

PREHISTORIC MAN IN THE HIGH COUNTRY:
THE ARCHAEOLOGY OF THE NORTHERN TETONS

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Objectives

The Northern Tetons, defined as the mountainous drainages of Moose, Owl and Berry Creeks, have long been known among Jackson Hole collectors as an area rich in prehistoric artifacts. When Dr. Gary A. Wright initiated his archaeological fieldwork in Grand Teton National Park, reports of extensive sites in the Northern Tetons soon came filtering in. Preliminary investigations in the area revealed the existence of large archaeological sites there that were comparable in size and artifact density to anything yet discovered on Jackson Hole's basin floor. At that time--July 1976--archaeological investigation of the Northern Tetons was begun.

Given the extent of the evidence uncovered by the preliminary work, we had good reason to believe that the Northern Teton sites represented a full-scale occupation of the mountains by aboriginal populations. It seemed highly unlikely that such extensive sites could have been created by a few individuals making sporadic forays into the area. Fieldwork was thus undertaken with the aim of documenting and explaining the regular, seasonal occupation of the mountains by prehistoric hunter-gatherers for an extended period of time. The results of this research are intended to contribute to archaeological understanding on two levels. First, I hope to explain how mountainous areas such as the Northern Tetons could have functioned as important adaptive areas in the past. Second, the analysis will entail a description of the economic activities of a non-agricultural, hunting and gathering band during one small segment of its annual subsistence cycle. This information will add to Wright's larger, regional documentation of the entire subsistence cycle of the prehistoric inhabitants of the area encompassed today by Grand Teton and Yellowstone National Parks.

Procedures

Archaeological data collection in the Northern Tetons poses some interesting methodological problems. Neither the sites nor the terrain is amenable to the traditional procedure of full-scale excavation. Because of the lack of deposition over most of the study area, the vast majority of our sites consist of surface accumulations or scatters of artifactual material. In addition, all of the Northern Teton sites have been reached by backpacking for considerable distances (5-12 miles) over typical mountain terrain. It was physically impossible to transport the standard array of heavy excavation equipment on foot to any of the sites. Nonetheless, some lightweight excavation equipment was developed, and test excavations were carried out at those few sites where deposition and stratification occurred.

However, the general data collection procedure was designed to maximize the kind of information that was available; i.e., spatial relationships among sites, among sites and environmental niches, and among artifacts within a site. Once sites were discovered they were precisely located on maps by a series of compass readings; and then the presence, absence, quality and/or quantity of a variety of variables were noted for each site. These variables included such things as associated plant communities and grass cover, distance to water, slope, exposure, geological substrate and gross soil type. During the summer of 1978, botanical studies of the variety and relative abundance of food plants available in the vicinity of the various sites were also carried out by Mari Slack. The areal extent of each site was determined, and all sites were gridded and mapped. Artifacts were collected with reference to the associated grid system, and at the large sites-- where we hope to determine within-site special activity areas--the exact location of each artifact within each grid square was recorded.

Results

Analysis of the data is proceeding through tests of a series of linked hypotheses which are intended to document and explain hunter-gatherer high country occupation. In this way I hope to demonstrate some of the principles which may have regulated such occupation in the past and to determine that these were most likely in operation in the Northern Tetons, and may have been operative in other mountainous areas of North America. Given the nature of the data, the hypotheses deal mainly with postulated spatial patterning of sites and artifacts under conditions of hunter-gatherer high country occupation.

The nature of high country occupation has been discussed at length elsewhere (Bender, n.d.; Wright, 1976). Briefly, it entails three major elements: first, the notion of high country signifies a mountainous area adjacent to a valley or basin where abrupt elevational changes effect a delayed seasonality of plant ripening between mountain slope and valley floor. Second, occupation of the high country occurs only if an entire band of hunter-gatherers moves into and resides in the area while procuring economic resources. In those instances where special task groups simply split off from the main band in order to make procurement forays into the mountains, a high country occupation does not occur. Even though such groups may habitually utilize high country resources, they do not actually choose to inhabit the mountains. Finally, like virtually all hunter-gatherer occupations, a high country occupation is seasonal. Because of the climatological extremes that characterize mountainous areas in all seasons but summer, we can expect these areas to have been habitually occupied only during the summer months.

Several tests of the data derive from this initial formulation. If an entire hunting and gathering band moved into the Northern Tetons to procure resources, then there must be evidence in the archaeological record of both base camps (i.e., those places where the band lived and carried out domestic activities) and of related activity loci (i.e., those places where limited

specialized resource-getting activities occurred). Base camps clearly entail an entirely different level of activity than the related activity loci, and this should be recorded in among-site comparisons. Since base camps represent those sites where the most people gathered together for the widest variety of purposes, we can expect an agglomerative patterning of population-related characteristics to occur there. Therefore, if base camps were present prehistorically in the Northern Tetons, then we should find sites in the archaeological record which are larger, have a higher density of artifacts and exhibit a wider range of activities than any other site. Such sites are quite clearly present in the Northern Tetons. Although there is an obvious range of variation among the smaller sites, a distinct gap in magnitude is maintained between the largest of the small-scale sites and the largest, densest sites in the study area. The variation in the small-scale sites is thought to reflect the variability in the activities carried out at these related activity loci.

