

# ORAL TRADITIONS AND NATIVE NORTH AMERICAN LITERACY: ROCK ART, WRITING, AND THE CADMUS MYTH

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WE ARE PLEASED TO REPRINT THIS SCHOLARLY AND INFORMATIVE PIECE PRESENTED BY REX WEEKS AS A CHAPTER IN HIS DOCTORAL DISSERTATION IN ANTHROPOLOGY AT THE UNIVERSITY OF ARIZONA.

“The Phoenicians who came with Cadmus... introduced into Greece, after their settlement of the country, a number of important accomplishments, of which the most important was writing, an art till then, I think, unknown to the Greeks.” *Herodotus* 5:58-59 (de Selincourt 1972:361)

There is a myth that North American Indians had no writing until the coming of Columbus and the Western Europeans. The American myth resembles ancient Greek traditions. Indeed, Western origins of writing are generally attributed to the introduction of the alphabet with Cadmus<sup>1</sup> and the Phoenician colonization of Greece (Bernal 1990). The American Cadmus myth, however, stands in direct contrast to many tribal oral and literary traditions. Across North America, there are tribes that have varieties of writing which existed prior to European contact, including Blackfoot *a`h-sinnáep* (Lancaster 1966:304); Hopi *tutuveni* (Hill et al., 1998:681, 860), Ojibwa *muzzinabik* (Schoolcraft 1851, v1:351), and Zuni *atsinna* (Young 1988:45).

North American Indian varieties of writing are found on many types of media, but those put to rocks are most enduring. Rather than accept tribal accounts, many contemporary North American historians, anthropologists, and archaeologists prefer the term “rock art.” Ideas of rock art and writing have important implications. The idea of rock art is fundamental to the American Cadmus myth. Rock art, after all, cannot be read. If it can be read, then it is no longer rock art, and may be more accurately termed writing<sup>2</sup>. Furthermore, the existence of early varieties of indigenous writing renders the American Cadmus myth an unacceptable presumption of Western European superiority. Thus, definitions of rock art and writing become the crux of an enormous

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<sup>1</sup>Thoughts about the Western origins of writing are derived ultimately from myths (Harris 1986). In Greek mythology, Cadmus was a Phoenician prince who set out to rescue his sister, Europa, from the dragon of Aries. Cadmus was successful in slaying the dragon. Following the commanding voices of the gods, he sowed the dragon’s teeth in the soil. From the ground, armed men arose, who fought him and among themselves. They fought until only five remained to help him build the city of Thebes (Havelock 1976).

<sup>2</sup>Some anthropologists claim that rock art can be read (Keyser and Klassen 2001:5; Layton 1995; Rajnovich 1994).

interpretive problem with potential ramifications for Native North American history, anthropology, and archaeology.

As a North American archaeologist and the editor of the recent *Handbook of Rock Art Research*, David Whitley (2001:23) asserts that the term “rock art” has been in use for “roughly 100 years,” at least within the “Western intellectual tradition.” Yet, he offers no citations to support his claim. Judging from the bibliographies of major syntheses of North America, the term “rock art” was not used until the early 1960s (Whitley 2001:43-51, c.f., Grant 1967:156-170; Mallery 1893:778-807; Wellmann 1979:173-196). In fact, the first continental synthesis began with idea of “writing,” not rock art (e.g., Mallery 1893).

How are rock art and writing defined? Why was the concept of writing abandoned in favor of the idea of rock art in North America? What may be discerned from tribal accounts? Is the notion of rock art appropriate in application to ancestral Native North America? This article explores these questions.

There are four sections. The first begins with definitions of rock art and writing. The second is a review of North American research history from the idea of writing to the contemporary notion of rock art. The third examines tribal accounts of ancestral writing in North America, specifically among the Blackfoot, Hopi, Ojibwa, and Zuni. The article concludes by evaluating the appropriateness of the term rock art to ancestral Native North America.

## TERMINOLOGY

The term rock art is practically meaningless. Rock art researchers have defined their theoretical terminology so inconsistently that almost any definition will do. Rock art can be anything but writing. In North America, writing is a better term, which is consistent with tribal accounts. What North American Indian tribes consider ancestral writing, many historians, anthropologists, and archaeologists refer to as rock art. Rock art and writing must be clearly defined to be useful.

### *Rock Art*

Rock art is a thoroughly ambiguous concept. There is no consensus among researchers who have attempted to define rock art. Rock art may be defined in any number of ways that are best suited to researchers’ structural, technological, semantic, cognitive, contextual, taphonomic, and/or functional approaches.



PHOTO OF BIRCH POINT PETROGLYPHS MACHIAS, MAINE. PHOTO BY RICK LYNCH

Archaeologists Paul Tacon and Christopher Chippindale (1998:1), recently proposed the term *rock-art* as a portmanteau word, explicitly combining the terms “rock” and “art” in structure and meaning. Tacon and Chippindale (1998:6) define rock-art technologically as “human-made marks on natural, non-portable rocky surfaces,” including *pictographs*, for those which are “applied upon the rock,” and *petroglyphs*, for those which are “cut into the rock.” Thus for Tacon and Chippindale (1998:9), the creation of marks on rocks distinguishes humans from all other beings.

Tacon and Chippindale (1998:6) admit that the terms “rock” and “art” are ambiguous. The English term *rock* is derived from the French *roche* and the Latin *rocca*. The quality of being rock is commonly associated with *hardness*. Though, so-called rock art in some caves in Europe, Australia, and North America may be carved into surfaces as soft as mud (Bednarik 1986; Faulkner 1986). The English term *art* follows the same derivation from the French *arte* and the Latin *artis*. The quality of being art is often associated with *creativity*. Tacon and Chippindale (1998:6) suspect that the “modern western” notion of art may not apply universally. Yet, they end their chapter with the scholarly pursuit of “the visually creative essence of early humanity” (Tacon and Chippindale 1998:9).

In contrast to Tacon and Chippindale, David Whitley (2001:22-23) argues that the western notion of art has been deeply influenced by non-western societies. For Whitley, the term art is essentially semantic, involving a “multiplicity of meanings.” He finds “aesthetic” and “religious” interpreta-

tions the most applicable to rock art research.

