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Envisioning networked provenance data storytelling with American cuneiform collections

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Abstract
Cuneiform tablets remain founding cornerstones of two hundred plus collections in American academic institutions, having been acquired a century or more ago under dynamic ethical norms and global networks. To foster data sharing, this contribution incorporates empirical data from interactive ArcGIS and reusable OpenContext maps to encourage tandem dialogues about using the inscribed works and learning their collecting histories. Such provenance research aids, on their own, initiate the narration of objects' journeys over time while cultivating the digital inclusion of expert local knowledge relevant to an object biography. The paper annotates several approaches institutions are or might consider using to expand upon current provenance information in ways that encourage visitors' critical thinking and learning about global journeys, travel archives, and such dispositions as virtual reunification, reconstructions, or restitution made possible by the provenance research.

Keywords Cuneiform · Provenance research · Academic museums and archives · Geolocation · Object-based learning · CDLI

1 Introduction

For all of its geopolitical and diplomatic reverberations today, the tale of many American cuneiform collections begins with the actions of a single man. While stationed as the US consul in Baghdad from 1898 to 1900, Edgar James Banks (1866–1945) arguably mastered the regional antiquities market and brought back no less than 11,000 ancient Mesopotamian artifacts to America [1: 85; 2]. Over the next 30 years, Banks personally sold those antiquities and more to universities, university museums, and private individuals. Georgia, New York, Illinois, Texas, Minnesota, and other destinations—all are recorded still in Banks's original transactions legible within the archival collection that Daphne Banks McLachlan, his daughter, donated to the University of Chicago in 1997 [1: 86; 3: 172]. While Banks's reputation began to suffer after the excavations at ancient Adab / modern Bismya of 1903 to 1905 [4: Chapter 3], and he himself soon turned his interests to Hollywood where he served as a consultant to Cecil B. DeMille, his role and crediting as an early benefactor for so many institutions is plainly traced. Banks is mentioned, that is, in some institutions' public-access records coded according to archival descriptive and cataloging standards established by information scientists. Such provenance research products, viewed as an initial values-practicing of transparency, make possible the present macroscopic research effort centered on reconnecting cuneiform objects at the stage of their American journeys, ones often propelled by Banks. One element of provenance centered in this work is geolocation. Using data gathered from corpus analysis supplemented by ground-up gap analysis (participatory and ongoing), maps displaying the locations of academic cuneiform collections are introduced on two interactive platforms. The maps aid provenance research beyond the institutional level, facilitating professional dialogues both about shared collecting histories and futures.

Provenance as a concept spans many subdisciplines in the archaeology and information science fields. Those include classical archaeology, art history, history [5], bibliography [6, 7], science [8, 9], computer science [10, 11], and even social media [12]. Two information institutions understand provenance in relation to the type of collections they hold: museums understand provenance as object history, and archives understand provenance as "information regarding the origins, custody, and ownership of an item or

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collection" [13]. The institutions communicate their provenance information through media of the finding aid (in archives) and catalog records (in museum settings). Archival provenance emerged in contrast with a strict chronological approach to organizing collections, though its temporal breadth spans the complete trajectory after the moment of creation (related terms are chain of custody and *respect des fonds*). Applying the principle of provenance preserves the material relationships and bonds within one collection. Euro-American archivists widely adopted the provenance principle following its introduction at the international archival conference occasioned by the 1910 World's Fair in Brussels [14: 7], and furthermore Theodore Schellenberg [15] asserted the evidential value of archives through their provenance-based archival arrangement, meaning that archives should be arranged (kept) according to their source. Yet complexities can arise when provenance is unclear, contested, or merely in electronic form. Though it has definitively shaped archival practice over the past century, recent criticism has called attention to the colonialism it may be inscribing, as "a blunt, unforgiving, and impatient object that has a predetermined if not precarious path" [16] of an organizational framework for collections access.

