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# Traditional Navajo Maps and Wayfinding

**KLARA KELLEY AND HARRIS FRANCIS**

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All theories of the “peopling” of the Western Hemisphere acknowledge the abundant evidence, from remotest pre-Columbian times to the present, that American Indians have traveled long distances for direct subsistence, trade, and other purposes.<sup>1</sup> Yet most Indian societies have not produced “maps” in the familiar sense of “a representation, usually on a plane surface, of a region of the earth or heavens.”<sup>2</sup> Outside the influence of European colonizers, and with the pre-Columbian exception of urbanized Mesoamerican groups, these groups have relied mainly on speech and memory to transmit and store important information, including knowledge about the earth’s surface and wayfinding on it.<sup>3</sup> Scholars working within Eurocentric traditions of keeping written records have documented some of these spoken and memorized portrayals of the earth’s surface.

Today scholars, especially geographers, recognize a variety of ways that human societies represent the earth and heavens, as the following definitions of “map” attest: According to J. B. Harley, “Maps are graphic representations that facilitate a spatial understanding of things, concepts, conditions, processes, or events in the human world.”<sup>4</sup> More than mere “representations,” states Denis Wood, maps are social constructions that “make present—they re-present—the accumulated thought and labor of the past . . . about the milieu we simultaneously live in and collaborate on bringing [into] being. . . . they enable the past to become part of our living. . . . (This is how maps facilitate the reproduction of the culture that brings them into being).”<sup>5</sup> These constructions have many forms, both tangible (visual, “artifactual”) and intangible (verbal, “mental,” performed). Intangible maps include the cognitive maps that each person constructs mentally from direct experience and other sources (often traditional). They also include verbal maps, that is, constructions of the earth’s surface in spoken forms, such as descriptions or narratives. Much of the literature on verbal maps, at least

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those of American Indians, concerns place-names and how they organize information associated with the places, including memorized strings of place-names used to mark travel corridors.<sup>6</sup>

Scholars recognize that societies that transmit and store information mainly by speech and memory tend to produce maps in verbal form, with tangible constructions as supplements. These people can readily transform their verbal maps into a visual, tangible form. Many such forms are ephemeral—diagrams on birch bark or in the sand, for example. Most of the ones that have survived were collected by, and usually made at the request of, nonindigenous explorers, researchers, and others. How many other such maps made exclusively by and for indigenous people have not survived is unknown. The surviving tangible maps based on oral tradition have been emphasized in the literature.<sup>7</sup>

All maps, tangible or not, are constructions of accumulated cultural knowledge filtered through the map's producer(s), and they therefore carry multiple layers of meaning. By no means do all of these constructions portray the earth's surface in a fashion that facilitates wayfinding, in contrast to the type of maps implied by the common English-language term *map*. To use a map as a wayfinding tool, the user must integrate the map (accumulated cultural knowledge filtered through the map's producer) with his or her own experience. Few scholars have explored this process in detail.<sup>8</sup> In fact, only recently have scholars approached the maps so prolifically produced by modern globally dominant cultures with the same question—what do you have to know before you can use this map to find your way between two points?<sup>9</sup>

This paper offers an example of the wayfinding process when using verbal and other traditional maps among the Navajo Indians of the southwestern United States. The scholarly literature on the Southwest offers examples of verbal maps that construct both linear space, such as trails, and broad geographical space, including hunting territories and large physiographic zones, the last often represented by a metaphor based on human or animal anatomy. Navajo oral tradition includes all these types of construction. The present essay is offered as an addition to the published literature on Navajo traditional geography, which has generally been restricted to place-name inventories, land-use studies, and works related to cultural-resource management.<sup>10</sup>

### VERBAL MAPS: A NAVAJO EXAMPLE

The Navajo Indians of the Southwest inhabit a high semiarid plateau where mountains covered with parklike stands of evergreens alternate with broad grassy or sagebrush-covered plains or unvegetated rock and hardpan. The Navajos are among the many indigenous groups in the Western Hemisphere for whom hero twins or brothers are powerful deities and figures in popular stories. A Navajo story tells how the older brother, Monster Slayer, chases and subdues the monster Traveling Rock. Around 1930, the encyclopedically knowledgeable Navajo ceremonialist Slim Curley gave a version of this story to Franciscan ethnologist Berard Haile, who put it on paper in both Navajo and English.<sup>11</sup> The story is part of the origin story of the Enemy Way, a type of

war ceremony performed in summer that also brings rain. The complete translated text is as follows (brackets enclose our interpolations):

[At the end of the previous episode, Monster Slayer has returned to his home on top of Huerfano Mountain, south of the San Juan River in present-day New Mexico.] “Of walking stone it is known, that reports place it yonder, down in the west,” someone said.

From here, it seems he again began his journey by means of the same sunray, which glided away with him on the summit on the farther [south] side of Cottonwood Pass [Béesh Łichíí’ Bigiizh, Red Flint Gap, according to the Navajo text], to a place called “the sun lies there” [Jóhonáá’éí Si’ání, Sitting Sun Orb; Haile uses quotation marks to signify literal translations of Navajo names]. To the top of “fish flows out” [Łóó’ Háálíní] sunray glided with him, to the “black mountain” [Dził Dahzhinii, Black Mountain Up Above] sunray glided away with him, to the place called “dark mountain” [Dził Dłłhiłii] sunray glided with him, to the top of “mountain one” [Dził Łáhdil’éí] sunray glided away with him.

“Yonder is the place where walking stone lives,” was reported, and he immediately attacked it there. He struck it with the flint club, zigzag lightning quickly wrapped itself around it, fire flared up, a big fire blazed. It started on a run toward the east, but he hurried up to it by means of sunray, and struck it with that blue flint club. A piece was chipped off, and straight lightning wrapped itself around the stone. With his right foot he stepped upon the chipped-off piece.

From there it started on a run and landed on the “flat sloping ridge” [Hahasteel]. By means of sunray he ran up to it, and struck it with that yellow flint club which he had. Zigzag lightning wrapped itself around it, another piece was chipped off, fire flamed up, and that chip lies at [“toward” in the Navajo text] Chinle [Ch’ínłí Outflow]. Upon this he stepped with his left foot. Again it started out and landed, on the jump, at Cottonwood Pass [Béesh Łichíí’ Bigiizh]. He also started out toward it, and again struck it with the serrated flint club. Another piece was chipped from it, zigzag lightning wrapped itself around it again, another tremendous flame blazed up.

When he again stepped on (the chip) with his right foot, his strength suddenly failed him, and he breathed heavily. He began to walk about there, and he felt a tremble through his whole body. The pair of prayer sticks which lay at the doorway of First-man [at Monster Slayer’s home] began to burn. “What has happened, what is the condition of things now? It is evident that the prayer stick has begun to burn! Go ahead, Born for Water [Monster Slayer’s younger brother, who is supposed to rush to his older brother’s aid when the sticks burn], indications are that your elder brother has been overpowered,” he said to him.

Born for Water then shot the zigzag lightning arrow, which he had. Here, it seems, when Monster Slayer touched the ground in front of

him with medicine, a medicine plant suddenly stood there.<sup>12</sup> At once he plucked this and chewed it, then rubbed himself with it. Above him a cloud appeared, and directly rain began to fall upon him. This moisture cooled him off, the prayer stick, which had begun to burn, was again extinguished. As soon as he was cooled off, it seems, he exclaimed, "At which place, walking stone, can you outwalk me!"

At once the sunray and that zigzag lightning bounded with him after it, and landed him again on the distant continental divide [Ahideelk'idii, Converging Ridges]. With that serrated flint club he again struck it, another piece was chipped from it, straight lightning again wrapped itself around it, another big fire blazed up. Again he stepped upon the broken piece. From there it again rushed away, and as it plunged yonder into the ocean, its rumbling (ts-ideel) noise was heard. From there he merely set out to return and arrived at Huerfano Mountain.

Embedded in this story is a verbal map consisting of at least the following details. Monster Slayer travels by sunray (an icon for a straight line above the earth's surface) from Huerfano Mesa westward along a series of five named mountaintops. He finds the Traveling Rock far in the west and strikes it. It flies away eastward with Monster Slayer in pursuit. It bounces off the earth in five places, all but the first of which are named. At these places Monster Slayer strikes a chip from it and steps on the chip. The second chip falls at a place farther east between the places of the second and third bounces before Monster Slayer steps on it. At the place of the third bounce, Monster Slayer makes rubbing plant medicine. After the fourth bounce, the rock falls into the eastern ocean.

This constellation of story elements forms a verbal map according to geographers' current definitions. Can it also help one find one's way on the ground? Yes, if one knows the representational conventions and other background information. In the next few sections of this paper, we provide such contextual details. We have already noted one of them: the sunray represents a straight line of travel. Other established precedents are covered in the next section and those that follow it. After the section on context are two sections that address, respectively, the map's relationship to what is actually on the ground and whether Navajos actually have used this or similar stories to find their way over the landscape, and if so, how. To bring out the accumulated cultural knowledge embedded in the verbal map, we then address the question of its antiquity. Finally, we address the question whether Navajos have translated this or similar verbal maps into plan-like visual maps that one could use for wayfinding.