Likewise, David Lewis-Williams (2002:70-71) defines the term rock art as polysemous, or having multiple meanings, which may be discerned by a cognitive and contextual approach. He perceives that the religious context of rock art is the most common globally. He also finds that shamanism involves “ecstatic trance” and “altered states of consciousness” (ASC). According to Lewis-Williams (2001:332-333), neuropsychological studies of hallucinogen-induced ASCs report a consistent set of “luminous, geometric, visual

percepts” that are referred to as “entoptic phenomena.” He discerns a close correspondence in the content of entoptics and rock art worldwide. Thus, he interprets rock art as being primarily shamanic.

Robert Bednarik (2003) arrives at a functional definition of rock art, applying a taphonomic approach. Bednarik (2003:15-35; 2004:75-77) presents convincing evidence that a variety of animals and plants, as well as environmental and geological processes make geometric marks on rocks. In Australia, Africa, and Europe, for example, bears, hyenas, opossums, and other animals have scratched the walls of caves and rock shelters, resulting in series of geometric marks, such as parallel striations, arcs, and grids. Plants, too, make striations. Their roots, in particular, often make meandering grooves on rock surfaces. Moreover, wind and water, as well as the clastic movement of other rocks, make marks on stone. Therefore, the quality of making marks on rocks is not distinctly human.

Bednarik defines rock art as communicative. He then proposes that rock art should refer to a class of “non-utilitarian anthropic marks” (Bednarik 2003:31). He observes historically and prehistorically that around the world people have made marks on rocks which presumably resulted from utilitarian activities, such as sharpening tools and quarrying. For Bednarik, rock art may be distinguished from other marks humans make on rocks by the quality of “symbolic expression.”

Bednarik’s report of geometric marks made by animals on cave walls is a radical departure from the typical anthropocentricism of rock art studies. Interestingly, brown, black,

and grizzly bears mark their dens by scratching and gouging with their front paws (R. Smith 1982:130). As might be expected, a number of other animals encounter these areas and den elsewhere<sup>3</sup>. Bears and other animals also use plants to cure themselves when they are sick, some of which may alter their consciousness and moods (Engel 2002).

Plants, too, may have emotions. Cleve Backster (2003) compiled an inventory of experiments done by scientists to measure the emotional life of plants. Scientists found that a variety of mood stimuli, such as different types of music, wholly affected the well-being of plants. The relationship between art and emotion is well established in western thought (Gell 1998). Plants may as well make rock art.

Given the utter ambiguity of the idea of rock art (Hays-Gillpin 2004), or for that matter art<sup>4</sup>, I do not see how the term can be restricted to human beings. The nascent term rock art involves no terminological precision among researchers. Researchers have defined rock art in myriad of structural, semantic, cognitive, contextual, and functional ways. In short, rock art could be just about anything, except of course, writing.

### **Writing**

Unlike rock art, the term, “writing,” has a long history of explicit definition. There are basically two definitions of writing; one is exclusive, and the other inclusive (Hill-Boone 1994). The former defines writing exclusively as glottographic, or visual representation of the spoken word. The latter includes glottographic, as well as, semasiographic varieties of writing (Sampson 1985).

Semasiographic writing is communication independent of language that conveys ideas in conventional, illustrative ways. With semasiographic writing, meaning is conveyed by spatial relationships among elements. Semasiographic writing can be read by anyone who learns the conventions. Semasiographic writing is often characteristic of pluralistic, polylingual, and multicultural situations. Glottographic writing, on the other hand, commonly occurs in monolingual cultural contexts. Both glottographic and semasiographic varieties of writing are familiar to contemporary North Americans.

*Exclusive Definition.* By this definition, writing is exclusively speech that is referenced phonetically with visible marks. Elizabeth Hill-Boone (1994:4) has identified three assumptions that are implicit, and sometimes explicit, to this definition about people without glottographic writing: 1) *il-literate*, a pejorative idea associated with the quality of being

<sup>3</sup>See Tim Friend’s (2004) *Animal Talk: Breaking the Codes of Animal Language*, for excellent scientific overview of interspecies communication.

<sup>4</sup>Scientist, Michael Allaby (1982), has demonstrated convincingly that animals are also “artisans.”

uneducated; 2) *non-literate*, a demeaning concept linked to cultural deficiency or backwardness; and 3) *pre-literate*, an ethnocentric notion with linear evolutionary expectations, culminating with the alphabet. The exclusive definition of writing is the most common, which focuses on the superiority of literate cultures over those presumably with only oral traditions.

This exclusivist position has been argued explicitly by anthropologist, Jack Goody (2000:110) in his book, *The Power of the Written Word*:

“At a societal level there is an interface between societies with writing (that is, literate) and those without it (that is, non-literate or pre-literate)... The written is virtually always considered superior, even by neighboring oral cultures.”

Under the exclusive definition, the history of writing is often presented as a progressive, linear-evolutionary development from rudimentary pictures to abstract signs, culminating with glottographic characters. The phonetic alphabet is envisioned as the pinnacle of this development, conveying speech the most accurately and clearly in graphic form. From the exclusivist perspective, thought and knowledge may best be conveyed by speech and glottographic writing. North American Indians are placed at the beginning of this evolutionary sequence (Robinson 2002:30), or else dismissed entirely (Bloomfield 1933:284-285). The sequence is usually qualified by statement that Indians never developed any form of “real,” “true,” or “full” writing (Bloomfield 1933:283; DeFrancis 1989:5; Gelb 1963:12; Robinson 2002:30).

The evolutionary scheme may be true of some parts of the ancient Near East, particularly in Assyria and Egypt (Friederich 1957:35), but not globally. According to Uruk archaeologist, Denise Schmandt-Besserat (1978, 1996), the “earliest writing” developed from an abstract to a pictorial record-keeping system in Mesopotamia. Likewise, the trend from abstract to pictorial appears to be true of Mesoamerica (Hill-Boone 1994; Larsen 1988; Mignolo 1989). Thus, the global history of writing cannot be described as a universal evolutionary process driving from pictures toward the alphabet (Mignolo 1989:62)!

**...the exclusive definition of writing as only visible speech is fundamentally flawed.**

Furthermore, glottographic writing is only partially representative of speech. Anthropologists concerned with Native American ethnopoetics are keenly aware of this frustrating problem (Hymes 1981; Tedlock 1982). Dennis Tedlock (1982:3) notes that transcription fails to record important speech acts and accompanying events. Attempts at recording speech in written form involve a variety of orthographic notational marks. Orthographic notation is a variety of semasiographic writing.