Responsive approaches to such drawbacks are actively in place and growing, though for select specifics let us shift to the museum field, where the positionality, or given narrative at least, of such collections has more seriously been targeted for re-assessment. No longer accepting ignorance as an excuse for inaction, ethical guidelines now stop "curatorial staff and museum administration [from again] turning a blind eye to gaps in provenance and other red flags, such as the names of known victims and perpetrators of Nazi looting, fanciful ownership histories, or indications of illegal export" [17]. Thus provenance information becomes especially crucial at the early stages of researching new acquisitions to establish title and verify attribution—information that for legacy holdings will later contribute to cultural property documentation, issues of ownership and surrogacy, and creative scholarship. Museums are better prepared to take on the roles of public steward, collector, and educator when their collection information rests on a solid foundation of provenance research. As an example, the Museum of Fine Arts, Boston, reached an agreement in 2000 for a partial purchase and partial donation of the painting "Adoration of the Magi" (1725) by Corrado Giaquinto, part of a decades-long case that also resulted in the return of five paintings by the Louvre [18].

Item-level provenance research in museums is purposed toward uncovering a total accounting of the custodial history that is a part of an object. Custodial history is an element that orients the object to the law, establishing its judicial relationship of ownership and rights across time [19]. In America, science, art, and history museums alike continue to prioritize provenance research in response to categoric pressures that affect, e.g., materials pertaining to Native America, organic specimens, historic manuscripts and fragments thereof, archaeological collections from Iraq [20], and the ongoing legacy of Nazi-looted books and works of art across Europe and the Americas [21–23]. Collections management programs such as the Systematic Anthropological Collections Program of the National Science Foundation, ca. 1978–1992 [24], continue to generate ever-more precise enumerations of the large and growing scale of multimedia in the country being actively managed by information professionals.

2 American histories of collecting

The history of many colleges and universities is one of collecting. "University museums have carried out over 300 years of collecting, research, teaching, display, and outreach" [25]. In the Enlightenment era of the eighteenth century, the first museum managers in European countries began to display the antiquities owned by their institution as well as artifacts loaned by private individuals—all under a novel goal of educating the public through the power of the physical artifact. During that early era, a strong emphasis of museum displays was to communicate grand national achievements, rather than share a detailed history (provenancial or otherwise) of any one artifact [26: 303]. For example, little to no information—in the form of labels or accession notes—would appear alongside the artifact to illustrate the context of the objects visitors were seeing. The nineteenth century presents a watershed moment in the relationship between archaeologists and museum staff, for it was during those years, transitioning our focus to the USA, when museums themselves commissioned full-fledged archaeological expeditions. While they were tied to genuine scholarly interests, museums' expeditions also functioned programmatically as effective instruments by which the institutions built up the volume of their collections and ensured that their museum would reap the rewards of having acquired the objects. Also during the Victorian era, archaeology began to emerge from behind the cloak of elite antiquarianism and was more prominently featured in visual media of the day—due in no small part to the gregarious chronicles shared by Heinrich Schliemann and General A.H. Pitt-Rivers [27: 114]. Into the twentieth century, some museums' parent university institutions supported not only the acquisition but also the stewardship responsibilities for those same objects. Still it could be said that the display side of nineteenth-century museums consistently reflected the simple mantra of "show"—and it was not until the 1970s that museum workers began to expand their approach to "tell" as well.

Where once museum exhibits were largely the passion product of a single collector, exhibit designers now seek

to provide a "heritage-minded narrative" achieved perhaps through the object biography style introduced by Alberti [25, 28]. Museum curators today communicate with the public through exhibits and collecting philosophies [29: 293]. With such shifts from the non-academic museums in particular into the public education arena (and in many cases out of the business of funding far-flung excavations, which soon came to be dominated by private contractors) came a growing awareness of the volume of materials languishing in museums, termed the "archaeological curation crisis". That is, collections care work became the province of an entirely new field of trained collections managers, as academic museum leaders shifted their focus to basic and applied research—engaging provenance data in an ancillary rather than central capacity to narrate objects' external and social functions. Arguably that pendulum is now swinging back the opposite way. Lastly, academic museums in particular have invested greatly in articulating a singular "identity and purpose" [25] and promoting community belonging in the face of retreated acquisition allocations from above.