## CONTEXT

The context of a story with an embedded verbal map is an enormous field that includes (but is not limited to) the larger myth(s) of which the story constitutes one episode; the story's iconography (the conventionalized attributes of

various beings and other story elements); its history; who tells and learns it, and for what purposes; and why a teller relates the story in a certain way at a certain time. (In the present essay, *myth* means a narrative that emphasizes originating or recurring events and processes.) This section sketches the context of our story. Other contextual information appears later where it is most pertinent, especially in the part concerning the use of verbal maps.

### Place in Larger Myth and Iconography

This story and the other monster-slaying stories are part of a group of creation myths that, in various combinations, explain the origin and development of various kinds of ceremonies, especially the type most central in Navajo ceremonialism, Blessing Way.<sup>13</sup> These myths start when immortal beings travel upward through a series of worlds until they emerge on the present earth's surface. They make a dwelling of the cosmos with a framework of mountains upon the land: cardinal mountains that hold up the sky and central mountains where immortal planners live. Within this cosmic framework, they place celestial bodies in the sky and other landforms on the earth. Each direction and its associated mountain has a color and sacred stone or other hard substance (mineral or marine shell), which the myths name in the sunwise order in which the corresponding mountains were set down.

Traveling Rock and other monsters also emerge with the immortals and eventually start killing off the people of the earth. Therefore the beloved immortal Changing Woman appears on Earth, comes of age, mates with the Sun and with water, and gives birth to the Two Brothers, who are destined to kill off the monsters after they visit their father Sun to be tested and initiated into warriorhood.

After the monster slaying, the Sun orders a great flood that engulfs the earth and kills off most of the people who survived the monsters. Then the Sun and Monster Slayer conspire to force Changing Woman to move to a floating home off the coast of present southern California. Twelve Holy People accompany her. In some versions of this myth series, these twelve people survive the flood and emerge from a cave near the junction of Colorado and Little Colorado Rivers, go east and then return west, naming places on their line of travel.<sup>14</sup> At the Western Ocean, Changing Woman creates a new breed of humans, the Water People, who travel east to reclaim the former monster-ravaged land and establish the Navajo clan system. Corresponding to the various episodes in this group of myths are sets of songs, including many that invoke the cardinal mountains and directions. The westward and eastward routes of Changing Woman, the Twelve Holy People, and the Water People intersect and coincide with long segments of Traveling Rock's line.

### History

The earliest recorded versions of these myths date to the 1880s, given by elderly ceremonialists who would have learned them in the first half of that century.<sup>15</sup> The myths contain virtually no references to domesticated animals,

wheeled vehicles, fabricated metal, or non-Indians, evidence that they refer to pre-Columbian times. They also have episodes and iconography in common with not only Puebloan and other indigenous societies of the Southwest and North America in general but also Mesoamerican myths recorded not long after Spanish contact.<sup>16</sup>

The Navajo Traveling Rock story (and the larger myth of which it is part) presumably has pre-Columbian origins in common with the story's Puebloan and Mesoamerican cognates. Like all oral "texts," however, the Traveling Rock story differs at least slightly among various tellers and performances, and its form and interpretation have surely altered through time as the life circumstances of its tellers and listeners have changed.

### **Use, Teaching, and Learning**

Although the monster-slaying myth that includes the Traveling Rock story is not part of the myths that charter Blessing Way ceremonies, many other episodes of the larger myth that encompasses the monster slaying are also parts of the Blessing Way myths. Blessing Way is the preeminent ceremonial repertoire among the couple of dozen Navajo repertoires, many of which have fallen into disuse in the last hundred years. A ceremonial repertoire includes the songs, prayers, rituals, plants, minerals, other raw materials, and ceremonial paraphernalia, as well as the rules for combining these elements into a particular performance (which might last only a few hours or as long as several nights and days). Also part of the repertoire are its origin myths, which explain the origin of all the repertoire's elements and how they were learned by the person who assembled the repertoire. The Traveling Rock and other monster stories are not part of the Blessing Way repertoire origin myths because Blessing Way concerns peace and the monster stories concern war. The monster-slaying stories are part of the Enemy Way and Enemy Monster Way ceremonial repertoires. But Navajos link these war-related myths to the Blessing Way myths by identifying the part of the Blessing Way chronology in which the events of the war myths took place.

Navajo ceremonial repertoires are cared for by specialists called *hataa'ii* (singer), who learn them from older singers through years of helping and formal instruction. Families engage the services of a singer to perform a ceremony to cure an ill family member, prevent or reverse family or community misfortune, bring rain, maintain good conditions, and so forth. The singer chooses elements from the repertoire according to the purpose of the ceremony and how much the family can pay. Ceremonial participants are mainly the sponsoring family, relatives, and guests, but certain large ceremonies also climax in all-night public dancing. The singer may tell parts of the repertoire's myths between rituals in the semi-private interludes of the ceremony. He (most singers are men) also teaches his helpers more detailed and esoteric versions. Commonly in the past (but rarely now), family elders also told non-esoteric versions of the myths to children and grandchildren at home on winter nights.<sup>17</sup>

### **Why the Teller Told the Story**

The version of the Traveling Rock story quoted above was not recorded in a traditional setting; the singer Slim Curley told it to the Franciscan priest Berard Haile and the Navajo interpreter Chic Sandoval. The recording was one of a series that Haile made with Slim Curley (and other singers). Most of this work seems to have been sponsored by the linguist Edward Sapir at the University of Chicago, whose purpose was to build a body of Navajo language texts for professional linguists and cultural anthropologists to study. Probably Haile and especially Slim Curley had other reasons for participating. Haile thought that missionaries who sought to win converts needed to know the Navajo language and culture.<sup>18</sup> Slim Curley (evidently not a convert) may have considered Haile and Sandoval as helper-students who could preserve oral tradition that would otherwise be lost.

The story appears in print in both Navajo and English, but the published version does not describe precisely how it was recorded or edited. In his early years, after he had learned enough of the Navajo language, Haile evidently took written notes in Navajo. But by the time he recorded the story, Haile had a phonograph, and therefore he probably recorded the story on wax cylinders, as did many anthropologists between the late nineteenth century and about 1935. Haile's collected research materials evidently include no such cylinders, but he, like others, may have shaved them for reuse as temporary transcription aids rather than maintain them as permanent records.<sup>19</sup>

### ON THE GROUND

The line of Traveling Rock is marked on the ground by both landmarks and cultural features (markers made by humans), as are other routes of immortal travel delineated in Navajo ceremonial origin stories. The Traveling Rock story first names a string of intervisible landmarks east to west, then a corresponding string of cultural features at named places west to east. These strings define a linear segment of geographical space requiring many days' travel by foot or horse (at least two hundred miles). In telling of travel by sunray and flight above the earth, the story also implies that the entire line is not itself a beaten trail on the ground.

### **Landmarks and Place-names**

All the place-names but one (Mountain One) correspond to specific landmarks in Navajoland, all of which are within five miles on one side or the other of an alignment due east-west (see fig. 1). All but one of the landmark place-names (Sitting Sun Orb) suggest what the corresponding landmarks look like. The place-name Mountain One refers to the first of four mountains that extend around or in a line from certain places of creation, including Changing Woman's home off the Pacific coast. Mountain One therefore connotes originating places in general. Another such place is a zone in the Grand Canyon where the Twelve Holy People emerged after the flood. The Grand Canyon zone is situated along the line of the other landmarks





projected to the west. (Other stories suggest a mountain on the canyon rim above this zone as a candidate for an earth-surface location of Mountain One in the Traveling Rock story.)<sup>20</sup> The name Sitting Sun Orb attaches to more than one place. The name refers to certain marks (not petroglyphs) on nearby rocks said to represent the sun and the moon located in the same place. The name therefore has a cosmographic connotation.

The projection of a name evoking cosmography onto more than one landmark identifies those landmarks with cosmography. We call such place-names *prototype place-names*. Mountain One is such a place. (Many but not all cosmographic names have such potential; an example of one that does not is the name for the hole at the zenith of the sky.) Other place-names in the Traveling Rock story, such as Dark Mountain, clearly describe the corresponding landmarks but also are prototype place-names.

The story, then, uses place-names to represent a particular geographical space (the line) by (1) naming them in a context that shows they form a sequence, (2) using names that have clear, even unambiguous, denotations (places on the ground, places that match the appearance denoted by the name), and (3) using place-names at or near the ends of the line (Sitting Sun Orb, Mountain One) that imply the cosmographic frame—the cardinal directions and center (zenith and nadir). These connotations function much like the north-pointing arrow on Euro-American maps to anchor the sequence given by the story context and establish its general direction. The story itself also states the general lines of travel and situates these lines roughly in relation to the place that distinguishes this story episode from those preceding and following it, Mountain Around Which Moving Occurs, a place-name that connotes the cosmic center and denotes a unique landmark, which is also Monster Slayer's home.

### Cultural Features

The cultural features in the story are the manifestations of Monster Slayer chipping at the rock (see fig. 1). After Mountain One (1), their locations are, from west to east: a place (unnamed) east of Mountain One (2), a place on southern Black Mesa, Arizona (3), a place near Chinle, Arizona (4), one near Narbona Pass, New Mexico (5), and one at the Continental Divide (6). The manifestations are Monster Slayer's footprints at places 2, 4, 5, and 6, along with a place for making medicine from plants at location 5.

