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Eyak: a preliminary report

THIS PAPER is an informal summary preview of Eyak structure, with a minimum of exemplification and a maximum of structural tables and diagrams. Included are a number of historical and comparative remarks with reference to Athapaskan and Tlingit. There are still three persons capable of serving adequately as informants for Eyak. The following is a summary report of the results of field-work with these persons, up to July 10, 1964, on a grant from the National Science Foundation. The phonology of Eyak is now well understood, as is, more surprisingly, the verb. In addition, the list of morphemes is approaching exhaustiveness.

The consonant inventory is shown in Table I:

TABLE I

d	dl	dz	dž	g	g^w	G	ʔ
t	tɬ	ts	tš	k			q
t'	tɬ'	ts'	tš'	k'			q'
	ɬ	s	š	x	x^w	χ	h
w	l		y				
m	n						

In the top row are unmodified stops, below those are aspirated stops, below those glottalized stops, and below those fricatives. The sonant system in Eyak (as in other Na-Dene languages, I believe) is clearly structurally distinct from the above. It consists of three positions: labial, apical, and dorsal. Were it not for loans, it would also be possible to eliminate m and n from the table. Where they occur in non-loans, they could be interpreted as w and l, respectively, followed by a nasalized vowel. /b/ and /ŋ/ also occur in Eyak, but infrequently, and only in loans. The labialized front dorsals /g^w/ and /x^w/ occur facultatively as variants of /g/ and /x/ as the initial of certain stems, but not of

others. In the idiolect of a fourth informant (a native Tlingit-Eyak bilingual, who has not used Eyak much for fifty years, and who has only a fragmentary memory of it), stem-initial front dorsals are consistently labialized or non-labialized. This labialization agrees throughout with that indicated by the orthography of the early Russian transcriptions of Eyak. It may be concluded that Eyak is in the process of losing distinctive labialization of front dorsals: the process was complete for the aspirated and glottalized members of the series before 1805, but is not yet complete for the simple stop and fricative members.

All Eyak consonants occur stem-initially, except /h/, which is the equivalent of zero, and has the allophone [h] only in absolute initial position, or immediately following a vowel. The aspirated stops contrast with the unmodified stops only immediately preceding a vowel. Non-glottalized absolute final stops are aspirated, but may most conveniently be considered only phonetically so.

The correspondences between the Proto-Athapaskan consonant system (as reconstructed in Krauss 1964[1]) and the Eyak are simple and direct. The main differences are that the labialized and nonlabialized back dorsals are completely merged in Eyak, the front dorsals partially merged. Eyak /l/ corresponds with Athapaskan /n/. Especially in certain prefixes, Eyak /l/ also alternates with nasalization of the preceding vowel. A few Eyak stem initials also show the alternation /l ~ n/, e.g. *-naʔt'* "lick"; *-laʔt'* "tongue"; *-ʔnəw ~ ʔləw* "big."

Syllable nuclei, as shown on Table II, fall into the following classes. (1) Unmodified: only three of these contrast. Shwa alternates morphophonemically with both [e] and [a], and is thus a phonetically convenient symbol for avoiding the arbitrary choice of phonemicizing it either /e/ or /a/. (2a) Modified oral: here the maximum number contrast. /e/ varies between [ɛ] and [æ]; /a/ varies between [a] and [ɔ]. These are all modified either by glottalization, aspiration, length, or the one combination of length and glottalization. (2b) Modified nasal: with any of the vowels except /e/ of Class 2a, nasalization may also be present. (It appears that **ɛ̃* under some conditions (umlauts) > ĩ, and

[1]Michael E. Krauss, "Proto-Athapaskan-Eyak and the Problem of Na-Dene: The Phonology," IJAL 30 (1964), 118–31.

under others (ablauts) > ã). Between the three unmodified vowels there is often free variation. It appears that the context has, in at least many cases, historically conditioned the choice of unmodified vowels.

TABLE II: SYLLABLE NUCLEI

i	iʔ	ih	i·	i·ʔ	ĩʔ	ĩh	ĩ·	ĩ·ʔ
ə	eʔ	eh	e·	e·ʔ				
	aʔ	ah	a·	a·ʔ	ãʔ	ãh	ã·	ã·ʔ
u	uʔ	uh	u·	u·ʔ	ũʔ	ũh	ũ·	ũ·ʔ

In addition to the ablauts with shwa, there are also some between modified /e/ and /a/. Correspondences with the PA (Proto-Athapaskan) syllable nuclei, which had a very similar structure, are apparently far more complex than for the consonants.

All stems consist minimally of any consonant plus any syllable nucleus. Following the nucleus there may occur fairly complex consonant clusters. Almost all of these may readily be analyzed as separated by morpheme boundaries, however, with the most notable exception of the following. Examples of unusually complex clusters will be given at the end of the section on the verb.

TABLE III

x̣ts'	Gs	q's
x̣tš'	Gš	q'š
xts'	gs	k's
xtš'	gš	k'š

It will be observed that these are highly structured sequences of front or back dorsal plus a member of the ts- or tš-series. Where the second member is a glottalized stop, the first is a fricative. Where the second is a fricative, the first is a stop, simple or glottalized. Athapaskan cognates to stems ending with these clusters can be found, but the correspondences are not yet clear.

