STONE RINGS IN THE UMATILLA NATIONAL FOREST, SOUTHEASTERN WASHINGTON

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ABSTRACT

Archaeological reconnaissance in the Blue Mountains in 2013 resulted in the discovery of five artificial circular arrangements of local stones. Subsequent examination of satellite photographs of the area revealed two more rings. Ethnographic and archaeological records provide few clues as to the origins and functions of these rings. Local informant testimony suggests at least three of these rings may be helispots (helicopter landing areas); association with Forest Service structures and historical documents both suggest all seven stone rings could be helispots. A local informant suggests one or more of the rings may have originally been associated with American Indians. Future research should be directed toward study of constructional details and chronometric dating of a sample of the rings to facilitate functional interpretation and to provide a robust test of the helispot hypothesis.

Introduction

Artificial arrangements of local stones have a paucity of formal attributes and thus pose interpretive problems for archaeologists (Chartkoff 1983). It is therefore important to describe these phenomena when encountered and to report them when functional significance can be attributed to them. During July 2013, we undertook an archaeological reconnaissance of ~20 km of ridgelines in the Umatilla National Forest (UNF, hereafter), located in the Blue Mountains physiographic province of southeastern Washington (Fig. 1). During that reconnaissance, we revisited several previously recorded prehistoric archaeological sites and recorded a dozen newly discovered prehistoric archaeological sites (Lyman et al. 2013). In this article we describe seven large circular arrangements of local stones; five were recorded during reconnaissance and the other two were detected in satellite photographs after fieldwork was completed. We describe these stone rings and explain what we believe they represent. We have made this effort for several reasons. First, although one of the rings we describe was originally recorded in 1996, large circular dry-laid arrangements of stones have not been previously discussed in the local published literature. Second, large circular arrangements of stones seem to be unknown among Southern Plateau archaeologists, perhaps because of the paucity of archaeological research in remote mountainous areas. Third, we hope to save future workers the time of replicating our research efforts should they discover similar stone rings. Fourth, the explanation provided by local informants for three of the stone rings apparently is unknown among local Forest Service archaeologists. Attributes shared by the rings suggest that all seven may be of similar origin.
In this article we first describe each of the seven stone rings. Locational information is purposefully vague for the four rings that are located some distance from navigable roads (we refer to these as the remote ovals), but we do utilize names of nearby landscape features for each. Two of the seven rings (Godman Spring 1 and Godman Spring 2) are closely associated with a modern road and Forest Service campground, they are highly visible to the untrained eye, and they are being altered by modern landscape use; revealing more or less precise locations of these two rings is unavoidable. Because we hope to determine the functions and origins of the rings, we then provide synopses of local ethnographic and archaeological data to evaluate their possible indigenous cultural origins. Several possible explanations of stone rings used by Native Americans outside the area are also reviewed. We subsequently turn to local historic data to explore potential Euroamerican origins and functions of the rings. Finally, we summarize information from three local informants on the function and origin of some of the rings and then extrapolate from that evidence to the other rings. Our reasoning results in a hypothesis that accounts for both the origin and the function of all seven stone rings.
Stone Rings in the Blue Mountains Recorded in 2013

So far as we know, only one circular arrangement of stones had been recorded in the UNF prior to our reconnaissance in 2013—the ring we have labeled Godman Spring 1. As of August 2013, with the exception of Godman Spring 1, no stone rings with diameters >10 m are documented in eastern Washington and listed on the Washington State Department of Archaeology and Historic Preservation WISAARD database. During our reconnaissance we discovered three previously unrecorded stone rings (Red Fir; Lodgepole; Diamond Peak) in remote locations (>1 km from the nearest maintained road), we visited the previously recorded stone ring near the Godman Spring Campground (Godman Spring 1) and documented an associated and previously unrecorded stone ring there (Godman Spring 2). After leaving the field, we inspected satellite photographs and identified a sixth (Oregon Butte) and seventh (Table Rock) ring. Here we describe all seven rings in the order in which they were discovered. Approximate locations of the rings are shown in Fig. 2.

Fig. 2. Schematic map of locations of stone rings in Umatilla National Forest. Wenaha-Tucannon Wilderness Area is within the Umatilla National Forest.
Red Fir

Red Fir was the first stone ring encountered (Fig. 3), and it was found accidentally while attempting to locate a previously recorded lithic scatter. Simply put, we were baffled by the encounter. Who made the ring? There were a few pieces of flaked stone in the general area, but no prehistoric or historic artifacts were observed in direct association with the ring. What was its function? The paucity of artifacts provided no clue. What was the strange but obviously man-made configuration of rocks outside of the ring and adjacent to its southern edge? It had the appearance of a collapsed stone platform, but it also resembled Arabic numerals.

The Red Fir ring appeared to be a perfect circle about 15 m in diameter (Table 1). It could have been easily laid out by using a length of string or cord with a stick attached to both ends. Anchor one stick in the ground, draw the string tight, and use it as a radian to walk around the anchor scratching the dirt with the other stick. Place locally available stones around this circumference. As noted above, the stone configuration adjacent to the ring and in its southern quadrant has the vague appearance of stylized Arabic numerals. A “4” or “9” (it is not discernable in the satellite photograph) on the western half, and perhaps a “6” on the eastern half. There also seems to be what might be described as a colon (:) between the two stylized number-like arrangements of stones.