Also on the line, Navajo people have shown us cairns at places 3, 4, and 5 and at a place that could be the more vaguely described place 2. These are simple conical piles of small rocks and twigs or brush, four to six feet high. The story does not clearly mention cairns. It may imply them, however, since these piles of shattered rock appear at every place where Monster Slayer strikes the rock except place 1, and another cairn is at or near place 4, where a chip from place 3 lands.

People have also shown us the Monster Slayer footprint, which is what archeologists call a "grinding slick" (presumably used for making medicine) in location 5, the one with medicine, and within half a mile of the cairn.<sup>21</sup>

People have pointed out two different rocks with footprints of immortals that could correspond to location 4; a cairn is at one of these places, and the footprint near the cairn is visible.

The cairns, then, form a line due east-west that corresponds to Traveling Rock's line of travel. All the cairns are offset no more than two miles from true east-west alignment and are spaced respectively 60, 35, 40, and (if a cairn not yet located is on the Continental Divide) 80 to 90 miles apart, for a total length of at least 215 miles. Furthermore, all the cairns (and the Continental Divide) are where indigenous long-distance trails (recorded in both myth and memoir) cross the line.<sup>22</sup>

Other trails cross Traveling Rock's line, but cairns do not mark them as far as we know from the literature, consultants, and observation. The points marked by the cairns and footprint are spaced several days' travel apart. If one assumes that it is reasonable to travel fifteen to twenty miles a day on foot, and an actual foot trail did not deviate widely from the line, then the cairns are spaced two to five days apart. If it takes thirty to forty miles a day to journey on horseback, then they are spaced one to three days apart. In between certain cairns identified in the Traveling Rock story are places that, according to other, related stories, once had crystals or rods of mirage stone. One is a chip off Traveling Rock in another version of that story and is about a day's travel by foot (fifteen to twenty miles) east of the cairn near place 4. The other (not identified with Traveling Rock) is about a day's walk both east of cairn 5 and west of Chaco Canyon.<sup>23</sup> The cairns are not at springs, although springs are near—two miles away or less. Nor do petroglyphs accompany the cairns, although they may appear on or near the line elsewhere. Taken together, the landmarks, cairns, and crystal places form an east-west string of places spaced one or two days apart on foot.

### NAVAJO WAYFINDING WITH VERBAL MAPS

We have no account of humans traveling along the line itself. The reports of human use involve trails that crisscross the line, including one that approximates the line. According to one elderly Navajo couple, a route that weaves in and out of the western part of the line is called Holy People's Trail because the immortals were probably the first ones to use it. The couple also said that Navajos traveled this trail on horseback a long time ago but can no longer do so because of fences and other obstacles. Along the horse route are water holes, trail shrines (cairns), and other shrines. The trail shrines the couple mentioned include cairns at places 2 and 3 on the line itself.<sup>24</sup>

The horse trail that the Navajo couple described was used by many different peoples. Navajos employed it and other trails for traveling among Navajo communities, for trading and attending ceremonies at Hopi (often both at the same time), and for traveling to Navajo sacred places to make offerings and gather ceremonial materials. Other sources identify this trail as Hopi or "Indian."<sup>25</sup>

With a well-beaten trail, perhaps no one would have used the Traveling Rock story as a map. Even on well-beaten trails, however, orienteering might

be necessary at trail junctions. Navajo trading parties of the 1800s used ceremonial oral traditions during travel. The typical group was composed of twenty-five to thirty men (sometimes women went, too), usually from more than one locality, traveling on horseback. The leader was someone knowledgeable about trading ritual, songs, prayers, and prescribed behavior. The trips lasted two to three weeks. The leader started the trip with songs and prayers, with more when the group reached the edge of the country that members knew. From here on singing became increasingly frequent. Songs throughout the trip were from Blessing Way. According to W. W. Hill, the songs included "Hogan Songs, Mountain Songs, Songs of the Hard and Soft Goods, Talking God Songs, Corn Songs, and Journey Songs. Changing Woman and White Shell Woman Songs were considered appropriate when crossing wide valleys, Mountain Songs when traveling over rugged terrain; all types were thought to pertain to the goods which were desired and to insure successful bargaining, friendly treatment, and safe return."<sup>26</sup> Where the group stopped to rest or camp, they offered sacred stones with songs and prayers. The return trip also involved Blessing Way songs and prayers, culminating with a Blessing Way all-night ceremony when the group reached home.

Several Navajos in their late eighties have given us a few more details about long-distance travel for trade and also for hunting and war. The late Dan Taylor of Many Farms said in a conversation on 16 November 2000: "Trading expeditions would have a leader, an older man, accompanied by a young man whom he was teaching. They two would travel on horseback. They knew what was at the distant places through songs and prayers that named the sequences of places in the direction of travel. The older man taught the young man the songs and showed him the places they named. This was within the Four Mountains of Navajoland. Navajos ordinarily did not go outside to trade."

Jenny Paddock and her husband, the late Arnold Paddock, the Navajo author's aunt and uncle, told how people learned geography, first about their own family land, and then about more distant places. Speaking in Navajo on 24 November 2000, Jenny Paddock said:

Sacred places are mentioned in the origin and ceremonial stories. Teaching started early for young people. As they grew, they learned these places by heart. The family's prayer places, springs, mountains, places that have stories people also learned by heart by the time they reached age ten. They learned because they took part in the ceremonies at these places with their parents and grandparents. Young men were required to know these places and the stories attached to them and some of the prayers of the family's sacred places around the home.

The locations of places outside the family's home area were also taught to young people at an early age. These are the major sacred places like Chuska Peak, Black Mesa, Canyon de Chelly, and so forth. When the father went to visit his family [normally families lived with the woman's family], his children went with him. On the way, the father taught his children the route and the names of the places along

the way. The girls learned these routes in order to visit their father's family in the future.

As for the boys, they had to learn all of these places early. When the men planned a hunt or raiding party, the boys who were old enough were invited into the sweathouse [a ceremony before the trip], where they were taught about the rituals involved [on the trip], the places they would pass, and the springs along the way. They usually camped at the springs at night and did prayers there when leaving. These trips were all conducted in a sacred manner, starting with the sweathouse and continuing until they returned home. Prayers were said all along the way. In the hunting and war songs, places were named. This is how they found their way. The boys were taught these things.

It was usually the hunting songs that mentioned the landmarks. The war songs, I don't know about. But my great-grandfather used to sing these hunting songs. These were not Blessing Way songs, but usually Mountaintop Way songs because these were the homes of the animals, deer, elk, sometimes antelope, that were being hunted.<sup>27</sup>

All of this was done in a sacred way. Prayers and ceremonies were done all the time. I'm sure it was the same if not more sacred when they went on a raid because that involved taking human life sometimes. When they returned [from hunting], a cleansing ceremony was done, then the Blessing Way.

I never heard anyone talk of going to a certain place for trading. Usually it was the men who traded among themselves. The things they got were usually for themselves and the women—guns, weapons for themselves, things like pots and pans and cloth for the women. They usually went to the whites or the trading post for this. I didn't hear of anyone going outside our lands to another tribe just for trading. It was usually them that came to us, like the Hopis who always came to us with their donkeys [trading corn for meat]. But I'm sure others [Navajos] traded with other tribes, those who lived next to them.

Arnold Paddock continued:

When boys came of age, they were taken along and taught the locations of those landmarks and the songs that told of them. He has to know these things because one day he might have to come this way again. Even in travel one had to be in harmony with everything.

The people traveled around a lot then. One couldn't stay in one place too long as we do today. There were many things to take into consideration: water, food, enemies, and so forth. People were always on the move. Some traveled with the seasons, so everyone had to learn and know these routes and the landmarks that went with them. I've not really heard anything about we Navajos traveling long distances to trade. Maybe before Fort Sumner [an internment camp where the US Army held Navajos between 1864 and 1868] they did this because we weren't restricted to one area [reservation] like we

are today. Most trading was done with whites and the tribes that lived close to us.

Your grandfather [Mr. Crawler] once said that people traveling to far destinations often used the routes of the Holy People, routes like Changing Woman's trail [which coincides with Traveling Rock's line between at least places 3 and 5, and possibly also farther west]. When there were enemies around, everything that was done had to be done in a very careful manner. This included prayers, which were performed all the time, so that the Holy People were with you and protected you.

Traveling to different locations was always risky and dangerous. You never knew if the enemy was nearby waiting to attack you. Because of this, protection prayers were always done before you left. The destination was always known and discussed by all who were going on the trip. The route was discussed beforehand so the party knew where to go. With the hunting and war parties, these things were discussed in the sweathouse, and in case of attack, evasive actions were planned. They always picked a certain place to meet if they became lost or separated because of enemies. Hunting locations were named in songs that the men sang on their journey. These songs named major landmarks such as mountains and always springs. They would usually camp near these springs and do prayers there in the Holy People's route.

[Harris Francis: What about the Buffalo Trail (a route described in another ceremonial origin story that crosses the Holy People's Trail at Place 3)? Is that included in this?]