In sum, the exclusive definition of writing as only vis-



ible speech is fundamentally flawed. The alphabet neither represents the gamut of human speech accurately nor completely. The exclusive definition involves the evolutionary fallacy that writing culminates with the phonetic alphabet. Moreover, the exclusive definition of writing is derived from Western European presumptions of superiority and authority, concerning the history of literacy and oral traditions.

*Inclusive Definition.* Hill-Boone (1994:15) defines writing inclusively as “communication of relatively specific ideas in a conventional manner by means of permanent, visible marks.” Her definition includes both glottographic and semasiographic varieties of writing. Although glottographic writing exists in Mesoamerica among the Maya (Coe 1999; Wichmann 2004), most writing is semasiographic, such as Aztec and Mixtec (Hill-Boone 1994). The situation may be similar in North America (Brotherston 1979; Kalter 2001; Mann 2003:360; c.f., Mallery 1893), such as the glottographic writing of the ancient Cherokee, known as *gowelodi* (Traveller Bird 1971; c.f., Kehoe 1992:196-198), and the numerous presumably semasiographic ancestral varieties, including Abenaki *wikhegan* (Mallery 1893:35); Blackfoot *ā’h-sinnáep* (Lancaster 1966:304), Hopi *tutuveni* (Hill et al., 1998:681, 860), Ogala *inyanowapi* (Mallery 1893:35); Ojibwa *muzzinabik* (Schoolcraft 1851, v1:351), Paiute *tumpe poop* (Martineau 1973:3), Yavapai *ewih tih’nuuddivah* (Pilles, n.d.), and Zuni *atsinna* (Young 1988:45). Both North American and Mesoamerican semasiographic varieties are commonly referred to as “picture-writing.” Picture-writing conveys thoughts and knowledge with illustrative conventions, which are relative to placement and context.

In both Mesoamerica and North America, semasiographic varieties of ancestral writing were read by groups speaking different languages. In Mesoamerica, for example, Aztec scribes were able to read and synthesize Mixtec accounts into their history (Hill-Boone 1994:19). In North America, there are numerous accounts of eighteenth and nineteenth century travelers, missionaries, and soldiers, who report that the American Indians that they encountered were able to read the “picture-writing,” “hieroglyphs,” or “pictographs” of their own tribes as well as that of others (Brotherston 1979; Coy 2004; Kalter 2001:237; Mallery 1893; Martineau 1973:167-178; Schoolcraft 1851, v1:351; c.f. Steward 1937).

Accounts like that of Reverend John Heckewelder, for example, are not uncommon. During the eighteenth century, Rev. Heckewelder was a missionary among the Delaware for over forty years. He wrote many narratives about Delaware culture. According to Rev. Heckewelder (1819:130), they have certain hieroglyphs, by which they describe facts in so plain a manner, that those who are conversant with those marks can understand them with the greatest of ease, as easily, indeed,

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as we can understand a piece of writing...all Indian nations can do this, although they have not all the same marks; yet I have seen the Delawares read with ease the drawings of Chippeways, Mingoos, Shawanos, and Wyandots, on similar subjects.

The study of ancestral Native North American varieties of semasiographic writing requires a paradigm shift from the notion of rock art. Semasiographic varieties of writing on rocks provided enduring accounts of thoughts and knowledge in ancestral Native North American contexts. Present inability to read ancestral Native North American semasiographic varieties should not, however, preclude contemporary scholars from accepting them as writing (Elizabeth Hill-Boone 1994:21).

Semasiographic writing is neither primitive nor an evolutionary dead end. In fact, semasiographic varieties of writing are on the rise, while glottographic forms are on the decline, especially in many contemporary pluralistic, poly-lingual, and multicultural contexts. Hill-Boone (1994:16-17) distinguishes four varieties of semasiographic writing, including notational, iconic, maps, and diagrams. Modern notational examples include mathematic, scientific, musical, orthographic, and choreographic varieties. Familiar iconic varieties include international navigation signs, instructional panels, as well as, the graphic-user-interfaces of computer operating systems.

In contemporary contexts, much semasiographic writing may be understood quickly and easily by people from multiple ethnic and linguistic backgrounds. Airports, in particular, are replete with semasiographic writing. Perhaps, the most familiar is the iconic rule of ‘no smoking,’ that features an illustration of a burning cigarette which is encapsulated by a circle with a slash through it. Graphic-user-interface has made computers much easier for people to operate than the largely glottographic command-driven DOS. “Interface” soon may become what we once understood as varieties of “writing,” as a major mode of communication.

As Jacques Derrida (1976) anticipated:

“It is a peculiarity of our epoch that, at the moment when phonetization of writing...begins to lay hold on our world culture, science in its advancements, can no longer be satisfied with it.”

Phonetic writing is notably deficient in conveying ideas about music and dance, hence musical and choreographic notations (Owen 1986). Notational varieties of writing in math and science were developed to express relationships precisely

where words do not. Some varieties of notational writing require more effort to master than others. Yet once mastered, notation succeeds where glottographic writing does not because, people are able to “grasp certain relationships visually at a glance, but not to describe them in words with anything like equal precision” (Drake 1986:136). Moreover, maps and diagrams are fundamental to the way scientists “envision information in order to reason about, communicate, document, and preserve that knowledge” (Tufte 1990:33).

In sum, the idea of semasiographic writing is probably especially helpful for understanding ancestral Native North America. Ancient American Indians likely were able convey thoughts and knowledge with many varieties of semasiographic writing. The exclusivist definition of writing is ethnocentric, privileging the fallacious evolutionary superiority of the alphabet. The term rock art involves the implicit assumption of the exclusivist definition of writing, at least in application to ancestral Native North America.

## HISTORY

In North America, the idea of rock art diverged as a separate field of study from picture-writing, then called “petroglyphs,” in the late 1930s. The actual formulation of “rock art,” however, did not appear in North American literary tradition until the early 1960s. Prior to the late 1930s, what today has come to be called rock art was considered writing. Debate has resulted in two separate discourses on ancestral Native North America, with rock art emerging over the idea of writing by the twenty-first century (e.g., Whitley 2001). Yet before assuming a congratulatory position, consider carefully the history of rock art and writing studies in application to ancestral Native North America.

