

Abstract

Communicating archaeology to non-expert audiences can convey the value of the discipline, implant respect for heritage, and connect descendant communities to their past. A challenge facing archaeology communicators is to translate complex ideas while retaining their richness and maximizing audience engagement. This article discusses how archaeologists can effectively communicate with non-experts using narrative and visual tools. We provide a communication strategy and three case studies from North America. The examples include the packaging of archaeological theory in the shape of mystery novels for student consumption; the use of artwork to anchor archaeological narratives in public outreach; and, the use of historical fiction to reformat archaeological content for Indigenous communities. We conclude with a discussion of outreach capacities and some of the risks and rewards of professional interactions with non-archaeologists.

Introduction

For millennia of human history, we have imbedded morals, explanations of our surroundings, and the tenets of our survival within stories (Gottschall 2012; Haven 2009, 2014). Our brains are hard-wired to respond to well-told narratives that elicit emotions, which in turn, imbue meaning (Damasio 1994; Gallagher et al. 2000; Norris et al. 2005; Pinker 1997; Shaffer et al. 2018; Stephens et al. 2010; White 1980; Yeshurun et al. 2017). When employed in science communication, storytelling is a powerful way to convey content to public audiences who can use that knowledge, in this case archaeological, to inform their lives.

This article discusses a method of science communication employing narrative that retains the richness of complex ideas and data generated through archaeological research while maximizing engagement with non-specialist audiences. We support these concepts with three case studies from across North America that rely on a shared communication strategy outlined below. The examples include the presentation of complicated archaeological theory to undergraduate and graduate students using dialogue and narrative; an outreach initiative that uses contemporary artwork and narrative to captivate public audiences; and, an Indigenous engagement project that uses narrative and historical fiction to convey archaeology to local communities. We conclude with a discussion about archaeologists' current and potential communication capacities.

Stories are immersive journeys that allow us to vicariously participate in experiences, bringing new understandings that make morals stick, encourage reflection,

and motivate action (Cron 2012; MacIntyre 1977). Archaeological information relayed within a narrative framework can be more relatable and compelling (Van Helden and Witcher 2019). The relevance of science to modern issues is also better understood through contexts provided by narratives (Dahlstrom 2014; Dong 2017; Egan 1986; Klassen 2007; Martinez-Conde and Macknik 2017; Miall and Kuiken 1994). Merits aside, this paper discusses a challenge to the adoption of storytelling in academia: archaeologists, and scientists more generally, were traditionally trained to avoid storytelling and to communicate to a narrow audience—other academics (cf. Halliday and Martin 1993; Olson 2015).

Undergraduates, graduate students, faculty, and industry archaeologists are rewarded for effective communication of technical content, scientific validity, and astute interpretations in the form of essays, archaeological permit reports, and peer-reviewed publications in archaeological journals. These scientific modes of information exchange that are learned through academic discourse are largely inaccessible to non-specialists because content is restricted to paid subscribers or relegated to non-public archives (e.g., peer-reviewed journals or government holdings of permit reports). Even if these documents are physically accessible to the public (e.g., through open access journals), they assume a knowledge base that takes formal training to acquire, they are laden with discipline-specific jargon, and the format (methods, results, and discussion) typically fails to stimulate the uninitiated (Fagan 2002; Watkins 2006). By inadvertently shunning narrative techniques that have proven successful in other contexts throughout history, archaeologists until recent times carved a communication gap between those who created knowledge (professional archaeologists) and a public body who benefited from it through education, enhanced awareness of modern issues, and re-connecting people to their past (Gransard-Desmond 2015; Van Helden and Witcher 2019).

Communicating Archaeology

Professional pressures of cultural resource management (CRM) and academic literature standards have steadily permeated the ways we think that archaeological information should be communicated and to whom. Academic and industry training often generate professional archaeologists adept at packaging information exclusively for specialist audiences (Fagan 2002). Reflexive outlooks in archaeology have now fostered awareness of communication rifts between professionals, students, the public, descendant communities, policy-makers, and other stakeholders (Kansa et al. 2011; Levy 2007; Lucas 2018; Silliman 2010). This body of work was built on foundational uses of narratives in archaeology in the 1990s (e.g., Edmonds 1999; Kamp 1998; Spector 1993). Gaps between archaeologists and non-archaeologists have resulted in lost opportunities to engage people in important issues such as heritage conservation and protection. Indigenous engagement and community-driven research have

heightened the need to format archaeological information in ways that are accessible to people beyond the discipline (Atalay 2006; Nicholas and Andrews 1997). Increased self-awareness of the conventions and limits of archaeological communication are coming at a time when the vehicles of information exchange are rapidly evolving (Moshenska 2017; Richardson 2018).

The twenty-first century has witnessed an explosion of digital communication with a concomitant spectrum of reliability (Evans and Daly 2006; Huggett 2015; see Peuramaki-Brown et al., this issue; Richardson 2014). Story-makers abound, and it has never been easier to acquire the kernels of an archaeological discovery and relay them with interpretive twists to mass audiences. Media-making equipment has become less expensive, and social media, personal websites and blogs have become more prevalent. As a result, it is increasingly possible for scientists to bypass traditional media-makers to communicate directly with the general public.

However, through much of the discipline's history, professional archaeologists were typically rare participants in the communication of archaeological information to the public (Feder 2018). Academics and industry archaeologists were seldom rewarded for public dissemination of their work and could be slow to adopt new modes of engagement (Bonacchi and Bevan 2012). Most archaeologists continue to confine the majority of our communication to peer-reviewed journals and contract archaeology reports; CRM is built on a business model to satisfy legal permit obligations and needs of the client or developer, so excavation results are presented in technical documents. When considered in combination, journalists, documentary producers, and other media outlets were traditionally the most common deliverers of archaeological content to the public. Left to non-archaeologists, the communicated content can be misleading, distorted, sensationalized, or omit key perspectives or points (Pokotylo and Guppy 1999; Pokotylo and Mason 1991; Ramos and Duganne 2000).

The negative repercussions of inaccurate communication include insensitive portrayals, oversimplified issues, and missed chances to convey why archaeological discoveries are of value in contemporary society (Sabloff 2016). In the broadest sense, information about archaeology can fail to implant the importance of the discipline in the public eye, resulting in a populace uninterested in allocating funds to archaeological research and unwilling to protect heritage (e.g., sensitive archaeological sites). In the case of descendant communities, a lack of archaeological communication robs stakeholders of the opportunity to understand, appreciate, re-interpret, and mobilize their own past to further modern goals (Silliman 2010). Communication issues are not limited to conversations beyond the discipline. Complex archaeological knowledge that is not successfully entrenched in new generations of students can hinder their ability to both apply it and to effectively communicate it to others.

Communicating with Narrative

Narrative is here defined as a method of communication employing a series of connected cause-and-effect events that build on each other: a beginning, middle, and end that frame a problem or issue (Cron 2012; Dalhstrom 2014; Martinez-Conde and Macknik 2017). A major feature of narrative writing is the steady flow of audience attention bound by a plot, setting, characters, conflict, and theme (a moral or intention of the author). This is in contrast to claim-data form or expository text that describes or explains an event or connects observations (data) to a theory (Avraamidou and Osborne 2009). The scientific style of writing to which trained archaeologists typically aspire employs mostly expository text: the most important element is content. Scientific validity is traditionally expounded through the format: introduction, methods, results and discussion (Olson 2015). In narrative communication, however, there is not simply an enumeration of facts but a framework that translates the import behind them, while sparking imaginations. The goal of narrative communication is sustained engagement, such that the audience is willing to acquire information and interpret how it might be applied to their own lives, values, and decisions.