Collecting practices and the very idea of "permanent collections" have been challenged, as seen in the works of a 2015 symposium on lost museums and their afterlives that questioned the very premise of accessioning ever more volumes of cultural goods, as the Smithsonian once did. Responding to perceived space constraints, "transfers were common" and had the unfortunate effect of creating tiers—reserves even—of collections intended for public display or not [30: 5]. The ramifications of such practices are deep, but today it frequently means that the collections students encounter in a university gallery setting are carrying very complex, interconnected histories. As for the process of physical inspection—reading any identifiers or marks that may be present on museum objects themselves—resources are continually expanding from the related fields of art research and forensic heritage science [31–33], where material analysis techniques can uncover falsified patinas, pigment irregularities, and postdated alterations. Even so, "these labels, marks, and notes are not the answers, but rather the clues" [32] that will lead the researcher toward reconstructing a continuous provenance.

Reunification of such diasporic corpora has motivated several successful interdisciplinary studies aimed at globalizing (rather than localizing) our knowledge of certain present-day heritage collections: Follow the Pots (https://followthepotsproject.org/), Performing Archive: Edward S. Curtis + "the vanishing race" [34], the Getty's Fleischman accession in 1996 [35], the Pergamon exhibition in 2016 in New York [36], orphan antiquities in American museums [37: 349], Indiana's Classical Archaeology collection [38], and related teaching collections. The diasporic nature that is only truly revealed at advanced stages of tracing object destinations opens a great number of collaborative opportunities to supplement the known provenance information and make it accessible to all parties. Though the scope following will be American, Halliday is currently examining Canadian institutions and focusing on Nazi-looted books and works of art (2021 May 12 presentation "Exploring provenance: Research methodology and digital discoverability," Art Libraries Society of North America 49th annual conference).

3 Diasporic teaching collections

Though academic museums may sometimes be the sole locus of institutional collection efforts, by no means does the museum's existence preclude other units, departments, or affiliated individuals from accumulating their own collections of materials. The acquisition stories being told, thus share no common script and vary widely. Some collections began life decades ago as the province and passion of faculty members engaged in anthropological fieldwork or global engagements. Rousseau for example proactively foregrounds the unprovenanced nature of a coarseware collection in her classroom teaching discussions, using it to impart ethical principles (2014 June 14 presentation "Questioning a coarse collection", Classical archaeological university collections: Present and future possibilities international conference, Aarhus University). Though faculty even admit the inadequacy of containers usually repurposed for safekeeping the materials, an overriding belief that such arrangements are only temporary perpetuates the problem of undocumented teaching collections [39]. Custody for such seed or teaching collections is not always reassigned centrally—a practice aligned perhaps obliquely with decolonizing approaches aimed at humbling the collector-narrative (Tadge J 2021 June 22 presentation "Same provenances in different disciplines: Impulses for a transdisciplinary approach", Postcolonial provenance research international conference). That institutional decentralization means that custodianship remains with academic units, departments, or office spaces even when no longer frequented by their original champion. Increasingly apparent is that students' close readings and scourings of every campus nook, in spite of having scoped the *institution* as the outer level, posit that their collection must somehow be part of a larger whole. It is at that "whole" level where future work outlined below might gain the broadest impact, while connecting and activating collections in new ways.

Recent independent studies of institutional collecting histories—some purposed in support of digitization-as-access projects for their earliest collections—had suggested broad need nationwide to document cuneiform using shared infrastructures. For example Banks' original purchase in the early 1930s and sale in 1938 to Texas archaeologist J. E. Pearce of over two dozen cuneiform tablets comprises one collection

first imaged in a 2014 pilot under the West Semitic Research Project: conducting digital library development, equipment resourcing, and training programs since at least 1992 [40]. Since 1996 the Database of Neo-Sumerian Texts [41] provides an online catalog of, among other datapoints, published and unpublished images and geotagged locations for over 103,000 cuneiform documents including several private collections in America, and it collaborates with the Cuneiform Digital Library Initiative (CDLI) which hosts an international catalog of triple that size. A later separate data-gathering effort scoped around academic institutions attracted wide interest and generated an open dataset consisting of a map and bibliography on cuneiform collections in American colleges and universities, detailed in the next section.

