



**'Eagle' = 'Bird': A Note on the Structure and Evolution of Shoshoni
Ethnoornithological Nomenclature**

Per Hage; Wick R. Miller

American Ethnologist, Vol. 3, No. 3, Folk Biology (Aug., 1976), 481-488.

Stable URL:

<http://links.jstor.org/sici?sici=0094-0496%28197608%293%3A3%3C481%3A%27%3D%27ANO%3E2.0.CO%3B2-I>

American Ethnologist is currently published by American Anthropological Association.

Your use of the JSTOR archive indicates your acceptance of JSTOR's Terms and Conditions of Use, available at <http://www.jstor.org/about/terms.html>. JSTOR's Terms and Conditions of Use provides, in part, that unless you have obtained prior permission, you may not download an entire issue of a journal or multiple copies of articles, and you may use content in the JSTOR archive only for your personal, non-commercial use.

Please contact the publisher regarding any further use of this work. Publisher contact information may be obtained at <http://www.jstor.org/journals/anthro.html>.

Each copy of any part of a JSTOR transmission must contain the same copyright notice that appears on the screen or printed page of such transmission.

JSTOR is an independent not-for-profit organization dedicated to creating and preserving a digital archive of scholarly journals. For more information regarding JSTOR, please contact support@jstor.org.

'eagle' = 'bird': a note on the structure and evolution of Shoshoni ethnoornithological nomenclature¹

PER HAGE and WICK R. MILLER—*University of Utah*

In his paper, "'Cottonwood' = 'Tree': A Southwestern Linguistic Trait," Trager (1939) noted that this equation occurred in a number of diverse languages of a common geographical region. He regarded the elevation of the term designating the most abundant species to stand for tree in general as "natural" and as a prime example of the influence of environment on language. In Berlin's recent paper (1972), this polysemy is cited as a typical instance of a regular process in the evolution of ethnobotanical nomenclature, namely, the ascension of generic terms which designate "culturally salient," i.e., abundant and/or useful objects, to life form status.

We describe an ethnozoological example of this process from Shoshoni, a language which belongs to the far-flung Uto-Aztecan language family. More immediately, it belongs to the Numic branch of Uto-Aztecan, a group of closely related languages spoken primarily in the Great Basin. The polysemous structure described for Shoshoni is probably common to all the Numic languages (Fowler 1972). Mearns (1896) reported it also for Hopi, a Uto-Aztecan language of the Southwest. Consistent with Trager's example and Berlin's theory (which is intended to be applicable to ethnobiology in general), the categories elevated to superordinate status are "good to count," which in this case may be interpreted in one of two senses: either in the sense of perceptual abundance or in the sense of taxonomic abundance. A matter of particular interest vis-à-vis Berlin's theory concerns the presence of "intermediate" categories. In Shoshoni ethnoornithology, they are named not covert, they do not follow but precede the life form category, of which they are the source, and they seem to have an origin different from the processes postulated by Berlin. Of potentially general ethnoornithological interest is the fact that the conceptual distinction made by these higher order intermediate categories is apparently not unique to Shoshoni. It is found in some non-Uto-Aztecan languages, and a similar distinction also exists in an American English folk classification.

This paper provides an ethnozoological example of the processes described by Berlin for the evolution of ethnobotanical nomenclature. An unusual feature of Shoshoni ethnoornithology is the existence of named intermediate categories, which precede the life form label, of which they are the source; furthermore, they seem to derive from a process different from those postulated by Berlin. The conceptual distinction which the intermediate categories make and the intermediate life-form polysemy are not unique to Shoshoni. These facts may require a reconsideration of the significance and temporal ordering of intermediate categories in Berlin's theory.

This paper draws on data collected by Miller in his study of the Shoshoni language over the past several years, including, in particular, a dialect survey which covered the whole of the Shoshoni speaking area, and on identifications now being made by Shoshoni speakers of birds (and other animals) in the study collection at the Utah Museum of Natural History. Figure 1 shows a representative segment of the Shoshoni system of ornithological classification.² It illustrates the relations of inclusion among taxa, the maximum taxonomic depth, and the mapping of terminal taxa onto zoological species. A comprehensive description will be given elsewhere. For present purposes we note the following:

generic life-form polysemy In most dialects of Shoshoni, the life-form label which represents the taxon 'bird' is polysemous with and indirectly derived from a subordinate category or "generic" (see below) which includes the Golden Eagle and a number of hawks. Judging by the Shoshoni speakers' universally most immediate translation of this category, its focus is the Golden Eagle. In some dialects, however, the life-form is indirectly derived from the generic, *huittsuu*, which includes a number of small birds: sparrow, warbler, junco, etc. (We have no information at present as to whether this category has a focus.)