Most noun stems are morphophonemically invariable. (A few exceptions occur in compounds.) Only kinship and anatomical

nouns may take a possessive prefix. The pronominal possessive prefixes, which are identical with the pronominal objects of postpositions, are the following:

TABLE IV

1 sg.	*si*
2 sg.	*ʔi*
3 sg. or pl.	*ʔu*
1 pl.	*qa'* (also as dir. obj. of verb, and *da'* as subject)
2 pl.	*ləx*
indefinite	*k'u*
recipr.	*ʔiɬ* (as dir. obj. of verb *ʔiɬuʔ*)

Eyak 3rd pers. distinctions here are far less elaborate than the Tlingit or usual modern Athapaskan. *ʔu-* may be any 3rd pers., including reflexive. The 1st pers. pl. *qa'-* is also used adverbially as direct object of the verb. As an object (of verb or postposition) it may often be glossed as "a human being, person" as well as "us," and as a possessor, "human, a person's," as well as "our."

The Eyak verb structure is in a sense simpler than the Athapaskan, and as such is more similar to the Tlingit. The present analysis shows nine prefix positions (some of them subdivided) before the stem, and four suffix positions after it. The adverbial forms preceding Position 1, the direct object, are found, unlike Athapaskan, to be of relatively free order, little bound by morphophonemics, and to have little syntactic determination over choice of paradigmatic verb prefixes or suffixes. The Eyak verb as defined here, in contrast, consists of morphemes rigidly ordered and very tightly bound by complex morphophonemics, among which not only contiguous morphemes, but sometimes even morphemes removed from each other, profoundly affect each other's shape.

The following table is an outline of the sequence of positions in the verb, including all the fillers of each, except that the stem, in contrast to all the others, may be filled by one of several hundred morphemes, but not by zero. All the other numbered positions may be filled simultaneously by one or none of the morphemes shown for that position, with the exception of two with six or eight. These will be elaborated after discussing the other prefixes.

TABLE V

pr	1.	A. Direct object: *xu* (1 sg.), *i* (2 sg.), ø ~ *u* (3 sg. and pl.), *ləx̣ī* (2 pl.), *əd*(ə) ~ *əd*(*u*) (reflexive), *i* ~ (*i*)*da* (indeterminate; cf. *idə*, abstract relative) B. Indefinite subject or object: *k'u* C. Mark of semitransitive: ʔ ~ ˙
pr	2.	Mode-Aspect A: *quʔ* ~ *qaʔ* ~ *qeʔ* ~ *qiʔ* (Inceptive imperfective [future])
pr	3.	*i˙lih* ~ *˙lih*
pr	4.	Plurality emphasizer: *qə* (subject and object)
pr	5.	Classificatory (nominal) and thematic (verbal): A. *Gə*, *gu* B. *x̣ə* C. *qi˙*, *ləx̣ə̃*, *ti˙*, *kũ˙*, *k'uš*, *tsãʔ*, *tsiʔ* D. *də*, *yə* E. *lə* ~ ˜
pr	6.	Mode-Aspect B_1: *Gə*, ø ~ ə, ˙ ~ ə
pr	7.	Subject: x^w (1 sg.), ø ~ (*y*)*i* (2 sg.), *ləx̣* (2 pl.)
pr	8.	Mode-Aspect B_2: *sə* ~ s^{-i} = *s*, (*y*)*i* ~ $ø^{-i}$ = ʔ ~ ø
pr	9.	"Classifier": ø, *də* ~ *di*, ł, łə ~ ł*i*
	10.	Stem
su	1.	Derivational: *g* (repetitive), *x̣* ~ ø (progressive)
su	2.	Aspectival: ł (perfective); Derivational: *k'* (customary)
su	3.	Negative: *G*
su	4.	Human subject or object of 3rd pers.: *īh* (sg.), *inu˙* (pl.); non-human object of imperative: *uh*

In Position 1, the 1st pers. sg. *xu-* is related to the pronominal *si-* already mentioned. (Proto-Athapaskan–Eyak *x^w and *š frequently alternate, and under some conditions Proto-Athapaskan–Eyak *š > Eyak *s*.) It is of course also related to the Eyak x^w of Position 7. It is also cognate with the Athapaskan and perhaps also the Tlingit 1st pers. sg. pronouns. The 2nd pers. sg. pronoun (nonverbal, object, subject) is apparently also similar to both the Athapaskan and Tlingit. The 2nd pers. pl. is probably cognate with the Athapaskan *-*Ax̣*^{w}-. The reflexive is used for all persons, and is cognate with the Athapaskan. It usually requires the vocalic classifiers (*də* ~ *di* instead of ø; łə ~ ł*i* instead of ł), as in Athapaskan and Tlingit. The indeterminate object indicates no specific object, and is thus used with semantically intransitive verbs, frequently the progressive: "shoot around here and there," "dance," "tell (a story)"; whereas the indefinite refers to a specific but unspecified object or subject. It may be related to the abstract relative object,

"(I know) what (he did)," which also occurs in the exceptional form "to knit." Subposition 1b of the indefinite subject or object may not be filled if 1a is filled by *xu-*, *ʔi-*, *ø* ~ *ʔu*, or *łəxi*. The indeterminate *ʔi-* is probably related to the Athapaskan *yi-*, frequent as 3rd or 4th pers., and *k'u-* indefinite is probably cognate with both Minto *tr'ə* (< *$\overset{\frown}{k}{}^{w}$'ə) "*nous, on,*" and with irregular loss of labialization to the better-known Athapaskan *$\overset{\frown}{k}$'ə indefinite (> Minto *tš'*). The categories 1st pers. pl. and reciprocal precede the verb, as has been noted, instead of occurring in this position. The 1st pers. pl. subject preverbially is *da'-*, perhaps cognate with the Apachean distributive plural *da'-*. The objective-possessive form *qa'-* is probably related to the pluralizer *qə-* of Position 4, also to the Apachean plural *gó-*, and perhaps also to the Tlingit human indefinite objective-possessive.

