Lexical Reconstruction

The Case of the
Proto-Athapaskan Kinship System

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Dedicated to the memory of
ALFRED L. KROEBER

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The differences that appear as between these conclusions and Hoijer's are due to three factors: (1) the subgrouping; (2) the rigor that has been introduced here; and (3) the use of additional materials. The determination that term 33 was a cousin term in PA depends on the subgrouping. In Hoijer's table of sibling classes term 33 is distributed over the following: Kutchin including Loucheux, Hare, Bear Lake, Mountain, Dogrib, Kaska, Tahltan, Tsetsaut, Slave, Sekani, and Beaver. On the basis of our subgrouping all of these are dialects of a single language and consequently we have no evidence that 33 is a PA sibling term. On the other hand the distribution of term 33 in Hoijer's cousin terms occurs in Canadian Athapaskan and the Pacific languages. Since term 33 is found in both Canadian Athapaskan and the Pacific Group we can conclude that it was a PA term limited to cousins. Essentially the same line of argument will establish 43 as a PA cross-cousin term, since it appears as such in Canadian and Apachean.

This paper proposes that the reconstructed kinship terminology is an immediate consequence of the subgrouping of the Athapaskan languages as one factor and of tables of homosemantic cognates as the only other factor. No reference to the actual kinship systems to be found in the daughter languages is needed. It will follow then that the changes in the Athapaskan kinship systems can be constructed from a comparison of the PA kinship terminology with that of the daughter languages.

Subgrouping the Athapaskan languages

The subgrouping of a set of related languages is a factor in lexical reconstruction. A lexical reconstruction can be regarded as a member of the product set of reconstructions reached from certain selective procedures performed on an array (operation) which has as, say, columns, the subgrouped languages and as rows the various meanings and for each combination of language and meaning the particular word of the language that has that meaning.

The first factor is the subgrouping. The subgrouping of languages by comparative lexicostatistics has been proposed and discussed in a number of articles. The procedure used in 'The Lexicostatistically Determined Relationship of a Language Group' (Dyen 1962) will be followed here.[1] However in that article

[1] This could (and does) result in a different classification from one implied by M. E. Krauss, without being necessarily directly counterposed to it. Krauss says, 'I consider it very doubtful after, among other things, my own survey of the Alaskan situation, that we shall ever be able to realize Hoijer's persistent hopes that a family tree will some day account in a minor way for the differentiation to be found in Athapaskan. We shall have far more success, it seems to me, in describing Athapaskan, mapped with isoglosses, as a dialect complex, or complex of dialect complexes' (Krauss 1964: 411–12). It is also possible that Athapaskan is a complex of different languages as well as of dialects in varying degrees of relationship, a view that is taken here. In this view, a language consists of all dialects connected to each other in a chain of mutually intelligible dialects. In a personal

the problem of the language limit was not dealt with. The LANGUAGE LIMIT is the maximum similarity of two languages. If the similarity of two putative languages is not less than the language limit, then they are dialects of the same language. In lexicostatistics we use an arbitrarily set percentage to represent the language limit. We will call this the PROVISIONAL LANGUAGE LIMIT. We set the provisional language limit at 70% for the Swadesh 200-word list.

The justification for this calibration is its convenience. It will be treated here as absolute despite the fact that there is some evidence that it is not so. Dyen has developed some evidence in a study of respectively German and Western Romance dialects that non-mutual intelligibility can be associated with lexicostatistical percentages above 70%. The variation observed was approximately between 70% and 90%. It is of course not impossible that a greater variation is still to be observed. Nevertheless it appears that 70% provides a fairly conservative provisional language limit.

