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Difficult Heritage and the Complexities of Indigenous Data

Jennifer Guiliano and Carolyn Heitman

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For readers of this special issue, data are likely defined in technical terms as established by information and computer scientists. Data, for the informaticist, are facts, measurements or statistics. For the historian, data are historical remnants—often preserved by an archive. For the anthropologist, data can be quantitative or qualitative depending on the question and methods. Disciplinary methods aside, data are not value-neutral and thus must be contextualized in terms of their acquisition, analysis, and interpretation in order to transform data into information. For humanists, the cultural complexities of data and information are not new. Anthropologists, historians, linguists, museum curators, and archivists have long probed the contextual subjectivities of knowledge production and representation. From ink and quill maps representing the New World to the carefully stratified layers of an archeological site, data in the humanities are always subject to the systems of knowledge that were used to capture, represent, and disseminate them.

Our contemporary data culture, as it is often taught to humanists, encourages scholars to perceive data as something discoverable that can be shaped, chal-

lenged, corrected, and built upon. The humanities, social sciences and physical sciences embrace a data culture that takes as its starting point the notion that data (and knowledge) should proliferate and circulate widely for the public good. For scholars working in Native American and Indigenous communities (as well as other minority communities) data can be dangerous. Data have been used to promote policies of genocide, inflict trauma, and fragment communities, all of which have had far-reaching consequences across generations. In this article, we explore data related to Indigenous peoples as a multiplicity of data cultures. We highlight how theories of difficult cultural heritage and survivance[1] trouble the dominant, normative data culture within which most humanities researchers operate. Difficult heritage[2] serves as a useful construct for exploring the aggregation of cultural records related to colonialism and its impacts on Native peoples. It reconciles concerns of documenting the past with the need to confront the genocidal practices from which most of these records result. In this article, we interrogate how the culture of open access and public data consumption conflict with many Indigenous communities and their data cultures. And, importantly, we identify how current trends in data consumption and representation by non-Native scholars working with Native American and Indigenous cultural data have led to continued infringements on Native sovereignty.

As we open our discussion of Indigenous data cultures, we must start with some basic definitions. For those unfamiliar with Native American and Indigenous studies a commonly utilized definition of Indigenous peoples helps ground us. "Indigenous communities, peoples and nations are those which, having a historical continuity with pre-invasion and pre-colonial societies that developed on their territories, consider themselves distinct from other sectors of the societies now prevailing on those territories, or parts of them" writes Jose Martinez Cobo in his five-volume *Study on the problem of discrimination against Indigenous populations* in 1986. What's more, Indigenous communities are "determined to preserve, develop and transmit to future generations their ancestral territories, and their ethnic identity, as the basis of their continued existence as peoples, in accordance with their own cultural patterns, social institutions and legal system."[3]

Native American and Indigenous scholars have widely documented the effects of colonialism as violent and virulent practices that led to widespread disease, geno-

[1] Gerald Vizenor, *Manifest manners: Postindian warriors of survivance* (Wesleyan University Press, 1994) and Gerald Vizenor, ed. *Survivance: Narratives of native presence* (U of Nebraska Press, 2008).

[2] Sharon Macdonald, *Difficult heritage: negotiating the Nazi past in Nuremberg and beyond* (Routledge, 2010).

[3] Jose R. Martinez Cobo, "Study of the problem of discrimination against Indigenous populations," Special Rapporteur of the Sub-Commission on Prevention of Discrimination and Protection of Minorities, United Nations, 1986.

cide, trauma, and displacement. So too have they documented how governmental efforts to expand throughout the American continent relied upon physical death and cultural destruction of Indigenous peoples. Just as damaging, though, were early 20th century preservation efforts by non-Indigenous peoples. From the removal of important religious and political items to non-Indigenous control to the recording of sacred cultural and religious rituals, Indigenous identities are threatened by the continual requirement to negotiate colonialism in both its historical and contemporary contexts. The histories of genocide, colonialism, and plunder in pursuit of Nation formation and knowledge preservation must be carefully contextualized and situated within Native and Indigenous data cultures. The powerful motivation for generational knowledge transmission and protection is a direct result of the centuries of colonial consequence. A hallmark of the colonial process was the production and dissemination of knowledge about Indigenous peoples through the journals and records of colonizers. From reports to the government by Christopher Columbus to logs of explorations by French traders and missionaries and into territorial government reports to Washington DC about conflicts with Indigenous peoples, perceptions of Indigenous identities in America are explicitly shaped by data collected by Euro-Americans about Indigenous peoples, which we refer to as colonial-centric data.[4] A more contemporary example illustrates how colonial-centric data and ways of knowing function within Indigenous contexts.

Limitations of Colonial Archives

Antoinette Burton, Jane Anderson, Michelle Caswell and others have drawn attention not just to the politics of collecting and archival practices but the research implications caused by a lack of historical records about women, people of color, and other minorities within the colonial process.[5] Archives and the collections they hold, for these scholars, are clearly politicized spaces of representation and memory. And, most significantly, their humanities research is as much about the recovery of these historical traces as it is about the final products of their scholarship. Embedded within the task of "recovery" is a parallel language often used regarding archival research: "discovery". For Burton, Caswell, and others, "dis-

[4] We differentiate between data collected and represented by native peoples for their own use and interpretation and data that was collected by white colonists in the process of enacting continental genocide. Importantly, this distinction is made because the latter has formed a core dataset that is used by humanists in their study of Indigenous peoples. It brings forth a number of ethical issues this article attempts to interrogate.

[5] An excellent overview of this issue is captured in the #archivessowhite discussion and resulting four-part interview series available in *Issues and Advocacy*.

covery" served to not only affirm perceptions that these artifacts and traces were unknown to their communities of origin but also that the process of analyzing these traces was positivistic in nature. Historic collectors who amassed analog archival collections about Native American and Indigenous peoples were concerned with "salvage" ethnography to document "disappearing" peoples. They embarked on decades long collecting efforts that led to the extraction (forcibly and otherwise) of cultural objects, knowledge, and even physical bodies from Native communities throughout the US.[6] From curiosity cabinets to the collections that became the foundations of the Smithsonian Museum complex, collecting Indianness has led to the removal of Native culture from communities of origins to non-Indigenous institutions. Much of the rhetoric of archival motivation and action ("recovery" and "discovery") has been replicated in these colonial-centric collections which we will discuss with more detail below.