Narratives typically feature a protagonist or main character. In archaeological and other scientific communication that features narrative, this may take the form of an individual (e.g., a hypothetical person from the past or modern researcher), an ancient culture, an animal, plant, landscape, or even an object (e.g., an artifact or building). Secondly, narratives typically feature a conflict or unresolved issue—a question or problem the main character must overcome or solve. Lastly, challenges lead the characters on journeys, which result in closed endings that at least allude to a resolution and provide the stories with a point or purpose (McKee 1997).

From the earliest stories in human history to modern Pulitzer Prize-winning literature, narrative remains a time-tested technique to convey information (Gottschall 2012; Haven 2009, 2014; Pinker 1997). Storytelling often speaks in the first person or through the eyes of a particular individual and, consequently, involves personal perspectives, emotions, and biases—all things typically considered contrary to traditional science communication. As a result, storytelling within science and archaeology can be perceived as unprofessional, manipulative, simplistic, and/or sensationalist. However, we argue that narrative can be a powerful way to package rich and complex archaeological information to make it compelling to a broad and diverse audience of non-experts. Further, it is a communication method that not only reaches audiences but moves them to reflect and act.

Narrative Communication Method

We outline four steps to develop narrative-based communication programs: 1) identify the key points that need to be communicated, based on clearly defined goals; 2) identify demographics of the target audience(s) and why they would care about the content; 3) tailor archaeological information to the audience (platform, style, tone, length, etc.) and create a narrative to share it; and, 4) evaluate successes and failures. This basic series of steps is outlined below, then applied to three different case studies.

1. Identify key information and the communicator's goals

The first step is to identify the main information to be communicated with a clear goal to help focus on the relevant data required to elucidate the main points. The goal can be to address a communication gap, such as a public misconception about Indigenous history, or a struggle among students to grasp concepts that would make them better archaeologists. Alternatively, the communication strategy may stem from a societal problem or challenge; for example, some Indigenous people do not have access to their history, or heritage sites are being destroyed because some branches of the public do not value protection. Holtorf (2007) outlines three helpful models to motivate outreach. The education model delivers content that contributes to enlightenment and competence of citizens; the public relations model improves the societal perception of archaeology to increase social and political support for archaeology and legislation; and the democratic model offers tools to non-specialists to dictate their own heritage-related projects and interpretations. Many archaeological projects are combinations of these, but a succinctly defined communication goal will ensure that the narrative thread remains tight.

2. Identify the audience

Identifying the intended audience is essential for a communication strategy to have a lasting impact (Illingworth 2017) and it is helpful to think in terms of marketing a product (Holtorf 2007). Businesses identify the demographics of intended clientele (e.g., age, gender, income, education) and identify the context of their product (e.g., the product life span, its competition, the most likely reasons for it to fail, and the mode through which it gains access to a market). When applied to archaeological outreach, how will the audience receive jargon, data, images, and other conventions of traditional archaeological communication? If a communication product is intended for public consumption, what is the average audience member's reading level? For example, digital communications are typically arrived at through scrolling and have a few seconds to captivate a time-starved audience before they move on. On the other hand, the development of curriculum content presumes a captive audience but with specific needs including retention and the testability of material. It is also important to identify why the audience should care (e.g., the relevance to their own lives). Professional

archaeologists are trained to share data and interpretations among peers because they advance knowledge; however, communication with non-specialists should serve a need defined by the audience (Wiegold 2001). Understanding the target audience's priorities, concerns, values, and preferred modes of communication can improve success.

3. Tailor content and develop a narrative

Crafting content for the intended audience involves choosing a platform (i.e., blog, video, live talk, book, artwork), style, tone, and length. We advise a realistic winnowing of archaeological material from that which archaeologists find interesting to that which your audience will be attracted to and retain with a meaningful impact. Winnowed content should then be presented in a creative way. The options for tailoring content are endless, but logistics can be a healthy constraint on creativity; for example, what is the budget and what do schedules, skillsets, and/or workloads permit? When it comes to developing a narrative, there are fortunately many publications that outline techniques for scientific thinkers (Berger 1997; Conant 1947; Cron 2012; Egan 1986; Gudmundsdottire 1995; Herman 2003; Martinez-Conde and Macknik 2017; McEwan and Egan 1995; Nash 1990; Norris et al. 2005; Phelan 1996; Polkinghorne 1988; Ruse 1971; Solomon 2002). Narratives can stimulate or challenge audiences; a perusal of past successes involving an intended audience will help craft content and choose a narrative. In general, the empathy that researchers employ to identify with their audience should spill into the tailoring of archaeological information and the selection of narrative techniques to deliver it.

4. Evaluate the communication program

A tempting outcome of an outreach or communication effort is to move on after completion. Communicating with non-specialists has been compared to a muscle that needs constant work to develop (Olson 2015); self-evaluation ensures that professionals continue to hone communication skills (Illingworth 2017). Evaluation can take many forms, including scanning audience feedback or comparing a communication outcome to others of accepted success or failure. Online metrics of readership and engagement are helpful ways to gauge success. This overall model of science communication is now followed by three case studies to illustrate how it can be implemented.

Student Engagement: Archaeological Theory in Undergraduate and Graduate Training

Although social theory is notoriously difficult to teach (Orum 1980), academe seems content to bemoan the problem without attempting a solution. The instructors of undergraduate and graduate courses in archaeological theory traditionally assign mostly classic articles as required readings. Unfortunately, however virtuous the content, the

often convoluted and abstract language of major thinkers scares more undergraduates than it inspires. The same goes for edited volumes of essays by recognized experts that are supposed to provide students with an overview of theoretical topics (e.g., Bentley et al. 2007; Hodder 2012). Articles in professional journals and edited volumes are often packed with allusions that pass over the heads of beginners. Matthew Johnson's (2010, 2019) *Archaeological Theory: An Introduction* is an excellent and rare exception to this rule. To exacerbate the problem of teaching archaeological theory, many students (even those with a lot of experience in archaeology) do not see how theory and complex ideas about the way society and culture work are relevant to archaeological practice (Johnson 2010:x, 1-11).

1. Identify key information and the communicator's goals

Faculty instructors of archaeological theory courses have two problems to solve: presenting complex ideas without simplifying them too disgracefully, and convincing students with an inclination to empiricism that theory is actually helpful to stimulate what Shanks (2010) calls "the archaeological imagination." The goals of the ensuing communication strategy are to impart the importance of theoretical training while delivering it through modes that encourage its application.

2. Identify the audience

Many undergraduates are 18 to 22 years old and their limited career experience makes it difficult for them to see the relevance of social theory to their lives. They tend to see theory courses as hurdles to be jumped en route to a degree. Even students with lengthy histories of archaeological field experience may be reluctant to embrace complex archaeological theory because of the empirical emphasis of field training. They can become confused and intimidated by notions that "common sense is not enough" (Johnson 2010:1) and that there are multiple routes to different archaeological interpretations. The important characteristics of this audience include that a) it is generally captive (students are required to read textbooks); b) it often enters the communication strategy with a pre-conceived reluctance to embrace its content; c) it has difficulty seeing how theory helps us to understand the human condition and history; d) it may have a low attention span for unfamiliar and dense content; and, e) its members have completed high school and are comfortable with popular literary devices (e.g., reading dialogue and novels) but can be intimidated by the complex content and format of professional archaeological publications.

3. Tailor content and develop a narrative

Mortimer Wheeler (1954:v) wrote that "dead archaeology is the driest dust that blows." Publications about archaeological theory are often riddled with jargon, lengthy, and require a great deal of contextual knowledge that is beyond most beginners. In fear of

the declining value of the undergraduate degree, instructors often continue to supply complex readings in lieu of more accessible content. To fill the communication gap, archaeological theory can be presented in a digestible format, using plain language, and narratives with which students can identify—or at least do not immediately cause them to turn off.

