supplied, there is no assurance that "anyone understanding ordinary phonetical spelling can pronounce readily these Indian words." Whether a specialist or amateur, how is one to know how to pronounce dye, hoe, neu, uah? We are told that "the accented syllables have been underscored." That seems clear enough except in words where more than one syllable is underscored. Where is the stress in nah-cah nooma, or in ki-bah pah-quanna-av? Further, we are told that "many of the Indian plant names have no meaning." In all probability, the contrary is true. Naming is not a random matter. It all depends upon the linguistic level at which "meaning" is being sought. Basic meanings are often obscured in the course of the long development of a language. Since two of the languages in the present study, Paiute and Shoshone, are members of a common linguistic family, Uto-Aztecan, the root words of some of the plants may be traced to ancient sources. Furthermore, the Paiute and Shoshone plant names given here often show an obvious relationship to one another and to names used in other Uto-Aztecan languages. However, the authors were admittedly not interested in this phase of their research.

The primary area of this study, the medicinal usages by Nevada Indians, of native plants, is explored in great detail. Diverse regimens are offered for a variety of ills. In point of number of ailments for which remedies are suggested, venereal disease heads the list with 44 prescriptions with a few additional ones applicable more specifically for either syphilis or gonorrhea. Other indispositions include colds (45 plant derivatives), sores (41), swellings (41), rheumatism (35), diarrhea (33). Thirty plants provide "physic," while a similar number constitute medicine for stomach ache. It is, of course, not to be assumed that there is general agreement among consultants as to either the medications or their effects. Nevertheless, the prescriptions offered must have been based upon much practical experience.

An introduction, prepared by the wife of Percy Train (now deceased), declares that "the knowledge of medicinal plants is confined almost exclusively to the fast disappearing older generation... so it was felt necessary to obtain a record now before all of this Indian medicinal plant lore would be lost forever." We can wholeheartedly agree with this concern. Yet one cannot but regret that, in the process of reprinting, a revision of the text was not undertaken.


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It is difficult to accurately interpret the age and function of surface rock alignments and their association with nearby lithic scatters. Pendleton and Thomas wrestle with this problem at the Fort Sage Drift Fence, concluding that this alignment helped prehistoric hunters intercept and dispatch pronghorn antelope and/or bighorn sheep.

The Fort Sage Drift Fence is a 1800 m.-long rock alignment 20 to 80 cm. high. Traversing three low hills, the alignment includes ten apparently intentional gaps, three of which occur where drainages bisect the fence. The walls are constructed of basalt boulders that appear (from the photographs) to be derived from nearby bedrock outcappings and the adjacent hillside.

In the first section of the report Pendleton and Thomas discuss their analysis of
artifacts from ten lithic scatters (Loci 1 through 10) that occur near the wall, and at the several gaps in it. This lithic analysis presents the traditional morphological classification of “time-sensitive” projectile points and other purported flaked stone tools exhibiting retouch and possible wear from use. From this, they conclude that nearly 5000 years of at least sporadic occupation occurred at the site. They also identify flaked stone tools that were used for cutting, scraping, perforating, graving, as well as for hunting. Although these 116 artifacts received careful attention, the lithic analysis fails to systematically quantify and describe the hundreds of artifacts that were produced in the process of tool manufacture, i.e., debitage. Within each description of the ten lithic scatters are occasional remarks about debitage rock types, percentages, sizes, and weights. It is difficult, if not impossible, to reconstruct the frequencies of rock types at each lithic scatter. One frustrating example involves Locus 1: “Rhyolite constitutes only 1 percent of the debitage material. All five flakes are quite large” (p. 20). Should the reader assume that Locus 1 contains 500 total pieces of debitage?

The flaked stone tool manufacturing and maintenance technology, as represented by debitage and discarded tools, can provide essential information about the specific activities represented by the lithic scatters and their association with the rock alignment. However, Pendleton and Thomas provide inadequate information to explain the processes of flaked stone tool manufacture and use. Granted, they have divided and described 21 bifaces into reduction stages based on “relative degree of finish” (e.g., roughouts, fine percussion blanks, etc.) (p. 14). However, they fail to systematically quantify debitage technological types produced as by-products of bifacial thinning and that could be employed to support their reduction model. Pendleton and Thomas do occasionally comment on debitage technological types, but such observations are confusing. For example, at Locus 1, a biface reduction continuum in the absence of cores and core tools “suggests primary manufacture did not occur here” (p. 20). However, the next paragraph contradicts this interpretation. “Several chert flakes retained cortex, and about 10 pieces of shatter were large — perhaps primary debitage.” They then state, “It appears that primary manufacture, in the form of chert cobble reduction, took place near Fort Sage facility” (p. 20). One begins to question Pendleton and Thomas’ perception of stone tool manufacture when they state “The debitage recovered here [Loci 6 and 7] could easily have resulted from boredom reduction activities by a lone hunter positioned at a game lookout” (p. 22). Pendleton and Thomas do not explain how debitage can represent “boredom reduction activities.”

With regard to stone tool use, Pendleton and Thomas confuse function with morphology and technology. For example (p. 19), four items classified as “unifacial cores” were flaked on one end (form) to produce “handheld scraper planes” (function). But they cannot convincingly determine what these artifacts were used for. “Wear patterns on the cores are erratic, and could [as] easily have come from flake detachment as from use. But the edge angles of the scraper planes are about 80°, whereas domed scrapers usually have edge angles of 100°, suggesting that some of the cores may have been used” (p. 19). Pendleton and Thomas do not explain why edge angles should indicate use.