This, the data about Indigenous peoples held by non-Indigenous collecting institutions, universities, the federal government and the like, is the subject of our essay. It is only one type of Indigenous data culture but it is defined by the process of "collecting" data about Indigenous peoples in the process of colonialism (c.1500 to c.1924) for the express purpose of preserving supposedly disappearing peoples. To simply replicate such archives in a digital space without consideration of Indigenous data cultures serves to replicate the ills of colonialism. Early 20th century anthropologists, historians, linguists and others often extracted cultural heritage from Indigenous peoples for the betterment and knowledge of non-Native peoples at the same moments when the US government instituted policies of forced migration, assimilation, and the devaluation of tribal lands and sovereignty. These activities are the foundations upon which a colonial-centric data culture is built.

Colonial Images and Artifacts and Digital Circulation

Beginning in 1868, Edward S. Curtis embarked on a thirty-year career documenting over eighty Native communities. Participating as part of scientific expeditions and anthropological excursions, he produced roughly twenty volumes

[6] Samuel J. Redman, *Bone rooms: From scientific racism to human prehistory in museums*. Cambridge, MA: Harvard University Press, 2016; Joshua A. Bell, "A Bundle of Relations: Collections, Collecting, and Communities." *Annual Review of Anthropology* 46 (2017): 241-259; Alex W. Barker, "Representing anthropological collections in the Gilded Age." *Reviews in Anthropology* 46, no. 1 (2017): 4-18; Curtis M. Hinsley, *Savages and scientists: The Smithsonian Institution and the development of American anthropology, 1846-1910* (Smithsonian Inst Pr, 1981); Matti Bunzl, "Franz Boas and the Humboldtian tradition." *Volksgeist as method and ethic* (1996): 17-78; Ann Fabian, *The skull collectors: race, science, and America's unburied dead* (University of Chicago Press, 2010).

of information on Native and Indigenous life that were accompanied by photographic images as part of his *The North American Indian* series. Created primarily as silver-gelatin photographic prints, this series has long held a place of prominence in historical analysis as the images are not only noted for their rarity but for the limited dissemination and reuse throughout the twentieth century as complete volumes of photograph work. Only 300 sets of the twenty-volume series were sold; as individual objects however, these images have seen significant dissemination and reuse since their acquisition by the Library of Congress (LoC). The collection includes individual and group portraits, as well as photographs of Indigenous housing, occupations, arts and crafts, religious and ceremonial rites, and social rituals (meals, dancing, games, etc). More than 1,000 of the photographs have been digitized and individually described and are available through the Library of Congress API as well as via manual download of both jpeg and tiff file formats. They circulate through various other mediums like Northwestern University's Digital Library Collection of *The North American Indian* as well as search engine image aggregators like Google and Bing.[7]

To curate his desired representation of Native American peoples, Curtis sometimes deliberately modified the images he produced to remove signs of modernity and contemporary life. This included providing specific forms of dress that were perceived as being "more traditional" as well as stronger interventionist strategies like removing objects that would signal integration with 20th century Euro-American society. When viewing an image of a Piegan (*Piikani* Nation of the Blackfoot Confederacy) lodge on the LoC website,[8] for example, the unretouched negative is provided to the API of an image of three *Piikani* individuals situated in their lodge with a clock centered between them.

[7] http://curtis.library.northwestern.edu/index.html)

[8] See http://www.loc.gov/pictures/resource/cph.3b14188/?co=ecur for the original Library of Congress image. See also http://scalar.usc.edu/works/performingarchive/visualizing-the-vanishing-race-13 for a discussion of modernity related to the Curtis images and the Piegan case particularly.

By contrast, the retouched image that audiences would have viewed in *The North American Indian* did not contain the clock: Curtis physically cut the clock out of the negative.[9]

[9] See http://curtis.library.northwestern.edu/curtis/viewPage.cgi?showp=1&size=2&id=nai.06.book.00000039.p&volume=6#nav for the published version of the Curtis image.

For the purposes of accuracy and context, it is important for a complete data representation of this image to reflect not just the original photographic negatives but also relational data derived from what was actually published by Curtis. In other words, we need to merge the unretouched negatives with the retouched negatives that were used in the printed volumes to create a more complete opportunity for interpretation by researchers. Without this context, researchers might conclude that Euro-Americans were familiar with signs of modernity in Indigenous life when, in fact, that conclusion is relatively recent historiographically.[10] In a similar case, Curtis also depicted a Crow war party on horses, even though there had been no Crow war parties for years;[11] he used techniques of focus and duration to induce hue saturation that romanticized these images. These examples from Curtis' work demonstrate some of the challenges surrounding how colonial-centric data, in this case digital derivatives of photographic images of Native people, circulate and how they have been historically manipulated. Such

[10] For an excellent overview of Indians relationship to modernity and these images specifically, see Philip Deloria, *Indians in unexpected places*. University Press of Kansas, 2004.

[11] Edward S. Curtis, photographer. *Apsaroke War Group.* Montana, ca. 1905. Photograph. https://www.loc.gov/item/92521825/.

cases require additional historical and interpretive context lest they continue to magnify the colonial gaze.

This Curtis collection (among many others) also contains many culturally sensitive images. His images of "snake dance" ceremonies from various Hopi villages represent a similar set of challenges with regard to the circulation and consumption of colonial-centric Native American and Indigenous data made available through open access policies. The photographs depict Hopi members of the Snake and Antelope societies participating in a communal ceremony.[12] Performed in August to ensure abundant rainfall to help corn growth, the ritual was the most widely photographed ceremony in the Southwest Pueblos by non-native observers. Today these images continue to circulate in digital form. On the Library of Congress website, there is no notation that these images are of a religious ritual that is now prohibited from viewing by the non-Hopi public (and thus should be pulled from public view for reasons of cultural sensitivity).

The advent of digital data aggregation, linked open data and computer vision (machine reading) techniques also raise additional concerns with the regard to the reuse and circulation of Native American and Indigenous data. Machine learning processes used to classify and categorize digital images rely on the segmentation of patterns. This can include the physical segmentation of bodies of Native people (e.g., faces, heads)—a form of violence that mirrors colonial practices where Natives are treated as less than human through segmented image representation (e.g. scalps, severed limbs, etc.). What's more, these computational processes further decontextualize and reappropriate culturally sensitive images of Native people, places, and practices.