The second allomorph of the pronouns of positions 1A and B, where one is shown, is used when position 1C is filled. Semitransitivity appears to be a mainly thematic matter, and occurs frequently, especially with certain stems, so that the label would have been difficult to choose, were it not for a few verbs which occur both as transitive and semitransitive, e.g. "throw (e.g. a stone) at" (semitransitive): "hit with (e.g. a thrown stone)" (transitive); "kick at": "actually kick." The length allomorph (rather than glottalization) of the mark of semi-directness of the object is preferred when a sequence CVʔ, except in Position 2, occurs in the prefixes, even though several syllables may intervene. This seems like a surprising sensibility on the part of the Eyak, who are otherwise little offended by elaborate glottalization, and it is especially surprising since the exception to this rule occurs when the only CVʔ sequence occurs in the prefix in the position immediately following.

The *qiʔ-* allomorph of the future marker occurs facultatively before the *yi-* allomorph of the 2nd pers. sg. subject, especially in allegro speech. The *qeʔ-* allomorph occurs when preceded by any allomorph of the 2nd pers. sg. or pl. or indeterminate object, the *qaʔ-* allomorph immediately preceding the stem or *ł* (classifier) plus stem, and *quʔ-* elsewhere. Its use and meaning will be discussed later.

Position 3, as Positions 2 and 4, are the only ones in which but one morpheme other than zero occurs. It is filled in a few verbs

referring to thought or emotion, e.g. "think about," "love," "be in (good, bad) mood." The second allomorph + *qV*ʔ > *qe'lih*. *i'lih* is a variant of the verb theme *i-le* "state of mind" compounded with other verbs, the only example I have in either Eyak or Athapaskan of such compounding, said to be frequent in Haida.

The probable cognates of *qə-*, the plurality emphasizer of Position 4, have already been mentioned. Its use is facultative. It may refer to a human, animal, or inanimate plural subject or object pronouns, distributive or otherwise.

Position 5, with its subdivisions, constitutes a complex little world of its own, in which some of the most interesting and characteristically Eyak types of morphemes occur. They look for the most part very unpromising phonologically. The less interesting their form, however, the more promising their range of meaning. They occur strictly in the order shown. *gu*, *x̣ə*, *ləx̣ə*, *tsîʔ*, *də*, *yə*, and *lə* may occur singly. The rest occur only in one or more combinations. Combinations of three are the maximum attested. Only in Position 5C are the fillers of relatively specific meaning, and these are purely nominal classificatory: *qi'* + *də* "foot"; *qi'* + *lə* "rope-like (but not string- or filament-like)," cf. PA **-ke*, "foot"; *ləx̣ə* "berry-like, ball-like, eye," cf. PA **-nax*, Eyak *-la'x̣* "eye."

The fillers of the other positions have much broader ranges of meaning, both nominal classificatory and verbal thematic. The meaning of each one extends through a spectrum of unlimited breadth, but with concentrations in various areas, reminiscent of formants in acoustic phonetics. Thus *gu* alone occurs thematically with *-ɬ-ɸɑ̃'ʔ* "stand"; with *-ɬ-da* "chase" sg., and *-l-qu* "chase" pl. (cf. *-da* "sits, stays" sg., *-qu* "sit, stay" pl.). *gu* + *lə* is nominal classificatory referring to liquid or viscous matter, including butter or salt (< sea water), *gu* + *də* refers to the rump (cf. PA **-g̊ʷa-də*, Minto *-dro-daʔ*, Navaho *-džáád*, "leg"), to the neck, or to a lake. *gu* alone also refers nominally to basket-roots, hairs, thread, or string, but not to ropes. *x̣ə* alone occurs verbally in "eat"; the combination *x̣ə* + *də* nominally refers to matches or logs (but not sticks), to clouds, days, verbally to sharpen, etc. Among the dozen odd concentrations of meaning of *də* alone are the verbal thematic notions of noise (not all noises), especially those made by the mouth (but not all of those either), speech,

hunger, brightness, money, tables, sleds, arrows and eggs or eggshells, severed heads, hearts, etc. These latter can be classed as non-solid round objects. This would then help explain the use of *gu* + *də* for "neck" and "lake." *də* + *lə* combine to form *dla·*. I have one example of *qi·dla·*, referring to long hollow-stemmed kelp, which could then be explained as *qi·* . . . *lə* + *də*, "ropelike" + "hollow round." *Gə* + *lə* refers verbally to life, passage of time, seasons, etc., nominally to the ground, etc.; *Gə* + *də* nominally refers to place, etc.: *Gədi·tɬ'eh* "place is cold," *Gəli·tɬ'eh* "ground is cold," *gəli·tɬ'eh* "water is cold"; *gədixitɬ'eh* "my rump is cold," etc. *yə* occurs verbally with *-qa·* (stem) in dawning, camping (semitransitive), nominally to hand; *yə* + *lə* with *-ta* (stem, semitransitive) in "expect." *lə* ~ ˉ probably occurs with greater freedom alone and in combination than any other of these prefixes, with *də* the closest runner-up. It occurs in most semitransitive verbs. Alone nominally it often refers to the head (cf. PA **-n-tšəx̣* "nose," etc.), canoe paddles, hammers (but not shovels), poles. The meanings of the combinations of these prefixes are so far only in part understandable as combinations of the meanings of their elements, and the more complex and evasive the meanings of the constituents, the more difficult the analysis. The meanings are ultimately definable, though, and present a fascinating challenge. *dla·* (< *də* + *lə*) is of course the most difficult: nominally it refers, for example, to "stone," verbally it occurs in "hide," "fool," "horizontal extension"; *Gədla·* "vertical extension," etc.; *gədla·* "water falls" (nominally "paint," "color"); *x̣ədla·* "run." The semantic analysis of these particles will be of great interest not only for Na-Dene but for linguistic theory in general.