People notice the unexpected and quirky, especially in a field so self-consciously earnest as social theory. Based on this idea, Praetzelis wrote a series of archaeological textbooks that are intentionally eccentric (to the point of being silly), humorous (to those who share that humor), and unconventional. *Death by Theory* (Praetzelis 2000, 2011) and *Dug to Death* (Praetzelis 2003) take the form of mystery novels (Figure 1) in which theory, ethics, and other matters of debate in archaeological practice are presented primarily through character dialogue. By presenting the characters' differing viewpoints, the author hopes to convey how theoretical models are lenses through which archaeologists identify and interpret patterns in the material record. Theories are contextualized by showing the historical trajectories of their formation. The text is interspersed with strange illustrations that supplement the content and elucidate ideas in unexpected ways to jolt readers—and, of course, to illustrate the storyline.

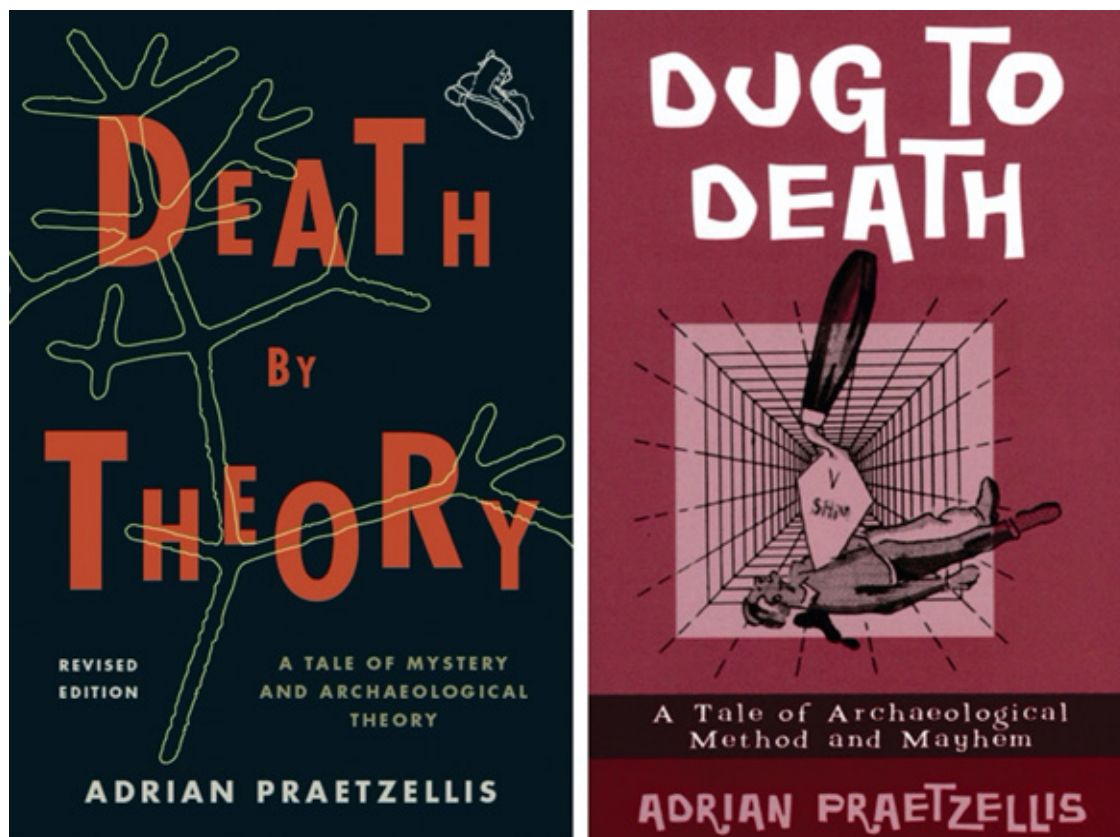


Figure 1. Archaeological theory textbooks in the guise of mystery novels... or possibly the reverse (Praetzelis 2003, 2011).

The key points of this communication strategy are archaeological theory and its context. The path through which these points are reached is narrative dialogue, supplemented by illustrations and other literary devices that nudge the reader from one point to the next.

Archaeologist-novelists, such as Sarah Nelson (2009) and Tom Layton (1997), have used data developed over a lifetime of research to create intricate portraits of other times and places. These works draw the audience in by meticulous attention to detail, character development, and appealing prose style. In contrast, Praetzelis' murder mystery novels have extremely unlikely plots and equally unrealistic characters, through which the writer invites readers to laugh at the silliness of the scenarios. Both reader and writer are aware that the plot is little more than a content-delivery device. The pedagogical advantage of this format is that characters can have conversations about archaeology in plain English rather than in the language of the academy. For example, *Dug to Death* defines "myth" as "A traditional story or belief held by a group about themselves. Not a synonym for legend or lie." (Praetzelis 2003: 223). To illustrate pseudo-archaeology, the protagonist of *Death by Theory* is cornered by a man with a bag full of rocks who is convinced they are ancient artifacts (Figure 2). In their intricate natural pattern of quartz veins, he sees figures made by artisans from a lost civilization. Professional archaeologists are, of course, all against him because his discovery would supposedly undermine the theories on which they have based their careers. Characters use this scenario to talk about evidence, the scientific method, and how archaeologists eventually filter out ideas to achieve consensus. Illustrations like Figure 2 and cartoons throughout the books are an additional means to stimulate thought in a lighthearted manner. Some of the complexity of archaeological theory is retained in a format that discourages young scholars' eyes from glazing over.

The novels are also explorations of historical authenticity that illustrate how archaeologists create the past from material evidence. This conveys the idea that the past is less an object to be discovered than a series of perspectives that can be uncovered by taking a theoretical position. Some readers may find the characters and plot helpful while others may find that the narrative format detracts from content. It is one means of portraying a body of knowledge (archaeological theory) among many and, in this, the genre replicates the process of archaeological interpretation: there are many means to the past.

ROCKS O' MYSTERY

Beachcombing on the Oregon coast, Claude makes the discovery of a lifetime. What might look to others like ordinary pebbles are, on close inspection, intricate works of art, depictions of stately bearded kings and a beautiful princess with flowing tresses.

Perhaps, thinks Claude, these are relics of a lost civilization that sank beneath the waves in an earthquake. Museums would soon be beating down his door and he could move out of the trailer down by the river. On the other hand, they might be a handful of rocks.

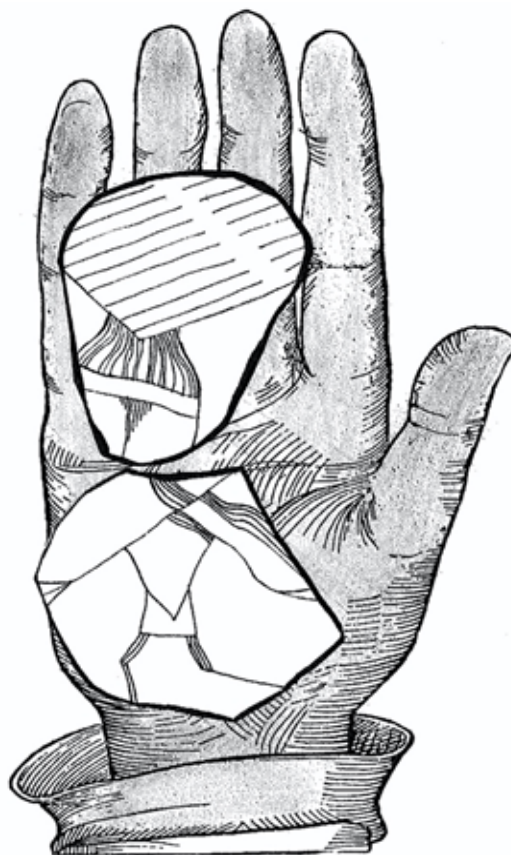


Figure 2. Illustrations from *Death by Theory* (Praetzelis 2011).