Data as (Difficult) Heritage

How might the concept of "heritage" help us better address a dominant, normative data culture steeped in a colonialism? " 'Having a heritage'…a body of selected history and its material traces", writes cultural anthropologist Sharon McDonald, is an "integral part of 'having an identity', and it affirms the right to exist in the present and continue into the future."[13] By extension, one need only review the United Nations Declaration on the Rights of Indigenous Peoples (specifically articles 11, 13 and 15) to see how history, culture and tradition (or what we might

[12] For reasons of cultural sensitivity, we have elected not to reprint the photo under discussion. It can be viewed at: http://www.loc.gov/pictures/resource/cph.3c02166/?co=ecur

[13] Sharon Macdonald, "Reassembling Nuremberg, reassembling heritage." *Journal of Cultural Economy* 2, no. 1-2 (2009): 117-134.

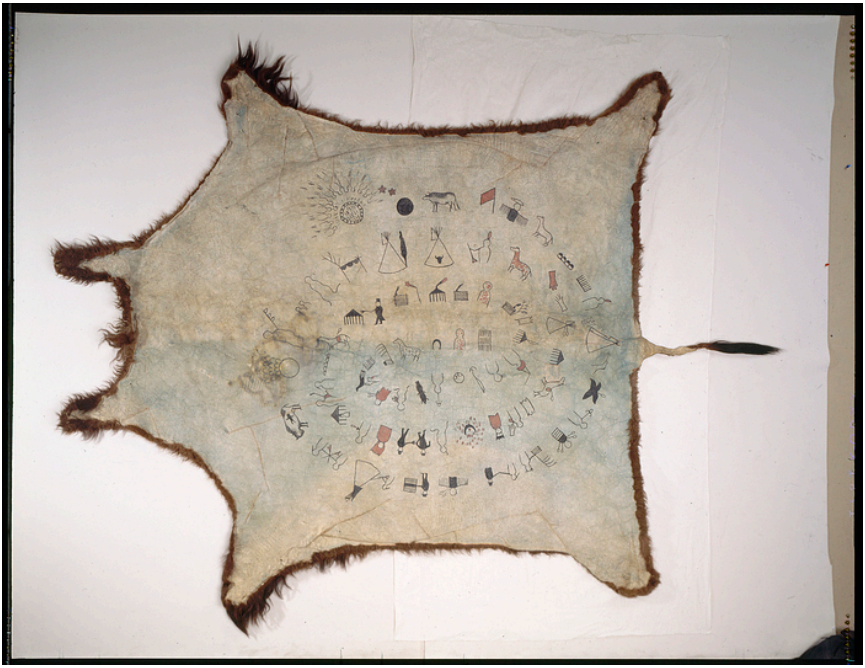
generally call 'heritage') are defined as critical dimensions of community wellness and of Indigenous self-determination and sovereignty in the present and future.[14] An Indigenous-centric data culture that is reliant upon heritage is built on the preservation, development, and transmission of knowledge as tied to the continued existence of native peoples. From an Indigenous critical theory perspective, Jodi Byrd argues that an Indigenous-centric space is one that "centers itself within Indigenous epistemologies and the specificities of the communities and cultures from which it emerges and then looks outward to engage European philosophy, legal, and cultural traditions."[15] An Indigenous-centric data culture then is one that is entirely built upon native ways of knowing, representing, preserving, and sharing.

For example, Sioux peoples created a winter count, a pictographic representation of the most important moment in the community that served as a mnemonic device to assist the tribe's story-keeper in remembering the past. Lone Dog's Winter Count (Yanktonais Nakota), a buffalo hide document, records the period from winter 1800 to winter 1871.[16] At the close of each winter, the male elders of the tribe would gather to select the most important event of the year. Once selected, it would then be immortalized as a pictograph by the selected artist who served as historian and story-keeper. The buffalo hide artifact titled "Winter count recording events from 1800 to 1870" by the Smithsonian's National Museum of the American Indian is also recorded as Lone Dog's Winter Count.

[14] For a Canadian example of how cultural heritage relates to sovereignty, see the 2015 Canadian Truth and Reconciliation Commission Calls to Action.

[15] Jodi A. Byrd, *The transit of empire: Indigenous critiques of colonialism* (U of Minnesota Press, 2011), xxix-xxx.

[16] Winter Count or Calendar, ca. 1870 by Shunka Ishnala (Lone Dog, Sioux, lifedates unknown), 60X84 in. Photo by Janine Jones. Smithsonian Museum of the American Indian.



Importantly though, while Lone Dog was the last keeper to complete his pictograph, we know that some of the pictographs were inherited by Shunka Ishnala (Lone Dog), who was born after the first pictograph was recorded. An Indigenous-centric representation of this particular artifact would then need to account not for circa 1870 but instead provide the date range of 1800 to 1871 as each individual pictograph was "authored" at the end of that winter's season. More simply, in the colonial-centric data schema what is important is the completed buffalo hide that aggregated together a seventy-one year period of time; yet, in an Indigenous-centric data schema each individual pictograph should be treated as a complete singular data representation. Thus, the thirty-third pictograph representation, which depicts numerous small red ovals representing the stars with a black object representing the moon, might be labeled Yanktonai (Ihanktonwana/Hunkpatina) Band of the Great Sioux Nation, Unknown Artist, "*The Stars Fell*", 1833, Smithsonian National Museum of the American Indian, Compiled by Shunka Ishnala (Lone Dog), circa 1870. This singular pictograph from 1833 represented the Leonid Meteor Showers.[17]

[17] Mark Hollabaugh, *The Spirit and the Sky: Lakota Visions of the Cosmos* (University of Nebraska Press, 2017), 133.

The compiled pictographs have become one of the most well-known and emulated winter counts today. So popular is its usage that children are assigned to emulate the winter count by depicting their own history. While it may seem trivial to continually refine the metadata associated with artifact to this level, what it in fact demonstrates is the complicated nature of Indigenous data that has been collected by non-Indigenous institutions. Lone Dog's Winter count is not a singular data; rather it is a plurality of data points that the Museum elected to present as a singular artifact.