### *Rock Art*

In North America, the term “rock art” has been used to describe Indian varieties of writing for less than 50 years (e.g., Berger-Kirchner 1961). Prior to the 1960s, researchers referred to Native North American ancestral varieties of writing as “hieroglyphs,” “picture-writing,” “pictographs,” and “petroglyphs.” Artist Campbell Grant (1967) popularized the idea of rock art in his book, *Rock Art of the American Indian*.

In 1974, Grant and his colleague, Klaus Wellmann, established the American Rock Art Research Association (ARARA), and held a conference in Farmington, New Mexico. ARARA was organized with well-meaning intentions of uniting efforts to conserve and study American Indian rock art, which academic anthropology and archaeology had

largely neglected. Ever since, ARARA has held a conference each year and published its conference proceedings under the title, *American Indian Rock Art*.

Wellmann was elected the first president of ARARA. A physician, he published the last continental study of rock art in North America, *A Survey of North American Indian Rock Art* (Wellmann 1979). He did not diverge significantly from Grant in his concept of rock art, but did add a considerably larger bibliography and more photos than Grant.

The idea of art on rocks was not new to Grant and Wellmann. Although he did not use the term “rock art,” the idea of Indian “art” on “rocks” in North America may be traced to prominent anthropologist, Julian Steward (1937) and his *Petroglyphs of the United States*. In the late 1930s, Steward (1937:414) announced that “petroglyphs” were to be no longer studied as “writing,” which was properly associated with “the alphabet,” but as “art.” He made a distinction between “petroglyphs,” “all designs and figures on rocks,” and “pictographs,” “for that primitive type of writing in which objects and events are represented pictorially on all kinds of materials...” (Steward 1937:405). Even if Steward is considered “The Father of American Rock Art Studies,” this western intellectual tradition in North America is only 67 years old.

Steward began rock art studies with a great deal of pessimism and ignorance. He claimed that American Indian petroglyphs are “primitive,” “crude,” “individualistic,” and “intelligible” “only to the persons who made them” (Steward 1937:409). According to Steward (1937:409), “the direct testimony of the artist” was the only way to interpret petroglyphs (Steward 1937:409). For Steward (1937:12), “the testimony of modern Indians concerning petroglyphs is extraordinarily disappointing.” Furthermore, “the artists died so long ago that it is impossible to ever know what precisely they had in mind” (Steward 1937:409).

Writing as the absolute authority on American Indian petroglyphs, Steward did not bother to support his claims with any data, or even a single citation. He did construct poignant straw-man arguments. He argued that the study of petroglyphs was too often linked with inquiry derived from the Moundbuilder myths of the nineteenth century<sup>5</sup>. He felt justified in relegating the study of petroglyphs to that which is entirely unknowable. The construction of Moundbuilder myths on the part of many early European-American scholars, however, does not prove that Indians did not have knowledge about the past (Mann 2003). Moreover, prior work on “picture-writing,” which Steward largely chose to ignore, demonstrated that nineteenth century American Indians did have conventional ways of conveying their thoughts and knowledge (e.g., Mallery 1893). Picture-writing was found on many kinds of media, not just stones. Was there ever any justification for isolating petroglyphs, or rock art, from the study of American Indian ancestral varieties of writing?

<sup>5</sup>For an excellent review of the infamous Moundbuilder debate, see Barbara Mann’s (2003) *Native Americans, Archaeologists, and the Mounds*.

## Writing

There have been three major studies of Native North American ancestral varieties of writing that were continental in scope. These include: 1) Col. Garrick Mallery's (1893) *Picture-Writing of the American Indians*; 2) LaVan Martineau's (1973) *The Rocks Begin to Speak*; and, 3) Gordon Brotherston's (1979) *Image of the New World: The American Continent Portrayed in Native Texts*. Each of these studies present plausible ways that Native North American ancestral varieties of writing may have been read.

Col. Garrick Mallery (1893:31) included petroglyphs in his global study of picture-writing with a focus on the Americas, particularly North America. Mallery compiled his report under the aegis of the new Smithsonian Bureau of Ethnology. He provided 194 references on North America Indians alone, including that of missionaries, soldiers, travelers, traders, physicians, geologists, historians, and ethnologists. He also included over a thousand illustrations of the picture-writing for more than seventy North American tribes. Mallery concluded that there was not a singular picture-writing system that all Native North American tribes understood, rather there were many varieties. Moreover, there were conventions in picture-writing within and among certain tribes, as well as linguistic groups.

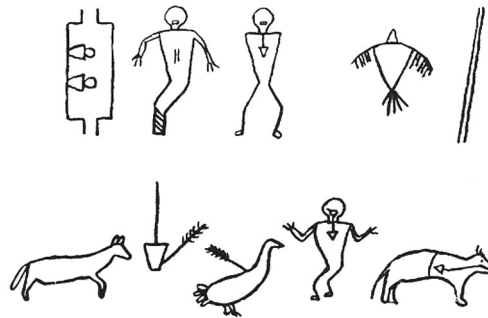


CHART OF A BATTLE FIELD. (MALLERY)

Of the 71 North American tribes included in Mallery's study of picture-writing (Mallery 1893), a few people from thirteen of them responded to inquiry about the petroglyphs, including the Abenaki, Assiniboin, Klamath, Mandan, Mojave, Nootka, Ogala, Ojibwa, Omaha, Passamaquoddy, Shoshone, Teton, and Tualati. Mallery (1893:36) reported that when questioned about the petroglyphs, American Indians were "generally reticent."<sup>6</sup> American Indian tribal peoples generally resent

<sup>6</sup>Thor Conway (1993:108), who worked with Ojibwa and Cree elders to study *muzzinabik*, or "rock writing," in the Great Lakes, refers to this behavior as "an aboriginal code of silence."

questioning by outsiders, especially anthropologists (Conway 1993; Deloria 1969; Harding 2000; Keeshig-Tobias 1997; Rogers-Black 1973). The fact that 18 percent of the tribes in Mallery's study provided any information about petroglyphs at all, is far from disappointing. It is a fair indication, however, that American Indian tribes did have some thoughts and knowledge about the petroglyphs.