The Red Fir ring had not been recorded during a previous archaeological reconnaissance of the area (Nakonechny and Bishop 2011). However, that earlier project focused attention on locations near existing trail networks; the nearest modern trail is 50–60 m south of the ring (Fig. 4). There are at least two layers of stones making up the Red Fir ring, and portions of the lower layer are buried by sediment washed in from upslope. The partial burial suggests the ring is of some age, but how much is not clear.

Fig. 3. General view of the Red Fir stone ring, view to the northeast. The stone configuration adjacent to the southern perimeter is in the foreground; the ring extends to the right and then curves left toward the distance. The individual is near the center of the ring.
TABLE 1. ATTRIBUTES OF STONE RINGS IN THE UMATILLA NATIONAL FOREST.

<table>
<thead>
<tr>
<th>Circle</th>
<th>Diameter (m)</th>
<th>Elevation (m)*</th>
<th>Slope (degrees)*</th>
<th>Aspect (degrees)*</th>
<th>Feature on the Southern Edge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Fir</td>
<td>15</td>
<td>1632</td>
<td>5.1</td>
<td>West (268)</td>
<td>Yes</td>
</tr>
<tr>
<td>Lodgepole</td>
<td>19</td>
<td>1634</td>
<td>6.6</td>
<td>East (68)</td>
<td>Yes</td>
</tr>
<tr>
<td>Diamond Peak</td>
<td>~18</td>
<td>1928</td>
<td>0.8</td>
<td>Southeast (120)</td>
<td>Yes</td>
</tr>
<tr>
<td>Godman 1</td>
<td>16</td>
<td>1746</td>
<td>16.5</td>
<td>South (190)</td>
<td>No</td>
</tr>
<tr>
<td>Godman 2</td>
<td>~13</td>
<td>1745</td>
<td>4.3</td>
<td>Southeast (153)</td>
<td>No</td>
</tr>
<tr>
<td>Oregon Butte</td>
<td>15</td>
<td>1942</td>
<td>4.7</td>
<td>Northwest (319)</td>
<td>Yes?</td>
</tr>
<tr>
<td>Table Rock</td>
<td>16</td>
<td>1905</td>
<td>3.2</td>
<td>East (98.8)</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Derived from 10 m digital elevation models for Deadman Peak (46117a8), Diamond Peak (46117a5), Godman Spring (46117a7), Oregon Butte (46117a6), Panjab Creek (46117b6), and Stentz Spring (46117b5) USGS 7.5’ topographic quadrangles.

Lodgepole

The Lodgepole location was specifically chosen for reconnaissance because Lyman visited Lodgepole in 1963 with several other people. The purpose of that visit was to obtain the opinion of a Crow Indian who then was Principal of Dayton High School. Nine people (most now deceased) made the trip to observe what Bob Jackson (a then-resident of Dayton, Washington, and close friend of Lyman’s father) described as a “tipi ring.” Lyman, who was 12 years old at the time, remembers only the reason for the trip and does not remember any details of the stone ring.

The Lodgepole ring is about 19 m in diameter (Table 1). It appears on the ground to be a perfect circle, and it has an unusual rock configuration outside of but adjacent to the southern edge of the ring similar to what we observed at Red Fir (Fig. 5). A satellite photograph of the Lodgepole ring suggests it is indeed a perfect circle and the southern arrangement of stones appears to be a stylized “44” or “99” (Fig. 6). The eastern portion of the Lodgepole ring is dismantled, hence it is imperceptible in the satellite image. The west wall is in good condition (Fig. 7). As with the Red Fir ring, there are no historic or prehistoric artifacts directly associated with the Lodgepole ring. Some of the rocks making up the ring are partially buried, again suggesting an unclear age. If this is the ring Lyman and others visited in 1963, it puts a minimum age on the ring. The fact that Bob Jackson knew about the Lodgepole ring—he guided the 1963 trip to Lodgepole—and had spent much time in the area between 1930 (he grazed sheep in the UNF during the 1930s and 1940s and hunted there in later years) and 1960, suggests this ring may date to as early as the 1930s. The ring could be considerably younger because we do not know when Jackson first observed it.
Diamond Peak

This is the most dilapidated of the three remote rings we visited (Fig. 8) and it is not discernable in satellite imagery. It is approximately 18 m in diameter (Table 1) and is located within a large lithic scatter that was recorded in 1990. No mention of the Diamond Peak stone ring is included on the official site form (UNF site number 8N42E-34/02 [also known as site number
UM00090]; NOTE: Smithsonian trinomial site numbers are not available for some sites located in the UNF). No historic artifacts were observed in direct association with this ring, though a named trail that runs North-South passes through the ring just west of center, suggesting that perhaps the ring predates that particular trail.

A local informant told Lyman’s brother two things of importance with respect to this ring. First, during the 1950s and 1960s this informant worked as an outfitter who packed hunters into the Blue Mountains. He sometimes used the trail passing through the Diamond Peak ring. At that time, the stones making up the ring were painted white and the ring was used by the Forest Service as a helicopter landing location. Second, the informant revealed that the ridge on which the ring and lithic scatter occur was cultivated in the mid-twentieth century with machinery in an attempt to seed grass. The ridge is largely devoid of vegetation today, but what are readily interpreted as crop lines are visible in satellite photographs and were visible during our 2013 reconnaissance. Perhaps this tillage is what exacerbated the deterioration of the Diamond Peak oval.