Colonial-centric heritage collections can provide an opportunity for Indigenous peoples to recover or access aspects of their heritage and, in McDonald's terms, reaffirm their right to exist in the present and into the future. Working on the Common Ground Ho-Chunk exhibit for the Minnesota Historical Society, Amy Lonetree describes her first encounter with the physical photographs of her an-

cestors.[18] Boxes organized by anglicized family name were brought to her. She vividly describes the affective experience of holding and leafing through images of her ancestors and using those images as catalysts for memory and conversation with her grandparents. Following the work of Gerald Vizenor[19] on survivance where he argues that Native peoples have an active and enduring engagement with their own historical absences, Lonetree writes: "Knowing our history through the lives of our ancestors opens a recovery process that is central to addressing the legacies of historical unresolved grief that persist in our communities. Through these journeys into our past, we can reclaim our history for current and future generations of Ho-Chunk people."[20] This quote reflects the generative capacity of heritage—but it also points to the cultural, political, social, religious and economic impacts of colonial-centric collections. Lonetree's access to her ancestors' images was, in part, a product of colonialist practices facilitated by the photographer (Charles Van Schaick) and the Wisconsin Historical Society. Had they not collected the image in the first place, Amy Lonetree would not have been able to experience it today. And her connection to these images was not manifested through her Ho-Chunk language but instead with English epistemologies of metadata and accessioning.

Items collected through colonial forms of Native portraiture, treaty documents, ethnographic descriptions, and historical documents are entangled in what MacDonald has called "difficult heritage". This is a term she coined with reference to the Nazi past at Nuremburg but which can also be extended to settler colonialism and the genocide and displacement of Native Americans. MacDonald defines "difficult heritage" as:

> a past that is recognized as meaningful in the present but that is also contested and awkward for public reconciliation with a positive, self-affirming contemporary identity. 'Difficult heritage' may also be troublesome because it threatens to break through into the present in disruptive ways, opening up social divisions…

Depending on the particular heritage frame, online collections and archives may

[18] The published image caption reads: "Studio Portrait of a Ho-Chunk woman wearing a shawl and head scarf, posing sitting in front of her daughters, who are standing, in circa 1920s dress and short hair. Rachel Whitedeer Littlejohn (ENaJaHoNoKah), front, with daughters Florence Littlejohn Lamere (HoonchHeNooKah), left, Mary Littlejohn Fairbanks (WeHunKah), and Anne Littlejohn Lonetree.) Wisconsin Historical Society."

[19] See Gerald Vizenor, *Manifest manners: Postindian warriors of survivance* (Wesleyan University Press, 1994) and Gerald Vizenor, ed. *Survivance: Narratives of native presence* (U of Nebraska Press, 2008).

[20] Amy Lonetree, "Visualizing Native Survivance," in *People of the Big Voice: Photographs of Ho-Chunk Families by Charles Van Schaick, 1879-1942*, eds. Tom Jones, Michael Schmudlach, Matthew Daniel Mason,, and George A. Greendeer, Wisconsin Historical Society, 2014: 14.

also run the risk of the "heritage effect"[21] or what others have called "the museum effect"[22]—a form of commemoration or museumification that may valorize, instantiate, or substantiate (in this case) colonial ideologies as well as racial and ethnic inequalities. Regardless of surrounding exegesis, the presentation of colonial artifacts may be perceived positively or as treasured representations. These presentations can often mimic early anthropological discourse which sought to preserve static Indian identities that were supposedly disappearing from the cultural record. This is, as Vizenor notes, the continuing trauma of colonialism which encourages non-Indigenous peoples to be enamored with false or limited representations of Native peoples and their heritage.

Community-Based Archives and Research

While tremendous work has been done around the preservation and access of analog materials within Native American and First Nations communities,[23] in the U.S. there has been much less attention paid to the ways in which digital objects, practices, and methods continue colonial practices.[24] With the exception of the Murkutu content management system and the Great Lakes Research Alliance for the Study of Aboriginal Arts and Cultures, US-based digital humanities researchers and developers have been largely separate from Native American and Indigenous Studies and Native communities[25] even as access to, and the preser-

[21] Sharon Macdonald, *Difficult heritage: negotiating the Nazi past in Nuremberg and beyond* (Routledge, 2010).

[22] Svetlana Alpers, "The museum as a way of seeing," *Exhibiting cultures: The poetics and politics of museum display* 26 (1991); B. Kirshenblatt-Gimblet, "Destination Museum," *Destination Culture* (1998): 51-54.

[23] For examples of digital Native American projects, see the Chaco Canyon Research Archive (http://www.chacoarchive.org/cra/), Digital Index of North American Archeology (http://ux.opencontext.org/archaeology-site-data/), the Hopi Iconography Project (https://musnaz.org/research/anthropology-and-archaeology/current-research-projects/hopi-iconography-project/), Yale Indian Papers Project (http://yipp.yale.edu/).

[24] On analog to digital surrogates, see Protocols for Native American Archival Materials (http://www2.nau.edu/libnap-p/). On digital repatriation, see Kimberly Christen, "Opening archives: respectful repatriation." *The American Archivist* 74, no. 1 (2011): 185-210; C. H. I. P. Colwell-Chanthaphonh, "Sketching knowledge: Quandaries in the mimetic reproduction of Pueblo ritual." *American Ethnologist* 38, no. 3 (2011): 451-467; Chip Colwell, "Curating Secrets." *Current Anthropology* 56 (2015): S000; Aileen Runde, "The Return of Wampum Belts: Ethical Issues and the Repatriation of Native American Archival Materials." *Journal of Information Ethics* 19, no. 1 (2010): 33.

[25] It is only in the last year or so that we have begun to see digital humanities represented at Native American Studies conferences (e.g. Ethnohistory, Native American and Indigenous Studies Association, etc.) or within topical sub-panels at professional gatherings like the American Studies Association, the Modern Language Association, or the American Historical Association. We confine this essay to considerations of US-based Indigenous cultural heritage and digital practices to reflect

vation of, Indigenous cultural heritage are vital concerns for those working in disciplines as diverse as history, anthropology, literature, linguistics, media studies, and museum studies. Indigenous cultural heritage as data troubles the development and deployment of digital tools, methods and research. Indigenous-centric data cultures challenge the supposed neutrality of humanities data theorization and the preference for open access by arguing that data collected by colonizing institutions should be treated differently than other forms of data made available through open access policies.