Table 2.1 presents percentage of shared cognates among a number of Athapaskan languages. The data were provided by Hoijer, personal communication, or appear in Hoijer 1962. Hoijer's percentages are given on the basis of the Swadesh 100-word list. As an approximate provisional language limit for the Swadesh 100-word list we choose 77%. We infer that generally this is the equivalent of the 200-word list 70%. Since the difference between the percentage of lexical decay for 1,000 years on the basis of the 200-word list is about 80% and on the basis of the 100-word list about 86.4%, it is reasonable that a similar difference would be found for their respective language limits; we take into account here that the numbers involved in the decay figures are not too far apart. The critical difference between two percentages is set at about 10 percentage points (pp) for the 200-word list. This difference is for practical purposes set at 9.5 pp. The equivalent provisional critical difference for the 100-word list is taken to be 13 pp.[2]

On the basis of the language limit Hoijer's percentages appear to imply that the following are languages on the grounds that no submember of a language has a percentage 77% or greater with a submember of any other group:

Tanaina
Ingalik
Tanana-Koyukon (79%)

communication Krauss has said that 'all the Athapaskan languages are indeed dialects', but also speaks of 'deep language boundaries here and there'; this suggests that the language boundaries are only partial, separating only some (not all) members of a dialect chain and allowing all to be connected in a roundabout way. In our view the boundary of a language is complete and interrupts the continuity of a dialect chain completely.

[2] This can be approximated by considering the magnitude of the difference between cognate percentages (when each is considered in terms of the respective numbers of positive and negative cognations from which it results) necessary to produce a significant chi square test on the basis of 100 items.

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Table 2.1 *Percentages of shared cognates among Athapaskan languages*

	Koy	Tana	At	Ing	Kut	Han	Nab	Hare	DR	Slave	Chip	Beav	Car	Sar	Hupa	Mat	Kato	Gal	Nav
Tanaina	56	58	63	59	57	60	61	55	52	56	59	46	61	56	48	45	47	54	55
Koyukon	x	79	69	75	76	75	69	63	65	65	72	71	70	66	59	63	61	62	64
Tanana		x	72	70	74	73	68	64	66	66	71	68	71	64	57	60	57	59	59
Atna			x	71	70	72	69	65	66	67	69	68	68	62	57	58	57	62	67
Ingalik				x	69	73	68	64	67	68	71	67	69	64	58	57	55	61	64
Kutchin					x	84	81	74	74	73	79	75	77	69	64	69	68	69	71
Han						x	82	74	74	74	79	76	77	61	61	64	64	67	70
Nabesna							x	74	71	70	73	71	73	66	59	63	63	66	67
Hare								x	86	85	83	78	76	72	65	63	68	73	71
Dogrib									x	88	85	77	75	72	59	59	62	68	68
Slave										x	81	83	77	70	61	58	63	68	69
Chipewyan											x	78	83	79	64	65	68	73	76
Beaver												x	78	75	64	61	66	70	70
Carrier													x	73	63	62	66	71	73
Sarsi														x	60	61	63	66	68
Hupa															x	76	75	75	65
Mattole																x	76	71	65
Kato																	x	78	69
Galice																		x	73

Source: Hoijer, personal communication.

	SC	Chir	Mes	Jic	Lip	KA
Navajo	94	95	95	94	92	77
San Carlos	x	96	94	93	90	78
Chiricahua		x	97	95	93	78
Mescalero			x	96	95	78
Jicarilla				x	94	78
Lipan					x	78
Kiowa Apache						x

Source: Hoijer 1962: 197.

	Hupa	Kato	Mat	Coq	Tol	Gal
Hupa	x	75	76	76	78	75
Kato		x	76	75	80	78
Mattole			x	72	74	71
Coquille				x	97	92
Tolowa					x	90

Source: Hoijer 1962: 198.

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Atna

Canadian Athapaskan. Kutchin . . . Sarsi because of a chain of percentages 77% or above. There is a suggestion of the dialect groupings: (a) Kutchin-Han-Nabesna (above 82%); (b) Hare-Dogrib-Slave-Chipewyan-Beaver-Carrier (above 83%); (c) Sarsi.

Mattole

Hupa-Kato-Galice (Hupic), including the nearly identical Tolowa and Coquille (97%). The last form a dialect area with Galice (90% and 92% respectively). Kato-Tolowa 80% and Hupa-Tolowa 78% determine the grouping.

