preliminary review indicates that the transcription tool performs very well. It successfully handles typescript, handwriting, a combination of the two, and untraditional formatting on the document. However, several workflow limitations remain. Most notably, Seeklight does not currently support batch download of transcripts. Additionally, our repository handles transcripts on a page-by-page basis, whereas Seeklight generates transcripts per asset. To accommodate this difference, we developed a local process to split transcripts before ingesting them into our digital collections platform.

At the time we used the transcription tool for this collection, transcripts were generated independently from metadata. JSTOR has since released enhancements allowing transcripts to add more nuance to descriptive metadata, potentially improving metadata richness.

Paul Jurmo Images

The Paul Jurmo image collection presents a different testing scenario. The donor digitized the images prior to donation but did not provide item-level contextual information. Only collection-level description was available.

Prior to using Seeklight, this collection would likely have been considered a lower priority for digitization and public access due to the lack of contextual information. However, the pilot offered an opportunity to test the tool's ability to generate baseline descriptions for images with minimal context. The preliminary review is promising: the generated descriptions appear comparable with what a human cataloger might produce without insider knowledge of the collection.

Changes to Seeklight Functionality

As noted earlier, JSTOR Seeklight remains under active development. JSTOR has made improvements based on feedback from Charter Member institutions, as well as JSTOR's internal development roadmap. Several limitations we encountered during the pilot have since been addressed, and our understanding of the tool has evolved in ways that would inform how we configure and ingest collections in future projects.

Our experimentation with the Context Box has produced promising results, and JSTOR demonstrations have indicated that it may be possible to point the tool to external data dictionaries and potentially parse larger mixed-manuscript PDFs. Incidentally, this capability would have been particularly valuable for the Shannon & Luchs collection.

We have also experimented with using the Context Box to better leverage existing item-level descriptions during batch image uploads. When images include individual descriptions, we instruct the Context Box to match file names to a corresponding list of descriptions copied directly from an Excel spreadsheet. The results have been extremely promising, with generated metadata being more specific and accurate, and requiring significantly less staff time for editing. However, this approach is constrained by the Context Box's character limit, which restricts uploads to approximately fifteen to twenty images at a time when including existing metadata. Despite this limitation, the approach would have been particularly useful in the scenario described earlier in the Martin Hupka Images section.

Seeklight was initially presented as a no-prompting tool, and significant engineering effort is evident in its design to remain simple and produce reliable results. The Context Box was intended to capture mostly a narrative description from sources such as finding aids or other existing descriptive records and apply across a batch of uploaded files.

JSTOR is now exploring the use of the Context Box as a one-shot prompt tool. This experimental approach offers notable benefits for our project, and we have started uploading collections with simple prompts. It is important to note that Seeklight does not allow for prompt refinement and iteration. Users would have to analyze the metadata results and reupload the collection with a different prompt if refinement were desired. Additionally, Seeklight does not store prompts, nor does it learn from them.

Further improvements to Seeklight have expanded batch metadata editing functionality. Although the Seeklight interface is simple and designed for large batch ingest—allowing users to upload thousands of images per batch, trigger transcript generation by checking a single box, and input metadata and prompts into the Context Box—the back end initially offered limited support for batch metadata editing. Recent enhancements now allow users to create image sets and perform bulk changes by using metadata field filters. For example, format fields can now be batch-replaced with preferred entries from external data dictionaries. These features will likely be used in future projects.

Workflow Adaptation and Human–AI Collaboration

Overall results from the pilot are encouraging. Across collections, the title and description fields proved to be the most reliable outputs generated by Seeklight. Our experimentation suggests that the tool performs best with:

- visual media containing textual context
- textual documents uploaded at the item level
- low- to no-context images.

The tool was less effective for folder-level materials and image collections where existing item-level description could not be easily incorporated into Seeklight.

Our goal during our Charter Membership term is to identify which metadata fields can be reliably generated with minimal manual editing. One area of ongoing evaluation involves the remediation required for LCSH. Our digital collections site currently contains approximately 60,000 assets using LCSH, making interoperability between manually created and AI-generated records an important consideration.