4 Mapping cuneiform across America

While institution-level digitization projects can connect home-grown scholarly and pedagogical goals and provide long-awaited digital access for cuneiform scholars located many miles away, it is equally important to offset local exceptionalism and acknowledge coherence when describing the items' background and provenance. Such aims motivated Mohr's creation of two scholarly apparatuses dedicated to serving the cuneiform scholarly community: a bibliography and map. Both employ open-access principles and are free to download and reuse. The bibliography [42], largely though not entirely sourced from the CDLI as (open-access) corpus [43], provides 411 natural-language searchable citations for small- to mid-sized collections that in the grand view are relatively unknown (it does not, for example, reproduce a few large digital libraries, like the Open Richly Annotated Cuneiform Corpus (ORACC), which makes its CDLI-dependent objects and descriptive records available online [44]). Published sources per institution range from 46 (i.e., Cornell University) to one. The map began as an open list of institutions with cuneiform in their collections and an input form for new information (March 2020), datapoints which seeded a web map with a "Locations" layer (released September 2020,[1] with the author having begun collaborating in June). Mohr added a web app [45] version of the map, offering more tools, that November, and a version with the author's small latitude / longitude and keyword contributions was completed in March 2021. Versioning is built into the data archiving structures of both the JOHD Dataverse Repository and OpenContext, which house current versions of the bibliography and map datasets, respectively. Indeed the versions studied here represent work up to March 2021 and the author's interests in geolocation to support provenance research. Both the map and bibliography apparatuses are iterative and adopt a "data-first" publishing approach reflective of their high reuse potential by all who are interested [42].

The map does include the museum collections contained in the aforementioned digital library ORACC (cataloged in the "owner" field) alongside crowdsourced academic institutions of all sizes with publicly known cuneiform collections. Depicted in Fig. 1 for illustrative purposes, readers are encouraged to interact with the data on the ArcGIS and OpenContext platforms [46, 47][2]—the former primarily by zooming in at the desired scale and clicking on any of the 195 dropped pins to read the campus location names and the home campus. Given the robust search and visualization functions for geolocated map data maintained by data repository and publisher OpenContext, the underlying map dataset is also curated there for long-term digital preservation and access. OpenContext projects can be browsed by modern country and further sorted by item facets type, provenance, or label, and are integrating open-source Arches code to further link contributed data. The map file at OpenContext includes facets additional to the campus location(s), institution of higher education (IHE) name, city, and state: specifically latitude and longitude (facilitating reproducibility and reconstruction on other platforms), one keyword (language of the texts, or Cuneiform if multiple), and the institution's siglum in the CDLI. Indicative of high future research potential, 81 of the campus locations currently lack a CDLI siglum. The interactive ArcGIS version of the map is best leveraged for expansion of the dataset by scholarly community members, and the OpenContext version for future visualization of same-language cuneiform objects as they criss-crossed the globe with Banks and other collectors. Though the datapoints alone expose but do not explain which objects have ever been contested or invisibilized by whom and why (collections security concerns duly noted), the key strengths of both maps are in visualizing spread and breadth nationwide and in raising the collections' proximity and digital inclusion with non-specialist audiences by de-emphasizing the item-level content focus offered elsewhere. They support future research in several directions: bringing some of the little-known individual items to publication and/or digitization [48], reusing the map dataset to compare Banks' archival

[1] Mohr S, 2 March 2020, "Does your US institution of higher education have cuneiform objects in one of its collections? Would you like to help me compile a list of such institutions? Help me out with my latest research project!," at https://twitter.com/sarabmohr/status/1234467901689733122 and Mohr S, 1 September 2020, "Remember when I asked for your help in identifying colleges in the US with cuneiform collections? Well, y'all came through for me and now there's a map! Each point gives specific location information and the CDLI siglum if possible. Check it out! http://saramohr.com/where-is-the-cuneiform" at https://twitter.com/sarabmohr/status/1300824902187003908.