Following the work of Christen (2012), this paper suggests that the rhetoric and practice of the open access data movement obscure both Native and Indigenous agency and sovereignty in determining the use of community materials. This open access rhetoric also dissociates Native communities from the process of consultation and debate.[26] The question of providing humanities research data is not just the deployment of an ecosystem for development, description, access, and reuse but a recognition that there are potentially multiple ecosystems of research and teaching related to data that must exist simultaneously and be treated as part of a nonhomogeneous whole. More simply, the culture of the Piscataway peoples is not the same as the Choctaw peoples. Thus, their data cultures themselves will be different. Digital Archivist Trevor Owens has articulated a useful way of thinking about this: data can be as "artifact (something actively and purposefully created by people), as text (subject to interpretation, for example by scholars), and as computer-processable information (to be analysed with quantitative methods)."[27] Research and teaching in and with Indigenous communities and their data is part of a much larger web of Native systems including tradition and kinship, politics and economy, cultural responsibility, individual and communal roles, etc. These diverse systems and worldviews inform all community activities from how an individual relates to others to how the community places itself in conversation with its allies. Data then is an expression of those systems and worldviews and thus must be recognized as intrinsically tied to how the community defines itself.

our belief that the situated locality of how individual communities engage with the digital cannot be directly translated to other national contexts. Notably, Murkutu originated among Warumungu Aboriginal community in the Central Australian town of Tennant Creek, but has now extended its work to the US and Canada. GRASAC is an international collaboration of research focusing on digital repatriation and aggregation of cultural materials related to the Great Lakes scattered throughout repositories and communities.

[26] A useful overview of how media technologies were leveraged in documenting Indigenous communities is Brian Hochman, *Savage Preservation: The Ethnographic Origins of Modern Media* (Minneapolis: University of Minnesota Press, 2014). He argues that modern media technologies are a direct result of the colonial effort by placing pressure on these technologies to meet the needs of ethnographers, writers, photographers, etc.

[27] http://journalofdigitalhumanities.org/2-3/big-smart-clean-messy-data-in-the-humanities/

Linda Tuhiwai Smith in her work, *Decolonizing Methodologies: Research and Indigenous Peoples*, articulates how the fundamental notion of what constitutes research and how research takes place is different within Indigenous communities.[28] In an Indigenous-centric epistemology, data and heritage do not exist as something separate from the community. It can only be accessed, shared, amended, and remembered by community members in their specific cultural roles. There are general ethical and epistemological issues we need to be attentive to when exposing historical materials (esp. photographs, documents, and artifacts) authored by and about Native Americans. First and foremost, there is the issue of identity politics: who has the right to speak for/about whom and what role should non-members play in articulating a community's history, authority, or beliefs? In most contexts, there are multiple authorities, communities, and communication pathways to be honored and navigated for digital researchers. A researcher might need to navigate permissions for use of the data by the institutions holding the material, family or clan members with an interest in the materials, the tribal cultural heritage officer charged with preserving the tribe's history, as well as the tribe's governing authority. Significantly, in colonial-centric collections, only the first step is required and/or commonly completed. What would it mean for researchers to have to discuss use of Lone Dog's Winter Count with the Yanktonai Winter Count community, descendants of those who created these pictographs? It likely would not only assist in their understanding of these images but also might trouble their interpretation by suggesting differing ways of knowing that a non-Yanktonai might have.

Most scholars do not understand these layered and interwoven interests. Instead, they assume permission or support by a single individual or body is representative of all stakeholders. A scholar interested in doing a digital project using cultural heritage of Miami Indians derived from colonial-centric collections should consider securing permission from both the Miami Tribe of Oklahoma as well as the Miami of Indiana. Within those communities, there are likely several groups who control access to the history and archives of the community that must be reconciled before a project begins. Every community, every tribe, and even a single family might differ in their sense of what is appropriate for research or reuse and dissemination. Hence, there is no expedient or universal solution. Instead, research in Indigenous contexts often involves the development of relationships over an extended period of time. In some cases, it might also involve abandoning an entire digital effort because the community is not in agreement about its desire for or need of a specific project or about the right to circulate particular

[28] Linda Tuhiwai Smith, *Decolonizing Methodologies: Research and Indigenous Peoples* (New York City, New York: Zed Books, 1999). Although concerned primarily with analog materials, Smith's work serves as a useful primer for those unfamiliar with Indigenous research practices.

data.

Considerations of this digital research ecosystem have been inadequate except in rare cases such as those facilitated by the Indigenous content management system Murkutu. In part, positive reception for Murkutu is a result of its alignment with community-driven values and use policies articulated by Indigenous community members. However, Mukurtu and its developers have publicly recognized that it does not fulfill long-term preservation and storage needs for Native-held curation.[29] Best practices or guidelines about the process of working in digital environments with Native American communities exist. Archaeologists and museum professionals have achieved gains in attempting to address engagement with tribal communities and research[30] via the work of the Intellectual Property in Cultural Heritage network,[31] yet that work has not widely proliferated among the interdisciplinary humanities nor the digital humanities more generally. Within the archival community, the recent adoption in August 2018 by the Society of American Archivists of the *Protocols for Native American Archival Materials* marks a significant moment for those working in Indigenous data cultures.[32] It relied on twelve years of work by the members of the Native American Archives Section to encourage the recognition that Native peoples are sovereign political entities that deserve consultation and consideration when it comes to collections held by non-Indigenous collecting institutions. For the purposes of our exploration it is worth highlighting how SAA frames the challenges of colonial-centric data about Indigenous peoples:

[29] A useful interview with project lead Kimberly Christen-Withey on digital preservation and ethical care via Murkutu is available at: https://ndsa.org/2017/03/15/digital-preservation-ethical-care-and-the-tribal-stewardship-cohort-program-an-ndsa-interview-with-kimberly-christen.html

[30] On issues of information architecture and archiving in Indigenous contexts, see Timothy Powell and Larry Aitken, "Encoding Culture: Building a Digital Archive Based on Traditional Ojibwe Teachings." *The American Literature Scholar in the Digital Age, ed. by Amy E. Earhart and Andrew Jewell (Ann Arbor: University of Michigan Press, 2010)*: 250-74; Ellen Cushman, "Wampum, Sequoyan, and Story: Decolonizing the Digital Archive." *College English* 76, no. 2 (2013): 124; Siobhan Senier, "Digitizing Indigenous History: Trends and Challenges." *Journal of Victorian Culture* 19, no. 3 (2014): 396-402; Kimberly Christen Withey, "Does information really want to be free? Indigenous knowledge systems and the question of openness." (2012); Elizabeth Joffrion and Natalia Fernández,"Collaborations between Tribal and Nontribal Organizations: Suggested Best Practices for Sharing Expertise, Cultural Resources, and Knowledge," The American Archivist 78:1 (Spring/Summer 2015): 193. An excellent example of how museums articulate their engagement with Native communities is via the School for Advanced Research's Communities + Museums guidelines. See https://sarweb.org/guidelinesforcollaboration/ for this resource.