Internally, we consider Seeklight as a workflow enhancement rather than a workflow replacement. The tool integrates into our existing local practices of metadata creation, rather than creating a separate AI-driven process. Adaption of Seeklight has not changed our descriptive standards or workflow sequence. Instead, the project has reinforced that human oversight remains essential for quality control, contextual accuracy, and maintenance of metadata interoperability across collections.

Leadership, Change Management, and Organizational Readiness

The Seeklight pilot has also reinforced broader strategic priorities within the library. Library leadership was not only the impetus for adapting Seeklight, but two members of the Library Leadership Team also designed the framework and workflow used for our launch. The use of Seeklight was framed as a strategic response to the imbalance between digitization output and metadata creation capacity, rather than simply a technology experiment. Project leadership, the director of technical services and the head archivist, intentionally positioned the project as a learning and exploration initiative, emphasizing that AI would augment rather than replace professional expertise.

This framing proved essential for effective organizational change management. Project staff responsible for manual metadata creation were invited to evaluate the tool critically and provide feedback based on their professional expertise. This approach strengthened the project by creating space for staff to experiment with the new tool, evaluate the efficiency of the workflow, and identify both strengths and limitations of AI-generated metadata, while maintaining professional standards and reducing anxiety about AI adoption.

Leadership's willingness to listen to staff and trust in their expertise created a positive environment for experimentation and collaborative problem-solving. Early feedback from staff suggests that working with Seeklight increased comfort with AI tools and encouraged openness to new approaches, highlighting the role of pilot projects in building organizational readiness. Treating the pilot as an iterative learning process allowed the organization to move gradually toward informed decisions about AI-assisted workflows and future technology adoption.

Community Engagement and Collaborative Development

Participation as a Seeklight Charter Member has allowed the library to actively contribute to the development of the platform through monthly meetings and working groups. This collaborative

approach reflects an emerging model in which libraries participate in shaping AI technologies rather than simply adopting them. JSTOR has significantly developed the project since we joined the program in July 2025 and actively seeks input from participating Charter Members.

To date, we have participated in several focus groups centered around Personally Identifiable Information (PII) detection, the transcription tool, folder-level description, and Context Box prompting. Whether any of these ideas will develop further remains uncertain, but the community of practice has shown a strong commitment to both maximizing the potential of the tool in its current form and contributing to its continued development.

Organizational Constraints, Staffing, and Innovation

Our use of Seeklight came at a time of institutional instability, including vacancies in two key positions, metadata coordinator and digitization specialist, which required staff to redistribute responsibilities and cross-train across departments. Instead of delaying experimentation, the team designed workflows that allowed the project to proceed while maintaining oversight and quality control.

Because we positioned Seeklight as a workflow enhancement rather than a replacement, we were able to integrate the tool into our existing infrastructure and training and continue moving collections through production. Most of the work involved in adapting the tool centered on establishing our usage philosophy and developing assessment strategies. Learning to use the Seeklight upload interface and editing metadata within the platform required relatively little effort from staff and virtually no retraining because the process relied primarily on existing expertise. Early observations indicate that AI-assisted workflows increase descriptive productivity. To date, the use of Seeklight has increased metadata production by approximately three times its previous rate.

This project demonstrates that innovation can continue even during periods of staffing and budget constraints, particularly when supported by flexible workflows and collaborative leadership. Investments in exploratory initiatives such as Seeklight can generate organizational learning, cross-department collaboration, and new professional skills, extending benefits beyond the immediate technological outcomes of the project.

Conclusion

The Seeklight pilot project demonstrates how academic libraries can responsibly explore AI as part of broader efforts to expand access to archival and special collections. As many institutions experience the growing imbalance between digitization output and descriptive capacity, AI-assisted metadata generation offers a promising approach for accelerating baseline description and improving discoverability. Our experience with Seeklight suggests that, when thoughtfully integrated into existing workflows, AI tools can function as meaningful workflow enhancements that support, rather than replace, professional expertise.

Several key insights emerged from this case study. First, the pilot confirmed that AI-assisted metadata creation is most effective when implemented as a hybrid human–AI workflow. Across the collections tested, Seeklight generated useful baseline titles and descriptions, particularly for visual materials containing textual elements and for collections with limited contextual information. Authority control, contextual interpretation, and metadata standardization, however, continued to require professional intervention. These findings reinforce the importance of maintaining human oversight and professional judgment within AI-assisted descriptive practices.