4. Evaluate the communication program

Praetzelis is not the only textbook writer who uses dialog to present alternative views, for the technique is as old as Plato. Matthew Johnson (2010:3), for example, wittily employs the opinions of his creation, the “eternal empiricist” Roger Beefy, as a foil to the author’s discussion of archaeological theory. But how effective is this approach in teaching? Didactic novels can be wearisome to read and yet Jostein Gaarder’s 500-page *Sophie’s World* (1995) managed to popularize the history of philosophy, which is not a subject we normally see on the best sellers list. Pedagogical effectiveness is less (far less) important than sales from the publisher’s perspective for “Booksellers bow when volumes sell” (Combe 1844:219). Unfortunately, the ubiquitous second-hand textbook market makes raw new book sales numbers an unreliable measure of these works’ frequency of use in the classroom. Although according to its publisher *Death by Theory* was adopted at more than 45 universities and reviews in archaeological journals are favorable (e.g., Holtorf 2000; Loren 2000), students’ reactions are unavailable. However, the fact that both Johnson’s *Archaeological Theory* (2019) and Praetzelis’ *Death by Theory* (2011) are in their third and second edition, respectively, indicates that the genre is not merely a fad.

Public Engagement: Heritage Art Series

Unless an archaeological discovery in North America approaches a superlative (oldest, newest, furthest, richest), it generally fails to garner national interest from media and the public. This is partially due to a perception that the archaeological record of North America is less glamorous, rich, and significant than records from the Old World, Mesoamerica, or South America (Pokotylo and Mason 1991; Ramos and Duganne 2000). The result is that the vast majority of North American archaeological knowledge is never conveyed to the vast majority of people (Fagan 2002).

Most jurisdictions in North America have a combination of federal and provincial/state legislation that protects sites and artifacts on either or both private and state-owned land. Entire government branches, like the Archaeological Survey of Alberta (Canada), have formed to regulate the outcomes of heritage legislation, which usually involves archaeological work conducted by private consultant companies to satisfy legislative requirements issued in advance of developments. That is, if a developer cannot avoid an archaeological site, it is required to compensate or mitigate for impacts by excavating at least a portion of the site. This industry type of archaeology (CRM) comprises roughly 98% of the archaeological work conducted in Alberta. The Archaeological Survey of Alberta issues legislative requirements for development footprints, oversees archaeological permits, and manages the incoming permit reports, archaeological site information, and other spatial data.

A conundrum exists in that heritage information is rarely conveyed to the public, so there is rarely a demonstration of why that legislation is important and why knowledge of heritage has modern value (Pokotylo and Guppy 1999; Watkins 2006). A potential outcome is that industry stakeholders disgruntled with the cost of protecting or excavating archaeological sites ahead of development could successfully lobby for the abolishment of heritage legislation if political and public support for it are weak. The communication gap between professional archaeologists, the public, and industry is exacerbated by the fact that most archaeology in the province is confined to permit reports and archaeological site forms that are typically not accessible to the public. The vast majority of archaeological work never gets shared with the public and we are left with government heritage bodies that often struggle to demonstrate to the public why they exist.

1. Identify key information and the communicator's goals

To remedy the situation, a public education outreach project was initiated by the Archaeological Survey of Alberta. The goals are to instill in the public a respect for heritage resources and to demonstrate that the past has modern relevance. Specifically, knowledge of human history can inform opinions about modern conflicts of land use, development, public policy (e.g., concerning Indigenous people), public attitudes about

site protection (vandalism), cultural appropriation, and changing heritage legislation in Alberta. The project is run in collaboration with specialists from the Royal Alberta Museum and University of Alberta, and the content involves packaging archaeology, history, geology, palaeontology, and Indigenous studies for public consumption.

2. Identify the audience

The heritage information in this communication strategy is to be accessed voluntarily as opposed to other government documents and content that citizens feel compelled to read by circumstance (e.g., employment, health, or law); therefore, organizers estimated that the typical audience member that makes a choice to access a heritage outreach project will be about 15 years of age or older. While the audience is hypothetically all citizens of Alberta, content is tailored to those with high school reading levels and up. A younger audience would also require specific contents and formats that would not be as appealing to adult audiences. The demographics of the intended audience are broad and include people with no heritage training, people employed in diverse fields, Indigenous people, and non-Indigenous people ranging from new immigrants to families with centuries of history in Alberta. An important component of the target audience is that many may not enter an engagement experience with a preconceived interest in heritage studies.

3. Tailor content and develop a narrative

In a marketing sense, organizers envisioned the outreach project to be competing with myriad other educational content available on bookshelves and the internet, which necessitates a competitive edge or uniqueness. The product lifespan had to satisfy two needs: a long-term source of information that the public could return to over decades but short-term (more ephemeral) outlets that could release communication as it was generated. This related to a logistical constraint in that organizers lacked the budget and time to complete a meaningful outreach project in one year, so it had to be spread over several years, with periodic demonstrations of output in support of ongoing funding.

Magazines offered a suitable venue to satisfy the aforementioned constraints. They reach non-specialists from diverse demographics—farmers, hunters, hikers, mechanics (just about every profession or interest group has some form of popular periodical publication)—and articles can be released in magazines for short-term consumption and stockpiled for eventual inclusion in a book (long-term access). The Archaeological Survey of Alberta also has previously established vehicles of outreach, including a social media presence and blog that presents modes of access to the public; although, followers are typically of a specific background (usually heritage-enthusiasts, both professional and avocational, from across western Canada).

The organizers conceived of artwork as a portal to draw non-specialists into heritage-based stories. As the initial window into the heritage outreach project, the

artwork was intended to be creative, bold, and evocative (as opposed to historically accurate and realistic depictions of events). Accompanying interpretive stories were tailored for the public by employing creative writing as free from jargon as possible, while avoiding the traditional archaeological format (introduction, methods, results, discussion). The resulting project—the Heritage Art Series—consists of a collection of artworks featuring scenes and characters from Alberta’s past, paired with short interpretive stories that explain their significance.

To satisfy logistical constraints, three to four images were commissioned each year (Figure 3). A completed series of 25 artworks will tour the province and neighboring jurisdictions along with a book (in preparation) with one chapter devoted to each artwork. Through a provincial art program, the artwork will visit schools, small museums, art galleries, and public facilities in towns across Alberta over roughly 10 years.

The project transforms what is normally dry, technical, and largely inaccessible information from heritage studies into visually appealing stories with narratives. The majority of narratives are presented in blogs and magazine articles that feature a unifying plot and two subplots. The plot generally follows a chronological series of events that shaped modern Alberta. The unifying thread is an historical trajectory that explains why aspects of modern Alberta are the way they are. Protagonists vary from university researchers to members of modern Indigenous groups or hypothetical characters from past eras. Each story involves explanations of how information about the past is acquired by heritage specialists (subplot one) and why it matters today (subplot two). Both subplots are contextualized by local applications, featuring researchers from Alberta universities and modern issues in the province (e.g., oil and



Figure 3. Sample of images in the Heritage Art Series. The artworks range from 40 to 140 cm².

gas development, urbanization, disaster-response planning, appropriation of Indigenous identity).

A key element of the storytelling is visual, and efforts are taken to acquire or produce high quality imagery (e.g., photographs, infographics, diagrams). The visual basis of the Heritage Art Series is in recognition of the fact that art and illustrations speak to us in ways that words cannot (see Lesen et al. 2016; Zeki 1999). Friedman (2013) notes that artistic expressions can more deeply engage people through an affective domain of learning (attitude and emotion) than through a cognitive domain more common to science (understanding, comprehension, or application). Vivid imagery has a broader appeal to diverse backgrounds than traditional text and elicits emotions that are not typically associated with heritage studies. The past is a dramatic place: visual depictions should capture the color, drama, and excitement of a people's heritage. While knowledge about events and characters in the past is still an important element of the communication strategy, the focus is on a path to knowledge that utilizes storytelling, artwork, and other visual imagery in an engaging narrative.