Yes. These routes were well known then. The stories that go with them and the landmarks, these were taught to the children at an early age. This helped make the travel easier going north to south and east to west. But it seems no one knows these stories anymore, so these routes are forgotten. Maybe some singers and elders still know of them, but no one asks.

These Navajo elders all told us that ceremonial stories, songs, and prayers performed just before and during the trip helped the party stay on the correct route of travel. Such rituals seek guidance from the immortals whose domains the party is traveling within or toward. In addition, the stories, songs, and prayers mention sequences of places. These elders did not give examples of songs, prayers, or stories, but they did single out Mountaintop Way ceremonial repertoire and other songs used in hunting as rich in place-names.

Previously published versions of songs, prayers, and stories of the Blessing Way, Mountaintop Way, and other hunting ceremonial repertoires show that the three verbal forms differ in the kinds and variety of places they name. But published songs, even for Mountaintop Way and the hunting ceremonies, mention few landmarks besides the cardinal mountains and prototype place-names connoting cardinality.<sup>28</sup> The lack of place-names where our consultants indicate richness suggests that singers have systematically withheld geographically specific songs from recording. Certain Blessing Way prayers mention more landmarks but not in lines of travel.<sup>29</sup> Published

Blessing Way journey songs invoke the trail of corn pollen and cardinal mountains, not strings of landmarks.

By far the largest number and variety of places appear in the published versions of ceremonial origin stories. The stories mention places, such as in the Traveling Rock example, in sequence encountered by travelers, anchored at beginning and end to cardinal mountains or other key cosmographic locations so that the traveler knows the general direction of travel. Notwithstanding the possibility that unrecorded songs have more geographical detail, the late Blessing Way singer Frank Mitchell makes clear that songs do not establish sequences, only the associated stories do so: "Of course it is the story that tells us the order of the songs all straight, the story of how the songs began. That's why it is simple to remember all these songs. . . . People who do not know the story have no way to remember those songs. . . . The story is like a trail. You see, a trail runs in certain ways, and if you have gone that way more than once, you know every little thing that is on that trail. That is the way you think about these songs. . . . The rows of songs on one side and the trail alongside of it: that is how you keep those two things in mind."<sup>30</sup>

Therefore, even songs that do name places do not by themselves specify the sequence in which travelers encounter those places. Instead, each group of songs is associated with a particular story episode, and it is the story episode that names places in sequence, usually more places than are named in the songs (or prayers) that are associated with that episode. The songs also invoke certain powers (Holy People), and these invocations name the prototype places where these People live. The story is what attaches the prototype place-name in the song to the actual place on the ground.

The recorded songs relate to wayfinding more obliquely, for example, by invoking pairs of directional colors (such as blue for south paired with black for north) when the traveler in the associated story episode is moving northward, or by invoking the four directions when the traveler encounters a crossroads.<sup>31</sup> Probably our consultants emphasized songs as wayfinding aids not only because songs and prayers actually used might contain more place-names than recorded versions do but also because they address the deities who can guide the travelers. Stories do not enlist divine guidance; they function more as self-help devices.

Returning to our example—Traveling Rock's line and the story of it as a verbal map—does the story have accompanying songs? Only one song has been published, and it is associated with a different version of the Traveling Rock story, which delineates a different line for Traveling Rock, about fifty miles south of the one in our example.<sup>32</sup> In any event, the song as published names no places, and any directional iconography implied (by paired black and blue figures) is north-south, not the east-west alignment in the related story version.

Up to this point, we have shown that Navajo ceremonial stories include verbal maps as geographers currently define maps, and furthermore that the maps in the Navajo stories can be used for wayfinding. The Navajo verbal maps work by identifying routes of travel with sequences of named landmarks and cultural features. They show the direction of travel by anchoring those



sequences to icons of the cardinal directions or other places in the cosmic framework. An often-missed subtlety is that the stories also indicate an absence of trails on the ground in the straight lines between landmarks. The story sequence forms a guideline for travelers to know which places they need to reach, in what order, and in what direction. Not only can the stories function as maps, but in the past Navajos did use them as maps, knowing that the actual trail on the ground would wind back and forth along the guideline in the verbal map. Actual trails on the ground may shift with the changing distribution of natural resources, human settlements, and means of transportation. By not representing entire trails—only strings of guidepoints that any trail needs to access—the story map persists despite the vagaries of human history. Given the maps' potential for immortality, or at least longevity, and to emphasize that these maps are constructions of cultural knowledge accumulated through time, we now address the question of permanence.

#### ANTIQUITY OF THE ORAL MAP

The Navajo story of Traveling Rock does not contain direct evidence of its date, although, as previously noted, a pre-Columbian age is suggested by the absence of domesticated animals, wheels, fabricated metals, and non-Indians. Another hint that it may be of pre-Columbian age is the possibility, described above, that Traveling Rock's line originally had more cairns spaced one or two days apart for foot travel. The present cairns, more widely spaced, seem appropriate as markers for those traveling by horse. In Navajo thinking, some cairns originated in the remote past with the Holy People, while others mark trail crossings where Enemy Way ceremonial parties have met or were created by Enemy Way singers.<sup>33</sup> Custom requires that one place a rock and vegetation on the pile and pray before going further. Ancient cairns are therefore maintained to the extent that people continue to pass by.<sup>34</sup>

Archeological site inventories maintained by the Navajo Nation show various types of pre-Columbian archaeological sites on or near Traveling Rock's line, but they do not seem to form a series of regularly spaced, clearly travel-related manifestations and therefore may coincide with the line fortuitously. Sites of the 900–1300 CE period that have important architectural monuments do, however, seem to coincide with the system of travel-route corridors delimited by Navajo stories about the Water People and immortal icons of shell beads, turquoise, big game, and related items.<sup>35</sup> These corridors cross Traveling Rock's line at the cairns and other locations apparently not marked by cultural features.

The Traveling Rock story, the remainder of the myth sequence of which it is part, and virtually all other stories of Navajo ceremony origins seem to be set in pre-Columbian times. Other stories about Monster Slayer are set at large pre-1300 CE sites such as Aztec ruins.<sup>36</sup> And the Water People (progenitors of Navajo clans), whom Changing Woman made after she traveled part of Traveling Rock's line to the Pacific, journeyed inland over trails that cross the line at some of the cairns. They settled at various pre-Columbian archeological sites and districts that antedate 1300 CE, including Chaco Canyon in at



least one version, which they reached by what seems to be a segment of Traveling Rock's line.<sup>37</sup> Another Navajo story tells of the Great Gambler's race-track between Chaco Canyon and Chinle, which corresponds to a segment of Traveling Rock's line.<sup>38</sup>

There is other evidence that Traveling Rock's line may be pre-Columbian. Indigenous cosmologies of the Southwest emphasize cardinal directions and corresponding landmarks with long-distance visibility. The only place on Traveling Rock's line that has an iconography of centrality in Navajo stories is Chaco Canyon itself. Chaco's centrality iconography, however, is not in a story that names points on the line (except for the story fragment that connects Chaco and Chinle; see note 38); rather, Chaco is central in the story of the Great Gambler, who drew goods, people, and rain to his home there.<sup>39</sup>

Michael Marshall describes Acoma and Zuni ceremonial routes to lakes where salt and emergence from (or return to) the underworld occur.<sup>40</sup> He considers these routes pre-Columbian, postdating Chaco's time of greatest vigor but incorporating architectural sites and "road" segments of that earlier period. These routes are delineated by cairns and even by things that flash to direct the Holy People. Compare both the cairns and the crystals that reportedly delineate Traveling Rock's line. And note the west end of the line, the zone that surrounds the junction of the Colorado and Little Colorado rivers, a zone of both salt caves and emergence places in Navajo, Hopi, Zuni, and Western Apache traditions. Could Traveling Rock's line form the east-west complement to the north-south line formed by the "road" built in Chaco's heyday due north, toward the San Juan River (and, pointing farther north toward a zone of emergence in southern Colorado)?<sup>41</sup> Traveling Rock's line lacks any known segments with architecturally constructed roadbeds, but such constructions could lead from this (and other) verbally constructed lines to pre-Columbian sites with ceremonial architecture.

Anthropologists today say that Navajos (or their Apachean-speaking forebears) are not evident in the Southwest before the 1400s (based on material culture and outmoded historical linguistic studies).<sup>42</sup> But we follow Navajo clan histories, which show Navajo society to have diverse pre-Columbian and post-Columbian roots within and outside the Southwest.<sup>43</sup> The Traveling Rock story and its predecessors, then, may have carried the oral map from teller to listener from possibly as far back as pre-Columbian times to the 1930s or even more recently.