Second, the project highlighted the critical role of leadership and change management in the successful adoption of emerging technologies. Leadership framing was essential in shaping how the project was received by staff. By positioning Seeklight as a pilot and learning initiative rather than a mandated technological shift, library leadership created space for experimentation while maintaining confidence in existing professional standards. This approach helped energize project participants—including catalogers, archivists, and managers—while also reducing anxiety about AI among team members. The project further demonstrated that meaningful technological change benefits from actively involving staff whose expertise and daily work are most directly affected. Looping human expertise into the evaluation and refinement of AI-generated metadata proved essential both for maintaining metadata quality and for fostering organizational engagement with the technology.

Third, participation in the Seeklight Charter Member program underscored the value of collaborative development and professional community engagement. By contributing feedback through focus groups and working groups, participating institutions helped shape the evolving capabilities of the tool. This model reflects a broader shift in which libraries play an active role in guiding the development of emerging technologies rather than simply adopting them after implementation.

The project also demonstrated that innovation can continue under conditions of organizational constraint, including staffing vacancies and resource limitations. Because Seeklight could be incorporated into existing workflows with relatively little technical overhead, the pilot proceeded despite institutional instability. In doing so, the project fostered new forms of collaboration between Archives and Technical Services and created opportunities for staff to develop familiarity with emerging AI tools.

More broadly, the Seeklight pilot suggests that the integration of AI into archival workflows should be understood as an organizational and professional transformation process, rather than solely as a technical implementation. Effective adoption depends on leadership support, collaborative experimentation, and the continued importance of human expertise in interpreting and validating machine-generated outputs. As AI tools continue to evolve, libraries will need to develop governance frameworks, evaluation practices, and professional competencies that allow them to incorporate these technologies responsibly.

Future research is needed to better understand the long-term impact of AI-assisted metadata generation on archival discovery, metadata quality, and researcher use of digital collections.

Additional work should also examine how AI tools perform across a wider range of archival formats and descriptive contexts, particularly for complex or hierarchical materials that remain difficult for automated systems to interpret.

Ultimately, the Seeklight pilot illustrates that responsible experimentation with AI can help academic libraries address long-standing barriers to archival access while reinforcing the professional values that guide digital stewardship. When approached as a collaborative, human-centered process, AI-assisted description has the potential to expand discovery, support scalable metadata creation, and enable libraries to make more of their unique collections visible to the communities they serve.

Notes

1. Elizabeth Yakel, "Hidden Collections in Archives and Libraries," *OCLC Systems & Services: International Digital Library Perspectives* 21, no. 2 (2005): 95–9, https://doi.org/10.1108/10650750510598675.
2. The Digital Stewardship Lifecycle model is composed of five phases: Prepare, Gather, Enhance, Save, and Share (https://www.webjunction.org/news/webjunction/Explore-digital-stewardship-lifecycle.html). The Digital Curation Cycle outlines nine key phases, including Conceptualize, Create or Receive, Appraise and Select, Ingest, Preservation Action, Store, Access/Use/Reuse, Transformation, and Dispose/Destroy (https://www.dcc.ac.uk/guidance/curation-lifecycle-model). Discovery and access is an important phase of managing digital resources.
3. The Digital Preservation Coalition, "Digital Preservation Handbook," accessed January 15, 2026, https://www.dpconline.org/docs/digital-preservation/handbook/superseded/299-digital-preservation-handbook/file.
4. Mary Burns, "Hidden Collections and Rare Boks Cataloging: A Review of the Literature," *Library Resources & Technical* Services, 68, no. 3 (2024), https://doi.org/10.5860/lrts.68n3.7863.
5. Mark A. Greene and Dennis Meissner, "More Product, Less Process: Revamping Traditional Archival Processing," *The American Archivist* 68, no. 2 (Fall/Winter 2005): 208–63, https://www2.archivists.org/sites/all/files/MPLP-AmericanArchivist-2005.pdf.
6. Andrew Cox, "How Artificial Intelligence Might Change Academic Library Work: Applying the Competencies Literature and the Theory of the Professions," *Journal of the Association for Information Science and Technology*, 74, no. 3 (2023): 367–80, https://doi.org/10.1002/asi.24635; Abdulhalik Pinar and Andrew Cox, "An Analysis of Artificial Intelligence (AI) Capability in Libraries and Archives," *Cataloging & Classification Quarterly* 63, no. 6–7 (2025): 566–99, https://doi.org/10.1080/01639374.2025.2539790.
7. Anna Gibson Hollow, Lindsay Cline, Mohsen Kardar, Olesya Komarnytska, and Laurel Warkentin, "The AI-Powered Archivist: Harnessing Generative Artificial Intelligence for Streamlined Archival Description," *Journal of Digital Media Management* 14, no. 1 (2025): 6–20, https://doi.org/10.69554/ZMQC4019; Ellen Prokop, X. Y. Han, Vardan Papyan, David L. Donoho, C. Richard Johnson Jr., "AI and the Digitized Photoarchive: Promoting Access and Discoverability," *Art Documentation: Journal of the Art Libraries Society of North America* 44, no. 1 (2021), https://www.journals.uchicago.edu/doi/abs/10.1086/714604?journalCode=adx.
8. Suzhen Chen and Mingyan Li, "AI for Cataloging and Metadata Creation: Perspectives and Future Opportunities from Cataloging and Metadata Professionals," *Technical Services Quarterly* 41, no. 4 (2024),