Included below is an excerpt from *Locale* magazine (Kristensen and Donnelly 2018a) about an interpretive story of pre-Contact hunting in Alberta and the significance to modern Indigenous people of protecting archaeological records of buffalo jumps. The narrative follows an Indigenous interpretive guide at a heritage site in Alberta through his discovery of archaeology and what it means for his community. This is followed by examples of interpretive images associated with this story (Figures 4 and 5).

To Conrad Little Leaf of the Piikani Nation, Head-Smashed-In Buffalo Jump near Fort Macleod, AB and its neighbouring foothills and prairies are both a library and legend woven into his identity. "This place is a story and that story is me, that's who I am," he says. The archaeological site of Head-Smashed-In Buffalo Jump houses an ancient archive of buffalo hunting written in pages of dirt and bone that extends 10 metres into the ground and 6000 years into the past. More important than the estimated 45 million kilograms of meat prepared under the cliffs, Head-Smashed-In anchors a legend of humans immersed in a landscape for millennia. For Little Leaf, the importance of this historic place continues today: "This place is still taking care of us. The story here needs to be told" (Kristensen and Donnelly 2018a: 20-21).

4. Evaluate the communication program

The series is ongoing but has won several public communication awards, and public feedback has been positive as measured through responses to online blogs, public lectures, and magazine articles. To release information about the series, interpretive



Figure 4. Photograph of Head-Smashed-In Buffalo Jump (courtesy of Roth and Ramberg and Alberta Culture and Tourism).

stories are published in magazine formats and online through the Historic Resources Management Branch's RETROactive blog (Figure 6). To date, RETROactive blogs featuring the Heritage Art Series have totaled over 42,000 views over four years. The magazine articles are intended to reach diverse audiences and have been published in A/J Environmental Magazine, Canada's History Magazine, Alberta Outdoorsmen, Wild West, Canadian Firearms Journal, GrainsWest, Wildlands Advocate, Nature Alberta, Outdoor Edge, Canadian Horse Journal, Journal of the Canadian Heavy Oil Association, Maisonneuve, Glass Buffalo, Alberta History, Alberta Craft, Canadian Alpine Journal, Locale, and Alberta's Archaeological Review (Kristensen 2017a, 2017b, 2017c, 2018a, 2018b; Kristensen et al. 2014; Kristensen and Beaudoin 2015; Kristensen and Brink 2013; Kristensen and Donnelly 2015, 2018a, 2018b; Kristensen et al. 2015; Kristensen and Ives 2015; Kristensen and Jass 2016; Kristensen and Macdonald 2017; Kristensen and Martindale 2015; Kristensen et al. 2017; Kristensen and Reid 2016; Kristensen and Woywitka 2015). These audiences range from horse enthusiasts and hunters to environmentalists and farmers, with a combined readership (paid subscriptions) of over 500,000 people. The magazine articles are the foundations of chapters in a book that will accompany the aforementioned touring art exhibition. Posters have also been presented at local archaeology conferences and public events. The art series has been featured in several temporary art exhibits and on local television news programs.

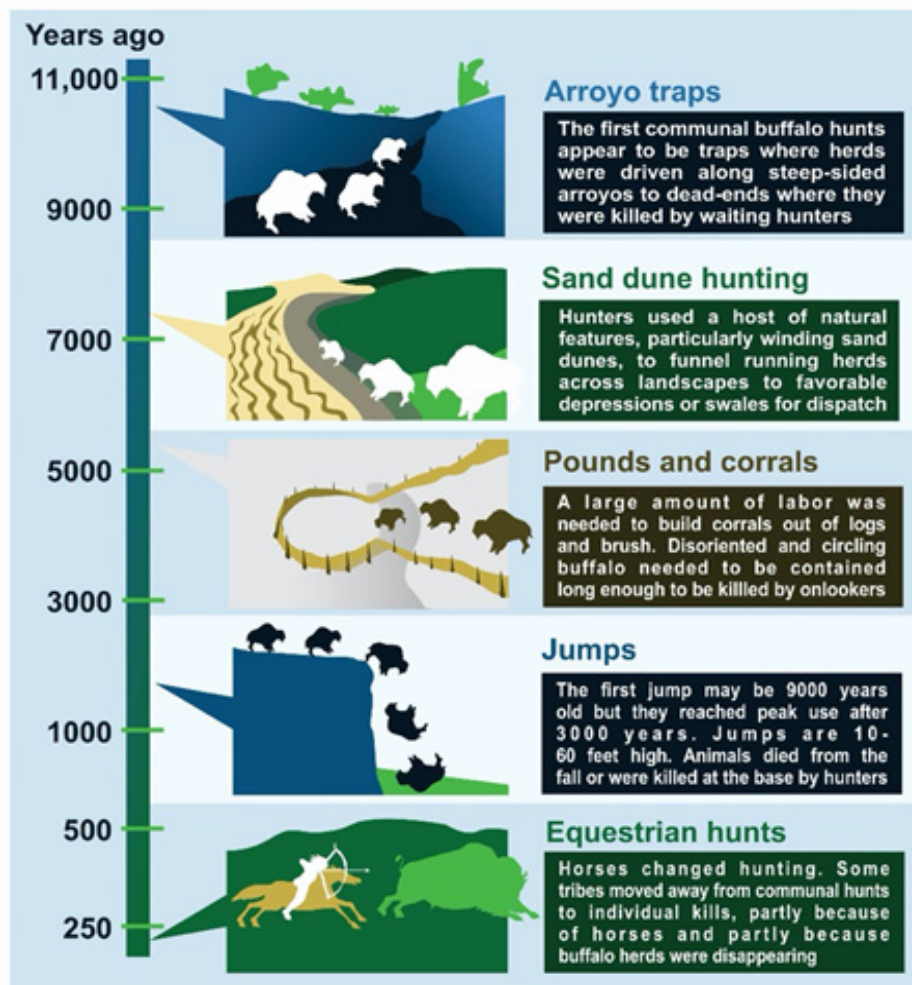
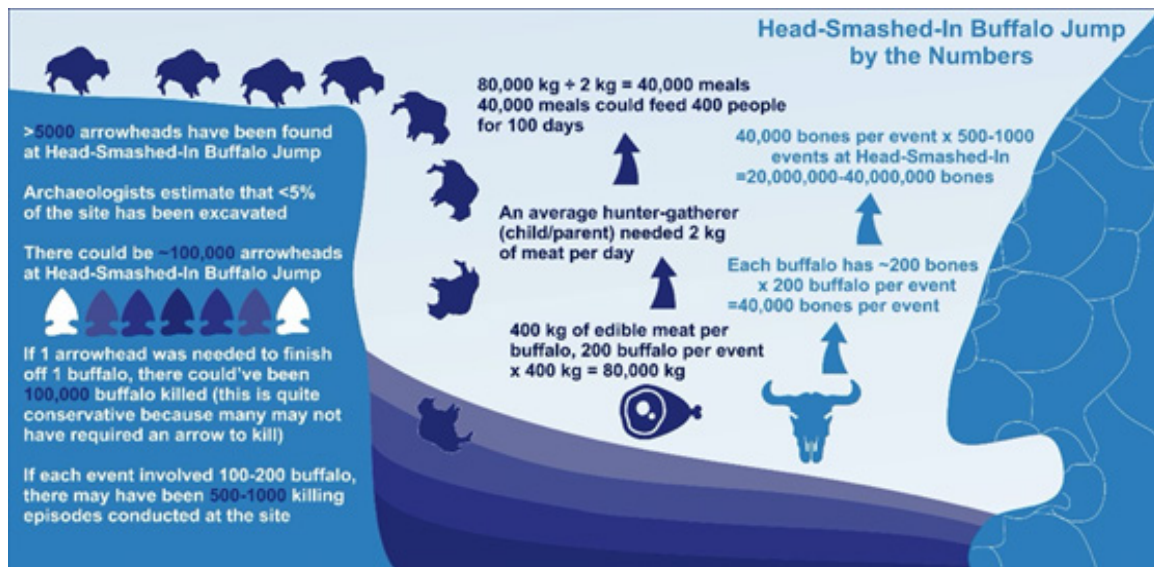


Figure 5. An infographic of meat consumption at a buffalo jump (top) and diagram of buffalo hunting (bottom) that accompanied an interpretive story in the Heritage Art Series (by Todd Kristensen).