[31] Intellectual Property Issues in Cultural Heritage, https://www.sfu.ca/ipinch/.

[32] A notable exception to this is the "Policies and Protocols for the Culturally Sensitive Intellectual Properties of the Penobscot Nation of Maine" working group, https://www.sfu.ca/ipinch/project-components/community-based-initiatives/developing-policies-and-protocols-culturally-sensitiv/. On archival protocols for Native American and Indigenous materials, see the Society of American Archivist's "Protocols for Native American Archival Materials."

> Archivists and librarians taught to champion intellectual freedom and unfettered access to resources may be troubled by the notion that in Native American and other Indigenous communities knowledge can be collectively owned and that access to some knowledge may be restricted as a privilege rather than a right. These views of information are not irreconcilable, given that archives and libraries often contain restricted materials, classified materials, secret materials, or materials that may not be accessed until some future date. Native American communities and individuals may also need to achieve an appropriate balance of rights and understandings with respect to archival materials and traditional knowledge. Archives and libraries should work with Native American communities on these issues as they apply to the general public.

The framing of Indigenous data as a parallel to classified and restricted materials that might require their withholding from researchers is intriguing. It suggests a more systemic approach to the traditional knowledge labels employed by Mukurtu that allow for individual items and collections to be withheld from view not just to members of the public but also to members of the originating community who might not be of the appropriate clan, stature, gender, or position. This is more in line with how many communities represent knowledge access inside the tribe. Importantly, these protocols have the potential to reshape ethical work with Indigenous data.

Archival and information science scholar Ricardo Punzalan has observed that ethical archival work must be both prospective and retrospective in our treatment of collections metadata. The SAA protocols offer detailed considerations for prospective treatment of collections. Further elucidation is needed through the implementation of the retrospective guidelines which suggest that "at the request of a Native American community, avoid artificially prolonging the life cycle of sensitive documentary material. Some items, such as a photograph of a sacred ceremony, or object, or culturally sensitive documentation of a burial, should not be preserved forever or may need to be restricted or repatriated to the culturally affiliated group." How though does a descendent of an individual photographed by early anthropologists find images of their ancestors if metadata is sparse or does not align to their own Indigenous ways of knowing? How do researchers retrieve previously available digital materials from a collection that now might be embargoed by a community? How would a researcher be contacted by a holding institution to remove a digital artifact from their published and completed project because of community concerns? Colonial-centric collections of Native data have largely been able to avoid these considerations because they are not per-

ceived as being tied to contemporary peoples. As such, their use is considered part of the "common good" mission of these archives, libraries, and museums. Revising metadata associated with colonial documents, particularly colonial photographs of Indigenous peoples, can be one way to illustrate ties to contemporary Indigenous peoples. But that process requires significant negotiation with US governmental agencies and archives who maintain the records. It is important to pause here to note the difficulty of thinking through digital Indigenous data cultures when non-Native data structures continue to frame both analog and digital records. Archives and collections, like those of the Library of Congress, were built upon colonial collecting practices and retain the established metadata standard even as records are digitized and disseminated through new mediums.

The Peril and Promise of Digital Circulation

Concerns about reproducing colonialized collections are heightened when the historical record is digital. Digital assets, including digital archives, exposed via the web are subject to endless and unanticipated refraction or what anthropologist Michael Wesch has called the endless remix.[33] While images and documents may be carefully contextualized within a given web-based project domain, those images and documents are susceptible to infinite and unanticipated refraction…the endless internet remix and/or misuse. There can be no doubt that this refractive process of digital reproduction and sampling has a profound democratizing potential under the aegis of "open access" and that images and documents depicting historical trauma can be used to educate and empower social justice movements. Heritage items are not, however, passive entities. Our art and art history, anthropology, and museology colleagues have long contended with the repressive and active dimensions of art reproduction which transform such objects to objects of political speech including white supremacy. This is the inherent risk of open access. Open access allows for objects to be divorced from their conditions of production and contexts of interpretation for all forms of reuse.

Johanna Sassoon argues that digital translation is a cultural process driven by market forces in a political arena and not simply a technological transposition.[34] Mass media consumption has conditioned us to apprehend the surface of digital images, not to read them. To combat a growing tendency to view images this way (and push back against the potential violence such decontextualized, super-

[33] See Michael Wesch, "An anthropological introduction to YouTube" (2008) and "An anthropological introduction to YouTube.[online]: YouTube." *Retrieved October* 15 (2008): 2009.

[34] Joanna Sassoon, "Photographic materiality in the age of digital reproduction." *Photographs objects histories: on the materiality of images* (2004): 186-202.

ficial readings can do in the context of difficult and contested heritage), Joan M. Schwartz argues that we must learn to read images like documents. This requires that we:

> recognize that photographs, like maps, are linked to the exercise of government and business, and ask how they function as 'a silent arbiter of power', how they 'express an embedded social vision' and how they operate through the 'sly rhetoric of neutrality'.[35]

In a slightly different vein, Seminole-Muscogee-Navajo photographer Hulleah Tsinhnahjinnie points out that one cannot understand images of Native Americans until you understand the history. Crow Creek Sioux essayist Elizabeth Cook-Lynn reminds us, in American history, "the white . . . individual . . . [is] at the center . . . and the Native is a mere prop."[36] The notion of Native people as "prop" or an object upon which history and historical actors act elides the agency of Native people within their own histories. If we return to our question of erroneous or problematic metadata, how do we go about correcting an object that has been remixed and reused? There currently is no automated way to identify incorrect data and change it throughout the internet. Instead, each individual instance of the use of the asset must be tracked and modified. Given that many digital assets about Indigenous peoples serve as illustrative fodder for analog works, the potential to positively amend the historical record can seem impossible. Lone Dog's Winter Count is one such artifact. Digital images of it abound via search engines, it has been embedded within the Smithsonian's educational resources on winter counts using its informal title. But the more expansive catalog record described above is central to understanding the context of the cultural heritage data and is not available to digital search engines. Instead, you must access Lone Dog through the Smithsonian's Collection search interface. Additionally, as discussed below, there is a problematic parallel within the digital space where Indigenous peoples and their histories serve as subject matter for the platform rather than as collaborator.

