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THE WASHINGTON ARCHAEOLOGIST

NEXT MEETING --- OCTOBER 8, 1958 --- 8:00 P.M.

Walker-Ames Room, 3rd Floor, Parrington Hall, University of Washington Campus

MR. AL CULVERWELL, Historian from the State Parks and Recreation Commission, Olympia, will the our October speaker. His subject will be "Historical Archaeology in the State of Washington." Mr. Culverwell has been State Parks Historian for the past five years and many of us know him through the Cornet Bay dig we did this last year.

At the September meeting, Dr. Richard Daugherty, Archaeologist from Washington State College, spoke to our group on "Early Man in Western North America."

Dr. Daugherty began his remarks by giving us a brief resume of the last major Pleistocene glaciation known as the Wisconsin Period. This period has been divided according to advances and retreats of the ice into the Iowan estimated at 65,000 years ago, the Tazewell Carey at about 30,000 years, the Mankato at 11,000 years, and the Cochrane at 10,000 years. However, these dates are still being argued. Man came to this continent during a sub-glacial period when the Bering Straits were frozen over, following animals which he hunted.

Since evidences of man have not been found in latitudes above 55° in the Old World, it would seem that man was not in North America during the Iowan period. He probably first arrived during the Tazewell Carey time. Clovis points which date between the Tazewell Carey (30,000 years) and Mankato (11,000 years) have been found from the Great Plains to the Southwest.

However, knowledge about man in this period is quite limited since no habitation sites have been discovered.

During the post glacial period climatic conditions varied from the anathermal time (about 9000 years ago) when it was cool and moist to the altithermal (between 7000-4500 years ago) when it was dry and the temperatures 5 degrees higher than at the present time. In the anathermal period when there was probably much more water in the rivers and lakes, habitation sites would be found on a higher level than at the present time, while during the altitherman when water was low the sites would now be covered or washed away.

Dr. Daugherty continued by saying the early peoples of the Plains region were hunters indicated by the projectile points (Clovis, Folsom and Yuma) found and by the lack of evidence of food gathering tools.

In the Southwest the people hunted, gathered and had the Beginnings of agriculture. The Great Basin people hunted and gathered and the Plateau people were hunters and fishermen. Fishing may have become important during the altithermal time when small bodies of water dried up forcing the people to the rivers. No evidence of gathering was found by Dr. Daugherty in his work in Lin Coulee where a radiocarbon dating of 8700 years has been made.

Most material found in coastal sites is comparatively recent, dating from 2500 years to the present. These sites were also affected by the climatic conditions which may account for the lack of older material. During the altithermal time the sea level would have been lower than at the present, so if people lived near the water these sites would now be covered. During the altithermal the level would be higher and a survey of higher elevations along the coast should be made.

To conclude his talk, Dr. Daugherty showed a number of 35 mm. color slides of the sites, excavations and materials found in the Lin Coulee area.

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NEXT REGULAR DIG - Brown's Ranch - Week End of October 11-12

Digging of the house pit on the Brown Ranch at Vantage will be resumed this month. Various circumstances beyond our control have delayed the work at this particular site and we hope to make some real progress this week end. Further information can be obtained from Lee Tracy, Activities Chairman, EM 3-1233, or come to the October meeting.

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COMING IN THE NOVEMBER ISSUE

Be sure to read the November "Archaeologist" - it will feature an appeal to archaeologists by Dr. William R. Halliday entitled CAVE OR ROCKSHELTER?

Dr. Halliday, who spoke at a recent WAS meeting, is Director, Western Speleological Survey.

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MICROBLADES AND POLYHEDRAL CORES FROM A CENTRAL WASHINGTON SITE

B. Robert Butler

During the past summer, an extensive archaeological program sponsored by the Washington State College- Department of Conservation and Development was carried out in the lower Grand Coulee area of central Washington.[1] Eleven sites were tested and excavated; five were rockshelters, one was a true cave, and the remainder were open sites. Among the more interesting recoveries made during the course of the summer's excavations was a series of microblades and polyhedral cores, found in association with manos and slab metates (handstones and grinding slabs) at the Windy Spring site (45-GR-88), an open site. These are the first such blades and cores to have been found in the Southern Plateau.[2]

Microblades and polyhedral cores are more typically thought of in connection with the Paleo-northern tradition (Wormington 1957:21, 207). The mano-metate complex is an aspect of the Paleo-western (Wormington 1957:21) or Desert Culture Tradition (Jennings 1957:281). It is the purpose of this paper, not to dwell on the association itself, but (1) to present a brief account of the Windy Spring site and the microblades and polyhedral cores found there, and (2) to discuss these items in terms of their distribution, method of manufacture, and relation to lamellar blades.