A proxy indicator of storytelling success has been the number of times each blog has been shared through social media. Because different narrative techniques were used in each interpretive story, we can evaluate comparative success of social media shares. The most popular interpretive story was about a pre-contact weapon called the atlatl. The blog narrative involved a series of questions and answers meant to engage readers (a dialogue format). The narrative of the magazine article loosely featured a modern hunter as the protagonist who considered the challenges of hunting with ancient weapons. Success of this story in particular may relate to the format but also the audience: North America has a large hunting community with an online presence while heritage enthusiasts are particularly fascinated by pre-contact weapons (e.g., projectile points, which the story featured). The outcome of this evaluation motivated new stories that appealed to professions or recreationists with particularly active internet users.

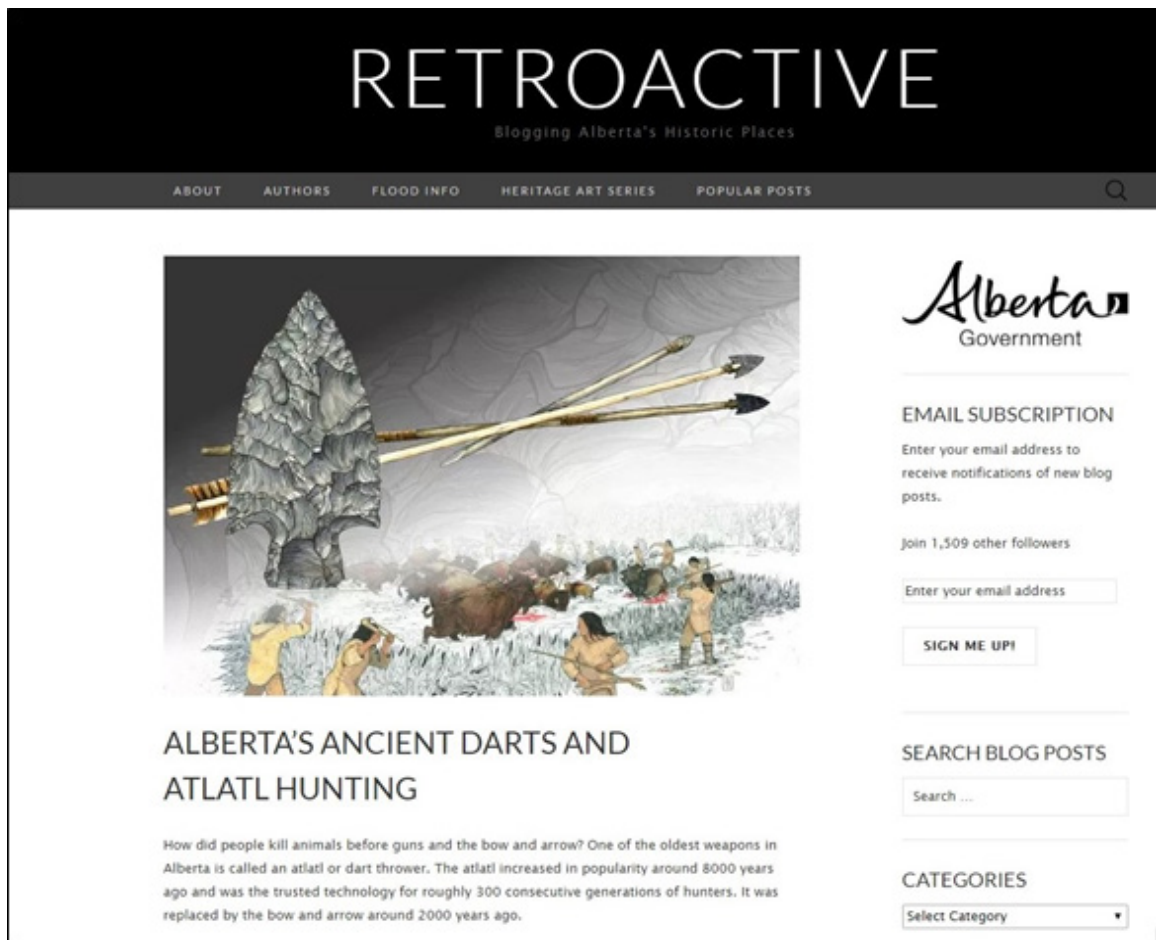


Figure 6. RETROactive blog page featuring the Heritage Art Series (reproduced with permission from the Historic Resources Management Branch).

The least successful interpretive story according to viewership and sharing is about pre-Contact pottery. In hindsight, this story involved the fewest personal dimensions and involved three-dimensional artwork that did not lend itself well to

sharing via the internet. This motivated efforts to improve engagement and focus on individual characters in narratives that the audience could identify with.

Because the communication strategy involves multiple media and continual input, repeated evaluations have proven valuable to improving content and format. This in turn has helped shift the focus of interpretive stories from content that organizers wanted to deliver to a format that the audience wanted to see. That is, we strive to retain the bodies of knowledge but focus more on the way that knowledge is presented and received (for a review of reception studies in archaeology see Moser 2015).

Reconstruction art has a long history in archaeology and curation (Baigrie 1996; Black 2005; Molyneaux 1997; Moser 2001; Perry 2009; Russel and Cochrane 2014; Shanks 1992) but the Heritage Art Series differs from many projects that employ artists. The goal of the artwork is primarily evocative and secondarily interpretive. Each artwork was commissioned to captivate audiences; much like narrative writing, the success of the artwork is evaluated based on degrees of engagement (as opposed to their purely educational value). Other archaeologists have utilized contemporary art to this effect (Renfrew et al. 2004; Cochrane and Jones 2012). Russell (2014) provides a comparative exhibition series pairing modern art with archaeology and heritage in Ireland. Though different in scope, the Heritage Art Series has a similar desired outcome of stimulating thought through the juxtaposition of ancient elements with modern expressions. Our project differs from this and other exhibitions involving art and archaeology in the sense that our artwork is the portal through which readers continue to engage with a narrative or interpretive story that we provide. The Heritage Art Series and other examples serve as reminders that the past is imagined. Archaeologists create the past with modern perspectives: art can be a successful means to express the excitement, drama, and complexity of the archaeological record.

Indigenous Engagement: Six Seasons of the Rocky Cree

A desired outcome of the work of the Truth and Reconciliation Commission of Canada (2015) is to shift the power imbalances facing Indigenous peoples in Canada left by a legacy of impacts from colonization, and colonial state policies and programming (i.e., residential schools; see Supernant, this issue). Reconciliation aims to shift the power imbalances facing Indigenous peoples that affect their quality of life. In many circles today, the word reconciliation has become a buzzword and Indigenous communities and scholars have highlighted that a crucial step is missing in the forecasted journey of reconciliation. Before reconciliation can happen, reclamation of culture, identity, and history has to begin for Indigenous peoples—a step which Indigenous communities at the grassroots level have advocated for many years. Knowledge is powerful and, keeping this in mind, the archaeological community is wise to consider that any research work and its outcomes, with and for Indigenous peoples, can be empowering.