Performing Archive: Curtis + "The Vanishing Race" is a Scalar 1.0 project that was developed in 2013 by Jacqueline Wernimont, formerly Assistant Professor of English and Digital Humanities at Arizona State University; Heather Blackmore, PhD student at the University of Southern California's School of Cinematic Arts; David Kim, a Ph.D. candidate in Information Studies at UCLA; Ulia Popova

[35] Joan M. Schwartz"" We make our tools and our tools make us": Lessons from Photographs for the Practice, Politics, and Poetics of Diplomatics." *Archivaria* 40 (1995) quoted in Joanna Sassoon, *Photographs objects histories: on the materiality of images*, 204.

[36] Elizabeth Cook-Lynn, "The Lewis and Clark Story, the Captive Narrative, and the Pitfalls of Indian History", in *Native historians write back: Decolonizing American Indian history*. Susan Miller, and James Riding In, eds. Texas Tech University Press, 2011: 47.

(Gosart), a Mellon Digital Research and Scholarly Communication Fellow; and Beatrice Schuster and Amy Borsuk, formerly undergraduate Mellon Fellows at Scripps College. "A robust consideration of the relationships of historical and emerging scholarly and archival technologies with histories of race and national identities" according to the project's authors, Performing Archive was "a pilot that would offer the Claremont College community a working model not only of collaboration within the consortium but with regional R1-level institutions as well." Funded by the Andrew W. Mellon Foundation, Performing Archive provided a digital space to explore one of less than 300 existing complete sets of the twenty volume, *The North American Indian*, by Edward S. Curtis that was held within the consortium. The authors explain:

> Because we were using existing digital collections, we were able to focus on the development of interfaces, visualizations, and scholarly material to help students and researchers contextualize Curtis' work.

In their 2014 project reflection "Performing Archive": Identity, Participation, and Responsibility in the Ethnic Archive," Wernimont and Kim clarified that their intent was not to reproduce an archive of Edward Curtis' work nor to explore Curtis himself. Those endeavors are sufficiently covered by other Curtis-focused projects including the named collection of the Library of Congress. Instead, they shifted "collective effort toward a different framing that is reflective of how recent consideration of Curtis's work shifts the attention toward the subject's 'performance,' as well as new ways of thinking about the images." They desired to "reflect on the particular cultural and epistemological authority traditionally invested in the archive, and to explore ways to unpack the construction of Curtis' visual ethnographic archive."

Even as they noted the problematic nature of Curtis' work in the textual accompaniments, the choice of the project to highlight its interface (and its possibilities) obscured the stereotypes that these images reproduced. While it is true that many Native peoples who participated as photographic subjects volunteered for Curtis' efforts, the images themselves have become de-historicized and unmoored from the contexts of their production. A subsection of the Scalar project "Public Domain and Indigenous People's Rights"—part of a chapter on Contextualizing Curtis, the North American Indian, and Race—briefly highlights the problematic nature of the archive. Undergraduate Mellon Fellow Amy Borsuk notes that the US system of intellectual property which privileges individual ownership and cessation of authorial rights is in conflict with Indigenous people's cultural practices. Borsuk writes:

> This [the collection of Indigenous knowledge under colonial sys-

> tems] means that objects, images, songs and art that are circulated outside of the Indigenous community are being [sic] still sacred, but being removed from their sanctified context and removed from the community. This takes agency away from Indigenous peoples from being able to protect and regulate the public use of their property, as well as the sanctity of their heritage. It also degrades the original culture and causes the object to lose its original cultural meaning. To infringe on usage of Indigenous property by culturally appropriating spiritual rituals, artistic designs, songs, or even photographs of Indigenous people is considered an ethical violation of human rights, but is not legally offensive.

In writing this, Borsuk and her collaborators seem to differentiate between the appropriation of Indigenous property and the display of Indigenous communities. In part, this may be a result of their larger epistemological approach. Quoting Dana Williams and Marissa Lopez in their work on the "ethnic" archive, Wernimont and Kim argue that "Performing Archive" constitutes a post-colonial project where "the digital archive as a site of critique and interpretation, wherein access is understood not in terms of access to truth, but to the possibility of past, present, and future performance." What marks this effort as problematic from an Native studies methodological and epistemological approach is that the performance of the archive that is re-centered is decidedly not Indigenous but instead centers *the project team* as the authority on the images. The Performing Archive team considers their own use of the Curtis images not as an ethical question about the reproduction of colonial images and Indigenous stereotypes separate from their communities of origin but as an opportunity to provide training to undergraduate students.

It is important to note that the Performing Archive team devoted an entire chapter to "Consulting with Tribes as Part of Archive Development". Independent scholar Ulia Popova, who notes her lack of familiarity with Native American and Indigenous Studies, provides an overview of legal policies related to tribal consultation. She writes, "With a three-month time frame for this project, we decided that we could best serve the future of the project and the field in general by compiling an authoritative resource for future development of this project and those facing similar situations." By choosing to focus on abstracted "consultation" rather than the actual protocols that they implemented it is possible that the scholars' never consulted with any tribe that might have been represented in the Curtis' images.[37] In their project reflection, Wernimont and Kim note that

[37] Deirde Brown, George Nicholas, Tamara Northern, Wendy-Starr Brown, Shamoon Zamir Allison Mills, and others have readily highlighted the problematic nature of Curtis' work and the ways

tribal consultation was a "future" opportunity. Wernimont's 2017 reflection on the project "Remediation, Activation, and Entanglement in Performative (Digital) Archives" presented at the Modern Language Association and then via blog post pushes the problematic abstraction even farther. She writes:

> So we understood this project as something other than an essentializing access project. Thinking of "performance as critical discourse allows for focusing attention on data, not only as accumulation of cultural material, but also as a source to how data lives and operates within a culture by its actions." Thus, performance helped us reorient away from thinking of the data that we were creating and aggregating as something upon which other forces would act and toward the idea that the data was already acting—crafting "indianness" as near absence.[38]

This fundamental belief, that data about "indianness" acted as "near absence" confirms Viznor's concerns in his work on native survivance. The communities documented by Curtis are not absent today. They have not disappeared; rather colonial processes have inculcated non-Natives to believe that "near absence" and "disappearance" are accurate representations of Indigenous communities. This, for Native American and Indigenous Studies scholars, is often the first act of educational correction; Native peoples have not disappeared. They are not absent. Instead, they are frequently ignored as a result of the colonial processes that have become the dominant Indian-white relationship.