Fig. 5. Part of the stone configuration along the southern edge of the Lodgepole stone ring. View to the north. The ruler is between the south wall of the ring and the southern configuration. Note the configurations’ resemblance to the digit “4.”
Fig. 6. Satellite view of the Lodgepole stone ring. The east portion of the ring is not visible because it has been dismantled. Note the stylized digits adjacent to the southern edge. Photograph from FlashEarth, Bing Maps aerial imagery service, accessed September 2013.

Fig. 7. Overview of the west wall of the Lodgepole stone ring. View to the south. Note the panoramic vista.
Godman Spring 1

Godman Spring 1 is about 15x18 m in size; its long axis is oriented southwest-northeast (Fig. 9, Table 1). A recently used ring of rocks ~1 m in diameter representing a hearth (some rocks are smoke stained) is located near the center of Godman Spring 1. Fragments of broken glass containers, empty rifle shells, and bits of modern trash are scattered around and within this ring. Several pieces of lithic chipping debris and a late-style lithic projectile point were also found directly associated with this ring in the summer of 2013. Previously recorded data for the site present a mixed bag of information. The lithic scatter at the Godman Spring Campground (UNF site number 7N40E-10/04 [also known as site number FS01319]) was originally recorded in 1978/1980. No mention of a stone ring is made in the site form. The site form was updated in 1990 and again in 1994 and new data were recorded in both instances, yet there is no mention of a stone ring in either update. The site form was updated yet again in 1996, at which time the Godman Spring 1 ring was recorded.
The site form for the Godman Spring Campground was updated again in 2007. This most-recent update notes that the Godman Spring 1 oval “appears to be a modern construction used for ceremony.” No data is provided to substantiate either the assessment of age or the ceremonial function. The 2007 site form indicates that the downslope edge of the ring appears more buried than the upslope edge. We noted nearly all portions of the wall are partially buried (Figs. 10 and 11), suggesting some unclear age of construction. The outer rim of the upslope wall is buried and the inner (downslope) edge of the upslope wall has been eroded somewhat, exposing individual rocks (Fig. 12).

Most of the Forest Service structures at the Godman Spring Campground, including the ranger station (site number UM00001) and picnic shelter, were constructed by the Civilian Conservation Corps (CCC) in the 1930s. Given the age of the CCC constructions and the historic and prehistoric artifacts observed associated with the stone ring, the ring itself could be of significant age. Indeed, Lyman picnicked and camped with his parents at the Godman Spring Campground between 1957 and 1975; he cannot recall this ring not ever having been there. Lyman’s father (deceased 2006) consistently suggested that the Godman Spring 1 ring marked the location of a helicopter landing area used by the Forest Service.

Godman Spring 2

Godman Spring 2 is sufficiently dilapidated that it is not visible in satellite imagery. Its walls are quite indistinct, though we were able to estimate its diameter to be about 13 m (Table 1). Individual stones are partially buried by aeolian silts and clays originating from the adjacent maintained gravel road on the west and from higher elevation slopes to the east. This ring occurs almost precisely in the opening defined by the maintained road and the U-shaped entrance and exit driveways that access a nearby Forest Service horse barn. The general area of the ring is also often used as a parking lot by those who access nearby hiking trails or simply park in the area to take in the panoramic view of scenery to the south. It is likely because of regular vehicle traffic that this ring is so dilapidated.

Four attributes of Godman Spring 2 are of significance with respect to deciphering its function. First, Godman Spring 2 occurs on more level ground than Godman Spring 1 (Table 1). Second, Godman Spring 2 is closer by 60–70 m to the Godman Spring ranger station structures than is Godman Spring 1. Third, Godman Spring 2 is at the same elevation as and immediately adjacent to a modern road, whereas Godman Spring 1 is ~15 m from the road and at ~2 m higher elevation, and can only be accessed by walking through the campground or scrambling up a road-cut bank. Finally, several of the stones making up Godman Spring 2 have been painted white (Fig. 13). All four attributes suggest that Godman Spring 2 would have been more conducive to serving as a helispot than Godman Spring 1: more stable landing surface, shorter hike to structures, easier access to fuel and fire retardant, and high visibility.

Finally, it is important to note that the 1980 site form includes a photograph of a “storage shed” in the location of Godman Spring 2; this storage shed was dismantled in the 1980s. Perhaps Godman Spring 2 is remnants of the storage shed, although as noted above, white-painted stones suggest use of this stone ring as a helicopter landing spot.

Oregon Butte

Inspection of satellite photographs once we had returned from the field revealed two additional stone rings within UNF. One of these is located on Oregon Butte near a CCC-built
Fig. 9. Satellite view of Godman Spring 1 stone ring. Godman Spring campground is north of the ring. Godman Spring 2 stone ring is due east of the north edge of Godman Spring 1, and on the opposite side of the road. Photograph from Google Earth aerial imagery service, accessed September 2013.

Fig. 10. Closeup detail of a portion of the east wall of Godman Spring 1.
Fig. 11. East wall of Godman Spring 1.

Fig. 12. North (upslope) wall of Godman Spring 1.
Fig. 13. General view of Godman Spring 2 stone ring, view to the southwest. Backpack is near the center of the dilapidated ring. Note the white rock above the backpack. Godman Spring 1 is just beyond the trees on the far side of the road.