Since a high country occupation is a seasonal phenomenon, routes of migration should also be recorded in the archaeological evidence. These routes can be expected to fulfill two criteria. First, they will follow the route(s) of easiest transport, because migration into the high country involved moving the entire band--with a full complement of very young and old individuals--and all their portable belongings. Second, the route(s) should connect a high elevation base camp with one at lower elevations, since the latter would have been seasonally occupied either before or after the high country occupation occurred. A series of small sites along Berry Creek Canyon seems to provide the expected evidence for prehistoric migration. Within the study area, Berry Creek Canyon enables by far the easiest passage into the high country, and this canyon also forms a corridor which connects high country base camps with the lower elevation Lawrence camp sites (Bender, 1977; Reeve, et al., 1978).

At present it is hypothesized that at least one other migration route must exist in the archaeological record. This route would record movement of the hunting and gathering band out of the high country in the early fall. It is unlikely that the aboriginal inhabitants of the Northern Tetons would move back down Berry Creek Canyon to the Lawrence sites at this time of year, given the climatological severity and paucity of food resources during the winter months in northern Jackson Hole (Wright, 1973). Evidence of prehistoric high country emigration is most likely to be found in Targhee National Forest, and will be investigated as the subject of future research.

Given the evident agreement between hypothesized and observed patterning of archaeological sites in the Northern Tetons, it seems apparent that a high country occupation did occur in the study area. Once this phenomenon has been documented, it remains to advance an explanation for its occurrence. Here it seems likely that an understanding of the seasonal ebb and flow of naturally occurring, human food resources will lead to a satisfactory hypothesis.

It is in the nature of a high country area to experience shorter and later springs and summers than adjacent valley floors. Because of this fact, when basin and valley become dessicated and rather uninviting in mid-summer, adjacent high country areas will be in lush peak bloom and their streams will be in full flow. Such differential seasonality then schedules large mammal migrations into higher elevations. Therefore, because of the temporal convergence of seasonal patterns of plant ripening and large mammal migration, a mosaic of resources becomes available which is not duplicated at lower elevations at the same time of year.

An hypothesis designed to explain the principle governing high country occupation can now be suggested. If a mosaic of resources useful to hunters and gatherers appears uniquely in a high country area at one point in the annual seasonal cycle then a high country occupation is likely to occur. As a corollary to this hypothesis, it should be noted that this mosaic must be contained within an area that can be efficiently exploited by unaided human transport.

The proposed explanation emphasizes the importance of a mosaic of resources for good reason. It is likely that an entire hunting and gathering band would choose to occupy an area only if the full range of its age-and sex-determined task groups could be employed in food-getting activities. Such a situation would occur in the high country only where a variety of different kinds of resources was available for exploitation. The only documented occurrences of total band involvement in the procurement of a single resource involve the trapping, killing and storage of large numbers of fish or bison. Neither of these resources is a likely candidate for large-scale high country exploitation. Thus the availability of a variety of resources would seem to be a key regulator in occasioning a high country occupation.

If this principle is in fact operative in the Northern Tetons then it should be evidenced in the archaeological record. I have suggested that the small-scale sites observed in the study area represent specialized activity loci related to the base camp sites. According to the above proposition, these loci should record the procurement of a variety of resources. Since different tools would have been used for different procurement activities, we can predict that if the related activity loci represent the procurement of a variety of resources then within-site variability of tool types--representing a single, limited activity pattern--will be less than among-site variability which represents a range of different activities. Preliminary lithic analysis confirms this pattern for the Northern Teton small-scale sites. To date, we have been able to isolate sites relating to three different kinds of economic activity: hunting, plant gathering and preparation, and quarrying. Further analysis should enable a more precise identification of these general categories.

Finally, in order to substantiate the hypothesis of related activity loci patterning, it is necessary to disprove the alternative hypothesis that explains apparent patterning as an artifact of chronological variation. That is, if one particular area or procurement activity is associated

with a particular range of dates, then the variety that we presently see recorded may simply be the product of a series of shifts in food-getting activities through time. Our current information appears to disprove this alternative hypothesis. Obsidian hydration dates scatter through the various sites randomly, and several sites have at least two dates that are widely separate in time. This information suggests that not only was the entire study area utilized for a variety of procurement activities throughout prehistory, but also at least several of the sites were habitually revisited. Appearances of point types dated to general time periods are patterned in a similar manner. Chronological variation among the sites, therefore, seems to evidence a stable pattern of high country occupation through time. The information currently available suggests that this occupation persisted from ca. 6,000 to 400 B.P.

Conclusions

Fieldwork in the Northern Tetons has uncovered evidence of an extensive aboriginal occupation in that mountainous area. To date, analysis supports the hypothesis that the archaeological record reflects occupation of the study area by an entire hunting and gathering band which was involved in the procurement of a variety of economic resources. Intrinsic to our understanding of such high country occupations is the realization that at one point in the seasonal cycles, high country areas can offer a resource mosaic that is decidedly more attractive than that found at lower elevations.

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