[2] ArcGIS web map at https://arcg.is/0X0DCm0, later web app at https://arcg.is/1TGGKO0, and map dataset on OpenContext available at https://doi.org/10.6078/M7MK6B1P.

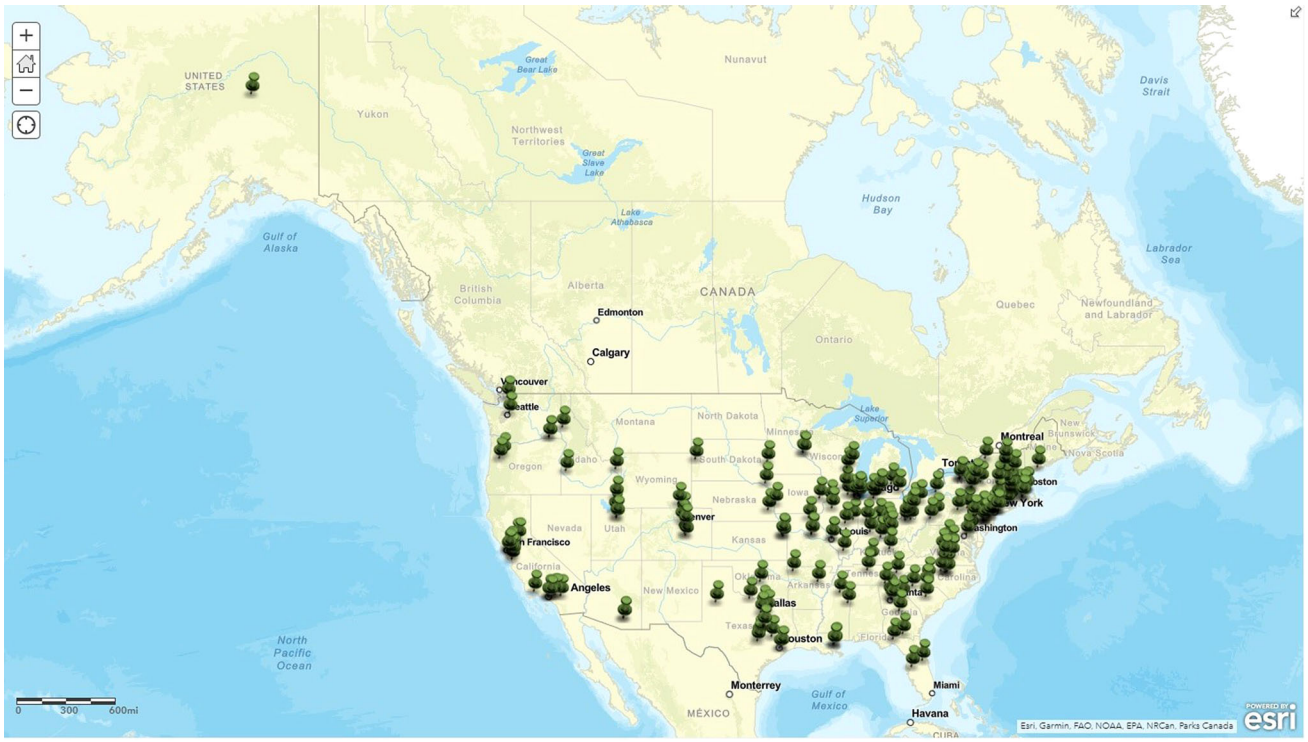

Fig. 1 Static illustration of geolocated cuneiform collection data on ArcGIS, supplemented on OpenContext

points of sale with the items' current distribution, and even color-coding by chronological provenience as recorded in the CDLI [49].