Forest Service-maintained fire lookout (Fig. 2). This ring appears in FlashEarth satellite photographs but not in the more recent satellite photographs available from Google Earth (a radio antenna and horse-hitching rail are visible in the latter but not the former set of images; we observed both the antenna and hitching rail in 2013). Like the stone rings we visited, the Oregon Butte ring appears to be a perfect circle. What appears to be a disturbed area outside of and on the southern edge of the Oregon Butte ring may represent a stone configuration similar to those observed at Red Fir, Lodgepole, and Diamond Peak. Lyman’s brother, a long-time resident of Pomeroy, WA, indicated that the now bare stones making up the ring had been painted white in the middle 1990s when he visited the lookout. Similar to what was reported by informants for the rings at Diamond Peak and Godman Spring 1, Lyman’s brother conveyed his personal understanding that the stone ring at Oregon Butte demarcated a landing spot for helicopters.

Table Rock

The seventh ring was also located by study of satellite imagery. FlashEarth photographs clearly display a perfect circle about 30–40 m south of the Forest Service fire lookout structure at Table Rock (Fig. 2). Google Earth satellite photographs of the same area seem to have been taken at a later time. A jeep trail from the lookout to the main road some distance east of the lookout is well-worn in the latter photographs and less obvious in the FlashEarth imagery. Further, vegetation seems to be more abundant and taller in the Google Earth photograph. The south quadrant of the ring has a break in the wall, and what appears to be the number “700” a few meters
away. Based on available satellite imagery, the Table Rock ring is visually consistent with all other rings observed first-hand.

*Shared Attributes of the Umatilla National Forest Stone Rings*

The five stone rings we documented in the field are all dry-laid and made up of multiple (usually 2–3) layers of stones most of which are 10–30 cm maximum dimension. All seven rings are located on high points of the landscape (Table 1) and all occur in natural clearings. Landforms on which all of the rings occur have varied aspects, and standing in or adjacent to the Red Fir, Godman Spring 1, and Lodgepole rings provides stunning panoramic views of landscapes (Fig. 7); the satellite photographs suggest the same for the Table Rock ring. On a clear day the view from the Lodgepole and Godman Spring 1 stone features can extend south as far as ~40 km to the Wallowa Mountains in Oregon and ~100 km southeast to the Seven Devils Mountains in western Idaho. The Red Fir ring provides a view to the south of 10–15 km. Standing in the Diamond Peak ring does not reveal a view beyond 1 km, the view being blocked by trees in many directions and by Diamond Peak (~1 km away) to the south. With the exception of Godman Spring 1, all stone rings are located on nearly level ground (Table 1). Were the stone rings placed where they are to ensure an associated panoramic view? Perhaps, though this explanation does not apply to the Diamond Peak ring.

*Discussion*

As we encountered the rings our thoughts, based on nearly 100 years of combined experience, were that the stone rings *could be* of Native American origin. Lyman’s memory of visiting the Lodgepole “tipi ring” supported this notion, and indicated that at least this ring was more than 50 years old. We all agreed that the rings seemed too large to be tipi rings, but we needed comparative data. We also agreed that the only Native American construction of which we were aware that was this large, made of unmodified local stone, and oval to circular in shape were “medicine wheels.” Yet to the best of our knowledge, no such structures were known in the Columbia Plateau. Finally, the overall lack of associated artifacts did not facilitate choosing between alternative explanations.

Three informants independently and at different times (one before and two after our fieldwork) conveyed their belief that at least three of the stone rings (Godman Spring 1, Diamond Peak, Oregon Butte) were at one time used as helicopter landing spots. Importantly, none of our informants was employed by the Forest Service or had direct first-hand knowledge of the use of these rings. The three rings (Godman Spring 1, Diamond Peak, Oregon Butte) asserted to be helicopter landing pads are (or were, in the case of Diamond Peak) associated with Forest Service structures. When we contacted the Forest Service archaeologist for the Pomeroy District of the UNF regarding the stone rings we had observed, she indicated she had no knowledge of them. She did report that the Forest Service “packer” knew of some stone rings in the UNF and that he referred to them as “tipi rings.” Recall that the aforementioned Bob Jackson grazed sheep and hunted in the area between 1930 and 1960, and he too referred to local stone rings as “tipi rings.” Thus two other informants who likely have an intimate knowledge of the UNF landscape assert that the rings are of Native American construction.

Were these stone rings in fact landing spots for helicopters? Were they perhaps of Native American origin, or do they represent multiple origins and functions? To address these questions, we turn next to the local ethnographic, archaeological, and historical records, and evaluate several possible prehistoric and historic explanations for the stone rings.
Possible Ethnographic Prehistoric Origins and Functions

Ethnographically documented American Indian land use and settlement followed a seasonal pattern (e.g., Marshall 1977; Hunn 1990): (i) the river valleys [winter villages and summer fishing stations], (ii) the low-elevation central basin [spring plant gathering and pronghorn (*Antilocapra americana*) hunting], (iii) the foothills [late summer hunting of deer (*Odocoileus* spp.) and bighorn sheep (*Ovis canadensis*) and plant (camas (*Camassia quamash*), lomatium (*Lomatium* spp.)) gathering], and (iv) the high mountains [autumn hunting of deer and elk (*Cervus canadensis*), berry picking, and root gathering]. The eastern half of the northern portion of the Blue Mountains comprised the traditional territory of the Nez Perce (Spinden 1908; Walker 1998) and the western half comprised the traditional territory of the Cayuse (Stern 1998). These peoples utilized the Blue Mountains as a source of lithic raw material, as a source of deer, elk, bighorn sheep, and smaller animals, and as a place where numerous plant tissues used as food and raw material were procured (Marshall 1977). The rugged forested terrain was also used for vision questing (the attainment of individual spiritual power) and various sociopolitical activities including inter-tribal trade and building of alliances (Ruby and Brown 1972; Slickpoo and Walker 1973). After horses became available early in the eighteenth century (Haines 1938), upland meadows were used as summer pasture and conflict emerged over access to upland resources (Walker and Sprague 1998).