317–32, https://doi.org/10.1080/07317131.2024.2394919; Edward M. Corrado, "Artificial Intelligence: The Possibilities for Metadata Creation," *Technical Services Quarterly* 38, no. 4 (2021): 395–405, https://doi.org/10.1080/07317131.2021.1973797.

9. JSTOR, "Accelerate Impact with Purpose-Built AI for Stewardship," https://about.jstor.org/products/digital-stewardship/seeklight/.
10. American University approved and published the University Guidance on the Responsible Use of Artificial Intelligence (AI), developed by a cross-campus working group. The guidance outlines principles and expectations for the responsible use of AI in teaching, research, AI literacy, data usage, operational activities—including areas such as procurement—and applies to faculty, staff, and students.
11. American University Library Archives & Special Collections: https://digitalcollections.american.edu/.
12. Dublin Core: https://www.dublincore.org/specifications/dublin-core/.
13. The library primarily uses AAT, TGN, LCSH, and LCNAF controlled vocabularies in our Digital Asset Management system.
14. An example of a metadata record from the Martin Hupka collection that shows our two AI-generated metadata control fields. The first is an internal controlled vocabulary that is meant to tell both the user and internal staff what type of AI-generated metadata is present. The second field is an accuracy warning and will ask the user to read our policy for more information on our philosophy and process.
15. "American University Library Policy on the Use of AI-Generated Descriptive Metadata," American University Library Archives & Special Collections, August 2025, https://digitalcollections.american.edu/use-of-ai-generated-descriptive-metadata.
16. Martin A. Hupka served as a Peace Corps Volunteer in Colombia between 1963 and 1965 working in Community Development. This archival collection includes Hupka's personal papers, including correspondence, sketches, photographs, publications, and Peace Corps training materials.
17. The full description page for this item: https://digitalcollections.american.edu/Documents/Detail/leon-john-and-martin-hupka-eating-watermelons-on-a-bench/217223.
18. Patrick Frazier Political and Social Movements Collection contains digitized broadsides, flyers, handbills, photographs, and posters and covers all of the major political and social movements of the 1960s and 1970s, including civil rights, gay and lesbian rights, and feminism, as well the antinuclear and the Vietnam War protests.
19. The full description page for this item: https://digitalcollections.american.edu/Documents/Detail/free-all-political-prisoners-protest-poster/242527.
20. The full description page for this item: https://digitalcollections.american.edu/Documents/Detail/stop-them-they-cant-stop-themselves-protest-poster/242504.
21. The full description page for this item: https://digitalcollections.american.edu/Documents/Detail/come-home-to-israel-poster/242425.
22. Shannon and Luchs archive finding aid: https://www.american.edu/library/archives/finding_aids/shannonandluchs_fa.cfm.