### NAVAJO VISUAL MAPS

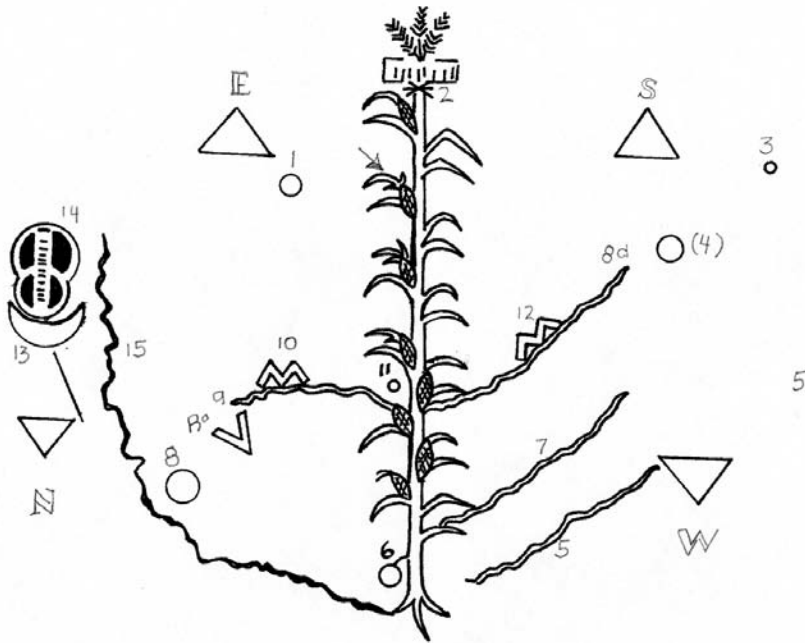
We have shown that the Navajo story in our example, and other Navajo ceremonial stories, are maps that can be used for wayfinding and that stories, along with associated ceremonial songs and prayers, in general have been used for wayfinding. These verbal maps also seem readily translatable into a visual, plan-like form. Here we address the question whether Navajos have turned Traveling Rock's line in our example, or other ceremonial stories, into plan-like visual constructions of the earth's surface that also enable one to find a place on the ground.

We have observed people recall sequences of place-names from the stories and songs of a particular ceremonial repertoire while drawing the route on the ground, thereby making ephemeral, expedient maps. Most ceremonial repertoires also include sand paintings—plan-like, culturally fixed, visual images of the earth, sky, or both. These images are made of earth, powdered minerals, cornmeal, and corn pollen (but also incorporate three-dimensional objects to replicate geographical forms and other things). They are made, used, and disposed of in less than a day during a ceremonial performance.

The story of Traveling Rock is part of a ceremonial repertoire, Enemy Way, that does not include sand paintings. Monster-slaying stories in general are also part of another ceremonial repertoire, Male Shooting Way, that does include sand paintings. One published story of the Shooting Way repertoire mentions Traveling Rock, but only to say that Monster Slayer vanquished it with the help of Coyote, cut it into four pieces, then crushed each piece to make the source of all sand painting pigments of the four cardinal colors.<sup>44</sup> The accompanying sand painting reproductions do not include any that depict monsters. Therefore we do not have published sand paintings that correspond to the Traveling Rock story and might offer plan-like visual images to compare with the verbal map.

If such sand paintings do exist, however, they would presumably relate to the corresponding story as sand paintings relate to stories in other repertoires. Individual sand paintings in most ceremonial repertoires represent visually one or a few places named in the associated story episode. Like the songs, sand paintings do not tell the story but instead evoke particular story episodes by portraying the important Holy Person(s) and place(s) in the episodes. The sand paintings are constructions of the earth's surface that facilitate spatial understanding—maps as currently defined by geographers. They are not the kind of maps that allow wayfinding, however, because most of the places that sand paintings depict are prototypes keyed to the cardinal directions, centers, and other locations in the cosmic framework.<sup>45</sup> They are analogous to the songs and prayers. The prototype places in the sand paintings are linked to places on the ground by the story. This linkage helps the singer remember the order of sand paintings in the ceremony, since each one is connected to a particular place in a sequence on a well-known route of travel. One cannot use sand paintings to find one's way to the places on them because the places are shown only as the center of the four directions. The sand painting's purpose, in any case, is the opposite of wayfinding: to bring the holy place and its immortal denizens to the person who is being sung over, not to take the one sung over to the place!

Some sand paintings might seem to allow wayfinding if they represent the mountains of the four cardinal directions. These mountains are clearly part of cosmography because they symbolize the cardinal directions and the boundaries of both the Navajo homeland and the earth's surface. Each mountain also has only one corresponding landmark on the ground. The mountains are positioned in sand paintings symmetrically, either cardinally or intercardinally; intercardinal placement roughly approximates the placement of the earth-surface counterparts of these mountains.<sup>46</sup> Among published



**FIGURE 2.** Slim Curley's map (redrawn from Berard Haile, *Starlore among the Navajo* (Santa Fe: William Gannon, 1977; reprint of a 1944 original).

images, the image closest to a Navajo-made visual representation of the country covered by the Traveling Rock story in our example is most likely the one drawn by the storyteller himself, Slim Curley, but he was not illustrating the story. He evidently made this image in response to questions on Navajo cosmography by Haile, who presumably also worked on the image before publication (see fig. 2).<sup>47</sup> The image seems rooted, unsurprisingly, in Blessing Way, which codifies basic Navajo cosmography. The image also is an indigenous Navajo map usable for wayfinding in that it resembles a Blessing Way sand painting of Mother Earth, but with cardinal mountains and other landmarks placed more naturalistically in relation to each other and to the cardinal directions.<sup>48</sup> Many of the other landmarks on Slim Curley's map are also named in Blessing Way prayers.<sup>49</sup> A few of these landmarks are in the northern half of the map when they should be in the southern half, as if either Slim Curley or Haile were temporarily confused about the map's orientation while drawing.) The map does not show the route of Traveling Rock or places in the Traveling Rock story (which is war-related and therefore not part of the Blessing Way repertoire). It does, however, show landmarks near places 3 and 5, placed mutually due east-west, as in the Traveling Rock story.

Since it shows the cardinal mountains in roughly their naturalistic (approximate intercardinal) locations, Slim Curley's map must use some

device other than the mountains to show cardinal directions. It does so with an icon from certain sand paintings of Blessing Way and Male Shooting Way, the “Grand Corn” (twelve-eared cornstalk) with tassel due east and roots due west.<sup>50</sup> On the map, the Grand Corn represents Earth’s Inner Form. In Slim Curley’s version of the Blessing Way myth, which also gives songs and prayers associated with each episode, a song from the last episode of the myth (long after the events that bracket the monster slaying) invokes the Grand Corn as a trail and guide, along with White Corn and Yellow Corn, white and yellow being the colors of east and west.<sup>51</sup> The Grand Corn on Slim Curley’s map, then, is the functional equivalent of the north arrow on wayfinding maps in the modern European-based tradition. The Grand Corn on Slim Curley’s map also parallels Traveling Rock’s route, but the landmarks along Traveling Rock’s route that also appear on Slim Curley’s map are south of the Grand Corn. By drawing the Grand Corn extending from east of Taos to west of Navajo Mountain, Slim Curley may be referring to the extreme east and west places for getting the corn required for certain ceremonies.<sup>52</sup> North is shown with a sand painting icon of the emergence place, which according to the Navajo emergence story is in the north but is conventionally shown in the center of sand paintings.<sup>53</sup>

Slim Curley uses purely indigenous Navajo visual iconography for the functional equivalent of the European-based convention of the north arrow. Does he also indicate a Navajo correlate of the European-based linear scale? Navajo tradition, like probably most of the indigenous Western Hemisphere, has no purely spatial measure for geographical distance. The traditional measure was presumably travel time, and distances between places on the map could reflect number of days of travel. Earth’s Inner Form, as represented by the Grand Corn, also embodies time. Its twelve ears show its lifespan, a predetermined twelve eras of 408 (or 416) years each, and its tassel is the “end of time.”<sup>54</sup> However, the time is not the mundane kind required to render relative geographical distances. It is the cosmic time that comes in the complex of meanings signified by the Grand Corn. The widely traveled Slim Curley could have used what he knew about number of days required to travel between landmarks to help him place the landmarks on the map, and maybe he did, but neither the map nor Haile’s accompanying text prove that he did.

In a nutshell, recorded indigenous Navajo plan-like visual images of the earth’s surface, namely sand paintings, are maps as geographers now define them but are too ambiguous to be used for human wayfinding, which is not their purpose anyway. Slim Curley’s map for Father Haile uses a common sand painting format as a framework within which to place geographical landforms naturalistically. This map could have, and perhaps did, also use an indigenous distance measure, the number of days required to travel, to indicate relative distances. It shows that traditional Navajos, living at a time when not everybody could read maps of the modern European-based tradition, could readily translate purely indigenous verbal maps into visual form.

## CONCLUSION

So what is the point of this paper? It places in the ethnographic record information on Navajo traditional wayfinding with verbal narrative. This information may also elucidate wayfinding in other societies that store and transmit accumulated cultural knowledge primarily by speech and memory. It shows how wayfinding information is encoded in narratives that accommodate the limitations of memory by simultaneously carrying many other layers of information for members of the society to use to maintain their society. It also demonstrates that the users of these verbal maps could easily transform them into a visual form adequate for wayfinding to one familiar with certain iconographic and other conventions.

In the future we hope to study a possible relationship between celestial maps and earth-surface wayfinding in Navajo tradition. Navajo narratives may use icons of celestial bodies to establish direction of travel and also perhaps identify sequences of asterisms with corresponding sequences of places on the earth's surface.