Apachean with the group of nearly identical dialects Navajo-San Carlos-Chiricahua-Mescalero-Jicarilla-Lipan (95% or higher) and another consisting of Kiowa Apache (78% with many of the other dialects).[3]

There is evidence pointing to a Pacific subgroup including Mattole and Hupic. Mattole averages 74.3% with Hupic. The next highest percentages of Mattole and Hupic are with Canadian Athapaskan and are respectively 62.5% and 62.9%. Although the difference between 74.3% and 62.9% is less than the critical difference, it is perhaps close enough to suggest that the notion of a Pacific subgroup is justified. Although we treat the Pacific languages as constituting a subgroup, in the following discussion no determination of a PA term is dependent on the existence or non-existence of the Pacific subgroup for, in its absence, the evidence of its separate members could serve only to increase the number of PA terms.

Of the seven subgroups thus obtained only the following are represented in the tables of kinship terms:

Tanaina (Tan)
Ingalik (Ing)
Atna (At)
Canadian Athapaskan (Can) by:
(a) Kutchin-Han-Nabesna (by Kutchin and Nabesna)
(b) Hare . . . Carrier (by Hare, Dogrib, Slave, Chipewyan, Beaver, Carrier)
(c) Sarsi

[3] Hoijer 1971: 5 contains slightly lower percentages for KA with the other Apacheans, whom Hoijer calls 'southwestern Apachean'. None of these new percentages is higher than 76%, thus implying, in terms of the provisional language limit, that Kiowa Apache is a different language from southwestern Apachean in our terms. It may even be intermediate between the latter and Canadian. However, these percentages are corrections to the earlier figures appearing in table 2.1 and imply that the basis of the Kiowa percentages was re-examined. Hoijer does not make it clear whether the bases of all the other percentages were likewise re-examined, so that it seemed most convenient for our purposes not to attempt to take the new percentages into account and to proceed on the basis of the old percentages, accepting whatever error results from it.

Pacific (Pac) by:
(a) Mattole
(b) Hupic (by Tolowa, Hupa, Kato)
Apachean (Ap) by:
(a) Western (Navajo, San Carlos, Chiricahua, Mescalero, Jicarilla, Lipan)
(b) Kiowa Apache.

However it is possible with some risk to classify all of the languages in the tables in chapter 3, except Washington Athapaskan, in one or another of the groups already listed. Thus, Bear Lake, Mountain, Kaska, Tahltan, Tsetsaut, Yellowknife and Sekani are assigned to Canadian Athapaskan because investigators appear to associate them with one or another of the other dialects assigned to Canadian Athapaskan. Similarly Wailaki, Lassik and Sinkyone are assigned to the Pacific subgroup. The position of Washington Athapaskan has been left ambiguous.

The procedure of lexical reconstruction

Once a subgrouping of a family has been determined the lists of cognate sets in each meaning can be examined in order to determine which of the words in the list probably continue the word in PA in that meaning. It appears to be obvious that if there is no set of cognates with at least two members in the list there can hardly be a way of choosing one word over the other. Furthermore if a cognate set with more than one member is limited to a single subgroup, say the Pacific languages, then for the purposes of PA, it is as though it had occurred only once. For the word may have come to have that meaning in the proto-language of the subgroup after PA had ceased to exist. A cognate set with members in different subgroups of the highest order is a CANDIDATE SET. The etymon of a candidate set is a candidate etymon or CANDIDATE. Only candidates (i.e. candidate etyma) are considered for the purpose of lexical reconstruction.

It is inferred that the sole candidate of a given meaning held that meaning in the proto-language. Thus if only the languages above that are represented in the tables in chapter 3 are considered, then 11 is the only candidate for the meaning 'step-father' and 21 is the only candidate for the meaning 'step-mother'. (Henceforth all examples are drawn from the tables in chapter 3 of this study.)

In both of these cases one must make explicit the reservations necessitated by the unfilled slots or gaps in the columns of these meanings. It is obvious that if these should be filled in certain ways the inference would change. It follows that the inference reached in any case is dependent on the slots that have been filled and thus directly on the amount of information available at the time of decision. This should be regarded as a general condition of the

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