The Windy Spring site was located up a short coulee which extended eastwards from the southern end of Park Lake, one of the larger lakes in the lower Grand Coulee. Near the center of the coulee, in an elevated floor area, a small spring had eroded a steep-banked gully, which it maintained against the downcreep of talus and other detritus from the north wall of the coulee. The site itself was situated on top of the north bank of the gully, a short distance to the west of the spring. It consisted of a saucer-shaped housepit and a modest surrounding midden area. The housepit was approximately twenty-five feet across and about one and one half feet deep at its center. A sixty-foot-long, five-foot-wide trench, oriented north-south, was excavated through the midden area and housepit, bisecting them. Four features and 215 artifacts were recovered from the site.[3]

The site had two major soil horizons, an "A" and a "B". These were locally intermingled and disturbed by sagebrush root systems, rodent holes, and the aboriginal excavation of the more recent housepit and an earth oven. The upper soil horizon, an "A", was dark brown, humic, sandy loam. It varied from less than one to nearly two feet in depth. The lower, older soil horizon, a "B", was made up of a complex of lighter-colored soils: a yellow-gray, a light gray, and an orange-yellow soil. The orange-yellow was the earliest of the three. It appeared to be decayed and disintegrated basalt, bedded on residual gravels. The yellow-gray was a mixture of coarse sand and clay. It overlaid the light gray, which was quite fine, almost silty and had a higher clay content than the yellow-gray. The "B" horizon ran from less than one to more than three feet in depth. There was a fairly strong correlation between the artifact inventory of the site and the "A" and "B" soil horizons.