superordinate categories and salience Consistent with Trager's botanical example and Berlin's general theory, the elevated particular categories or generics are salient in the sense of relative abundance, a concept which we suggest can be defined in either of two ways. The Golden Eagle, which is the focus of *kwinaa*, is among the most abundant of birds in the sense of apparent numbers or frequency of observations. It is, in the ornithological classification of relative frequency, a "common resident" (i.e., it is present year round and "may be seen most of the time or in smaller numbers under the same circumstances" [Robbins et al. 1966:15]), as opposed to a "migrant" ("common" or "uncommon") or a "casual visitor." And it is one of the very largest birds, so that when present, it is highly visible. The opportunities for observation are further increased by the fact that it is sought for its feathers, and it may be kept as a pet. The category, *huittsuu*, on the other hand is the most partitioned of all categories and is therefore abundant in a formal sense, i.e., there are many *kinds* of them. In Figure 1, *huittsuu* is 7-partitioned. Most of the categories coordinate with it are either 0- or unpartitioned, e.g., *suikkokko*, *kusiwa antapittseh*, and *wokaituyuu*, or, less commonly, 2-partitioned, e.g., *hai* and *kwinaa*. (Since this category includes so many species of birds it may also be perceptually abundant.)

intermediate categories as the source of life-form categories According to Berlin's theory of the evolution of ethnobiological nomenclature, a system begins with a set of "semantic primitives" or generics, i.e., linguistic expressions which are "unique single words" or else lexemes which are unitary in the sense that they are not partially polysemous with superordinate categories, e.g., in Figure 1, *hai* (a unique single word with no literal meaning) and *taponkopa'a* (a category which is coordinate with *hai* and which is a complex lexeme but not in a taxonomically polysemous sense, i.e. a 'cotton-tailed rabbit carrier' is not a kind of carrier). At some point there is simultaneous downward discrimination in which the generics are modified, e.g., *pia* ('large'), *tepiah* ('middle sized'), or *tei* ('small') *taponkopa'a* (specifics) and upward generalization by the elevation of one generic to life-form status, e.g., *kwinaa* comes to stand for bird in general. In the final stage, varieties which are trinomial in structure (e.g., *ainka sana*)