5 Data-informed storytelling approaches

Academic settings encourage visitors to critically think about global journeys, travel archives, and a range of dispositions for heritage collections writ large, and this section will give examples of a few such approaches. Travel archives populate many archival collecting institutions, not to mention their pre-pandemic proliferation in personal and community archives existing outside of those formal settings, yet they are seemingly hidden in plain sight, being "not easy to locate". They consist of "notes and journals of travel writers, leisure world travelers, scientists on expedition or average people making momentous life relocations" [50: 371, 374]. Such archives deeply contextualize the heritage objects put on display in a museum exhibition, grounding the objects in a particular time and place when they were "collected" or excavated and put into scholarly conversation. Archival materials provide essential context for interpreting the cuneiform tablet selection displayed during "Banks Week," part of the 125th anniversary celebration in 2008 of the town of Eustis, Florida, where Banks lived in retirement for 24 years [51].[3] Event planners sought out Utah anthropology professor Wasilewska, who had first met with Banks' daughter Daphne Banks McLachlan just north of Eustis in 1998 in response to Wasilewska's research on the Utah cuneiform collections (whose 1914 date places them among the earliest of Banks' sales in America) [52, 53]. The University of Utah's Museum of Natural History then loaned some of its cuneiform to Eustis City Hall and the Eustis Historical Museum for display during Wasilewska's public lecture on Banks on November 8, 2008 [54]. Archival documents allow readers to recognize the broad reach of Banks' salesmanship and antiquities dispersal, opening "many possible avenues for further research" [55]. Photogrammetry, which permits accessibility and reproducibility of the Utah collections [NHMU collection in 43] and others, also aids legibility and with that the ability to verify both characteristics attested in the documents, and Banks origins shared with a second collection detailed below.

As [30] has already illustrated, museums' early approach to collections was even more fluid and dynamic than is accustomed to today. In their ongoing shifts from collecting broadly to collecting in a specialized, research-minded key area (e.g., archery, Old Master paintings, Asian art, vertebrate fossils, costume), museums do make transfers to facilitate

[3] Event website at https://edgarbanks.wordpress.com/banks-week-events/.

responsible and ethical stewardship. The Texas Memorial Museum (TMM) transformed into a natural science museum in 2002, deaccessioning its large cultural history collection and completing a series of inter-university transfers of that material over the subsequent decade [56, 57]. Among the museum's ten thousand items contributed to the Department of Classics, for example, is the Pearce cuneiform collection which consists of 30 tablets / cones / bullae (pierced clay balls) / envelope / cylinder seal plus impression, in the Sumerian and Akkadian languages. James Edwin Pearce (1868–1938) championed the museum and served as its first director, though he passed away just before it opened. Professor Pearce and the Department of Anthropology, of which he was the first Chairman, purchased from Banks six and 24 of the tablets in 1932; all were placed on indefinite loan to the museum upon his passing. First curated by Carl Chelf, the tablets were primarily studied by Denise Schmandt-Besserat [58]—a scholar on the origins of writing and counting, then some were loaned to the Harry Ransom Humanities Research Center for their 2006 exhibition "Technologies of Writing: From Cuneiform to Cyberspace", and they are currently being studied by Øyvind Bjøru, a scholar of ancient writing and a doctoral graduate of Texas professor John Huehnergard. The Harry Ransom Humanities Research Center, home to other cuneiform, is formally accessioning the collection from the Department of Classics in 2022. Supported by an IMLS-funded traineeship on using the technology, a Fall semester 2014 Reflectance Transformation Imaging (RTI) pilot project was completed for the collection as well as an efficient supplement with more departmental collection items: two epigraphic squeezes on flat paper about 60″ rectangular, two plaster cast inscriptions, two gems, a bronze pinax, and nine coins from the Swenson Collection. The latter university collection was more thoroughly imaged in 2015 by members of the Digital Archaeology Lab [59], and team members contributed a case study to the NEH-funded Digital Lab Notebook toolkit [60].