2 POLYHEDRAL CORES. THE SMALLER ONE IS EXHAUSTED

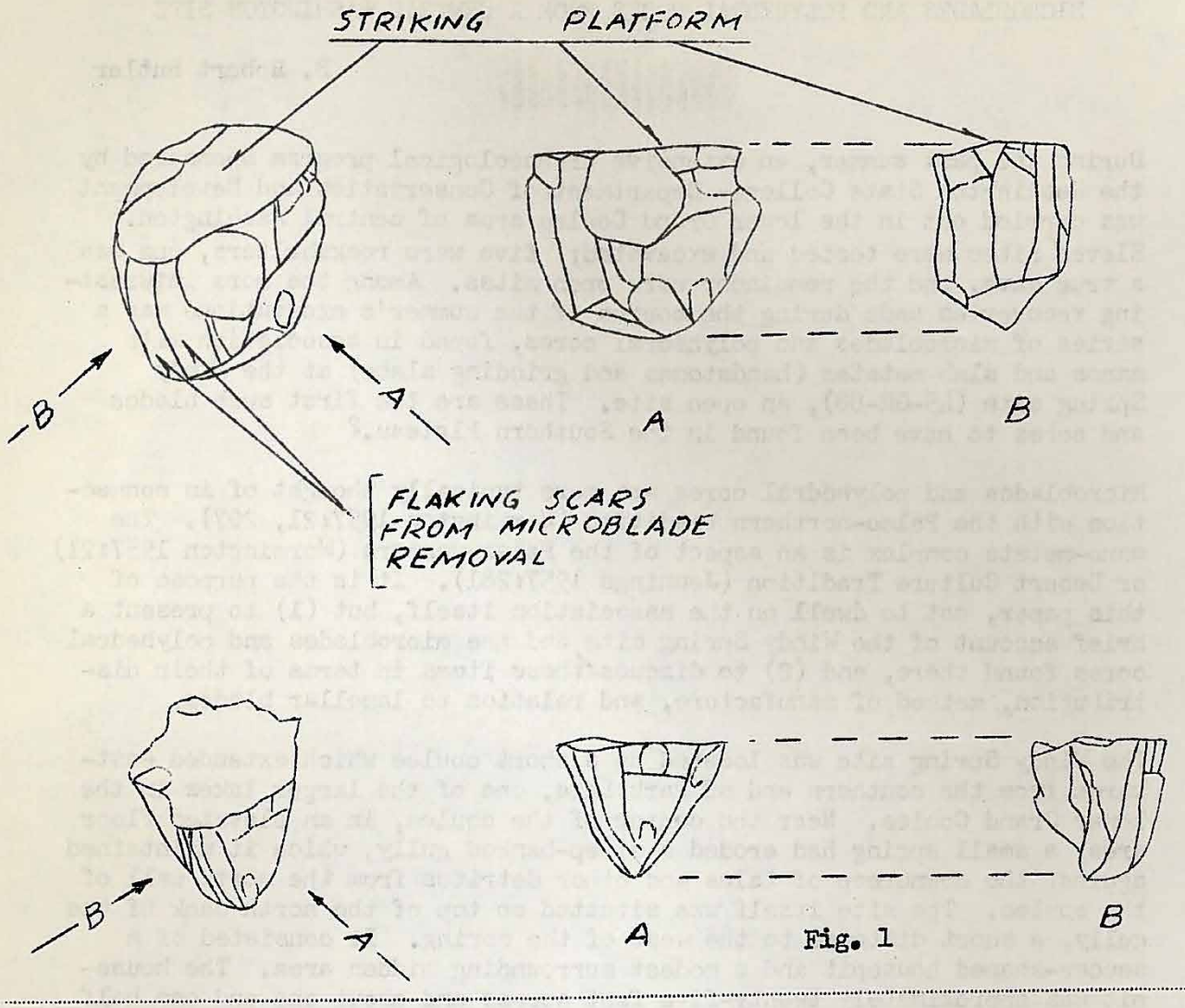
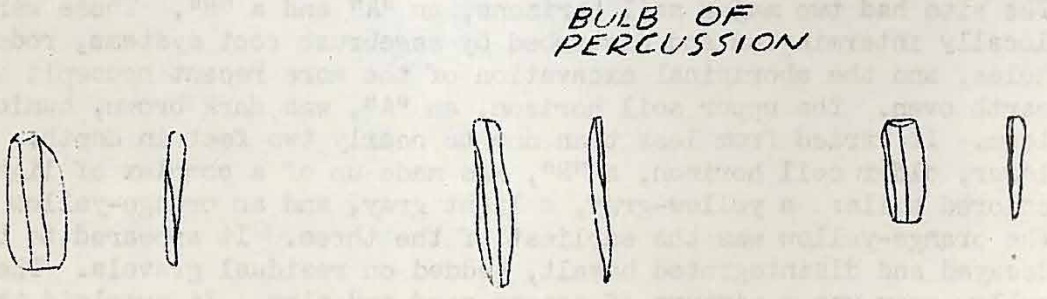


Fig. 1

MICROBLADES



Drawings prepared by Pat Gallagher of Yale University.

[BLADES WERE STRUCK OFF IN THIS DIRECTION]

Fig. 2

Apart from microblades and cores, a variety of materials were recovered. Manos and metates were found in both levels of the site. The metates, a slab type secondarily used as a base for a hopper mortar, tended to be much larger and thicker in the lower level. Those in the upper level were generally much smaller and very thin. Five manos were recovered, two of a typical Great Basin type. These five were distributed in both the upper and lower levels. A single excellent tortoise-core chopper or scraper was found in the lower level. Flake scrapers and scoring tools were distributed through both levels; there were no burins or burin spalls in either level. Several types of projectile points tended to be diagnostic of particular levels. Small, triangular, side-notched points were diagnostic of the upper level; small-to-medium, corner-removed, stemmed points were diagnostic of the lower level. Bone appeared to have been quite well preserved at the site; much of it in the lower level was heavily mineralized. Two bone punches or awls, one "L" shaped and the other a basketry awl, were recovered in excellent condition. The basketry awl came from the surface soil; the other, I believe, came from the "A" soil horizon. A preponderance of large-game-animal bone, along with fish vertebrae and musselshell, came from the upper level. The lower level had little large-game-animal bone, but a great amount of turtle carapace. Some turtle carapace fragments were also found in the upper level. None of the bone recovered indicated utilization of microblades.