Rightly, Wernimont argued in 2017 that the project ultimately reproduced systems of power and privilege. She wrote that it was a "really excellent example of small and incremental difference on top of essentially the same repressive and violent structures."[39] However, by divorcing this autoethnographic reflection from the primary Curtis project, the over 9,000 users are not sensitized to the author's own problematic reconciliation with the work. A further example illustrates where the lack of engagement and retrospective effort leaves the project floundering. Wernimont and Kim note that the ability of a user to "comment" on a photograph or portion of text offers possibilities for dissent and discussion among users. The redemptive opportunities of this dissent though do not overcome the fundamental problem for those working in Native American and Indigenous Studies. As Choctaw historian Devon Mihesuah noted as early as 1993:

> Intrusive research of American Indians and publication of informa-

in which the photographs and films produced were manipulated.

[38] Jacqueline Wernimont, "Remediation, Activation, and Entanglement in Performative," (Digital Archives), Modern Language Association, 2017.

[39] Jacqueline Wernimont, "Remediation, Activation, and Entanglement."

> tion that tribes do not wish disseminated to the general public constitute a major source of interracial conflict. Dissension between those who desire to keep their cultures sheltered from curious interlopers and those who cry academic freedom undermines the credibility of all scholarly studies.[40]

This is particularly problematic within Native American studies when the core materials of research are held by colonial institutions (here, the Library of Congress, Claremont College, etc.) These objects are "open" as determined by the holding institution and the associated US copyright law. Again, the SAA Protocols are instructive here:

> Existing copyright legislation does not address issues of significance to Native American communities such as: community ownership of works and management of rights; community interests in public disclosure of religious or sensitive information; protection of older or ancient works (e.g., rock art); the antiquity and accumulative nature of traditional knowledge; and the protection of oral traditions, songs, and other culturally sensitive intangible property. In some cases, Native American knowledge has been copyrighted by outsiders without appropriate permissions or approval.

Recommending consideration of the expansion of moral rights to protect Indigenous materials, the protocols also note that restricting collections and/or undertaking repatriation activities might be required in addition to consultation, education, development of Indigenous collections policies etc. Outside of their purview though is the question of how to support these activities. The lack of tribal resources to support the infrastructure needed to repatriate analog and digital collections is potentially overwhelming. Few tribal communities are in the position to ingest the materials without additional funding to support their preservation, storage, management, or destruction. So too is the potential work needed to be undertaken by archives to align their work to these new Protocols.

Aligning the SAA protocols to Indigenous-centric data cultures allows us to explore new projects that can help guide researchers who seek to engage with NAIS materials in the digital environment. In "Indian Nation,"[41] Claudio Saunt uses a geographic information system to allow users to identify and locate Indian communities from the 1900 census. Users can select communities visually, through community names and location listing, or by locating oneself. Each community

[40] Devon A. Mihesuah, "Suggested guidelines for institutions with scholars who conduct research on American Indians." *American Indian Culture and Research Journal* 17, no. 3 (1993): 131-139.

[41] https://indiannation.org/

is identified by name, number of members, links to any official community websites. All individuals listed on the 1900 census are included as individual biographies. These are collected through solicitation to the general public, the descendent community, and NAIS scholars. While portions of the project are still in development, its fundamental positionality related to Indigenous data is quite different from other projects that focus on census publication. Saunt recognizes that the cultural record of the census is entirely fragmentary. To counteract the simple listing of names, he allows users to upload biographies, photographs, and other documents that can contextualize the community and its members. Two hundred thirty-seven thousand named Indians are represented through this portal.

The Genoa Indian School Digital Reconciliation Project[42] provides another compelling example where collaboration and engagement with community advisors are enabling the generative capacity of difficult heritage in Indigenous-centric data contexts. The project homepage describes how returning these Federal Indian boarding school records to American Indian families and tribes "is an act of archival reconciliation—bringing history home". Looking beyond project-based websites, new forms of scholarly publishing platforms like Manifold[43] are also expanding inclusive possibilities for engaging Native knowledge holders in formats that advance community-based priorities. A current publication project focused on the Greater Chacoan cultural landscape in the US Southwest is working with the University Press of Colorado to use the Manifold platform to integrate different forms of Native and non-Native knowledge and understandings of this landscape. In lieu of a conventional written chapter, some Native collaborators in this publication project elected to record videos in Chaco Canyon in their Native languages with English subtitles as a way to achieve multiple goals: advance Indigenous language preservation, honor place-based knowledge, facilitate the intergenerational transfer of knowledge, and honor culturally specific linguistic practices. While this project is currently in press, these films are available through the current project Manifold page[44] and through Vimeo.[45] Importantly, these are only a few positive examples of what is possible through Indigenous-centric data cultures. What marks these projects as positive developments is that they understand the nuanced ways in which Native communities are at risk through the continuing proliferation of colonial-centric data divorced from descendent communities.

[42] https://genoaindianschool.org/

[43] https://manifoldapp.org/

[44] http://read.upcolorado.com/read/table-of-contents-with-videos/section/3bd2cfca-c4a3-49ab-a393-b487ef739341

[45] Ernie Vallo, Pueblo of Acoma: https://vimeo.com/263076308, William Ben-Begay Tsosie Jr., Navajo Nation: https://vimeo.com/263066383

To conclude, the desire to expand access to digital collections by and about Native peoples is both well-intended and incredibly problematic. For communities of descent, the continued dissemination of images and artifacts of ancestors gathered during the colonial process has a contemporary impact that can be both generative (e.g. Lonetree 2014) and destructive. For communities who have been traumatized through colonization, the desire of digital humanists to use their ancestor's histories as data to be experimented upon recall a past where Natives were casualties to be acted upon rather than sovereign agents of their own lives. The ethical, and we argue the *only* path forward is through slow, thoughtful, inclusive, and collaborative practices that recognize and privilege indigenous-centric research practices and ways of knowing.