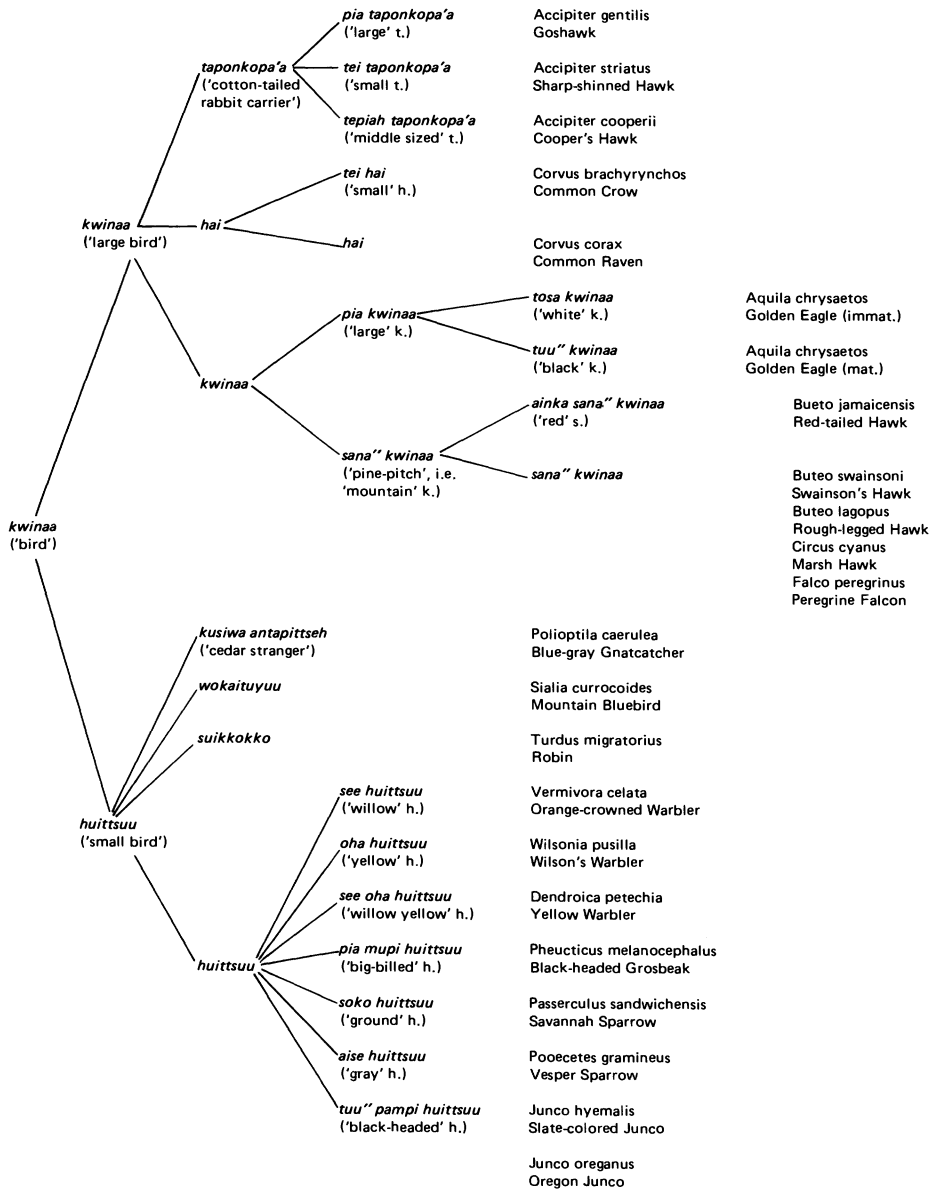


Figure 1. A segment of the Shoshone ornithological classification.

kwinaa and [the unmarked] *sana'' kwinaa*)³ and intermediates (e.g., *kwinaa* ‘large bird’ and *huittsuu* ‘small bird’) may or may not be added.⁴

In Shoshoni, the order of appearance of the life-form label and intermediate labels is the reverse of this. What seems to have happened at the supra-generic level was first a bi-partition of the unlabeled (i.e., not labeled by a single word or unitary expression) conceptual domain “bird” into large versus small, labeled by the generics, *kwinaa* and *huittsuu*, respectively, and then the elevation of one of these terms to represent the domain as a whole. This inferred progression is supported by Fowler’s (1972) reconstruction of Proto-Numic, which shows the large/small contrast but no term for bird in general; Fowler’s data and data from Miller’s dialect study show that if the domain is

labeled by a simple or unitary lexeme as opposed to a derivative (e.g., *kasakante* 'having feather/wings' in Panamint Shoshoni), the label is always one of the intermediate forms, i.e., either *kwinaa* or *huittsuu*. Exactly the same structure is reported for Hopi (Mearns 1896), which may represent a case of parallel evolution.

the source of the intermediate categories According to Berlin, named as opposed to covert intermediate categories are both late and rare (Berlin, Breedlove, and Raven 1968). When they do emerge, it is by one of two "processes" or "paths":

The first occurs in culture contact situations where certain introduced organisms must be incorporated into the native taxonomy. If the introduced plants are conceived to be similar—in the native view of the world—to a named polytypic native generic and *yet not similar enough to be included as a specific of that generic*, a named higher order taxon will arise which includes both the native and the introduced forms. The second process, not as clearly understood as the first, occurs when some specific taxa become 'conceptually' distinct from their neighboring specific taxa. When this occurs, the conceptually distinctive taxon *will assume the status of a generic, will cease to be labelled by a binominal expression, and in so doing, will force the original generic to assume a superordinate taxonomic status* (Berlin 1972:74).

These processes are expected to characterize ethnozoology as well as ethnobotany. Both of them apply to very limited situations involving a single or a few categories and seem not to account for the *kwinaa/huittsuu* distinction which bipartitions the entire domain, 'bird.' A more likely explanation, which Berlin mentions but then rejects as a general process, is that these are simply covert categories (Berlin, et al. 1968) (i.e., groups or clusters of categories which do not have a unitary or simple label but which nonetheless are conceived of as belonging together), which have become labeled. While there is no apparent pragmatic basis for this distinction (for example, that all the large birds are "good to eat" and all the small birds are not), it may well be one which many folk ornithologists find easy although clearly not irresistible to think. At least this is suggested by the fact that this distinction occurs not only in Shoshoni, in the other Numic languages, and in Hopi but also in some non-Uto-Aztecan languages as well. In an early paper on Indian bird names, Hoffman (1885) emphasized the large/small contrast in Dakota (a Siouxan language), Washo (a Hokan language), and possibly also in Salishan.