Many of these particles also occur outside the verb, for example, suffixed to nouns before postpositions. Thus *tsa·-dla·-x̣* "with a rock"; *ma·-gudə-tš'* "towards the lake." All nouns (stems or of any composition) fall into two categories: those that are associated with these particles, which I shall call classified nouns, and those that are not (unclassified). The clearest general tendency observed in the division so far is that animals (including man) are almost always unclassified. Inanimate objects may be either. Perhaps the majority are classified.

To return to the verbal prefixes, following these particles in

Position 5 are two positions indicating mode-aspect, between which is sandwiched (Position 7) the subject pronoun of the 1st pers. sg. and 2nd pers. sg. and pl. (This differs from Athapaskan, in which no morphemes are known to occur between the subject pronoun and the classifier). The ə of prefixes immediately preceding x^w of the 1st pers. sg. is facultatively replaced by *u*. -ə plus the 2nd pers. singular $(y)i > -i$, and preceding the 2nd pers. pl. -ə > -*a*. With Position 8 filled, or 9 filled by a vocalic classifier, the 2nd pers. sg. takes the zero allomorph. Otherwise it takes the form -*i*, or in absolute initial position *yi*-. The result of the combination of 1st pers. sg. plus *s*ə allomorph of the s-perfective is *si*, a unique and unexplained variant of both, exactly paralleled widely in Athapaskan (e.g. in Apachean, Mattole, Chipewyan).

The position immediately preceding that of the stem is occupied by the so-called "classifiers." Though I continue for the sake of tradition to use this term, the meaning of the Eyak classifiers, exactly as in Athapaskan, is hardly classificatory as are the Eyak particles of Position 5 with nominal reference, or the Tlingit classifiers. Rather, they refer most clearly to the voice of the verb: causativity-transitivity, passivity, reflexivity. Their use is in large part thematic and unpredictable. However, as in Athapaskan, especially reflexives, reciprocals, iteratives, passives, and the Eyak progressive almost always take the vocalic forms *d*ə ~ *di* and ɬə ~ ɬ*i*, corresponding respectively to ∅ and ɬ in other forms or voices. These forms have their obvious cognates in Athapaskan; also, in Tlingit, the classifiers, which immediately precede the stem, are amazingly similar in form to the Eyak, but their semantic content is in great part very different, rather akin to the nominal meaning of the Eyak particles of Position 5. The term "classifier" for this position is thus far more appropriate for the Tlingit as used by Boas than for the Athapaskan-Eyak ones, to which Sapir extended its use.

We have now considered all the verb prefixes except those for mode-aspect. The Eyak mode-aspect system is relatively well-proportioned and clear-cut compared to that described by Li for Chipewyan,[2] and especially to that described by Hoijer for

[2]Fang-Kuei Li, "Chipewyan," in H. Hoijer et al., Linguistic Structures of Native America (New York, 1946), 398–423.

Apachean,[8] which it resembles somewhat less. Difficulty in terminology here is unavoidable. Hoijer's and Li's use of terms often differ, and/or are incommensurable—my use of them here will add still more to the difficulty but hopefully it will also eventually contribute to an understanding of the PA(E) verb system.

Table VI outlines the semantic nature of the three "modes" and five "aspects" of the Eyak verb. The neuter has much the same meaning as in Athapaskan, and the active also, but I add the "inceptive," which indicates in the perfective that an action or process is going on: "it is getting (hot)," "I am beginning to understand," "he is in the process of swimming (that distance or for that length of time)." Perhaps it may have been better called a progressive, but I have kept that term for another use. The use of this term enables us to fit the future, which otherwise would be outside the pattern, into what would otherwise be a hole in the pattern. By stretching the semantics somewhat, the future can be seen as the imperfect of the inceptive, indicating action or process, the inception of which has not yet become a thing of the past. It will be seen later, however, that formally this interpretation is well justified. The variants of variable stems now fall into a relatively neat pattern, correlating well with the 3 × 4 system given here; this is no small advantage.

TABLE VI

	Inceptive	Active	Neuter
Perfective	is doing is becoming	did became	is
Imperfective	will do will become	is doing	is
Optative	let it do let it become	let it do	let it be
Imperative	do! become!	do!	be!

All verbs are found in the inceptive imperfective (future) and active perfective, but many are hard or impossible to find in both the active imperfective and inceptive perfective, either one or

[8]Harry Hoijer, "The Apachean Verb," IJAL 11 (1945), 193–203; 12 (1946), 1–13, 51–9; 14 (1948), 247–59; 15 (1949), 12–22.

the other usually being idiomatically more appropriate for a given verb. The neuter of a given verb will be either the neuter imperfective or neuter perfective, not both, and there are some verbs which have no formal neuter, in which case the active perfective doubles as the neuter: "he has sat down," therefore also "is in a sitting position." In addition to the perfective and imperfective we have the optative and imperative "aspects"—here the term "aspect" is particularly unfortunate. The optative is also a kind of subjunctive at times: "(I won't leave until) you do it," or permissive, "it's OK to do it," "advisable to do it," and, of course, hortatory, "let him do it." It is found in all three modes, but unlike the perfective and imperfective, rarely in the negative. The imperative is for the 2nd pers. sg. or pl. only, and positive only. The negative command takes a prohibitive particle plus the future: "thou shalt not . . . ."

Table VII shows the prefixes of Positions 2, 6, and 8, and suffixes of Positions 2 and 3, which serve to mark the modes and aspects (negative and positive) as shown in Table VI. The negatives all require *G* in Suffix Position 3. The perfectives all require *ɬ* in Suffix Position 2. The imperfectives, optatives, and imperatives all require *ɸ* in Position 2.