Educators can help Indigenous people reclaim their identity and address troubling issues associated with disoriented youth who do not know where they come from and therefore have trouble knowing where they are going. Connecting youth to their language, culture, and history is critical in the reorientation process. Currently, archaeology plays an underutilized role in the reclamation of Indigenous identity.

1. Identify key information and the communicator's goals

The goals of the current Indigenous engagement project are to reconnect Rocky Cree (Asiniskow Ithiniwak) youth in Manitoba, Canada, with their culture and history; to empower community members by working with them to develop outputs of the project; to initiate Asiniskow Ithiniwak (Rocky Cree) Language reclamation; and to train archaeology students (undergraduate and graduate) and develop capacity building in the community.

The background of the Indigenous engagement project began in 1990 and 1993 when human remains were discovered on the shores of Southern Indian Lake in Manitoba. An Elders advisory council was consulted, and they felt these ancestors were revealing themselves for a reason: to reconnect youth to their past, history, and identity. The council requested archaeologists to help tell the story of these ancestors, share the results of study with the community in accessible ways, and then to rebury these ancestors.

Archaeological recovery and full excavation were conducted in 1994 and a full osteobiography was undertaken at the University of Winnipeg. Tools associated with the burial were studied at the Manitoba Museum. The bones were determined to be that of a woman in her mid-20s. Radiocarbon dates (1635-1670 CE) and tools were a blend of pre-Contact and post-Contact materials indicated that the woman lived during the proto-Contact time when European goods were making their way inland but Europeans had not yet arrived. Once the studies were complete, the woman and her personal belongings were returned home to Southern Indian Lake for reburial.

In 1999, a book was published on the project called *Kayasochi Kikawenow: Our Mother From Long Ago* (Brownlee and Syms 1999), written for the community and for adoption into school curriculum. Funds were not secured to write an associated teachers' guide and the subject matter of the book was not utilized to its full potential. After evaluating the book in hindsight, the book format followed that of a traditional archaeological interpretation focused on tools and analyses conducted by archaeologists. This format remained unappealing to the community, revealing a gap in knowledge transfer that needed to be remedied. By evaluating the successes and lost opportunities of this initial book, participants appreciated the need to reformat archaeological content in a way that showcased a contemporary nation with living history, memory, and culture.

2. Identify the audience

In an effort to re-envision the content and make it more appealing and accessible, a new book publication was sought along with a teachers' guide. The intended audience included community youth, but it was hoped that the book would serve as a model for Indigenous engagement with other communities across Manitoba. At the outset, organizers recognized that the audience included Indigenous youth who would be required to read the contents through school curriculum; readers (aged 10-15 years old) with little to no previous exposure to the practice of archaeology and no particular inclination to the traditional modes of archaeological communication (e.g., typically dry portrayals of technical analyses of material culture and their results); and an age group that often better responds to information when it is contextualized in local surroundings (the community).

3. Tailor content and develop a narrative

The woman originally identified by archaeologists was re-envisioned by William Dumas, Cree Elder and storyteller from Southern Indian Lake, as a 12-year-old protagonist, Pisim, in search of her Miskanow or life path to becoming a midwife. The story was infused with elements of personal recollections and oral traditions that embody Asiniskow Ithiniwak language, teachings, laws, and cultural traditions. To enhance the educational value and appeal of the archaeological information, the belongings that were recovered archaeologically with the woman were included in the story as items that were given to Pisim along her journey. Participants in the project also developed map biographies of the area, including Cree place names based on working with knowledgeable community members, which were incorporated into the story. Cree songs were also recorded and linked to the book as audio files to provide a multimedia presentation appealing to youth and to educators for the ability to teach language in creative ways.

One of the main challenges faced was to represent the area in its pristine and unflooded state: Southern Indian Lake is now a flooded reservoir for hydroelectric power generation. The land does not look like it did when the woman whose remains were recovered was alive. Using archival images, a book illustrator employed representational realism to depict the land as it once was. This was an important part of the project since some of the community youth had no idea that the area is not natural. Other important elements included the need to portray the landscape as a character that interacts with the protagonist through dialogue, English-Cree translations, and sidebars of Cree culture, archaeology, history, maps, and songs that add educational content and guide readers along a narrative path. In 2013, *PĪSIM Finds her Miskanow* (Dumas 2013) was published (Figures 7 and 8).

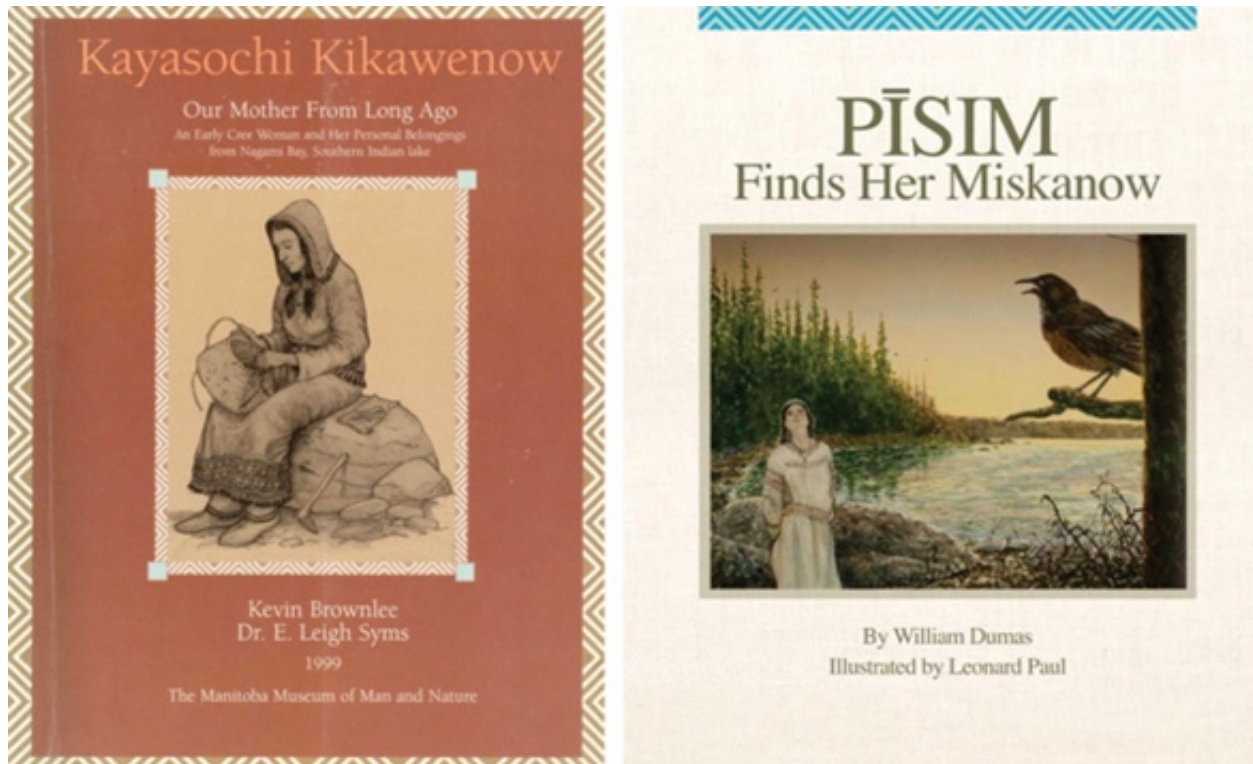


Figure 7. Covers of *Kayasochi Kikawenow: Our Mother From Long Ago* (Brownlee and Syms 1999) and *PĪSIM Finds her Miskanow* (Dumas 2013).



Figure 8. A spread from the book (chapter 1) *PĪSIM Finds her Miskanow* (Dumas 2013).