Images of the cuneiform were created for viewing—using multiview scroll under two independent lights—in the InscriptiFact Standalone Viewer and database [61].[4] The database employs DublinCore cataloging in 18 categories. About a month into the subsequent process of creating metadata for the cuneiform items, the team gained access to documentation from 1962 when TMM accessioned the Banks collection from the Anthropology department, and from 1952 when 22 of the tablets were studied by Yale professors Albrecht Goetze and Ferris Stephens, curator, courtesy of Texas archaeologist Alex Krieger. Crucially their handwritten annotations answered the logic puzzle for twelve of the items that were listed inconsistently across Banks' 1932 sale list to Pearce and a departmental correlation by Matthew F. Ervin in 2005, including item no. 16 that was stolen in 1970 but illustrated by Stephens and later published by his Yale colleague Hallo [62]. The sources aided in revising the InscriptiFact Descriptions each to a sentence or two about the type of document, and using Keywords to provide proper names and pointers to parallels and unverified content. Following completion of the expert evaluation of those image files, the late Robert K. Englund, director of the Cuneiform Digital Library Initiative (CDLI), invited the trainee to contribute a linked-data catalogue of the collection and high-contrast static images to the CDLI. Project advisor John Huehnergard approved of the data sharing with CDLI, and provided date ranges for 26 of the tablets: Old Babylonian period, ca. 1800–1600 BCE; Early Old Babylonian period, ca. 2000–1900 BCE; and Ur III period, ca. 2112–2004 BCE (Middle Chronology), further specifying them under the reigns of Shulgi (second), Amar-Sin (third), or Shu-Sin, fourth dynastic king. Englund noted that Ur III specialists tended to prefer the images' ease of use, reserving RTI viewers for detail work. He noted as well that only one item from the university (no. 16 noted above) was already in the CDLI. Finally he committed the raw and archival images into the CDLI's persistent storage with UCLA and University of Oxford. Just five hours later, on April 24, 2015 Englund made the entire collection accessible,[5] having captured obverse and reverse from the original PTM (polynomial texture mapping) files and generously added-in Dates referenced. The open access principles, extra data-processing effort, and efficient collaboration that we continue to observe in cuneiform study are a legacy to his great credit.

An archive of the near future would collect and display provenance data that are networked at the item level as well as the collection level. Some of the former is promised in the OpenContext integration with Arches information architecture, but many efforts are needed to realize the full potential of linked open data that would integrate archival collections [63]—not to mention those yet to be geotagged using EAD3 [64]—with the digital objects made exceedingly accessible by the CDLI and related digital libraries. Current resources allow one to see where other collections are located, but not as well the why or how those collections have spoken to one another in earlier times and might again. The foundational work of bringing together geolocation data for parallel

[4] Viewer and database websites respectively at http://ruth.usc.edu/ISFStandaloneViewer/ and http://www.inscriptifact.com/. As of InscriptiFact's email message 17 February 2022, InscriptiFact is pending discontinuation. Its image corpus began appearing in the University of Southern California Digital Library the next month at https://digitallibrary.usc.edu/asset-management/2A3BF1OL6PW.

[5] Digital collection of 30 cuneiform objects (25 tablets one with envelope, two cones, two bullae, one cylinder seal with impression was created on 24 April 2015 at 8:03 p.m. PST and then accessible at http://tinyurl.com/pd4o8kg.

tablets now offers general audiences several ways of visually and critically connecting known examples of specific geographic provenience or language into a longer story.