Several details of the ethnographic record are directly pertinent to our discussion. Near the age of puberty, individuals undertook a vision quest to obtain knowledge of their spirit power. These quests usually took place at night and individuals were instructed to pile stones in order to stay awake (Walker 1966). Other stone piles were used as markers for resource patches (Ray 1942). Stone cairns have been documented in many areas of the Columbia Basin (e.g., Osborne 1959, 1967; Galm and Hartmann 1979). Some stone features in eastern Washington such as linear (walls) and oval arrangements have been interpreted as defensive structures when located on mesa tops (Smith 1977); others in similar locations have been interpreted to represent structures (blinds, drive-lines) associated with game drives (Lothson 1998). So far as we know, no circular arrangement of stones in the Columbia Plateau has been interpreted by archaeologists as a tipi ring.

When the ethnographically documented pattern of mountain use began is unclear for want of adequate data. Nor do we know the full range of human activities that took place in the forested high-elevation mountains, or how long those activities took place. Some cultural resource reconnaissance has taken place in the high-elevation portions of the UNF (e.g., Nakonechny and Bishop 2010, 2011; and references therein), and there have been a few archaeological excavations in the forest as well (e.g., Flenniken et al. 1991a, 1991b; Lucas 1998; Thompson et al. 1998; Reid and Root 1999; Gallison and Teigrob 2000; Grieser 2002; Grieser et al. 2003). Archaeological research in the Blue Mountains of northeastern Oregon has revealed sites where people lived at various times during the last 13,000 or so years (e.g., Bryan and Tuohy 1960; Womack 1977; McPherson et al. 1981; Brauner 1985), that is, since humans first arrived in eastern Washington (Ames et al. 1998). Our reconnaissance recorded Windust and Cascade-style projectile points (Leonhardt and Rice 1970; Ames et al. 1998), as well as examples of all styles of middle and late Holocene points (Lyman et al. 2013). The entire Holocene sequence of human occupation is represented in the UNF of southeastern Washington. This means that the age of the stone rings we describe could fall anywhere in the last 13,500 years, and that ethnographic data recorded <200 years ago may not be relevant.
With the single exception of Godman Spring 1, no previous reconnaissance or excavation project has reported evidence of stone rings. Therefore, if these stone rings are of Native American construction, they are (to the best of our knowledge) locally and regionally unique. But exactly how do they measure up to demonstrably Native American stone features found in neighboring regions?

**Stone Rings on the Great Plains**

Circular arrangements of local stones on the Northern Great Plains are typically interpreted to represent efforts to anchor the hides of a tipi (Kehoe 1958, 1960; Davis 1983). These rings occur singly or in groups of 100 or more (Frison and Mainfort 1996). Archaeological investigations indicate that some rings contain very little in the way of cultural materials (Frison and Mainfort 1996); other rings contain not only artifacts but features as well (various papers in Davis 1983). Descriptive statistics of 126 archaeological stone rings in New Mexico, Wyoming, and Alberta indicate a range in diameter from 2 to 8 m (Davis 1983). A sample of more than 400 measured rings in western Montana range from 2.3 to 8.2 m in diameter (Kehoe 1958, 1960). Rocks comprising the rings tend to range in size from about 8 cm to 45 cm in maximum dimension (Kehoe 1960). At roughly 15 m in diameter, the UNF stone rings are nearly five times larger than an average-sized stone ring on the Northern Plains (Fig. 14). We are confident that the UNF stone rings discussed here had a different function than those on the Northern Plains.

**Ceremonial Circles**

As noted above, Columbia Plateau ethnographies contain no references to large stone rings. Chalfant (1974:136), however, indicates that during the summer months women gathered camas in upland meadows; “Camas season was a festive one and terminated with the summer ceremonial dances.” Perhaps one or more of the stone rings in the UNF played a role in these summer ceremonial dances. All are located near (<1 km) (Red Fir, Lodgepole, Oregon Butte, Table Rock) or within (Diamond Peak, Godman Spring 1, Godman Spring 2) a prehistoric lithic scatter.

Perhaps the UNF stone rings are associated with a local ritual complex of some sort, similar to that described by Chartkoff (1983) for northern California. That complex has several kinds of associated stone configurations including cairns, rock piles, rock walls, and stone ovals, though the latter average only 4 m in diameter. The northern California ovals are all on relatively high points of the landscape and provide stunning views of the surrounding landscape. The latter two attributes also characterize the UNF rings. Wilson (1995:189) reported that “evidence exists [in the Northern Plains] that simple stone circles were used to demarcate sacred space used in the vision quest (Hoffman 1953).” Perhaps the UNF stone rings are associated with ancient rituals, but if so, they are unlike the complex of stone configurations in northern California.