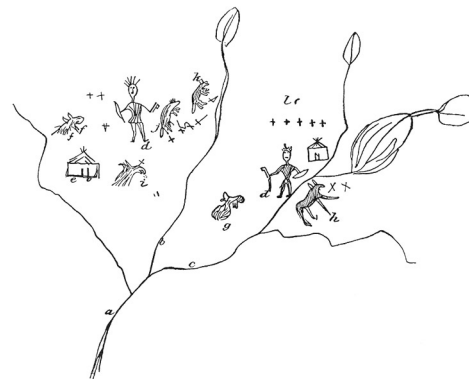
SONG FOR BEAVER HUNTING (MALLERY)

Had Steward read Mallery's report carefully, he might have learned a great deal about American Indian ancestral varieties of writing on rocks. Mallery (1893:35) reported the Ogala and Ojibwa words for "rock writing," respectively *inyanowapi*<sup>7</sup> and *muzzinabik*.

Klamath and Omaha provided specific tribal names for sites (Mallery 1893:91-92, 105-106)<sup>8</sup>. Abenaki, Mojave, Nootka, and Teton related tribal stories about particular sites (Mallery 1893:32-33, 44, 95). Abenaki, Shoshone, and Tualati read and recounted biographical and historical events from some sites (Mallery 1893:82-83, 105, 128).



PASSAMAQUODDY NOTICE OF DIRECTION. (MALLERY)



PASSAMAQUODDY "WIKHEGAN" OR PORTABLE SECULAR MESSAGE. (MALLERY)

Mojave, Ojibwa, and Omaha suggested that other sites were related to funerary ceremonies (Mallery 1893:35, 91-92, 95). Assiniboin and Mandan indicated that some sites were associated with tribal gatherings (Mallery 1893:32-33). Other tribal readings of

sites included Abenaki maps, Ojibwa totems, and Passamaquoddy prophecies (Mallery 1893:32, 82-83, 126).

<sup>7</sup>Inyanowapi, or "Rock Inscription," was also a personal name of the Ogala man on Standing Rock Agency roster in 1883 (Mallery 1893:35).

<sup>8</sup>Conway (1993:90-91) found that Ojibwa and Cree had two ways of naming sites, one general for "rock writing," and another for referring specifically to the location. He provides eight examples of the later in the Great Lakes. Young (1988:175) explains the same idea among the Zuni.



The most extensive information on petroglyphs was provided by the Abenaki in Maine. According to Mallery (1893: 82), “all the old men knew of them” “by traditions handed down through many generations.” An Abenaki elder named Peter Benoit read a panel at Machias Bay. He also offered an Abenaki way in which the panel could be read. He indicated that the panel “was not to be read from one side only,” but began with a central glyph and related others around it according to cardinal directions (Mallery 1893:82-83)<sup>9</sup>.

In 1973, LaVan Martineau authored a second continental account on Native North American ancestral varieties of writing. In many ways, he was able to articulate much of Mallery’s data into a coherent theory of reading, particularly in the Southwest (DenDooven 1973:x). He was culturally Southern Paiute, as a youth being adopted by Edrich Bushhead and family (Martineau 1973:xi-xiv). He spent a most of his life learning and participating in the ceremonies, songs, dances, and customs of not only the Southern Paiute, but also Northern Ute and San Carlos Apache. He spoke fluently several varieties of Paiute, Ute, and Apache languages, and was well acquainted with their metaphors. He also was adept at communicating in American Indian sign language and gestures, which were common to Southwestern and Plains tribal peoples. LaVan Martineau’s sensitivity to ancestral and contemporary Native American thought and knowledge is laudable.

Martineau provides personal testimony from his observations of Paiute, Ute, and Hopi readings of rock-writing. According to Martineau, Southwestern Native peoples were quite adept distinguishing the tribal affiliation, and sometimes the authors, of particular panels (Martineau 1973:52). He offered the Paiute term for “rock writing,” *tumpe poop* (Martineau 1973: xiii, 3). His reading of four nineteenth century *tumpe poop* panels in Utah and Colorado is very informative (Martineau 1973:51, 54, 58, 121-123). He also provided readings of five eighteenth and nineteenth century Kiowa, Navajo and Ute, and Hopi panels in Texas, Arizona, Utah, and Colorado, which may offer insights (Martineau 1973:60-67, 69-72, 85-102, 124-128). All these panels apparently deal with American Indian versions of well known historical events.

Martineau’s (1973:107-111) brief account of the “Hopi life plan” panel seems legitimate. His reading is corroborated by Second Mesa elder, Thomas Banyacya (Nalls and Steele 1990). Banyacya’s reading offers a great deal more information,

<sup>9</sup>This is very similar to the manner in which Maya writing is read. One begins with a large central glyph and moves around four sides, reading smaller, complementary, affixed glyphs (see Hill-Boone 1994:18). At the time of Mallery’s study, European scholars were unable to read Maya glyphs.

however, on the prophetic content of the panel. According to Banyacya, the panel requires four days to read.

In addition to his Native education, Martineau (1973:xiii) was trained by the U.S. Air Force as a cryptographer. For Martineau (1973:15-16, 42), rock writing was a code to be read by discerning the internal relationships and consistencies among clusters of glyphs<sup>10</sup>. Applying cryptanalysis, Martineau (1973: 27-34) felt that most tribal varieties of writing were linked by a widespread, ancestral Native North American sign language of hand and body gestures. Mallery (1881) also had proposed that picture-writing was based on sign language. Following Mallery (1881), Martineau argued that sign language was depicted in ancestral Native American rock writing, particularly among Paiute, Ute, Navajo, Hopi, and Kiowa panels.

Martineau (1973:27-29) pointed out that, historically, American Indians were able to inter-tribally communicate thoughts and knowledge by using sign language. Sign language was a way of communicating in the multicultural, poly-linguistic, and intertribal contexts that were characteristic of ancestral Native North America (Mallery 1881). According to Mallery (1881), sign language was common to nearly all tribes in North America. The widespread distribution of sign

**Applying cryptanalysis, Martineau felt that most tribal varieties of writing were linked by a widespread, ancestral Native North American sign language of hand and body gestures.**

language is probably an indication of great antiquity. A connection among sign language and semasiographic varieties of writing is plausible for ancestral Native North America. Martineau (1973:17-19) concluded that probably the most commonly used expressions in both sign language and rock writing were “directional indicators,” which is a form of dimensional notation.