Museum exhibits may propose new questions and types of questions and avenues that might not have figured prominently in the historical practice of anthropology, and even hasten real-time, real-world efforts around repatriation and restitution [65]. Cuneiform scholars have also identified forgeries made in the early twentieth century by noticing imperfections "at the joins between the two half-molds" [66]. Quite another approach to cultural exchange involves virtual access to published material, a rising area of academic library attention in light of the travel restrictions wrought by the pandemic. Madden, Elliott, and Clark have developed a joint approval plan for their shared German Studies collection (2021 April 12 presentation, "Two institutions, one collection: A success story told with data and documentation," The new shape of sharing: Networks, expertise, information Online forum). In the archival field, Edelstein details the incorporation of several fugitive collections into a humanitarian organization's collections database and Morelli illustrates how the Kress Collection Digital Archive reunites nearly 3,500 works of art located in American institutions ("Reuniting collections digitally: Promoting exploration of context and relationships"), while Hewitt et al. have pursued physical reunification of their collections (2021 Oct 8 presentation "Reuniting collections physically," both at Sites of memory: MARAC conference, Gettysburg, PA).

Recognizing that source communities are not always museum-local but rather globally dispersed, the Digital Benin initiative [67] is one of a number of efforts, like the preceding International Dunhuang Project [68, 69], aimed at reconstituting a past corpus online—in this case the artworks and other objects looted from the Benin Kingdom / modern Nigeria in 1897. Switzerland in particular, through its Global Provenance conference in early 2021 and parliamentary measures taken to advance restitution practices, is generating expansive dialogues at international levels about reparative purposes and outcomes for provenance research (Oberhofer M, 2021 January 27 presentation "The transnational Benin initiative: Provenance research and cooperation between Nigeria and Switzerland," Global provenance: Revisiting appropriated heritage in the light of inclusive partnerships? Conference, Lausanne). A recent year-long workshop series "Thinking Provenance, Thinking Restitution" hosted by the University of Cambridge convened scholars from four European countries for discussions of "decoded" provenance information and their deployment specifically towards restitution [70]. Such efforts indicate that provenance researchers are working in dynamic settings and ought to be prepared for administrative repurposing of their work even in unexpected ways.

6 Conclusion

Cuneiform objects—offering literary, sociocultural, and material insights about global civilizations—launched hundreds of academic institutions on paths to building a research and/or teaching collection broadly comprehensive of their core mission. Indeed the histories of many American colleges and universities are ones of collecting, and the acquisition stories that instructors tell today about heritage objects they bring out for close reading and analysis rely on underlying provenance research. Yet provenance research can be an expansive effort, drawing together pockets of knowledge from unexpected and previously unconnected sources. To establish an empirical base upon which to collectively see cuneiform tablets not only as singular representations of an ancient culture but as chapters in an emergent larger story of transfers, donations, sales, and trades, geographic data in the form of interactive maps are introduced. The maps are useful for initiating dialogues and research between institutions holding cuneiform similar in origin or content, worldly dialogues enriched by the new connections. While geographic datapoints initiate and provide some ground structure in narrating an object's journey over time, provenance research is also a spacious opportunity to cultivate and incorporate expert knowledge found to be relevant to objects' biographies across time and place. The paper annotated institutional approaches to presenting provenance information in ways that encourage critical thinking in concert with academic contexts.

Just in August 2021, the USA returned 17,000 stolen artifacts to the Republic of Iraq, among them forfeitures by the retailer Hobby Lobby and by Cornell University [71]. Most prominent is the "Gilgamesh Dream Tablet"—a 3,600-year-old clay cuneiform written in the Akkadian language—which officials singled out for its own repatriation ceremony held on the National Mall on September 23 [72]. Indeed the large volume stunned even close observers, given that Cornell had closed its collection in 2019 and agreed to repatriate some six years earlier [73]. This research began by considering the classroom uses of teaching collections to introduce and provide evidence of past cultures and civilizations. What became even more interesting is the larger story that can be told by putting one set of materials in conversation with another—both formerly in the same collection but at several points in time and under now-unrecognizable ethical norms and mores, separated amidst a multitude of institutions. Requiring collaboration at all levels, a baseline of geolocated data can help such storytelling happen in the short-term. By examining such locations of cuneiform collections across America and contextualizing their current presence against a dynamic and quite localized collection management environment, data presented in this work has sought to inform active dialogues about storytelling with objects then, now, and later.

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