

THE NON-EVIDENCE FOR HAIDA AS A NA-DENE LANGUAGE

0.0 I propose to demonstrate in this paper that a careful review of the evidence offered in support of the "classical" Na-Dene hypothesis (i.e., as set up by Sapir in his 1915 statement) reveals no basis for including Haida in the Na-Dene grouping. I further hope to illustrate through this review a process whereby errors in earlier work, left uncorrected, accumulate and ultimately vitiate even apparently well-reasoned later analyses. Such situations are far from unusual in historical linguistics, but the relative notoriety of the Na-Dene controversy gives this instance a special interest.

I do not intend to provide a detailed resumé of the history of the Na-dene hypothesis. Hymes (1956) and Krauss (1973) provide excellent summaries of the positions taken by the major participants. Lack of sufficient documentation for either the northern or southern dialect continuums has restricted Haida's role in the debate; nonetheless, Sapir (1915) asserted a genetic connection between Haida and the other members of the family as confidently as he claimed a genetic connection between Tlingit and Athapaskan. Hymes, writing forty years later, is equally confident in making essentially the same claims as Sapir. Both relied heavily on the significance of supposedly shared grammatical features, and hence much of the debate hinges on the accuracy of Swanton's 1911 grammar for the Handbook of American Indian Languages.

Swanton's HAIL sketch is still the only published account of Haida grammar which provides a satisfactory list of affixes and makes any attempt at a comprehensive survey of important grammatical features and processes. Unfortunately it contains serious shortcomings, many of which Boas was aware; as Handbook editor he made several editorial corrections which offer considerably more insight than Swanton's own analysis. Swanton's segmentation of individual morphemes is frequently inaccurate, and he was apparently confused by homophonous suffixes. The gravest flaw, however, is the lack of a clear statement of positional order within the verb. Swanton's format conceals this deficiency to a

great extent; in his presentation of the Skidegate verbal morphemes he lists prefixes, "stems" and suffixes according to several groups, which are ordered positionally with respect to each other. Swanton summarizes this linear organization as follows: "A first group, describing an incidental state or activity, particularly instrumentality; a second group, indicating the nominal object of the transitive; the subject of the intransitive, verb; a third group, expressing the the principal predicative term; a fourth group, expressing local relations and modalities." Following this fourth group were what Swanton referred to as the "syntactic treatment of the verbal theme," which he did not analyze into groups, but seems to have regarded as a single position class. The first group contains instrumental prefixes, the second contains shape classificatory prefixes. Swanton's third group contains either predicate roots or non-predicate forms to which a suffix has been added permitting predicative inflection.¹ However, it also contains much material incorrectly described as a root or containing a root, for into the third of his groups and the undifferentiated fifth position of the verb Swanton forced a presently uncertain number of derivation^{al} suffixes position classes and seven inflectional suffix position classes (see below, 1.6.) Many of Swanton's own examples in his grammar--and certainly in the Haida texts he published--clearly point to far greater richness of grammatical diversification within the verb than he himself observed; yet not one subsequent participant in the Na-Dene debate made any effort to recover these misassigned suffixes. Certainly a careful reading of Boas' interpolations should have alerted later researchers to the potential errors in Swanton's analysis.

1.0 Four years after Swanton's grammar appeared Sapir published his 1915 summary of evidence for Na-Dene in which, besides offering lexical comparisons, he applied the HAIL description of Haida in his attempt at a demonstration of overwhelming structural congruence amongst the hypothetical daughter languages of a Proto-Na-Dene. Sapir believed that the correspondence sets he provided were equal in plausibility to the grammatical comparison, though subsequent

writers on Na-Dene have tended to focus attention on his structural arguments. I will concentrate on the grammatical material first, identifying a number of Sapir's claims which appear to me to be factually untenable.

1.1 Sapir claims that "the relation between noun and verb is quite parallel in all three [Na-Dene] languages. While verbal and substantival forms are throughout clearly kept apart... the radical element of a word may often be indifferently used as a predicating or denominating stem. Thus the Haida stem na indicates both 'house' and 'to dwell'; ǵo•t is used either as a noun meaning "buttocks" or an adjectival verb 'to be last.'" (p.539.) There are in fact probably fewer than ten roots in Haida which can function without modification in both nominal and verbal morphological frames. Even in equational contexts, Haida requires use of the suffix -ga (see footnote 1) almost universally before a nominal form can be inflected predicatively: gud "eagle," /di ǵudaga/ "I'm an eagle;" ǵa "dog," /lʌ ǵagaga/ "he's a dog," and so on, where the predicate bases are ǵud-ga, ǵa-ga respectively. Swanton's judgment was here sounder than Sapir's: "In general, the distinction between nominal and verbal stems is very sharp. It is true that certain stems are used in a manner that leaves a doubt as to which category they belong, but their use is quite limited." (Swanton, 1911, p.215.)