**Medicine Wheels**

“Medicine wheels”—more or less circular stone arrangements with diameters greater than several meters—have been known to anthropologists for over a century (Quigg 1996). Nevertheless, so-called medicine wheels have been characterized as the “most enigmatic element of the material culture of Northwestern Plains groups” (Mirau 1995:193). These phenomena are not easily confused with run-of-the-mill stone rings. Medicine wheels tend to be >8–10 m in diameter, often have internal spoke-like linear alignments of stones, and sometimes have a cairn or
pile of stones placed in the center. Until recently medicine wheels were known to occur only in the Great Plains and eastern Rocky Mountains (Brumley 1988; Quigg 1996). At least two rock rings believed to be medicine wheels have recently been found in east-central Oregon (P. O’Grady, University of Oregon Museum of Natural and Cultural History, personal communication August 2012; see also: http://uonews.uoregon.edu/archive/news-release/2012/2/).

Fig. 14. Ranges of dimensions of stone rings and medicine wheels on the Northern Plains, and the Umatilla National Forest stone rings.

Despite their seeming uniqueness (and hence enhanced significance), few medicine wheels have been rigorously mapped in detail and even fewer have been intensively studied. Limited archaeological testing suggests the function of these stone rings varied from one to another, though in the absence of ethnographic and ethnohistoric data, functional interpretations are largely conjectural (Mirau 1995). Some historically documented medicine wheels are associated with the burial of a prominent individual; others seem to be associated with migration routes of large game such as bison (Bison sp.); still others have associated features (other than the oval) that seem to align with astronomical phenomena (see Mirau 1995 for review; see also Wilson et al. 1981; Vogt
1990). The one thing that seems common (and fairly certain) to the ~80 such features known is that they had something to do with ritual and ceremony.

Among 67 medicine wheels known thirty years ago (Brumley 1988), “nearly 48% are situated along valley margins, while another 36 per cent are on prominent knolls or hills, and the majority of the latter are near valleys. Most medicine wheel features were constructed in locations with considerable vistas overlooking present or past water courses. Certainly, these religious features are not built in isolated locations or meant to be out of sight in nonconspicuous [sic] places” (Quigg 1996:10). As noted above, several of the UNF stone rings have stunning views of distant landscapes.

The medicine wheels of the northern Great Plains and eastern Rocky Mountains share several attributes (Brumley 1988; Quigg 1996):

- constructed mostly of local unmodified natural stone.
- have at least two of the following three components: (i) centrally located cairn, (ii) one or more concentric stone rings, (iii) two or more stone lines radiating outward from a central origin, central cairn, or the margins of a stone ring.
- made up of generalized and radially symmetrical arrangement of the listed components.

Mirau (1995:197) reports that simple circular arrangements of stones like those we observed in the UNF “are only marginally similar to what typically are thought of as medicine wheels.” In fact, the single attribute shared among medicine wheels and the UNF rings is that they are made of locally obtainable and unmodified stone. The stone configuration (having the appearance of a platform or a set of numbers) observed along the southern portion of several of the UNF rings is undocumented among North American medicine wheels.

Game Drive Features

Stone structures in Wyoming (Frison 2004) and Colorado (e.g., Benedict 1992, 1996) that are interpreted as game drive facilities are generally two long linear walls arranged in a V- or U-funnel shape. Some times an oval enclosure has been constructed at the apex of the funnel. Similar arrangements of stones have also been documented in Nevada (e.g., McGuire and Hatoff 1991; Hockett 2005). We observed no linear arrangements of stones associated with the UNF rings. Stone alignments in the Columbia Plateau interpreted to represent hunting associated features are located in different topographic settings (on lowland mesas), are of different morphology (irregularly shaped), and are on average smaller (~3 m diameter) than the UNF rings (Lothson 1998). Finally, the UNF rings look nothing like the stone configurations in the southern Plateau thought to represent plant cooking facilities made up of tens to hundreds of fire-modified rocks (Gough 1997; Andrefsky et al. 2000; Thoms 2007).

Possible Historic Origins and Functions

Perhaps the stone rings we describe above are of Euroamerican construction, and date to the early twentieth century. The Civilian Conservation Corps (CCC) worked in the area in the 1930s and early 1940s (Tucker 1940), and five of the seven rings we identified (Godman Spring 1, Godman Spring 2, Diamond Peak [lookout destroyed in 1953], Oregon Butte, Table Rock) are associated with CCC constructions (picnic shelter, ranger stations, fire lookouts). We have, however, been unable to locate information indicating the CCC constructed stone rings, or why they might have done so (Throop 1979; see also www.ccclegacy.org).
As discussed above, three separate informants (Lyman’s father, Lyman’s brother, and a colleague of Lyman’s brother) asserted that the Godman Spring 1, Oregon Butte, and Diamond Peak (respectively) rings were helicopter landing areas. Forest Service Manual 7700 (Transportation System), section 7725.05, defines a “helispot” as “any area of land within the boundaries of the National Forests without road access that is repeatedly used for the takeoff and landing of helicopters.” A “helibase” is defined the same way except it has road access. For simplicity, we use the term helispot to denote either or both in subsequent discussion.

Since 1902 when the Wenaha Forest Reserve, precursor of UNF, was created (Powell 2008), the detection and suppression of forest fires was a priority as it justified the existence of the Forest Service to the public (Tomlinson 2002). “The system of fire lookouts that remains standing is representative of what was one of the [Forest Service]’s most important roles” (Tomlinson 2002:27). Helicopters have been used by the Forest Service since 1947 to fight forest fires in northwestern North America (National Museum of Forest Service History website—hosted.verticalresponse.com/488275/1bq9f43392/1791502791/38455c02e1/ accessed Nov. 15, 2013); their use increased dramatically in the 1960s. A 1961 “Development Program for the National Forests” (United States Department of Agriculture 1961) mentions the planned construction of more than 100 helispots (United States Department of the Interior 1964). UNF also used airplanes and helicopters to spray trees with insecticides beginning in 1948 (Eaton et al. 1949). Further, supplies were sometimes air dropped at various UNF locations in the 1950s (Orvis n.d.).