The most recent continental study of Native North American ancestral varieties of writing was authored by Gordon Brotherston (1979). Brotherston’s study complements that of Mallery and Martineau. Brotherston (1979:15) presented Native North American ancestral varieties of writing as “texts,” which conventionally recorded thoughts and knowledge. He found these record-keeping texts involved interrelated varieties of dimensional, mathematical, choreographic, and musical notation. Important examples include Iroquoian wampum belts, Siouan winter counts, Navajo sand paintings, Inuit ivory engravings, Kwakiutl totem poles, as

<sup>10</sup>I am neither implicating Martineau’s analytical approach as being entirely satisfactory, nor advocating later especially free-translations of Native North American ancestral varieties of writing by authors who are culturally non-Indian, such as James Cunkle (1993), Alex Patterson (1992); Carol Patterson-Rudolph (1993). I am making the point that ancestral Native North Americans were literate, and that cryptography is one of several ways in which the study of writing has been approached on a continental scale.

well as, Ojibwa Midewiwin birch bark scrolls, song boards, and prescription sticks.

Dimensional notation was common to all ancestral Native North American texts in Brotherston's study. It represents concepts of space and time and also provides an orientation for the ways that the texts may be read. Dimensions were distinguished by four pairs, including sky-earth, east-west, north-south and left-right.

Mathematical notation also was based on dimensionality. All texts in Brotherston's study record mathematical notation, which usually enumerates by multiples of two and four. Like mathematical notation, choreographic and musical varieties were relative to dimensionality. Choreographic and musical notations illustrated the sequence of movement in ceremonies, dances, and songs.

Ojibwa Midewiwin song scrolls are perhaps the easiest to read, at least from western tableau perspective (Brotherston 1979:256-258). Birch bark song scrolls indicate dimensional, mathematical, and musical notation, which are incised on the cambium side of the texts. There are usually two rows of glyphs. Each row is divided into two groups of four sky-earth glyphs by a "||", which indicates a pause. Song scrolls have four verses that are read left to right then down, similar to western musical and literary traditions. Other ancestral Native North American texts in a tableau format include Iroquoian wampum belts, Inuit hunters' tallies engraved on ivory, and Midewiwin prescription sticks and boards (Brotherston 1979:53, 190-191, 256-258).

Some varieties of ancestral Native North American texts were written in columns. Easily recognized examples include Kwakiutl totem poles, as well as some Midewiwin song boards (Brotherston 1979:204-205, 256-258). Kwakiutl totem poles exhibit dimensional, mathematical, and genealogical notation. The Kwakiutl totem poles are situated in earth and sky. They may be read from sky to earth, with top being the immediate ancestor and the bottom being the most ancient. In Brotherston's example, the Kwakiutl totem pole enumerates eight ancestors. Mide columnar song boards also are read similarly from sky to earth.

Siouan winter counts require a little more effort to read on the part of western scholars, who are unaccustomed to reading in a counterclockwise spiraling direction on a buffalo robe. In Plains Indian sign language, making a counter clockwise spiral gesture with the right hand indicated ascending, or going up<sup>11</sup>. The spiral of Siouan winter counts is composed of glyphs that mark a memorable event each winter, begin-

ning at the center and then ascending in age usually to about seventy years (Brotherston 1979:131-133).

Siouan winter counts and Mide birch bark scrolls are highly conventionalized texts that have been often transferred by copying from earlier sources, some of which extend into Pre-Columbian times (Brotherston 1979:95-96, 131-133). Historically, libraries of winter counts and Mide scrolls were kept by certain individuals (Mallery 1886:89-182, 1893:266-287; Dewdney 1975). The buffalo robe library of Brown Hat, also known as Baptiste Good, is thought to cover a span of winter counts from A.D. 930 to 1700 (Brotherston 1979:131). Only a few hundred ancestral Mide birch bark have survived destruction. Some these scrolls are stored in museums in North America and Europe. One of the best known libraries of scrolls was donated to the Glenbow Institute in Alberta by James Redsky, an Ojibwa Mide. Redsky's library goes back to the early nineteenth century, but other Mide scrolls may extend thought and knowledge into Pre-Columbian times. Mide birch bark scrolls have been discovered in Ontario caves by archaeologists that date well before European colonists poured into the Great Lakes (Kidd 1981).

**Siouan winter counts require a little more effort on the part of western scholars, who are unaccustomed to reading in a counterclockwise spiraling direction on a buffalo robe.**

Choreographic notation is the final ancestral variety of Native North American writing that Brotherston identified. Navajo sand paintings of the Night Way and Mide initiation ceremony scrolls both involve choreographic notation (Brotherston 1979:95-96, 98-100). The choreography was read from four directions, though the Night Way and Mide initiation stress movement from west to east. Balanced reciprocal relationships among sky, earth, and cardinal directions are emphasized and enumerated in multiples of two and four in both scrolls and sand paintings.

From Brotherston's study, three conclusions can be made about ancestral Native North American texts. First the texts were written to be read in four basic ways, including tableau, columns, spirals, and principal cosmological directions. Second, ancestral Native North American texts conventionally presented thoughts and knowledge with dimensional, mathematical, musical, and choreographic notation. Third, principals of cosmology, especially in multiples of two and four were emphasized.

In sum, the notion of rock art should have never been adopted in the study of ancestral Native North America. Rock art is a rather benighted idea for ancestral Native North America, which is based historically on academic prejudice and art enthusiasm. There have been three continental studies of Native North American ancestral varieties of writing,

<sup>11</sup>A clockwise spiral with the left hand is descending, or coming down. The metaphors of ascending and descending spirals are likened to an eagle soaring.



which offer insights. Studies by Mallery (1893), Martineau (1973), and Brotherston (1979) have largely demonstrated that thoughts and knowledge were written and read by ancestral Native North Americans in a variety of ways.

## EXAMPLES

Native North Americans have ancestral varieties of writing which date long before contact with Western Europeans. There is a great deal of literary and oral tradition pertaining to ancient Native North American varieties of writing on rocks. Some of the best documented in anthropology include Blackfoot *a`h-sinnáep*, Hopi *tutuveni*, Ojibwa *muzzinabik*, and Zuni *atsinna*. All of these Native American terms were well known to western literary and oral traditions before the twentieth century.