There does not appear to be a division of birds among any of our tribes, into Land Birds and Water Birds. But on the contrary there is a distinction between *large birds* and *small birds*. The latter are called *tsiu-ka'-la* by the Dakota; *sisu* by the Washo (Hoffman 1885:7).

Hoffman does not discuss generic life-form polysemy, but in Dakota the category, 'small bird' (*zitka*), evidently designates 'bird in general' (Patricia Albers, personal communication).

A further example of the large/small distinction, together with possible intermediate life form polysemy, comes from a South American language, Aguaruna Jívaro. Berlin writes:

In my work on Aguaruna Jívaro folk zoology—just getting underway—it now appears fairly certain that one finds some(thing) comparable if not identical, to your findings for Shoshoni in the sub-domain of birds. There are two "major-group" terms, *pišak* and *čički*, which refer, respectively, to what my colleague Gene Hunn refers to as "dicky birds" (your "small birds") and what my Aguaruna informants call "game birds" but which actually are "large birds (and, consequently good to hunt and eat)". These data agree in part with Hunn's tentative findings for Aguaruna folk ornithology from his brief study in 1970. There he notes that "One term, *pišak*, may name a super-generic residual category of 'dicky birds', including a large number of generically named categories. As yet no term for bird in general has been elicited." (Eugene Hunn, appendix to Berlin's report to the Wenner-Gren Foundation on the First Ethnobiological Survey of the Aguaruna area of the Alto Marañón, 1970).

There is some evidence though small at the moment, that one might use *pišak* as a term for the

domain as a whole—and if true, this would parallel the Shoshoni case perfectly, except that “large bird” is chosen in your case (Berlin, personal communication).

A very similar conceptual distinction is also found in a Western folk ornithological classification. In *Birds of North America: A Guide to Field Identification*, (Robbins, Brunn, and Zim 1966), there are two covert categories which partition all the species of birds: the “larger flying and soaring birds,” characterized in the text by both average wingspan and average body size versus the others (smaller, non-soaring), characterized by average body size only. Table 1 shows the ‘large’/‘small’ classification of particular species by one Shoshoni speaker and their corresponding designations in the *Field Guide* (Robbins, Brunn, and Zim 1966).

In eighty-nine of ninety-nine cases, the *kwinaa/huittsuu* classification matches the large/small classification in the *Field Guide* (Robbins, Brunn, and Zim 1966). It is unlikely that all Shoshoni speakers (or all American bird watchers who use this classification) would partition the set of birds in exactly this way. We have some evidence of disagreement, although we do not know yet if this is a matter of dialect difference. It

Table 1. Comparison of the large/small categories in the *Birds of North America Guide to Field Identification* and in Shoshoni.

(1) Birds categorized as “larger flying and soaring” in the *Field Guide* and as *kwinaa* in Shoshoni:

Horned Grebe (*Podiceps auritus*)
Common Loon (*Gavia immer*)
Snowy Egret (*Leucophoyx thula*)
Sandhill Crane (*Grus canadensis*)
Wood Ibis (*Mycteria americana*)
Canada Goose (*Branta canadensis*)
Trumpeter Swan (*Olor buccinator*)
Mallard (*Anas platyrhynchos*)
Green-winged Teal (*Anas carolinensis*)
Shoveler (*Spatula clypeata*)
Ruddy Duck (*Oxyura jamaicensis*)
Red-breasted Merganser (*Mergus serrator*)
American Widgeon (*Mareca americana*)
Redhead (*Aythya americana*)
Common Goldeneye (*Bucephala clangula*)
Turkey Vulture (*Cathartes aura*)
Goshawk (*Accipiter gentilis*)
Sharp-shinned Hawk (*Accipiter striatus*)
Cooper's Hawk (*Accipiter cooperii*)
Swainson's Hawk (*Buteo swainsoni*)
Rough-legged Hawk (*Buteo lagopus*)
Marsh Hawk (*Circus cyaneus*)
Peregrine Falcon (*Falco peregrinus*)
Red-tailed Hawk (*Buteo jamaicensis*)
Golden Eagle (*Aquila chrysaetos*)
Ferruginous Hawk (*Buteo regalis*)
Black Hawk (*Buteogallus anthracinus*)
Bald Eagle (*Haliaeetus leucocephalus*)
Prairie Falcon (*Falco mexicanus*)
Sparrow Hawk (*Falco sparverius*)
American Coot (*Fulica americana*)
Screech Owl (*Otus asio*)
Flammulated Owl (*Otus flammeolus*)
Great-horned Owl (*Bubo virginianus*)
Snowy Owl (*Nyctea scandiaca*)