But doesn't putting this kind of information in the "ethnographic record" endanger the society's traditions, its very self-perpetuation? From the maps that American Indians drew for the earliest European colonizers to today's Geographic Information System maps of current indigenous hunting-gathering areas, the "putting on the record" always seems to accompany indigenous loss of resources and the oral tradition itself.<sup>55</sup> In this case, putting the story on the record along with details of the places it names and methods for finding them risks enabling outsiders to visit those places and disturb both the places themselves and their ceremonial uses. Documenting this information also inevitably diminishes the power of the story by making it available anytime, anywhere, and to anybody, no longer told only by knowledgeable traditionalists to initiates under the prescribed traditional circumstances. Some Navajo elders whom we have consulted over the years have told us flatly that nothing does as much harm as revelations to non-Navajos. To reveal is to give the land away.<sup>56</sup> This bald opposition to sharing information rarely appears in the written record, where one usually finds more muted critiques.

Yet other Navajos and other indigenous people have advocated placing oral tradition, including maps, into the written record—not indiscriminately, but in certain circumstances where they believe that the harm done by revelations is less than the harm done by secrecy.<sup>57</sup> In the case of our paper here, we have tried to minimize the harm of such documentation by choosing a story that was already put on the record willingly by a knowledgeable Navajo ceremonialist, by choosing a record (this journal) not commonly consulted by the general public, and by masking locational details.

To avoid putting this and other information about indigenous oral tradition on the record would, we believe, accelerate the dumbing-down of indigenous tradition, or outright ignorance of it, among indigenous youth. (We hope to reach Indian students through this journal, as well as present and future educators.) It would also miss an opportunity to counter the dismissive attitude of many non-Indians toward the information content of indigenous oral tradition. A lack of serious consideration of such is still widespread

among land-use and resource-management decision makers.<sup>58</sup> As long as decision makers can diminish oral tradition, they can also dismiss the consultations with indigenous elders that Native communities increasingly demand in order to achieve the sustainable, holistic, tradition-guided management of the lands and resources in which they have interests. In this manner, sacred places and landscapes are routinely disturbed. However, even if the day should come when all decision makers respect indigenous oral tradition, significant political change must also come about before the lands are saved from disruption.

So we end this paper perched on the horns of a dilemma, wondering if we have done the right thing. In any case, right or wrong, it has been done. The late Joe Dennison, a Navajo ceremonialist who worked his heart out trying to educate decision makers to protect Navajo sacred landscapes, told us, "You know what you have to do, so just do it. People will criticize you no matter what you do." We have tried to follow this advice, and we honor him here.

### ACKNOWLEDGMENTS

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### NOTES

1. See, for example, Hugh Brody, *Maps and Dreams: Indians and the British Columbia Frontier* (1981; repr. Prospect Heights, IL: Waveland Press, 1998); Pedro de Castaneda et al., *The Journey of Coronado*, trans. George Parker Winship (trans. 1933; repr. New York: Dover, 1990); Richard E. Hughes and James A. Bennyhoff, "Early Trade," in *Handbook of North American Indians*, vol. 11, ed. Warren L. D'Azevedo, 238–55 (Washington, DC: Smithsonian Institution Press, 1986); J. Charles Kelley, "The Mobile Merchants of Molino," in *Ripples in the Chichimec Sea*, eds. Frances Joan Mathien and Randall H. McGuire, 81–97 (Carbondale: Southern Illinois University Press, 1986); Mark Warhus, *Another America: Native American Maps and the History of Our Land* (New York: St. Martin's Griffin, 1997).

2. *American Heritage Dictionary*, 3rd ed., s.v. "map."

3. Elizabeth Hill Boone, *Stories in Red and Black: Pictorial Histories of the Aztecs and Mixtecs* (Austin: University of Texas Press, 2000).

4. J. B. Harley, preface to *The History of Cartography Volume One: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*, ed. J. B. Harley and David Woodward (Chicago and London: University of Chicago Press, 1989).

5. Denis Wood, *The Power of Maps* (New York and London: The Guilford Press, 1992), 1.

6. On cognitive maps in general, see Roger M. Downs and David Stea, eds., *Image and Environment: Cognitive Mapping and Spatial Behavior* (Chicago: Aldine, 1973). For examples of Native American place-name studies, see Keith H. Basso, *Wisdom Sits*



in *Places: Landscape and Language among the Western Apache* (Albuquerque: University of New Mexico Press, 1996); William Bright, ed., "Native American Geographic Names," special issue, *Names: A Journal of Onomastics* 44, no. 8 (1996); James Kari, "Names as Signs: The Distribution of 'Stream' and 'Mountain' in Alaskan Athabaskan Languages," in *Athabaskan Language Studies: Essays in Honor of Robert W. Young*, eds. Eloise Jelinek, Sally Midgette, Keren Rice, and Leslie Saxon, 464 (Albuquerque: University of New Mexico Press, 1996).

7. G. Malcolm Lewis, "The Indigenous Maps and Mapping of North American Indians," *The Map Collector* 9 (1979): 25–32; G. Malcolm Lewis, ed., *Cartographic Encounters: Perspective on Native American Mapmaking and Map Use* (Chicago: University of Chicago Press, 1998); Garrick Mallory, *Picture Writings of the American Indians* (1893; repr. New York: Dover, 1972); Warhus, *Another America*; David Woodward and G. Malcolm Lewis, eds., *Cartography in the Traditional African, American, Arctic, Australian, and Pacific Societies*, vol. 2, bk. 3, *The History of Cartography* (Chicago: University of Chicago Press, 1998).

8. Exceptions for North America include A. Irving Hallowell, "Cultural Factors in Spatial Orientation," in *Symbolic Anthropology: A Reader in the Study of Symbols and Meanings*, eds. Janet L. Dolgin, David S. Kemnitzer, and David M. Schneider, 131–50 (1955; repr. New York: Columbia University Press, 1977); Frank Hill, "The Hills on the Telaquana Trail," *Sharing Our Pathways* 9, no. 4 (2004): 1–3.

9. Wood, *The Power of Maps*.

10. For an example of a verbal map that construct trails, see Mischa Titiev, "A Hopi Salt Expedition," *American Anthropologist* 39, no. 2 (1937): 244–58. For an example of a verbal map that constructs hunting territories, see Carobeth Laird, *The Chemehuevis* (Banning, CA: Malki Museum Press, Morongo Indian Reservation, 1976). For examples of verbal maps that construct large physiographic zones, especially by representing them metaphorically as human or animal anatomy, see Washington Matthews, *Navaho Legends* (1897; repr. Salt Lake City: University of Utah Press, 1992), 113–16; Jay Scott Williams, "A Use of Navajo Metaphor and Metonymy in Conjunction with the Landscape: Oral Cartography" (master's thesis, University of New Mexico, 2000). For examples of studies of Navajo traditional geography, see Stephen C. Jett, "An Analysis of Navajo Place-Names," *Names* 18, no. 3 (1970): 175–84; Stephen C. Jett, "Place-Naming, Environment, and Perception among the Canyon de Chelly Navajo of Arizona," *The Professional Geographer* 49, no. 4 (1997): 481–93; Klara Kelley and Harris Francis, "Abalone Shell Buffalo People" *New Mexico Historical Review* 78, no. 1 (2003): 29–58.

11. Berard Haile, "Origin Legend of the Navaho Enemy Way," *Yale University Publications in Anthropology* 17 (1938), 137–39.

12. The plant identified in the source (Haile, "Origin Legend," 38) does not normally grow at the altitude of this place.

13. For examples of larger myths that include the monster-slaying stories, see Aileen O'Bryan, *The Diné: Origin Myths of the Navaho Indians* (1956; repr. New York: Dover, 1993); Stanley Fishler, "In the Beginning: A Navajo Creation Myth," *University of Utah Anthropological Papers* 13 (1953); Matthews, *Navaho Legends*; Franc J. Newcomb and Gladys Reichard, *Sandpaintings of the Navajo Shooting Chant* (1937; repr. New York: Dover, 1975); Mary C. Wheelwright, *Myth of Wilaa-Chee-ji Deginnh Keygo Hatral and Myth of Natohe Bakaji Hatral* (Santa Fe: Museum of Navajo Ceremonial Art, 1958); Leland C. Wyman, *Blessingway* (Tucson: University of Arizona Press, 1970).