In addition to the above materials, twenty-two microblades, a few of which are shown in Fig. 2 , and five cores or core fragments were recovered. Two of the cores, Fig. 1 , were classical polyhedrals. One of them, the smaller, was exhausted. The larger core was in the form of a truncated core with an ovoid cross-section. Its greatest width was 3.4 cm.; its smallest, 2.0 cm. Its length was 2.7 cm. The smaller core was conical and measured 2.4 x 2.0 x 1.8 cm. The scars or flutes on the smaller core were somewhat under 2.0 cm. in length; those on the larger core were more nearly 2.5 cm. in length. Although a few of the blades may not have been true microblades, sixteen, and possibly seventeen, definitely were. Unbroken specimens averaged approximately 2.5 cm. in length. All of the cores and blades were made of cryptocrystallines.

Three of the five cores, including the larger polyhedral, came from the older, "B" horizon. The remaining cores came from a greatly disturbed housepit area in the later "A" horizon. The microblades had a similar stratigraphic distribution. It is quite possible that the specimens recovered from the "A" horizon arrived there as a result of aboriginal disturbance of the underlying "B" horizon.

The two levels, or soil horizons, exhibited a degree of cultural continuity. In both appeared evidence of a generalized gathering economy rounded out with hunting. The few fish remains recovered came from the upper level. There seemed greater emphasis on gathering in the lower level. Typologically, the cultural assemblage of the upper level was late, probably protohistoric or early historic. The cultural assemblage of the lower level suggested some antiquity.

As a preface to discussion of the microblades and polyhedral cores, it may be of benefit to consider their method of manufacture and relationship to objects called lamellar flakes and lamellar blades. The terms

"lamellar flake", "lamellar blade", and "microblade" have occasionally been used by archaeologists as if they all referred to the same thing. This can be confusing. Lamellar blades and microblades are kinds of lamellar flakes. They differ primarily in size. Microblades are very small, even tiny, lamellar flakes. Lamellar blades are larger lamellar flakes. Where one begins and the other ends may prove to be a problem.

The diminutive size of microblades has implications which differ considerably from those of the larger lamellar flakes or blades. The larger blades can be conveniently used while hand-held. The microblades are, perhaps, more efficiently utilized when mounted in a shaft of bone, antler or wood. Microblades may have been associated with a tool tradition resembling microlithic traditions of Europe and Asia which are characteristic of certain Mesolithic (Upper Paleolithic) sites in those areas (for examples, see Oakley 1957:108; Figs. 29,39). In short, microblades and lamellar blades may represent different kinds of tool traditions, even though both are lamellar flakes produced by the same or similar methods.

Lamellar flakes are long, thin, rather narrow, parallel-sides flakes with a prismatic or nearly prismatic cross-section, which have been detatched from a specially prepared lump of stone called a polyhedral core. "Polyhedral" simply means many-sided or having many plane faces. The production of lamellar flakes begins with the preparation of a polyhedral core. A lump of chert, chalcedony or obsidian is struck in such a manner as to remove a large transverse spall. The more-or-less flat plane left by the removed spall is called a striking platform. The remaining lump is further fashioned by striking off transverse flakes from around it, leaving the striking platform more or less intact, but reducing the sides;(some roughed out cores are illustrated in Holmes 1919: Fig. 97). The lump of stone is often reduced to a cone, either intentionally or before a satisfactory working surface has been achieved.

The size of the prepared core is largely determined by the size of the initial lump of stone, and in turn determines the size of the lamellar flakes detached from it. Hence, production of larger or smaller flakes may be a function of the size of initial lumps of stone. In some areas, therefore, microblades may represent a more economical use of available materials.