4. Evaluate the communication program

The book has since won a national public communications award and has been well-received across Canada, as identified through book sales, reviews, and inclusion into school libraries and educational curricula. The success stimulated an application to further this engagement through a seven-year grant that will allow participants to develop five more books; create a new educational curriculum; produce digital texts and applications; contribute to policy development related to Indigenous issues; and build on solid research (community-based oral history, map biography, land use and occupancy, archaeology, and history). Efforts will be taken in future years to work collaboratively with community members to offer richer interpretations of a wide variety of material culture of past people.

Ultimate success of the outreach materials and communication strategy will be measured by the adoption of heritage literacy among community youth, which will be evaluated through research assessments in schools and other community programs in Manitoba and Saskatchewan that are using the books and teachers' guides.

The current outreach initiative compares to other archaeological publications geared towards youth because of a shared desire to format content in accessible ways through contextualized experience (see Cracknell and Corbishley 1986; MacAnany and Parks 2012; Moreno Torres and Márquez-Grant 2011; Williams 2014). However, the current project differs because of the collaborative Indigenous orientation, the addition of community-specific cultural and language education sidebars to the narrative, and the focus on the narrative experience of a single persona with archaeological context. This case study highlights how archaeology has a strong role in the reclamation of identity by Indigenous communities through formats beyond the traditional publication of archaeological content.

Case Study Summary

The three communication strategies outlined above are diverse in terms of audiences, content, and narrative tools but share informative commonalities. Archaeological content has been reformatted into creative narrative packages to make it engaging and accessible to non-experts. Degrees of success have been achieved by focusing on the paths of knowledge delivery, specifically the use of narrative. Different modes of storytelling help contextualize knowledge and stimulate audiences, including the use of dialogue, accessible illustrations that stimulate thought and emotion, and local applications. Also common to all three case studies is an inherent risk of unconventional communication. Critics may negatively evaluate these programs for lost opportunities to convey more complex scientific material in a more straightforward manner, but they represent efforts to tackle communication gaps that can be further tested and refined to improve their utility and effectiveness.

Communication Capacity

Archaeology is full of outreach opportunities to share stories with an inherently broad appeal to a wide array of non-expert audiences; therefore, archaeologists are well-positioned to embrace novel modes of science communication. The general public currently views scientists and science institutions as reliable sources of information (Gottfried and Funk 2017; Ontario Science Centre 2017). In a context of “fake news,” diminishing trust in media (Lunau 2017), and vocal armchair experts, it is critical that scientists leverage that trust and engage in conversations with audiences beyond the discipline. However, communication strategies are limited by professional archaeologists’ capacities. This section offers advice for training academics and creating personal and institutional space for communication with non-specialists.

Science communication techniques, such as the use of narratives, require skills and knowledge that need to be learned and practiced (Cron 2012; Olson 2015), but there is often little to no explicit training available to researchers to communicate archaeology to non-specialists (see SAA 2018 and AIA 2018 for exceptions). Many of the resources that are available, such as webinars, workshops, websites, and online courses, are limited in scope, expensive, or are accessed at advanced career stages when new modes of communication are harder to adopt. A more effective way to train archaeologists as communicators en masse is to roll public communication training into undergraduate and graduate curriculums (see Zutter and Grekul, and Welch and Corbishley, this issue), so basic skills are learned before academics are overwhelmed by writing grants, tenure-track responsibilities, and publishing in peer-reviewed journals. Young scholars can slowly and steadily build knowledge and gain experience through stand-alone classes about the modern relevance of archaeological practice or when communication strategies are incorporated as components of graduate student orientation courses or lectures.

Post-secondary departments and funding institutions have already begun shifting mandates within academia towards societal relevance and social license. The increased participation of Indigenous communities in the design and conduct of archaeological research is also changing the nature of projects (Cipolla et al. 2019; Silliman 2010). Descendant communities often have different goals of heritage research and want archaeological information presented in formats accessible to youth (Andrews 2011). Different needs of different collaborative partners (e.g., academic archaeologists, government or museum-based archaeologists, and Indigenous communities) can create tensions. All of this furthers the need for outreach and communication with non-specialists, although capacities to do so may not be expanding because many scientists are unable to engage with communication strategies for lack of time and burgeoning professional obligations related to publishing and teaching. For many, communication with non-specialists is relegated to spare time, and scholars can face pushback and

penalties for outreach efforts (Martinez-Conde and Macknik 2017; Miah 2017; Sabloff 1998). Articles in popular magazines, online videos, or popular televised talks are often seen as distractions or superficial contributions that steal time away from research and carry little academic prestige (Carroll 2011; Gibney 2017; The Royal Society 2006). A healthier, more supportive culture around the practice of science communication and public outreach would enhance public relations and social license of institutions; for example, the SAA (2019) has released a guide for revising tenure requirements that creates space for community engagement and public outreach. Capacity building is enhanced when science communication efforts are recognized as academic accomplishments alongside publications, grants, and other marks of professional success (Gibney 2017; Levy 2007; Lubchenco 2017; The Royal Society 2006).

The alternative to investing personal and institutional support into science communication is a continuing reliance on others to demonstrate why archaeology exists. Scholars might do well to accept the risk of innovation when it comes to formatting information for consumption by non-specialists. The probability of failure can be weighed against the probability of influencing public policy, continued public support of archaeology and heritage protection, returning identity to descendant communities, and producing well-rounded archaeologists through academic training.

Conclusion

Narrative has been used since the origin of language to convey knowledge. This article demonstrates that narrative can be an effective tool to structure and contextualize archaeological content in order to engage non-specialists. The placement of information along compelling paths, accompanied by thoughtful illustrations, encourages the reception of knowledge and more firmly implants it through emotion and visual appeal. This process furthers the goal of science communication to bridge gaps between those who build knowledge and those who can benefit from it.

We provide three case studies of innovative narrative communication from North America, including the packaging of archaeological theory in the shape of mystery novels for student consumption; the use of artwork to anchor archaeological narratives in public outreach; and the use of historical fiction to reformat archaeological content for Indigenous communities. We offer a communication strategy that unites these examples. The main components are 1) identify key information to be communicated and clarify the communicator's goal(s); 2) identify the target audience(s) and why they might care about the information being communicated; 3) tailor content to the audience and develop a narrative; and, 4) evaluate successes and failures to inform future endeavors. The latter step is in recognition of the fact that communication with non-specialists is a skill that requires long-term maintenance.

Outreach and communication with non-specialists have traditionally occupied the margins of professional archaeology; we encourage its adoption into core training and practice. The risk of failed communication strategies and the sacrifice of time and energy spent engaging with non-specialists are outweighed by its potential benefits. These include the development of more well-rounded and informed young scholars, a demonstration to stakeholders that our profession has value, the opportunity to influence public perceptions of heritage resources and associated public policy, and working with community leaders to help promote the cultural identity of Indigenous youth. Fulfilling the broader societal values of archaeology hinges on the ability to engage with people beyond the discipline.

Acknowledgments

The authors would like to extend thanks to William Dumas, O-Pipon-Na-Piwin Cree Nation, the Nisichawayasihk Cree Nation Family and Community Wellness Centre, Asiniskow Ithiniwak Mamawiwin, University of Winnipeg, and Leigh Syms. Thank you to Heritage Art Series participants including John W. Ives, Michael Donnelly, Julie Martindale, Ashley Reid, Kisha Supernant, Chris Jass, Alwynne Beaudoin, Emily Parsons, Brian Vivian, Colleen Haukaas, Dan Spivak, Courtney Lakevold, Darryl Bereziuk, Jack Brink, Sheila Macdonald, and Robin Woywikta. Funding opportunities were provided by the Social Sciences and Humanities Research Council of Canada, the Archaeological Survey of Alberta, and the Landrex Distinguished Professorship Grant.

Thank you to Meaghan Peuramaki-Brown for coordinating the Chacmool Conference session and the special issue of which this article is a part.

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