14. See, for example, Hasteen Klah, *Navaho Creation Myth* (Santa Fe: Museum of Navajo Ceremonial Art, 1942), 69–72.

15. Matthews, *Navaho Legends*.

16. This story episode has more than just a map, of course. Traveling Rock struck by Monster Slayer's club suggests the pair of Corn Deity (a rounded cone of rock or other material) and Chamahia (the Puebloan name for the kind of ceremonial silt-stone club that Monster Slayer uses; as neighbors to Navajos, Puebloans share with Navajos many ceremonial stories, iconography, paraphernalia, and practices); see Charlotte Frisbie, *Navajo Medicine Bundles or Jish: Acquisition, Transmission, and Disposition in the Past and Present* (Albuquerque: University of New Mexico Press, 1987), 61–62, 65; Theodore Frisbie, "An Archaeo-Ethnological Interpretation of Maize Deity Symbolism in the Greater Southwest" (PhD diss., Southern Illinois University, 1971). Corn Mountain struck by lightning is also a Mesoamerican myth with deep pre-Columbian roots; see John Bierhorst, trans., *History and Mythology of the Aztecs: The Codex Chimalpopoca* (Tucson: University of Arizona Press, 1992), 146–47; Stephen Taggart, *Nahua Myth and Social Structure* (Austin: University of Texas Press, 1983), 211, 214–16; Dennis Tedlock, trans., *Popol Vuh*, rev. ed. of 1985 trans. (New York: Simon and Schuster, 1996), 139–40. In the context of war ceremonialism, these icons seem to evoke an attack on an agricultural stronghold. But Navajo war ceremonies themselves also encourage summer rain, and thereby enhance agricultural fertility. Like the other monster-slaying stories, this story hints at a lost meaning of ceremonial iconoclasm such as occurred at ends of years and long calendar cycles in Mesoamerica, according to Fray Bernardo de Sahagun (*The Sun, Moon, and Stars, and the Binding of the Years*, bk. 7, *Florentine Codex: General History of the Things of New Spain*, trans. A. J. Anderson and C. E. Dibble, trans. of 1569 ed., 25 [Ogden: University of Utah Press, 1953]). Mesoamerica shares much indigenous ceremonialism, iconography, and mythic motifs with the US Southwest, according to Gordon Brotherston (*Book of the Fourth World: Reading the Native Americas through Their Literature* [Cambridge: Cambridge University Press, 1994], 97–102). Also in keeping with the rainmaking theme is the iconography in the story surrounding the footprint at the fourth bounce of the rock—the zigzag lightning arrow, the cloud with cooling rain. This story element may refer to the ceremonial practice of administering cloud or rain medicine—cooling medicine sprinkled on the patient with an aspergill or sprayed from the ceremonial practitioner's mouth.

17. See Klara Kelley and Harris Francis, *Navajo Sacred Places* (Bloomington: Indiana University Press, 1994), 21–22, 49, and works cited therein.

18. Berard Haile, "The Story of the Ethnologic Dictionary," by Father Berard Haile," app. 2 in *Tales of an Endishodi*, ed. Fr. Murray Bodo, OFM (1948; repr. Albuquerque: University of New Mexico Press, 1998).

19. Haile, "The Story of the Ethnologic Dictionary." According to William H. Lyon ("Ednishodi Yazhe: The Little Priest and the Understanding of Navajo Culture," *American Indian Culture and Research Journal* 11, no. 1 [1987]: 27, 40n82), early in 1930 (the year Haile and Slim Curley recorded the story), Sapir's protege Harry Hoijer sent Haile "Herzog's machine," presumably the wax-cylinder phonograph that folklorist George Herzog recommended for field use as late as 1936, according to Erika Brady (*A Spiral Way: How the Phonograph Changed Ethnography* [Jackson: University of Mississippi Press, 1999], 25, 52–88, 122). The cylinders could be shaved and reused (Brady, *A Spiral Way*, 212).



20. West of the westernmost cairn, the line meets the zone where the Little Colorado and Colorado Rivers join, a zone with emergence iconography and stories for Navajos, Hopis, Zunis, and Western Apaches (see Harold Courlander, ed., *The Fourth World of the Hopis* [New York: Thomas Crown, 1971], 14, 30, 58; T. J. Ferguson and Richard Hart, *Zuni Atlas* [Norman: University of Oklahoma Press, 1986], 20–21, 126; Fishler, “In the Beginning,” 85–88; Klah, *Navaho Creation Myth*, 69–72; Jack Forbes, “The Early Western Apache,” *Journal of the West* 5, no. 3 [1966], 343; Grenville Goodwin, *Social Organization of the Western Apache* [Chicago: University of Chicago Press, 1942], 607, 628; Klara Kelley and Harris Francis, “Navajo Sacred Landscape in the Lower Little Colorado: Its Significance to Navajos and Their Concerns about Its Future” (manuscript, copy on file at Navajo-Hopi Land Commission, Navajo Nation, Window Rock, AZ, 1993). The cairns themselves remind one of Mountains One, Two, Three, and Four that surround the Emergence place or extend from it in Navajo origin stories (Matthews, *Navaho Legends*, 135; Wyman, *Blessingway*, 109–38, 169–98, 220–326, 447–59).

21. A grinding slick is a spot or streak of a few inches to more than a foot in length or diameter that has been rubbed smooth on a rock surface. Archaeologists think that these marks result from grinding plants or minerals.

22. See, for example, Harold S. Colton, “Principal Hopi Trails,” *Plateau* 36 (1964): 93; Herbert Gregory, “The Navajo Country: A Geographic and Hydrographic Reconnaissance of Parts of New Mexico, Arizona, and Utah,” US Geological Survey Water Supply Paper 380 (1916), endmap; Berard Haile, *The Upward Moving and Emergence Way: The Gishin Biye’ Version* (Lincoln and London: University of Nebraska Press, 1981), 169–74; Laurence Kelly, *Navajo Roundup: Selected Correspondence of Kit Carson’s Expedition against the Navajo, 1863–1865* (Boulder: Pruett Publishing Co., 1970), endmap; Klah, *Navaho Creation Myth*, 101–6; Clyde Kluckhohn, app. 4 in *Navajo Witchcraft* (1944; repr. Boston: Beacon Press, 1967); Franc J. Newcomb, “Origin Legend of the Navajo Eagle Chant,” *Journal of American Folklore* 53, no. 207 (1940): 50–77; Wyman, *Blessingway*, 456–57, 630–34.

23. Kelley and Francis, *Navajo Sacred Places*, 68–69, 72–73.

24. Klara Kelley, Peggy F. Scott, and Harris Francis, “Navajo and Hopi Relations” (manuscript, copy on file at Navajo-Hopi Land Commission, Navajo Nation, Window Rock, AZ, 1991), place 196. At its northeast end, this trail connects with a trail identified by another elder, called Rimrock Horse Trail, west of Chinle. We believe the Rimrock Horse Trail could connect on the east with a trail along the south rim of Canyon de Chelly. If so, the Rimrock Horse Trail would interconnect the south rim of Canyon de Chelly with, ultimately, the south rim of the Grand Canyon.

25. Colton, “Principal Hopi Trails,” 93; Titiev, “A Hopi Salt Expedition”; Katharine Bartlett, “How Don Pedro de Tovar Discovered the Hopi and Don Garcia Lopez de Cardenas Saw the Grand Canyon, with Notes Upon Their Probable Route,” *Plateau* 12, no. 3 (1940): 40–41.

26. W. W. Hill, “Navaho Trading and Trading Ritual: A Study in Cultural Dynamics,” *Southwest Journal of Anthropology* 4, no. 4 (1948): 371–95 (quotation is from p. 384).

27. This great-grandfather was Mr. Crawler. Leland C. Wyman (*The Mountainway of the Navajo* [Tucson: University of Arizona Press, 1975], 63) mentions a Mountaintop Way ceremony at Black Mountain, Arizona, performed by Mr. Crawler during which a

sand painting was recorded; presumably Mr. Crawler used the songs of his ceremonial repertoire that he considered adaptable to hunting.

28. Wyman, *The Mountainway of the Navajo*; Leland C. Wyman, "Sandpaintings of the Navaho Shootingway and the Walcott Collection," *Smithsonian Contributions to Anthropology* 13 (1970); Karl W. Luckert, *The Navajo Hunter Tradition* (Tucson: University of Arizona Press, 1975); Karl W. Luckert, *A Navajo Bringing-Home Ceremony: The Claus Chee Sonny Version of Deerway Ajilee* (Flagstaff: Museum of Northern Arizona, 1978); Washington Matthews, "The Mountain Chant: A Navajo Ceremony," in *Fifth Annual Report of the Bureau of American Ethnology for the Years 1883-1884*, 37-467 (Washington, DC: Smithsonian Institution, 1887).

29. For example, Changing Woman's Prayer mentions landmarks (Wyman, *Blessingway*, 186).

30. Frank Mitchell, *Navajo Blessingway Singer: The Autobiography of Frank Mitchell, 1881-1968*, eds. Charlotte J. Frisbie and David P. McAllister (Tucson: University of Arizona Press, 1978), 230.

31. See, for example, Wyman, *The Mountainway of the Navajo*, 32-42.

32. Wyman, *Blessingway*, 568-69.

33. Richard F. Van Valkenburgh, "Sacred Places and Shrines of the Navajos, Part II: Navajo Rock and Twig Piles, Called Tsenadjihih," *Plateau* 13, no. 1 (1940): 6-9; Haile, "Origin Legend of the Navaho Enemy Way," 72-73.

34. Cairns are common along indigenous trails, both pre-Columbian and post-Columbian, throughout the US Southwest, western North America, Mexico, and Peru; see Andrew Gulliford, *Sacred Objects and Sacred Places* (Boulder: University Press of Colorado, 2000), 72-75; Stephen C. Jett, "Cairn Trail Shrines of the Navajo, the Apache, and Puebloans, and of the Far North," in *Artifacts, Shrines, and Pueblos: Papers in Honor of Gordon Page*, eds. David Kirkpatrick and Meliha Duran (Albuquerque: Archaeological Society of New Mexico, 1994), 129-45; Chris Kincaid, ed., *Chaco Roads Project, Phase I: A Reappraisal of Prehistoric Roads in the San Juan Basin, 1983* (Albuquerque: US Bureau of Land Management, New Mexico State Office, Albuquerque District, 1988), chap. 2).