Athapaskan also clearly has a *ɬ* suffix, but it is there used most notably in the future-progressive rather than in the perfective. Eyak also lacks the regular cognates for *-n*, found in the Athapaskan perfective and Tlingit inchoative. Tlingit has a *-q* prohibitive suffix, which may be related to the Eyak *-G* negative.

The inceptives all take the *Gə* in Position 6, except for the imperfective, which shows *qV*ʔ in Position 2. All the other forms occurring in Positions 6 and 8 are exceedingly complex morphophonemically, but can in the end be reduced to four morphemes, with a hierarchy of allomorphy, and two of them with double use (or to six morphemes, including two pairs of homophones in all environments). The forms here shown are highly algebraic base forms, some of which do not occur as such. Thus the *ə* allomorph in Position 6 for the active optative is shown thus for the sake of identity with that found for the imperative, but in the optative it is always umlauted to *i* by the following $(y)i \sim \phi^{-i}$. Where two allomorphs are shown in Position 6, the first is the form which occurs when preceded by any prefix of

TABLE VII

		Pref.	*Inceptive*	Suff.		
Position	2	6	8	2	3	
Perfective		Gə		ɬ		Positive
		Gə		ɬ	G	Negative
Imperfective	qV?					Positive
	qV?				G	Negative
Optative		Gə	(y)i ∼ ϕ^{-i}			
Imperative		Gə				

Active

	6	8	2	3	
Perfective		sə ∼ s^{-i}	ɬ		Positive
	ø ∼ ə	s	ɬ	G	Negative
Imperfective					Positive
				G	Negative
Optative	˙ ∼ ə	(y)i ∼ ϕ^{-i}			
Imperative	˙ ∼ ə				

Neuter

	6	8	2	3	
Perfective	ø ∼ ə	(y)i ∼ ϕ^{-i}	ɬ		Positive
	ø ∼ ə	ʔ−ø	ɬ	G	Negative
Imperfective		(y)i ∼ ϕ^{-i}			Positive
	ø ∼ ə	ʔ−ø		G	Negative
Optative	ø ∼ ə	ʔ−ø ∼ ʔ−ϕ^{-i}			
Imperative	ø ∼ ə	ʔ−ø ∼ ʔ−ϕ^{-i}			

Positions 1, 4, or 5. The second is the one that occurs when no prefix (or the *-ˑli* of Position 3) immediately precedes. When two allomorphs are shown in Position 8, the first is the one that occurs with nonvocalic classifiers (ø and ɬ), the second the one that occurs with vocalic classifiers (*də* ∼ *di*, ɬə ∼ ɬ*i*). These morphemes are sometimes discontinuous, and as such are shown with a hyphen. Thus ʔ-ø in Position 8 symbolizes a mark which shows only as glottalization of the vowel, if any, in Position 6; ϕ^{-i} and s^{-i} indicate that the vowel of the following classifier is umlauted to *i*. Thus *xɬits'ãh* "I'm strong" (neuter imperfective) < *x*^{w}-ϕ^{-i}-ɬə-; *dik'* ʔ*a*ʔ*x*ɬə*ts'ã·G* "I'm not strong" (negat. of same) < ə-*x*^{w}-ʔ-ø-ɬə-; *di*ɬ*its'ãh* "it is expensive," "(table) is strong" < *də*-ϕ^{-i}-ɬə-; *dik' da*ʔɬə*ts'ã·G* "it is not expensive," etc. < *də*-ø-ʔ-ø-ɬə-.

The base forms $s\text{ə} \sim s^{-i}$ (= negative s)[4] and $\cdot \sim \text{ə}$ appear, like $G\text{ə}$ and $qV\text{ʔ}$, to have but one use. $\phi \sim \text{ə}$ has two: in active and neuter negatives and in the neuter other than imperfective. (In the neuter it will never actually take the form ə, as it is either followed by an i-umlauting form or by a glottalizing form, where $\text{ə} + \text{ʔ} > a\text{ʔ}$). $(y)i \sim \phi^{-i}$ ($\approx$ ʔ-ϕ) also has two uses, occurring in all neuters and all optatives. In both Athapaskan and Tlingit there are forms in the position immediately preceding and/or following the subject pronoun which obviously are, or could well be cognate. It is very interesting that the s-perfective, which precedes the subject pronoun in Athapaskan, follows the subject pronoun in Eyak, and in Tlingit there is an s-classifier. Eyak here shows its potential as a link between Athapaskan and Tlingit grammar, with close formal similarity between Eyak and Tlingit, but wide difference in meaning.

The second base allomorph shown for the imperative and the optative of the neuter is uncertain, and probably analogical. Informants avoid the imperative and optative neuter with vocalic classifier, and do not give consistent reactions to attempts to elicit it.

Almost all the closed verb stems (ending with a consonant or consonant cluster and including stems in CV· ʔ) are invariable for the modes and aspects described above. A few alternate between CV·C, CVʔC, CVhC, but the variation here is free or very inconsistent. It serves only to indicate, as can be inferred from comparison with Athapaskan (and Tlingit), that Eyak has innovated in this respect and lost all systematic variation in closed stems. This is not to say, however, that all Athapaskan stem-variation is to be considered archaic, and that the Eyak lack of it is innovative. Indeed, it is still possible that most or even all variation of closed stems in Athapaskan is a reflex of what is still a clearly defined set of suffixes in Eyak.