What does a helispot look like? The National Wildfire Coordinating Group’s (2013) “Inter-Agency Helicopter Operations Guide” makes various recommendations regarding establishing a helispot: it should be on land as nearly level as possible, and preferably on a slope less than 6°; a safety circle around it should be ~25 m in diameter; it should be located on an exposed knob or ridge free of vegetation; its use should result in minimal ecological impact and it should be readily returned to a natural (undisturbed) state. With the exception of being 5–10 m in diameter smaller than these modern regulations, all of the UNF stone rings fit these criteria. We also note that the 2003 Management Plan for the Frank Church-River of No Return Wilderness in north-central Idaho, states that the “early practice of marking and numbering helispots has been discontinued. Most fire lookouts maintain adjacent helispots, usually outlined by rocks” (United States Department of Agriculture 2003:2–9). Although we cannot be certain that helispots constructed in Idaho would be identical to those in the UNF, the preceding quote provides evidence that at some past time the Forest Service marked and numbered helispots and that the helispots had circular rock outlines. In light of the historical evidence summarized here, we hypothesize that the UNF stone rings were constructed to serve as helispots. In the next section, we argue in favor of this hypothesis and outline a general research design for testing it.

Informant Testimony and Analogical Reasoning

If the UNF rings are indeed helispots, then it would appear that they were constructed at some time after the late 1940s. Today, given their state of disrepair, the general absence of white painted rocks, and the apparent lack of knowledge of them among UNF archaeologists, we suspect that use of them has ceased. Since the early 1960s Lyman’s father said Godman Spring 1 was a helispot. The acquaintance of Lyman’s brother reports that the Diamond Peak ring was used as a helispot in the 1950s and 1960s, and that the rocks had been painted white. Similarly, Lyman’s brother reports that the stones of the Oregon Butte ring had been painted white as recently as the 1990s, and the ring had been used as a helispot. Godman Spring 2 is of unclear origin, but its
rocks are painted white. The shared attributes of the Godman Spring 1, Godman Spring 2, Oregon Butte, and Diamond Peak suggest, based on analogical reasoning, a shared functionality of these four rings (Table 2).

The three remote rings we documented—Diamond Peak, Red Fir, Lodgepole—all have an artificial rock configuration outside of and adjacent to the south edge of the ring. These appear to be stylized multi-digit numbers. The Table Rock ring also has a south-edge number, and the Oregon Butte ring may have had a similar south-edge arrangement. Reasoning by analogy again, given that the Diamond Peak ring was used as a helispot, and that it shares several attributes with the Red Fir and Lodgepole rings (Tables 1 and 2) suggests the latter two also represent helispots.

A final bit of evidence, again by analogy, suggests the helispot hypothesis is correct. Godman Spring 1 is associated with Forest Service structures. The Diamond Peak ring had an associated Forest Service lookout station on Diamond Peak (1 km south of the ring) that was destroyed in 1953 (Orvis n.d.; Tomlinson 2002). By analogy, the Oregon Butte and Table Rock rings, also near lookout stations, are helispots (Table 2).

### TABLE 2. SHARED AND UNIQUE ATTRIBUTES OF STONE RINGS IN THE UMATILLA NATIONAL FOREST.

<table>
<thead>
<tr>
<th>Ring</th>
<th>South Edge Feature</th>
<th>Associated FS Structure(s)</th>
<th>White-Painted Rocks</th>
<th>Reported Helispot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Fir</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Lodgepole</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Diamond Peak</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Godman Spring 1</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Godman Spring 2</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Oregon Butte</td>
<td>Maybe</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Table Rock</td>
<td>Yes</td>
<td>Yes</td>
<td>Likely</td>
<td>?</td>
</tr>
</tbody>
</table>

How to Test the Helispot Hypothesis

Our 2013 research design was to locate cultural resources. We thus lacked the time and finances necessary to undertake additional historical and archaeological research that could confirm (or perhaps refute) the helispot hypothesis. In the following paragraphs, we describe in general terms what we believe a robust test of the hypothesis should entail.

To test the helispot hypothesis, archives—both photographs and written documents—should be searched. Many historic materials are posted on the UNF web site (www.fs.usda.gov/detail/umatilla/learning/history-culture), but local archives at Pomeroy and Dayton should also be searched. Aerial photographs taken prior to the availability of satellite...
images might prove especially revealing, if such exist for the pertinent locations. Simultaneously, extensive interviews with local informants should take place. Two informants guided us to the helispot hypothesis; one of them is deceased. A third informant added confirmatory testimony. Informants, including the UNF Pomeroy District “packer,” should be interviewed as soon as possible, else these living archives of local history will not be available.