Lamellar flakes are produced by placing a punch of wood, antler or bone at a point on the striking platform just behind a longitudinal ridge left on a face of the core by the removal of a transverse flake. The punch is then pressed and struck so that a long, narrow, parallel-sided flake is detached. (There are various ways of doing this. The Aztec method is described in Holmes 1919: 323-324.) The lamellar flake thus produced leaves on the core a correspondingly long, narrow, shallow scar called a flute. Further lamellar flakes are similarly produced by utilizing the ridges left by the previously detached flake. The process continues on around the core until it is exhausted or some defect is encountered. The flutes left by the removal of lamellar flakes give the core a very distinctive series of faces;(excellent examples of "fluted" cores are shown in Holmes 1919: Fig. 98).

In the case of microblades, the cores were frequently not so well prepared as indicated above. Nelson (1937:271) stated that Alaskan and Mongolian cores which he observed were primarily nondescript spalls, probably already provided with a thick, flat edge which could serve as a striking platform without much additional preparation. Rainey (1939:387) noted that only one of the cores collected from the University of Alaska Campus site in 1936 was cone shaped. The remainder were flat, irregular pieces with flutes along one lateral edge. Apparently, these were broken knives or scrapers subsequently used as cores. Three of the cores from the Windy Spring site would fit into the above categories.

Large polyhedral cores and lamellar blades have long been familiar in the archaeology of Mexico (see Torquemada's description of the Aztec method of making lamellar blades, Holmes 1919: 323-324). Here they were made as recently as twenty-five years ago (Winans, personal communication). Microblades, on the other hand, have only recently come to the attention of New World archaeologists. The first microblades and associated polyhedral cores to be recognized in the New World were collected from a site on the University of Alaska Campus in the early 1930's. These were described by Nelson (1937), who had observed similar finds in Mongolia some ten years earlier. Further finds at the Campus site and in Central Alaska were reported a few years later by Rainey (1939).

The Alaskan finds were something of an anomoly; for although they resembled certain Old World traditions, they did not fit into any known sequence in the New World. The Campus site finds were not datable. However, Rainey (1939) had recovered a few similar cores and microblades from the lower levels of the Dixthada site in Central Alaska, which had been built up by recent Athapascan Indians. Until recently, these data were interpreted as suggestive of a moderate age for the complex, but it is now believed that the Athapascans had cut into an older site (Wormington 1957:208).

Since the late 1930's, interest in these items has increased as the number of site reports from the north in which microblades and polyhedral cores are prominently mentioned has steadily grown. Daugherty (1956: Table 2) lists eleven early-man sites from Alaska and two from northern Canada which are characterized by microblades and polyhedral cores (either or both). In her latest edition of Ancient Man in North America, Wormington (1957: 207-218) briefly describes some of these sites under the heading "The Paleo-northern Tradition". The tradition is "characterized by specially prepared cores, the prismatic flakes struck from them (microblades), small tools made from these flakes, and sometimes by a special type of grooving instrument called a burin." (Wormington 1957: 21.) The tradition has not been satisfactorily dated as yet, estimates varying between 5000 and 9000 years ago (Wormington 1957:212-215). Microblades are also a characteristic of the third and final stage of the Siberian Paleolithic and survived into the earliest stage of the Siberian Neolithic, about 6000 B.C. to 2500 B.C. (Chard 1958). These dates appear to correspond with those suggested for the Paleo-northern tradition.

Further south, Borden (1952:37) has recovered microblades and cores from the Natakluz Lake site in the Northern Plateau region of interior British Columbia. The Natakluz Lake material has a carbon-14 date of 2415 ± 160

years before the present. (Carlson 1954:21). Borden (1952:37) reports finding "lamellar blades similar to the microlithic specimens from Natakluz Lake" in the upper level of the Whalen Farm site (Whalen II) at Point Roberts on the Frazer delta. However, these latter finds are apparently large specimens, not microblades. Carlson (1954:21) reported microblades and cores from sites in the San Juan Islands of northwestern Washington. The majority of these were struck from quartz crystals, an unusual material. There were no carbon-14 dates for these finds.