On the other hand, most Eyak open stems (except for some of the form CVʔ) are variable. They fall into a small number of fairly well defined classes, the variation of which becomes rather simple once the arrangement of aspects and modes of Tables VI

[4]The s of this morpheme usually becomes š by assimilation when a consonant of the dž-series is present in the stem. The s of the 1st pers. sg. objective-possessive never thus assimilates, however.

and VII is hit upon. Variation is mainly in the vowel modifier. There are only a few ablauts: one case of $e \sim \bar{a}$, two of $e \sim u$, except that in the active imperative most stems in *-a* have at least a facultative ablaut form in *e*˙, marked ˙: in the following table.

TABLE VIII

	Class IA				Class IIB			
	Inc.	*Act.*	*Neut.*		*Inc.*	*Act.*	*Neut.*	
Pf.	·	h	h		ʔ	ʔ	ʔ	Pf.
Ipf.	h ·/h	h ·/h	h ·/h	w. ø or V suff. w. C suff.	h ·	h ·	h ·	Ipf.
Opt.	h	h			h	h		Opt.
Imp!	ʔ,·ʔ	˙,˙:˙,ʔ			ʔ			Imp!
	Class IIA				Class IIC (Irreg.)			
	Inc.	*Act.*	*Neut.*		*Inc.*	*Act.*	*Neut.*	
Pf.	ʔ	ʔ	ʔ		ʔ	ʔ	ʔ	Pf.
Ipf.	h	h	h	w. ø or V suff. w. C suff.	ʔ ·	ʔ ·	h ·	Ipf.
Opt.	h	h			ʔ	ʔ		Opt.
Imp!	ʔ	ʔ,˙:			ʔ	ʔ		Imp!

The first three tables show the most frequent types. Of the sixty-odd variable stems (it could be argued that there are more, if one wanted to separate some stems of very complex meaning into several homophonous stems), about half belong to Class IA, about 15 to Class IIA, about 8 to Class IIB, and the rest are irregular. Two of these belong to Class IIC as shown. Two more are similar to Class IA (IB), and the remainder (III) are mainly with h, with sporadic glottalization, especially in the inceptive imperative, probably analogical, and of which the informants are unsure. The symbol ˙/h indicates more or less free variation between -CV˙C and -CVhC. According to the active imperative these classes could probably at one time have been further subdivided somewhat, to yield a greater variety of base forms. This is the main grammatical casualty in the recent decline of Eyak. The remaining speakers are not able to give consistent responses to direct elicitation of these forms, and with the present moribund condition of the language there is no longer time or opportunity to hear these used spontaneously. It is a considerable satisfaction, however, to report that, with a few

exceptions such as this one, and the uncertainty about the neuter optative and imperative with vocalic classifier, it has proven possible, with the co-operation of all three informants, to piece together a reasonably complete picture of Eyak grammar as it was when the language was last functioning normally.

In addition to the paradigmatic modes of the verb, there are derivational modes, the suffixes for which occur in Positions 1 and 2 after the stem. One such mode is the repetitive, which is marked by *-g* suffixed in Position 1 to many stems, though not quite freely and often unpredictably; many stems are not attested without it. It clearly occurs with small repetitive actions like waving, rubbing, intermittent conditions, intermittent hunger, dozing, etc. It may be related to the *-ki* (Athapaskan and Eyak) nominal diminutive suffix, and certainly to the Athapaskan iterative now seen in the stem variation which clearly points back to a *-g* suffix. With the *-g* repetitive suffix variable stems take in all aspects and modes the form found in the inceptive perfective. The repetitive does not affect the verbal prefixes. Frequently, however, a verb that will otherwise not occur in the active imperfective will take that form with the repetitive.

This last remark also applies to the other derivational modes. Another of these is the progressive, which shows a *-ɣ* in Suffix Position 1 in the active imperfective (positive and negative), but zero otherwise. However, with variable stems of Class I, the lengthened instead of aspirated form is the preference or rule in all imperfective forms (often with ablaut of *a* to *e*), thus *ut'ɬ'*, *quʔxweh* "I'll swim there," but *yəɣ quʔxdəwe'* "I'll swim (around)," "I'll go swimming"; *yəɣ xdəwe'ɣ* "I'm swimming (around)." The progressive requires vocalic classifiers, the preverb *yəɣ*, and frequently the indeterminate object. Its meaning is typified by the example given here. There are a few verbs to which is suffixed an *-ɣ* in all non-perfective forms, probably of a thematic nature and related to the progressive *-ɣ*. It does not require the *yəɣ* preverb or the vocalic classifiers.

The third derivational mode is the customary, which takes a *-k'* in Suffix Position 2. This however may also be found in combination, frequently with the repetitive or progressive derivational modes, but unlike these, not in the perfective. Most notably, it requires all stems, including invariable stems,

to take the form -CV˙(C). This leads to the interesting expansion of unmodified vowels in sometimes unexpected and informative ways. Thus certain stems in C*u*C expand to C*e*˙C instead of C*u*˙C, most often those with front dorsal, thus indicating that the reduced vowel is labialized because the front dorsal originally was. *i* expands sometimes to *i*˙, sometimes to *e*˙, ə sometimes to *e*˙, sometimes to *a*˙, and *u*, as noted, sometimes to *e*˙, sometimes to *u*˙. Much might be learned from this, but unfortunately the informants are often very unsure of the form of the customary, and cannot, as with the active imperative, give consistent responses to direct elicitation. This is another unfortunate recent casualty.

Related to this are a few stems with expanded vowel but no *-k'* suffix. These I have called the "persistive," indicating that the action is performed insistently or persistently, expressed probably with jocular or irritated overtones. It is not a productive process.

The customary and progressive, like the repetitive, and certainly also Eyak stem variation, will be very valuable in the eventual understanding of Athapaskan verbs and stem variation. No doubt the glottalization of the perfective of Class II variable verbs tallies with the predominance of glottalization in some Athapaskan perfectives, and the effect of the derivational modal suffixes in the Eyak stem can help to explain the complex modal tone variation shown in some Apachean stems, and the suffixes themselves to explain grade and timbre variations.