### Hopi Tutuveni

*Tutuveni*, among the Hopi, means “writing” (Hill et al., 1998:681, 860). Ancestral Hopi varieties of writing are found on rocks throughout the greater Southwest. Extensive historical, ethnographic, and archaeological information exists relating Hopi oral

traditions to ancestral rock writing (Bernardini 2002; Colton 1946; Colton and Colton 1931; Eggan 1994:15; Ferguson et al., 1995; Fewkes 1892, 1897, 1898, 1906; Kuwanwisiwma 2002a, 2002b; Mallery 1886: 29-30; Michaelis 1981; Parsons 1939:187; Reagan 1920; Talayesva 1963; Titief 1937). Ancestral Hopi rock writing pertains to clans, migrations, religious societies, ceremonies, astronomy, plants, animals, and histories of the land.

*Tutuventiwngwu*, or “place of the clan rocks,” is the best known ethnographic and archaeological example of ancestral Hopi rock writing (Hill et al., 1998:681). The site is also known as “Willow Springs.” The Willow Springs site is located on the Navajo Reservation in the Painted Desert of Arizona. It was reported to be there as early as 1878 (Mallery 1886:29-30), and was later noted by an archaeological survey in 1895 (Fewkes 1898). The Museum of Northern Arizona and Peabody Museum subsequently collected ethnographic information on the site in the 1930s (Colton and Colton 1931; Titief 1937).

Willow Springs is a waypoint along the trail for obtaining salt from the Grand Canyon. The ancestral Hopi, or *Hisatsinom*, engraved their clan symbols on rocks at the site each time they made the salt expedition. Clan symbols are enumerated in rows, or in tableau format. Recent archaeologi-

cal work indicates the Hopi clans may have begun writing at the site by A.D. 1150 (Michaelis 1981:8).

### Zuni Atsinna

*Atsinna*, for the Zuni, means “writing” (Young 1988:46). Like the Hopi, ancestral Zuni varieties of writing have been placed on rocks across the greater Southwest. Much historical, ethnographic, and archaeological information also exists on Zuni oral traditions and ancestral rock writing (Cushing 1896; Ferguson and Hart 1985; Parsons 1939; Roberts 1932; Schaafsma 1981; Schaafsma and Young 1983; Stevenson 1904; Young 1985, 1987a, 1987b, 1988). Ancestral Zuni rock writing seems to concern narratives about clans, migrations, kachinas, medicine societies, ceremonies, celestial bodies, animals, plants, boundary marking, and the landscape.

The most extensive ethnographic and archaeological work on ancestral and contemporary Zuni rock writing was conducted by M. Jane Young between 1977 and 1986. Young (1988:46, 245, 254) recorded 34 sites across Arizona and New Mexico in proximity to the Zuni reservation. The best known ancestral Zuni sites are found within

the Petroglyph and El Morro National Monuments. Early ancestral Zuni varieties of rock writing may date sometime prior to A.D. 400 (Young 1988:46).

The Zuni, too, recognize a “place of writing,” or *Atsinakwi*, pertaining to their clans (Young 1988:175). Unlike like the ancestral Hopi *Tutuventiwngwu*, however, the location of *Atsinakwi* has not been revealed in ethnographic and archaeological publications. As Cushing (1896:386) first noted in 1891, the Zuni placed “their kin-names on rocks there about.” Since Cushing’s time, much of the ethnographic and archaeological work on rock writing has focused on the identification of clan symbols, and validation of Zuni oral traditions concerning their migrations (Ferguson and Hart 1985; Parsons 1996:214; Roberts 1932; Stevenson 1904:87; Young 1987a: 4,1988:136).

### Blackfoot *A`h-sinnáep*

*A`h-sinnáep*, among the Blackfoot, means “it is written” (Lancaster 1966:304). *A`h-sinnáep* is also the name given by the ancestral Blackfoot to the famous “Writing-On-Stone” site, a Canadian Provincial Park on the Milk River, north of the Sweetgrass Hills, in Alberta. Ancestral Blackfoot variet-



DRAWING OF MAINE (MACHIAS) PETROGLYPHS. (MALLERY)

ies of writing are found on rocks throughout the northern Great Plains. A great deal of historical, ethnographic, and archaeological information exists relating Blackfoot oral traditions and ancestral rock writing (Barry 1991; Brink 1979; Bouchet-Bert 1999; Conner and Conner 1971; Keyser 1977, 1979; Keyser and Cowdrey 2000; Keyser and Klassen 2001; Klassen 1995; Klassen et al., 2000; MacLean 1894; Magne and Klassen 1991; McClintock 1936; Schwab 1994; Steele 1888; Tacon 1990; Willcomb 1970). Ancestral Blackfoot varieties of rock writing apparently dealt with autobiographical narratives, personal names, religious societies, ceremonies, medicine, animals, battles, as well as, boundary marking. Recent archaeological work indicates that early ancestral Blackfoot rock writing may pre-date A.D. 1300 (Keyser 2001:211).

Writing-On-Stone is probably the best known example of ancestral Blackfoot rock writing. The site was reported first by the Canadian North West Mounted Police in 1887 (Steele 1888:55). Blackfoot elders were still writing at the site in the early 1920s. On September 13, 1924, Bird Rattle, a Blackfoot elder, inscribed an autobiographical narrative at *A'h-sinnáep* during his visit with anthropologist, Roland Wilcomb (Klassen et al., 2000; Willcomb 1970). Willcomb photographed Bird Rattle at *A'h-sinnáep*. Bird Rattle is probably the only American Indian ever photographed by an anthropologist writing on rocks in historic times (Klassen et al., 2000:190). Bird Rattle related on Blackfoot oral and literary traditions pertaining to Writing-On-Stone. He felt that war records were the most common topic of Blackfoot writing at the site.

The most extensive historical, ethnographic, and archaeological work at Writing-On-Stone has been compiled by James Keyser and Michael Klassen (2001). Below panels at the site, the earliest archaeological deposit dates to approximately 725 B.C. (Keyser and Klassen 2001:17). Keyser and Klassen found that the site had not only great time depth, but also had tribal affiliations in addition to Blackfoot, including Cree, Crow, Cheyenne, Sioux, and Plains Ojibwa. Thus, writing on stone was important to many ancestral Native North American peoples of the northern Plains.

### ***Ojibwa Muzzinabik***

Evidence of Native North American terminology for writing on rocks has been known to the western intellectual tradition for over 150 years. *Muzzinabik*, among the Ojibwa, means “rock writing” (Schoolcraft 1851, v1:351)<sup>12</sup>. Mallery (1886: 17, 1893:35) discussed *muzzinabik* in the fourth and tenth reports of the U.S. Bureau of Ethnology.