Lamellar blades have been recovered from at least two sites on the Columbia River, both of which may be of considerable antiquity. Swanson (personal communication) obtained one or several from a site in the Vantage region of the river. Butler (1958) recovered one excellent and four probable lamellar blades from the Indian Well site in the Dalles-Deschutes region of the lower Columbia. The Indian Well material may be in the neighborhood of 6-7000 years old or older. The Whalen II horizon, which contained lamellar blades, has a carbon-14 date of 1580±140 years before the present ("News and Notes", American Antiquity, Vol. 23:453-454). The dates for lamellar blades in Washington State greatly complicate the local microblade problem. Are the two one and the same tradition with local variations, or are they separate but related traditions?

The recovery of microblades and polyhedral cores from the Windy Spring site poses some interesting problems. First, there were no hafts recovered with the blades. Were they hafted? Second, there were no other tools found with them to suggest a stronger tie with the Paleo-northern tradition. Are they related to that tradition? They have not turned up in late Plateau sites, nor have they turned up in the earliest. Was it a short-lived tradition? These are only a few of the many problems posed by one of the more unique of the recent finds in the lower Grand Coulee area of central Washington.

FOOTNOTES

[1]The program was under the direction of Drs. Douglas Osborne and Richard D. Daugherty; Dr. Osborne was field director. Mr. Pat Gallagher (of Yale University) and the author were Osborne's field assistants. Appreciation is expressed to Drs. Osborne and Daugherty for permission to publish this paper and to Mr. James Garner for a critical reading of an earlier version. Thanks are also due Mr. and Mrs. Glen A. Harris for their invaluable assistance in editing the manuscript.

[2]Exclusive of lamellar blades, which will be discussed later in the paper.

[3]Information about the site has been drawn from Osborne's unpublished report. The data presented here are greatly simplified; his report should be consulted for a more detailed description.

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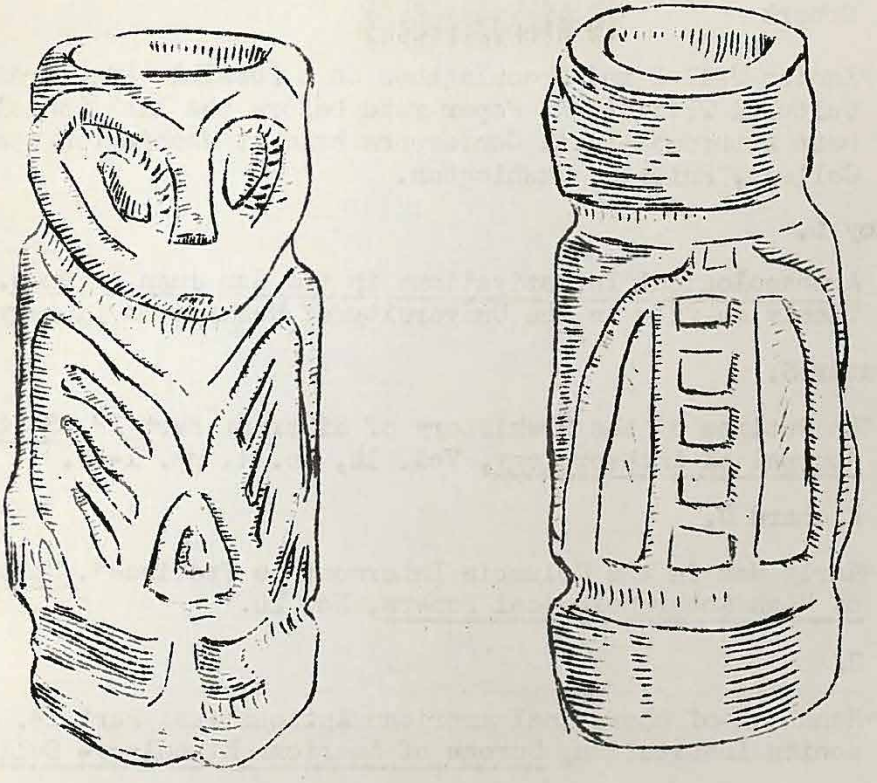

Stone carving , possibly a mortar, from the Virgil G. Austen Collection, Maryhill Museum, Maryhill, Washington

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ELECTION OF OFFICERS AT OCTOBER MEETING

Since the October meeting is the time for election of W-A-S officers, a Nominating Committee under the Chairmanship of Del Nordquist has been appointed.

This committee will present their slate of officers at the meeting and nominations will also be accepted from the floor.

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