A remark should be made about the pronominal human subject or object suffixes filling Suffix Position 4, the last position of the verb. These are usual in non-interrogative sentences in which the human subject or object is not expressed by a noun. The *-ĩh* of the sg. and *-inu˙* of the pl. are to be compared with the Athapaskan *-ən* human singular, *-ne* human pl., and the *-(y)i* inanimate nominalizing-relativizing suffixes, and also to the Athapaskan and Eyak *-yu˙* pl. suffix. These two Eyak suffixes umlaut both *e* and *a* to *ĩ* (with the sg.) or *i* (with the pl.) unless a consonant other than *h* or ʔ intervenes, thus *wəx̣ di˙leh* "you say thus"; *wəx̣ dəlĩhĩh* "he says thus."

There are some subordinate forms of the verb that might be mentioned, e.g. the infinitive, which takes the same form as the imperative, but with any appropriate subject pronoun and *-x̣* in

Suffix Position 4, "(he told me) to do it," "(I want) to do it," or the "until" form with *-tš'* suffixed in Position 1 to the optative (cf. the postposition *-tš'*, "towards," and the optative with *-wahd* suffixed, "in order to"; cf. the postposition *-wahd*, "for the sake of," "because of.")

The gerundive is an interesting nominal derivative which occurs as such only with a few important open stems, with the prefixes *i* in Position 6, *s* in Position 8, and *l* suffixed to the perfective inceptive form of the stem: *ʔisda'l xusəɬgaʔɬ* "I'm tired of sitting" (sitting has tired me).

To conclude our examination of the verb, let us consider a form in which the number of positions filled approaches the maximum and which contains maximum consonant clusters, somewhat artificial to be sure, but acceptable: *dik' ləχiqəqi'-dəxsɬχaʔχtš'gɬG*, "I did not tickle your (you emphatically pl.) feet." *dik'* negative particle; *ləχi* direct object Position 1, "you pl."; *qə* Position 4 (emphasizing plurality of direct object); *qi'* + *də* Positions 5C and D (referring to feet), zero allomorph of $\phi \sim$ ə prefix in Position 6 for negative active perfective; x^w 1st pers. sg. subject in Position 7; *s*-perfective in Position 8; ɬ classifier; stem *χaʔχtš'* with unanalyzable final cluster *χtš'* "tickle"; *g* repetitive Suffix Position 1 (either this or *χ* thematic progressive is required with this stem); ɬ in Suffix Position 2 (perfective); *G* in Suffix Position 3 (negative). In the active customary negative this would be *dik' ləχiqəqi'dəxɬχa'χtš'gk'G* or *-χa'χtš'χk'G*.

A few words should be said about Eyak grammar at a higher level, about which little is so far known. Eyak sentence syntax is similar to Athapaskan, e.g. it has the basic sequence subject-object-verb. Between the verb and the object, however, come the adverbs which, as pointed out before, are far less closely bound to the verb or to each other or ordered than in Athapaskan. Prominent among these are: *yəχ*, already mentioned as the sign of the progressive, which also occurs with some stems of breaking; *yaʔ* "utterly," "(ate it) up"; *q'e'* $\sim$ *q'eʔ* "again," "back," "more" (requires vocalic classifier); the 1st pers. pl. and reciprocal pronouns already mentioned; and a large host of others, very many of them directional or locational. Towards the beginning of these it is normally preferred to have the postpositions

with their objects. Some postpositions combine with locational elements or each other to form compounds. They are so far difficult to distinguish from adverbs in some cases.

Several points are worthy of note concerning the lexicon and comparative position of Eyak. Eyak lacks the so-called classificatory verbs, which are so characteristic of Athapaskan. This should not be surprising in view of the already well developed system of classificatory prefixes in Position 5. Eyak does have cognates for most of the Athapaskan classificatory stems. These fall into two classes. Some of them are stems of simple meaning, e.g. purely nominal, like *kuhs-ɬ* "apron, breechclout"; the others are a group of verbs with the restricted verbal meaning of "an object is in position or undergoes change of position in an unspecified or uninteresting way." If the movement or maintenance of position occurs in a specific way, e.g. is thrown, dropped, falls, floats, hangs, is pushed or pulled, transported by canoe, then the appropriate verbal stem is used. The stems of position or simple change of position are *-ɬ-ϕa* for all plural objects and *-ɬ-(ʔ)ya* for all objects in a container. For singular objects not in containers, two stems are used, *-ta* and *-ʔa*. The choice between these is not yet entirely understood: *-ta* is used with unclassified objects and objects of some classes (according to prefixes of Pos. 5), and *-ʔa* with most classes of classified objects. (All these stems belong to variable Class IA). These stems are of a fairly well restricted verbal meaning with some nominal reference as well, like other important stems which are not considered truly classificatory in Athapaskan, e.g. *-da* "one animate being is in position"; *-qu* "pl. animate beings are in position"; *-te* "one animate being lies," or "one or more animate beings undergo change of position" (these are also of Class IA); *-tu'tɬ'* "pl. animate beings lie," etc. Stems of this type (or homophones of them, if one prefers) are also found preceded by a great variety of thematic adverbs in a great variety of idiomatic or abstract meanings, but which could hardly be considered nominal-classificatory. It is my belief at present that the Eyak more closely approximates the PAE system than the modern Athapaskan, and that in Athapaskan the system of classificatory particles of Position 5 has deteriorated, with certain stems taking over the function of classification.