We recommend the eventual implementation of a multi-stage archaeological testing program, regardless of the outcome of the research concerning archives and informants. Such would provide valuable information on these (thus far) regionally unique phenomena. The first stage would involve Godman Spring 1 and 2. Both have been heavily modified by modern activity, and thus excavation to determine aspects of construction and the presence of white paint on unexposed rocks would not destroy pristine features. And they are easily accessible. Second, a non-destructive metal-detector survey of each remote ring may reveal shallowly buried metal artifacts under the rocks used in their construction. This would indicate an historic age for the rings, but not confirm they are helispots. The absence of associated metal artifacts would leave open the questions of age and of function. The third step in testing would be to extract sediment samples for optically stimulated luminescence dating from under individual rocks making up one or more of the remote rings (e.g., Feathers 2003a, 2003b). This could facilitate determination of the age of the rings, if not their function. Finally, as a fourth and final step, limited archaeological testing of one or more of the remote rings should take place given their seemingly relatively pristine condition. We envision one 50x50 cm excavation unit placed over a portion of the ring wall, and another 50x50 cm unit placed over part of the southern, seemingly numerical, configuration of rocks. If white paint is found on undersides of rocks, then the rings are of historic origin.

Finally, a simple but long-term project would be to set semi-permanent stakes near one or more of the rings. The stakes should be marked in at least centimeter increments. Stones would be placed around each stake so as to mimic a section of the wall making up a ring. The stakes should be monitored over the course of multiple years (no less than a decade) to determine how quickly stones are buried and how quickly sediment accumulates. This would produce a relative chronometric scale that would facilitate estimating age based on depth of burial of the stones making up a stone ring.

We suggest detailed archaeological testing of the helispot hypothesis because we also wonder if one or more of the rings might have originally been built prehistorically by American Indians. We offer this possibility for one simple reason. Recall that Bob Jackson knew about the so-called tipi ring at Lodgepole in 1963, and likely knew of its existence before that given his familiarity with the Blue Mountains in general. He is one (unfortunately deceased) individual who likely would have known about Forest Service constructed helispots. If he had indeed known that these rings were helispots, why would he have agreed to guide a 12-hour horseback ride to inspect a “tipi ring?” Perhaps the Lodgepole ring was not originally a helispot. Subsequent to prehistoric construction, it could have been co-opted by the Forest Service as a helispot.

A 2002 report evaluated the National Register eligibility of a sample of the lookout structures on the UNF in Washington and Oregon (Tomlinson 2002). There is no mention in that report of a stone ring being associated with any of the 14 lookouts—including Oregon Butte and Table Rock—discussed. Perhaps the UNF rings are not mentioned because, as we noted earlier, they are no longer used as helispots. Whether or not that is in fact the case, these rock rings are nevertheless valuable cultural resources.

Whatever the origin(s) and function(s) of the UNF stone rings, they should be documented in detail prior to their ultimate deterioration. If built prior to 1960, they meet the National Register
criterion of $\geq 50$ years of age. If they are helispots or helibases, then they are significant icons of UNF history, just like the lookout structures. Each ring should be mapped such that individual stones are precisely located; depth of burial of each stone should be measured; size of each stone (e.g., maximum dimension) should be measured; and diameter and shape of each ring should be determined (see Finnigan [1981] for other variables that might be of analytical value).

Conclusion

In his concluding remarks about the then limited knowledge and thus controversial notions about various stone rings in the northern Plains, Thomas Kehoe (1960:463–464) made the following remarks:

The solution to the problems presented by the stone configurations, including tipi rings, appears to lie in intensive investigations of the several types in a number of limited areas. If there is preliminary agreement on the classification of these configurations, and use is fully made of [ethnographic, historic, and archaeological data], comparisons of the results of the investigations in each area should throw considerable light on the history and ways of life of many of the tribes once occupying the vast area in the West in which boulder configurations of unknown function are now found.

Thirty-five years after Kehoe, Neil Mirau (1995:193, 210) made similar remarks about various boulder configurations, some of which were thought to represent medicine wheels:

Many theories of the roles, functions, and meanings of medicine wheels have been proposed, but few have been supported by all available data. Archaeologists have lumped medicine wheel structures into a single category and in so doing have deemphasized the relevance of variability and context of individual medicine wheels. Like most archaeological materials, what we do not know about these cryptic structures far outweighs what we know. . .

Unidimensional explanations that purport to account wholly or even partially for a wide range of archaeological material are undoubtedly pleasing to those doing the explaining. Explanations grounded in supposed cultural regularities or systematics . . . often run the risk of not paying sufficient attention to either the complete contexts of the material culture or the context in which the researchers are operating.

In preceding paragraphs we have described stone rings located in the coniferous forests of the Blue Mountains of southeastern Washington. Historic, ethnographic, and archaeological data provide possible explanations for these rings, but they are all unsatisfying. Instead, local informants independently, so far as we know, provide the same explanation for two of the rings (Godman Spring 1, Diamond Peak), plus another ring (Oregon Butte) we did not document is said by a third informant to have the same origin and function as the first two. Analogical reasoning suggests this explanation applies to all seven of the features. We thus hypothesize that the UNF stone circles that are 13 to 19 m in diameter, sometimes with white-painted rocks, sometimes with an associated stone configuration resembling a multi-digit number outside the ring and in the south quadrant, and sometimes with associated Forest Service structures are helispots (Table 2).
We emphasize that our suggested explanation is a hypothesis. The UNF stone rings seem to date to the 1940s or later and to represent helispots used by the UNF and, if so, represent a significant chapter in the history of the national forest. However, Forest Service personnel seem unaware of their existence. The stone rings of the Blue Mountains of southeastern Washington must remain enigmatic until such time as rigorous historical and archaeological research provides insight to who built these rings and reveals their function. In presenting the discussion above, we hope to facilitate resolution of these locally unprecedented archaeological phenomena.

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