(2) Birds categorized as “smaller” in the *Field Guide* and as *huittsuu* in Shoshoni:

House Wren (*Troglodytes aedon*)
Bewick's Wren (*Thryomanes bewickii*)
Long-billed Marsh Wren (*Telmatodytes palustris*)
Semipalmated Plover (*Charadrius semipalmatus*)

Table 1 (cont'd)

Killdeer (*Charadrius vociferus*)
 Mountain Plover (*Eupoda montana*)
 Mourning Dove (*Zenaidura macroura*)
 Black-chinned Hummingbird (*Archilochus alexandri*)
 Broad-tailed Hummingbird (*Selasphorus platycercus*)
 Calliope Hummingbird (*Stellula calliope*)
 Rufous Hummingbird (*Selasphorus rufus*)
 Yellow-shafted Flicker (*Colaptes auratus*)
 Red-shafted Flicker (*Colaptes cafer*)
 Yellow-bellied Sapsucker (*Sphyrapicus varius*)
 Williamson's Sapsucker (*Sphyrapicus thyroideus*)
 Red-headed Woodpecker (*Melanerpes erythrocephalus*)
 Hairy Woodpecker (*Dendrocopos villosus*)
 Downy Woodpecker (*Dendrocopos pubescens*)
 Northern Three-toed Woodpecker (*Picoides tridactylus*)
 Horned Lark (*Eremophila alpestris*)
 Barn Swallow (*Hirundo rustica*)
 Cliff Swallow (*Petrochelidon pyrrhonota*)
 Violet-green Swallow (*Tachycineta thalassina*)
 Tree Swallow (*Iridoprocne bicolor*)
 Scrub Jay (*Aphelocoma coerulescens*)
 Pinyon Jay (*Gymnorhinus cyanocephalus*)
 Clark's Nutcracker (*Nucifraga colombiana*)
 Mockingbird (*Mimus polyglottos*)
 Sage Thrasher (*Oreocoptes montanus*)
 Robin (*Turdus migratorius*)
 Mountain Bluebird (*Sialia currucoides*)
 Blue-gray Gnatcatcher (*Poliophtila caerulea*)
 Bohemian Waxwing (*Bombycilla garrulus*)
 Cedar Waxwing (*Bombycilla cedrorum*)
 Northern Shrike (*Lanius excubitor*)
 Loggerhead Shrike (*Lanius ludovicianus*)
 Starling (*Sturnus vulgaris*)
 Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*)
 Red-winged Blackbird (*Agelaius phoeniceus*)
 Rusty Blackbird (*Euphagus carolinus*)
 Brewer's Blackbird (*Euphagus cyanocephalus*)
 Brown-headed Cowbird (*Molothrus ater*)
 Western Meadowlark (*Sturnella neglecta*)
 Brewer's Sparrow (*Spizella breweri*)
 Cassin's Finch (*Carpodacus cassinii*)
 Orange-crowned Warbler (*Vermivora celata*)
 Wilson's Warbler (*Wilsonia pusilla*)
 Yellow Warbler (*Dendroica petechia*)
 Black-headed Grosbeak (*Pheucticus melanocephalus*)
 Savannah Sparrow (*Passerculus sandwichensis*)
 Vesper Sparrow (*Pooecetes gramineus*)
 Slate-colored Junco (*Junco hyemalis*)
 Oregon Junco (*Junco oreganus*)
 House Sparrow (*Passer domesticus*)

(3) Birds categorized as "large flying and soaring" in the *Field Guide* and as *huittsuu* in Shoshoni:
 Sora (*Porzana carolina*)

(4) Birds categorized as "smaller" in the *Field Guide* and as *kwinaa* in Shoshoni:

Blue Grouse (*Dendragapus obscurus*)
 Sharp-tailed Grouse (*Pedioecetes phasianellus*)
 Sage Grouse (*Centrocercus urophasianus*)
 California Quail (*Lophortyx californicus*)
 Ring-necked Pheasant (*Phasianus colchicus*)
 Long-billed Curlew (*Numenius americanus*)
 American Avocet (*Recurvirostra americana*)
 Common Raven (*Corvus corax*)
 Common Crow (*Corvus brachyrhynchos*)

seems probable that there is a small area of indeterminacy in which the same species might be assigned to different categories or even to both or either. For example, our Shoshoni speaker claimed that the Black-billed Magpie (*Pica pica*), the Common Nighthawk (*Chordeiles minor*), and the Belted Kingfisher (*Megaceryle alcyon*) could be *huittsuu* or *kwinaa*. It remains to be seen how variable the large/small distinction is within and between languages and also what the full conceptual basis of this distinction is, i.e., what other (secondary) attributes are used which allow one to assign with confidence two birds of apparently the same size to different categories.

summary and conclusions In Shoshoni, the label for the life-form taxon 'bird' is polysemous with and indirectly derived from lower order generic categories which designate either a particular species of bird focally or a group of particular species collectively. These categories are salient either in the sense of perceptual or taxonomic abundance. These ethnozoological facts are in general accord with Berlin's theory of the evolution of ethnobiological nomenclature. An unusual feature of Shoshoni ethnoornithology with respect to Berlin's theory is the existence of named intermediate categories, which precede the life-form label, of which they are the immediate source; these categories seem to derive from different processes from those postulated by Berlin. Of potential general cognitive and theoretical interest is the fact that the conceptual distinction which the intermediate categories make is not unique to Shoshoni, nor is the intermediate life-form polysemy. Further instances of such polysemy may require a reconsideration of the order of appearance of the life-form and intermediate ethno-biological categories in Berlin's theory or perhaps a qualification of its application to ethnozoology and/or ethnoornithology.

notes

¹This is a revised version of a paper presented at the 14th Great Basin Anthropological Conference. We wish to thank Catherine Fowler for presenting the paper for us, Professor William Behle, Curator of Ornithology at the Utah Museum of Natural History, for his assistance in setting up specimens of birds to be identified by Shoshoni speakers and for his readily volunteered expertise on matters ornithological, and the University of Utah Research Committee for its support. We are most grateful to Brent Berlin, Eugene Hunn, and George Trager for their comments on an earlier version of this paper. Responsibility for it is, of course, solely ours.

²This particular segment was elicited from a man born in 1912 at Ruby Valley, but raised on the Goshute Reservation. His classification is also used in Table 1. See Miller (1972) for an explanation of the Shoshoni orthography.

³The varieties, *tuu* and *tosa kwinaa*, which are not trinomial, may be abbreviated forms.

⁴Berlin's categories, generic, specific, varietal, and life-form, are defined in terms of taxonomic and lexical criteria. Substantively, the generic is said to "characterize man's recognition of the basic objective discontinuities of his biological world" (Berlin 1972:54). However, the exact relation between Berlin's and actual biological categories is not stated. In the Shoshoni case, we note that the categories, *taponkopa'a*, *hai*, *suikkokko*, *kusiwa antapittseh*, and *wokaituyuu*, are generics both in Berlin's sense and also in a biological sense. The generics, *kwinaa* and *huittsuu*, on the other hand, include members of more than one biological genera.

references cited

- Berlin, Brent
1972 Speculations on the Growth of Ethnobotanical Nomenclature. *Journal of Language and Society* 1:63-98.
- Berlin, Brent, Dennis Breedlove, and Peter Raven
1968 Covert Categories and Folk Taxonomies. *American Anthropologist* 70:290-299.
- Fowler, C. L.
1972 Comparative Numic Ethnobiology. Unpublished Ph.D. dissertation. University of Pittsburgh.

Hoffman, W. J.

1885 Bird Names of the Selish, Pa Uta and Shoshone Indians. *Auk* 2:7-10.

Mearns, E. A.

1896 Ornithological Vocabulary of the Moki Indians. *American Anthropologist* 9:391-403.

Miller, W. R.

1972 *Newe Natekwinappéh: Shoshoni Stories and Dictionary*. University of Utah Anthropological Papers No. 94.

Robbins, C. S., Bertel Brunn, and H. S. Zim

1966 *Birds of North America: A Guide to Field Identification*. New York: Golden Press.

Trager, George L.

1939 'Cottonwood' = 'Tree': A Southwestern Linguistic Trait. *International Journal of American Linguistics* 9:117-118.

Date of Submission: April 9, 1975

Date of Acceptance: April 25, 1975