My list of Eyak noun and verb stems reduces to about 800 distinct items, and probably approaches exhaustiveness. The list of other native morphemes may ultimately be analyzed down to a few hundred. I have so far found Athapaskan cognates for about 40 per cent of the stems, and the total may probably be increased to about 50 or 60 per cent with more work. There is no doubt of the genetic relationship of Eyak to Athapaskan in the classical and untroubled sense. Lexicostatistically, using the 100-word list in Hoijer,[5] Eyak consistently shows 33±4 per cent cognates with the Athapaskan lists in that article, significantly lower than the inter-Athapaskan percentages, and with no affinity to any single Athapaskan language significantly closer than to another. If Athapaskan divergence is to be considered about 2,500 years old or slightly less, then Eyak diverged from the undifferentiated Athapaskan something approaching a millenium longer ago, i.e. 3,000 to 3,500 years ago. Historically I would guess then that the Proto-Athapaskan–Eyaks lived together in interior Alaska and the Yukon, and between 1,500 and 1,000 B.C. the Proto-Eyaks split off from the Proto-Athapaskans and remained somewhere very much isolated from the Athapaskans ever after. A look at the map and a consideration of the local geological history clearly suggest that probably the only place the Eyaks could have been isolated and would have been able to remain so is on the coast where they are found in historical times. Inspection of the Eyak flora and fauna vocabulary, which has been well explored by now, is not conclusive. It has a good share of monolithic Eyak-looking stems for purely coastal life, but other such items are borrowings from Tlingit or Chugash Eskimo, but names of items common to both the coast and the interior are sometimes also Tlingit or Chugash loans, e.g. "dog salmon" (< Tlingit), "eagle" (< Eskimo).

A word about loans: I have noted about 100 of these, and the list is not exhaustive. I count only those forms obtained from Eyak informants who are not also speakers of the source language of the borrowing, and also do not count place names and personal names, many of which are not Eyak in origin. The sources fall into six categories: Tlingit, other (English, Jargon, Russian) through Tlingit, Chugash Eskimo, Russian through Chugash

[5] "Chronology of the Athapaskan Languages," IJAL 22 (1956), 219–32.

Eskimo, Athapaskan, and a few items which are widely distributed throughout the Northwest Indian languages, of unidentifiable origin, such as Gəx, "rabbit." These loans also fall into very well defined categories of material culture and flora-fauna. With the exception of two verbs they are all nouns. The following table is a statistical summary of them, the historical implications of which are clear and interesting:

TABLE IX

	Tlingit	Tlingit from European	Eskimo	Eskimo from Russian	Athapaskan	Common	Total
Material Culture	26	10	4	13	—	—	53
Fauna and Flora	18	—	11	—	6	5	40
Miscellaneous	6	—	—	3	—	1	10
	50	10	15	16	6	6	103

I conclude with a remark about Eyak and Na-Dene. Once these obvious borrowings are sorted out, it can be emphatically stated that no significant resemblances can be found between the stem-vocabularies of Eyak and Tlingit; indeed, the resemblances are almost even fewer than would be expected by bare chance in languages with such similar phonological structure. Furthermore, I could find no productive set of correspondences between unlike phonemes in Athapaskan-Eyak and Tlingit. On the other hand, for the already clear grammatical resemblance and similarity of certain grammatical particles between Athapaskan and Tlingit, Eyak serves admirably as a link between the two. Eyak thus serves only to accentuate the basic paradox of Na-Dene: obvious close grammatical relationship, but no similarity significant of genetic relationship in lexicon.

Discussion

LI: I think that Eyak certainly differs from most Athapaskan languages in many respects. For instance, Eyak, with the exception of /l/, has no sonant spirants corresponding to the voiceless spirants. This also seems to be the case with the Pacific Coast

Athapaskan languages, where the voiceless spirants and voiced spirants do not coexist. Also, you have this syllabic contrast, which is also found in the Pacific Coast languages. I was wondering whether you have anything connecting Eyak and the Pacific Coast languages, and whether you have any opinion on this.

KRAUSS: First, about the exception of /l/ corresponding to Athapaskan voiced fricatives: it does not correspond to Athapaskan voiced /l/. Eyak /l/ corresponds to Athapaskan /n/ only, never to Athapaskan /l/, and as such, clearly belongs to the sonant system, and not to the fricative system, which is very clearly distinguished in Eyak. Now the Athapaskan /l/ classifier is, I believe, simply the /ɬ/ originally intervocalic. There may have been voiced allophones of all the fricatives in Proto-Athapaskan, as far as I know, but I doubt very much whether we have any reason to distinguish phonemically between voiced and voiceless fricatives in Proto-Athapaskan. It seems that the Pacific Coast either has the least-developed opposition between voiced and voiceless fricatives of all the geographical areas in Athapaskan, or has developed it and then lost it, or developed it only in certain positions.

ELMENDORF: It is my impression, with reference to Dr. Li's question, that some other Pacific Coast languages also lack this voiced–voiceless classification of the sonants, at least this is true of Salish or Western Salish, and probably Wakashan, so it may be a regional typological feature, which has nothing to do with genetic relationships.

KRAUSS: This is also true of Tlingit, which also lacks an /l/. I don't think I answered the question entirely in terms of relationships. I used to think sometimes that the Eyak vocabulary is closer to Pacific Coast Athapaskan vocabulary than to any other. But I think that is because I got my most extensive wordlists for Pacific Coast Athapaskan later, and I saw a few revelations there. But I do not think that Pacific Coast Athapaskan is any more closely related, even phonologically, to Eyak, but the two do share certain real communal traits, such as the scarcity of voiced fricatives. There are phonetically voiced fricatives in many of these languages, but they very definitely fall into a different class than the voiceless fricatives. The voiced fricatives are sonants, and the voiceless fricatives belong to the columns with affricates and stops.