On p. 17, Pendleton and Thomas state that “artifact 20.5/1610 appears to be a perforator.” This functional interpretation is based on the artifact’s morphology; “longer than a graver,” “more triangular than that of a drill,” “the ventral tip margin is dulled and rounded, with an edge angle of 60°.” They do not demonstrate why these characteristics
Pendleton and Thomas do assert, "the base of the leaf-shaped flake (i.e., the perforator) comfortably fits the hand" (p. 17). I suspect that 3 million years of hominid evolution has endowed *Homo sapiens* with hands that comfortably fit most objects.

Despite these shortcomings, Pendleton and Thomas employ their analysis of stone artifacts to interpret the age and function of the lithic scatters and their association with the Fort Sage Drift Fence. Acknowledging the difficulty in establishing a link between the lithic scatters and rock alignment, they offer three conclusions: (1) the alignment has a prehistoric and not a historic association, (2) the alignment was used for 5000 years, and (3) a diverse range of activities, in addition to hunting, occurred at the site.

In the second part of the paper Pendleton and Thomas provide a valuable discussion on how the Fort Sage Drift Fence functioned. Rather than emphasize specific behaviors indicated in the flaked stone artifacts, they concentrate on the strategy reflected by the rock alignment. Pendleton and Thomas discuss two basic hunting strategies, "encounter" and "intercept," that may have been used prehistorically. An encounter strategy is suited to dispersed populations of game animals that move unpredictably. An intercept hunting strategy provides an efficient means to ambush game that may congregate seasonally and "migrate" in a predictable pattern.

An intercept strategy employs natural (e.g., ridges, drainages) and artificial (e.g., rock alignments, brush barriers) features to direct the animals' movement to the hunters' advantage. As a technique of intensifying resources, intercept strategies will often incorporate features with high archaeological visibility such as rock alignments, fish weirs, and bison jumps, while the archaeological remains of encounter hunts usually consist of little more than isolated losses (e.g., projectile points).

Pendleton and Thomas then discuss how the distribution of local deer, bighorn sheep, and pronghorn antelope populations might have conditioned the hunting strategy in the Fort Sage area. They also review ethnographic accounts of encounter and intercept hunting of these three game species. They conclude that the Fort Sage Drift Fence functioned in an intercept strategy to dispatch groups of pronghorn antelope and/or bighorn sheep moving in response to seasonal availability of browse and forage.

Pendleton and Thomas also speculate on how the Fort Sage site reflects a general model of hunter-gatherer subsistence and settlement (Binford 1980; Thomas 1983). They argue that the Fort Sage Drift Fence was labor intensive. However, for a highly mobile foraging strategy, the cost of constructing the alignment outweighs the advantage of simply moving to the animals. On the other hand, a less mobile "logistical" subsistence strategy will obtain resources through a network of specialized and relatively permanent task sites in areas of high resource density and predictability. They suggest that as a permanent and labor intensive facility, the Fort Sage Drift Fence implies a predictable and successful hunting strategy that was "logistically" organized.

After reviewing the antiquity of rock alignment hunting facilities in the Great Basin, Pendleton and Thomas suggest that high-cost permanent hunting features, and the logistic subsistence strategy implied by them, became less important in the protohistoric period. They cite a lack of "permanent" hunting features during the protohistoric period, to support their argument. However, they may be confusing construction materials with permanence. The ethnographic (Steward 1938) and archaeological (Raymond 1982; Frison 1978) literature attest to the recency of large tree-and-brush game procurement facilities. The alignments at Fort Sage may
not have been constructed with trees and brush because basalt boulders were more accessible.

This study deserves attention by all interested in approaches to the analysis of surface sites, especially hunting features. Furthermore, the report, like much of Thomas’s work, shows how the archaeological record can provide interesting glimpses of prehistoric behavior.

REFERENCES

Binford, Lewis R.

Frison, George C.

Raymond, Anan

Steward, Julian H.

Thomas, D. H.

Man and Environment in the Great Basin.
David B. Madsen and James F. O’Connell, eds. Society for American Archaeology Papers No. 2, 1982, 242pp., SAA members $10.95, nonmembers $14.95 (paper).

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All but three of the papers comprising this volume were first presented at one or another of two symposia organized for the 17th Great Basin Anthropological Conference held at Salt Lake City, Utah, September 4-6, 1980. However, the papers are said to have been prepared for publication in this volume from the start; i.e., the work under review was apparently designed with a specific objective in mind. That objective is hinted at in the editors’ introduction (p. 1):

Though various overviews and sets of collected papers on specific topics have appeared in the years since [the great debate over the Desert Culture concept], no new regional synthesis has yet emerged. In fact, it has often seemed to us that much of the recent literature is either unconnected with problems of genuine anthropological and historical importance or else addresses those problems largely in terms of the debates of the 1960s. While some scholars have taken steps to redirect discussion and define new problems, their efforts have all too often been ignored or lost in the recent flood of “management” and “mitigation” reports.

The editors go on to claim that the papers included in the volume “review many of these extant problems and focus in on future directions” and in the process “raise a number of important issues” which they will touch on in their introduction to the volume. The issues mentioned in the introduction (also referred to as themes: environment, cultural chronology, settlement and subsistence patterns, culture history and directions for future research) appear to be ex post facto extrac-