<sup>12</sup>The term *muzzinabik*, or *mazinabik*, is a portmanteau word, combining the *muzzin*, “to write,” and *abik*, “on rock (cliff),” the plural form of which is *muzzinabikon* (Conway 1993:90, c.f., Nichols et al., 1979:8, 59; Wheeler and Buchner 1975).

The historical, ethnographic, and archaeological evidence for Ojibwa rock writing and oral traditions is extensive (Angel 2002; Arsenault 2004; Brown and Brightman 1988; Chute 1998; Cleland and Peske 1968; Closs 1990; Conway 1985; 1992a, 1992b, 1993; Conway and Conway 1989, 1990; Copway 1850; Dewdney 1970; 1975; Dewdney and Kidd 1973; Hoffman 1888, 1891; James 1956; Johnston 1976; Landes 1968; Lipsett 1970; Mason 1981; Rajnovich 1994; T. Smith 1995; Swauger 1974, 1976; Zimmerman and Molyneaux 2000). Ancestral Ojibwa varieties of rock writing may expound upon autobiographical narratives, personal names, totems, religious societies, ceremonies, medicine, animals, plants, astronomy, migrations, battles, as well as, boundary marking. Recent archaeological work on Ojibwa *muzzinabik* indicates time depth of two or more millennia before present (Arsenault 2004:359; Mason 1981:394-396; Rajnovich 1994:9; Zimmerman and Molyneaux 2000:42-43).

The best known example of Ojibwa rock writing is the Agawa site on the eastern shore of Lake Superior in Ontario (Conway and Conway 1990). Some panels at Agawa are attributed to ancestral Ojibwa Midewiwin elders, *Myeengun* and *Shingwaukanse*, during the mid-seventeenth century (Chute 1998; Conway and Conway 1990:61; Schoolcraft 1851, v1:406). *Myeengun*, “Wolf” and *Shingwaukanse*, “Little White Pine,” led war parties against invading Iroquois in the seventeenth century. They wrote their personal names, clans, and a record of their expedition on the cliffs at Agawa. The ancestral Ojibwa practice of writing on rocks was not uncommon during the seventeenth through the nineteenth centuries. Other well known examples include sites at Horwood Lake, the French River, and Roche Ouiseau in Ontario and Quebec (Conway and Conway 1989, 1990).

**Evidence of Native North American terminology for writing on rocks has been known to the western intellectual tradition for over 150 years.**

Agawa is just one of more than 400 *muzzinabikon* sites in the Great Lakes, many of which are likely attributed to early ancestral Ojibwa (Rajnovich 1994:9). Historians, ethnologists, and archaeologists have consistently attributed nearly all these sites to people who lived a *Midewiwin* existence. The *Midewiwin* is commonly referred to as a ‘shamanic religion’ by historians, ethnologists, and archaeologists. Like the idea of rock art, however, the concept of shamanism may be inappropriate in application to ancestral Native North America (Flaherty 1992; Francfort et al., 2001; Kehoe 2000). There may be no basis for referring to ancestral *Midewiwin* elders as ‘shamans’ (Steinbring 2001), but that is topic of another article.

In sum, there is a great deal of literary and oral traditions on Native North American ancestral varieties of writing. Some of the best known include Blackfoot *a'h-sinnáep*, Hopi *tutuveni*, Ojibwa *muzzinabik*, and Zuni *atsinna*. Other tribes are likely to have similar concepts. Further study and tribal consultation is recommended. There is no excuse for

scholars to assume the Cadmus myth for ancestral Native North America any longer, and thus continue to uncritically apply the term rock art rather than writing.

## CONCLUSIONS

You have the letters Cadmus gave –  
Think ye he meant them for a slave?

- Lord Byron (1824:59-60) in Quiller-Couch (1919)

Texts may be read in many ways. Verses 59-60 from Lord Byron's *Isles of Greece* are a rather flagrant reminder of the extreme prejudice that was once associated with the alphabet, and yet still exists, perhaps unconsciously, in more subtle forms than nineteenth-century poetics. Prejudice may be found under the guise of science, particularly with the exclusivist view of writing.

In exclusivist perspective, only glottographic varieties, or visible speech, constitute true writing. Often implicit, though sometimes explicit, are assumptions about the superiority and authority of literacy over oral tradition. People who have no writing are considered illiterate, non-literate, and/or pre-literate.

The exclusivist position on literacy involves certain universal expectations about the evolution of writing. The evolution of writing is viewed linearly from crude, primitive pictures to advanced forms, culminating with the phonetic alphabet. Native North American ancestral varieties of writing are either considered primitive, or dismissed altogether (see, for examples, Coe 1999; Columbus 1989; Goody 2000; Ong 1982; Robinson 2002).

Native North American ancestral varieties of writing appear to be primarily semasiographic, illustrating ideas without necessary reference to a particular spoken language. There are examples of semasiographic writing among the Hopi, Zuni, Blackfoot, and Ojibwa, known respectively as *tutuvēni*, *atsinna*, *a`h-sinnáep*, and *muzzinabik*. Yet, these Native North American varieties are seldom acknowledged as writing by non-Indians.

Native North American ancestral varieties of writing have been largely classified by non-Indians as "rock art," or "rock-art," in the last half of the twentieth century. Although conceptually ambiguous, authors who use the term rock art assume the exclusivist definition of writing, at least in North America. In some cases, the presumption that ancestral Native North Americans had no form of writing may be due to ignorance. In many cases, however, it clearly is not. A number

of recent studies clearly show awareness of Native North American terms for ancestral writing, and then disingenuously embark on the study of rock art (see, for example, Conway 1994; Keyser and Klassen 2001; Michaelis 1981; Rajnovich 1994; Young 1988) or some form of "proto-writing" (Vastokas 1996, 2004).<sup>13</sup>

Why are westerners so unwilling to accept the idea that American Indians had *real* varieties of writing before European contact? Future scholars may look back with angst upon the notion of "American Indian rock art," in particular, as an extension of western ethnocentrism, which attempted to subsume indigenous peoples under an inaccurate, universal view of historical authority. Regarding Native North American ancestral varieties of writing, the derogatory term rock art must be discarded immediately.

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<sup>13</sup>Even Klaus Wellmann (1976), the first president of the American Rock Art Research Association, was fully aware that Ojibwa referred to the object of his study as *muzzinabikon*, or "rock writing," and not "rock art."



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## ILLUSTRATIONS

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