35. Kelley and Francis, "Abalone Shell Buffalo People."

36. Wyman, *Blessingway*, 586-99; compare Haile, "Origin Legend of the Navajo Enemy Way," 141-75; Wyman, *The Mountainway of the Navajo*, 158-72. See also Klara Kelley and Harris Francis, "Navajo Ceremonial Stories and the Fruitland Project Area" (paper presented at Third Annual Fruitland Conference, San Juan College, Farmington, NM, February 1995).

37. Haile, *The Upward Moving and Emergence Way*, 162-75. The migration story of the Water People from the western ocean resembles Mayan and Incan stories of ancestors migrating inland to establish a social geography based on four quadrants; see Michel Graulich, *Myths of Ancient Mexico*, trans. Bernard R. Ortiz de Montellano and Thelma Ortiz de Montellano (Norman: University of Oklahoma Press, 1997), 158-64; Tedlock, *Popul Vuh*, 145-60; Gary Urton, *Paqaritambo, the History of a Myth* (Austin: University of Texas Press, 1990). These stories and the social relations that they validate overlap late pre-Columbian and early post-Columbian Mexican stories and social relations presented visually (in maps or cosmograms) and associated with the long calendar cycle and with collecting tribute (Brotherston, *Book of the Fourth World*, 50-67, 96-102). We have suggested that the Water People's history might encode a system of late pre-Columbian and early post-Columbian trading partnerships that involved

groups of traders moving inland from the Gulf of California or Pacific Coast (Klara Kelley and Harris Francis, "Kin Yaa'a, An Anasazi Ruin with a Diné [Navajo] Story," in *Affiliation Conference on Ancestral Peoples of the Four Corners Region*, vol. 1 [Santa Fe: National Park Service; Durango, CO: Fort Lewis College, 1999], 176–84.

38. Klara Kelley and Harris Francis, "Navajo Nation Historic Preservation Plan: Background Study for Diné (Navajo) Traditional Cultural Places, Phase 2, Confidential Stories and Story Geographies" (manuscript, copy on file at Navajo Nation Historic Preservation Department, Window Rock, AZ, 2003), 262–63.

39. See, for example, O'Bryan, *The Diné*, 50–62; Matthews, *Navaho Legends*, 82–87.

40. Michael P. Marshall, "The Chacoan Roads: A Cosmological Interpretation," in *Anasazi Architecture and American Design*, ed. Baker H. Morrow and V. B. Price, 62–74 (Albuquerque: University of New Mexico Press, 1997).

41. Kincaid (ed., *Chaco Roads Project, Phase I*) describes the road that extends north from Chaco, and Matthews (*Navaho Legends*, 219) describes the zone of Emergence.

42. Winter and Hogan ("The Dinetah Phase of Northwestern New Mexico," in *Current Research on the Late Prehistory and Early History of New Mexico*, ed. Bradley Vierra, 299–312 [Albuquerque: New Mexico Archaeological Council, 1992]) have compiled and analyzed both radiocarbon and thermoluminescence dates from archaeological sites with dwellings and pottery like those observed more recently among Navajos. The earliest of these dates from the 1400s. Left undiscussed is the possibility that ancestors of some Navajo clans who were in the Southwest United States earlier had a different material culture. Towner (*Defending the Dinetah* [Salt Lake City: University of Utah Press, 2003], 26, 215–16) critiques the prevailing late-twentieth-century scholarly notion of a ca. 1500 CE Navajo "entry" into the Southwest, noting the likelihood that the Navajo people coalesced from various southwestern and other groups with different histories and times of first appearance in the Southwest. One basis for the scholarly notion of the ca. 1500 CE Navajo "entry" in the Southwest is the dating of the subdivision of the Southern Athabaskan (Navajo and Apache) languages to ca. 1500 CE based on glottochronology. Linguists today no longer accept "at face value" the dates produced by this technique (see Robert W. Young, "Apachean Languages," in *Handbook of North American Indians*, vol. 10, ed. Alfonso Ortiz [Washington: Smithsonian Institution Press, 1983], 393–94; see also Lyle Campbell, *American Indian Languages: The Historical Linguistics of Native America* [New York: Oxford University Press, 1997], 112).

43. Klara Kelley and Harris Francis, "Anthropological Traditions versus Navajo Traditions in Early Navajo History," in *Diné Bikeyah: Papers in Honor of David M. Brugge*, eds. David Kirkpatrick and Meliha Duran, 143–55 (Albuquerque: Archaeological Society of New Mexico, 1998); see also Robert M. Begay, "Exploring Navajo-Anasazi Relationships Using Traditional (Oral) Histories" (master's thesis, Northern Arizona University, 2003); David M. Brugge, "Navajo Religion and the Anasazi Connection," in *Affiliation Conference on Ancestral Peoples of the Four Corners Region*, vol. 1 (Santa Fe: National Park Service; Durango, CO: Fort Lewis College, 1999), 169–75; Towner, *Defending the Dinetah*, 215–16. Genetic studies also suggest that Navajo forebears came from many different groups, including pre-Columbian southwesterners; see David Smith, Joseph Lorenz, Becky K. Rolfs, Robert L. Bettinger, Brian Green, Jason Eshleman, Beth Schultz, and Ripan Malhi, "Implications of the Distribution of

Albumin Naskapi and Albumin Mexico for New World Prehistory," *American Journal of Physical Anthropology* 111, no. 4 (2000): 557–72; David Glenn Smith, Ripan S. Malhi, Jason Eshleman, Joseph G. Lorenz, and Frederika A. Kaestle, "Distribution of mtDNA Haplogroup X among Native North Americans," *American Journal of Physical Anthropology* 110, no. 3 (1999): 271–84.

44. Newcomb and Reichard, *Sandpaintings of the Navajo Shooting Chant*, 31.

45. For a discussion of sand paintings as visual representations of the earth's surface and surrounding cosmos, see Peter Nabakov, "Orientations from Their Side: Dimensions of Native American Cartographic Discourse," in *Cartographic Encounters: Perspective on Native American Mapmaking and Map Use*, ed. Malcolm G. Lewis, 241–72 (Chicago: University of Chicago Press, 1998).

46. For examples of sand paintings with the four mountains, see Wyman, *Blessingway*, 86–87, 89, 91, 94.

47. Berard Haile, *Starlore among the Navaho* (1947; repr. Santa Fe: William Gannon, 1975), 25.

48. See Wyman, *Blessingway*, 91, for an illustration of the Mother Earth sand painting; compare Berard Haile and Mary C. Wheelwright, "Emergence Myth according to the Hanelthnayhe or Upward-Reaching Rite," *Navajo Religion Series*, vol. 3 (Santa Fe: Museum of Navajo Ceremonial Art, 1949), 154–55, which shows a version of the Mother Earth sand painting with a more naturalistic placement of the cardinal mountains and other landmarks.

49. Translated prayers are reproduced by Wyman, *Blessingway*, 158, 186–87.

50. Blessing Way sand paintings with the Grand Corn include the Mother Earth sand painting and are illustrated by Wyman, *Blessingway*, 78, 81, 92–93; the Male Shootingway sand painting with the Grand Corn is the Sky-Reaching Rock double sand painting, illustrated by Wyman, "Sandpaintings of the Navaho Shootingway," 59–66.

51. Wyman, *Blessingway*, 292.

52. James C. Faris, *The Nightway: A History and a History of Documentation of a Navajo Ceremonial* (Albuquerque: University of New Mexico Press, 1990), 179–205.

53. For an example of a sand painting with the Emergence Place in the center, see Gladys Reichard, *Navaho Medicine Man: Sandpaintings and Legends of Miguelito* (1939; repr. New York: Dover, 1977), pl. 13.

54. Haile, *Starlore among the Navaho*, 23–25.

55. June-el Piper, comp., "Native Voices: An Informal Collection of Papers Presented at the AAA Meeting, November 2000," *American Indian Quarterly* 25, no. 1 (2001): 44; Robert A. Rundstrom, "GIS, Indigenous Peoples, and Epistemological Diversity," *Cartography and Geographic Information Systems* 22, no. 1 (1995): 45–57; Warhus, *Another America*.

56. See also Begay, "Exploring Navajo-Anasazi Relationships," 77.

57. Walter R. Echo-Hawk, "Native American Religious Liberty: Five Hundred Years after Columbus," *American Indian Culture and Research Journal* 17, no. 3 (1993): 33–52; Nina Swidler, Kurt E. Dongoske, Roger Anyon, and Alan S. Downer, eds., *Native Americans and Archaeologists: Stepping Stones to Common Ground* (Walnut Creek, CA; London; and New Delhi: Altamira Press, 1997).

58. Non-Indian dismissal of indigenous oral tradition is perhaps the most pervasive lament among contributors in the collections edited by Piper ("Native Voices") and Swidler et al. (*Native Americans and Archaeologists*).