1.2 Sapir also claims that "a peculiarity of many Na-Dene verb stems is that they are limited to a particular class or number of objects." (p. 539.) Sapir cites Haida ga "go, move (singular)," dal "move (plural);" He fails to mention that this form is one of a total of four in all of Haida which alternate suppletively on the basis of the number of participants. It is inconceivable that Sapir, who from this paper and his 1923 Haida phonetics study gives evidence of having thoroughly internalized Swanton's statement, could have overlooked these facts, which indicate a dramatic non-resemblance between Haida and the other Na-Dene languages.

1.3 Sapir acknowledges that stem suppletion on the basis of shape--which, it should be noted, he regarded as "more characteristic" of Na-Dene than

number-based suppletion--does not occur in Haida. He immediately reminds the reader that Haida possesses a different means of expressing shape classification, citing the use of prefixes. Insofar as the simple fact of shape classification in Haida bears on the Na-Dene question it is without value, since many admittedly non-Na-Dene languages in western North America possess the same sorts of regular grammatical distinction and, as Haas had documented for North America (1969) and Emeneau for India (1964), shape classification systems are among the most widely diffused of any grammatical system, often crossing phylum lines. Such diffusion is often found to preserve considerable grammatical detail in the borrowed structure. What Sapir does not discuss are the details of the Haida system, which are actually quite damaging for Haida's inclusion in Na-Dene. Krauss (1968) has demonstrated that noun classification in Tlingit and Athapaskan-Eyak presents many continuities which Haida lacks completely. There is considerable evidence that the Haida shape prefix system is quite recent (this is likely to be true for all prefix classes); it certainly does not reflect any hypothetical Proto-Na-Dene. If, then, Haida did not borrow the criterion of shape from unrelated Tlingit and Athapaskan-Eyak, it must have both stripped itself of a complex prefix classification system, of which there is now no trace, and (most likely) regularized out of existence a complex stem-suppletive system, only to later reinstitute a shape-distinction system for the same general categories as it originally possessed but which bears virtually no resemblance to the related languages nearby.

1.4 Sapir attempts to show a common nominal origin for the Na-Dene postpositions. He cites the form di ǵa "to me" in Skidegate as evidence: di is supposedly the "possessive" pronoun for first person singular, therefore there is reason to believe, according to Sapir, that ǵa was originally a possessed noun form. He suggests the phrase meant something like "my vicinity" originally, parallel to di ǵun-ǵa "my father."² Sapir neglects here the nature of Haida possession and pronoun use. It is clear from innumerable constructions, such as ǵuya ǵan-ǵa "Raven's

berry" (Lonicera involucrata) and gul ʔaw-ǵa "tobacco's mother" (Cirsium brevisylum), two plant names³, that -ǵa, rather than di, is the possessive element; di belongs to the set of "neutral" pronouns-- that is, it is employed in all contexts except as the subject of an active verb, which is the only context in which "active" pronouns are used--and therefore is the appropriate form to appear preceding a postposition. It makes just as much sense to suggest that postpositions originated as neutral predicates, requiring neutral pronouns, as it does to reason along Sapir's lines. As it happens, there are no instances at all of either noun or verb root homophony with postpositions in Skidegate. Sapir concludes this part of the argument by observing that "whether we shall ever be able to demonstrate the nominal origin of all Na-Dene postpositions is doubtful, but there can be little doubt of the correctness of this view"--surely an incredible statement to encounter in a major scientific paper.

1.5 Sapir comments that the modal system of prefixes, "which define adverbial notions, to a less extent temporal, but primarily aspects... are in some respects the most characteristic of Na-Dene morphology." (p. 545.) He then acknowledges that "their presence is hardly traceable in Haida." This phrasing conveys the notion that some extremely attenuated vestiges remain, which can be identified with cognate elements in Athapaskan and Tlingit. In this sense use of "hardly" is completely irresponsible in expressing the Haida situation, for there is no trace of these modal elements whatsoever.

1.6 The most damaging aspect of the case involves the precise configuration of the predicate. Sapir provides a summary of the Athapaskan, Tlingit and Haida verbs by position class, as follows:

Athapaskan	Tlingit	Haida (1)	Haida (2)
Adverbial prefix	Pronominal Ob- ject prefix	Pronominal Object	Causative prefix
Objective pronominal prefix	Instrumental prefix	Pronominal Subject	Instrumental prefix
Demonstrative prefix of subject	First modal prefix	Instrumental prefix	Shape prefix
First modal prefix	Pronominal subject prefix	Shape prefix	Base
Second modal prefix		Verb stem	Derivational suffix
Pronominal subject prefix	Second modal prefix		Derivational suffix
Third modal prefix	Third modal prefix	Locative suffix	Derivational suffix
Verb stem		Temporal- Modal suffix	Aspect suffixes
Modal-temporal suffix	Verb stem		Plural suffix
Enclitic	Quasi temporal suffix		Negative suffix
	Syntactic suffix		Habitual/periodic suffix
			Tense/information suffixes
			Tense/modal suffixes
			Old information suffix

FIGURE 1

Haida (1) is Sapir's almost literal restatement of Swanton's analysis, with the pronominal subject and object (which are not prefixes) added. Haida (2) is the model of Skidegate verb structure presented in Levine 1976. It is clear from his discussion that Sapir missed the grammatical distinction between those suffixes which can be contained within the verb stem itself (derivational) and those which cannot, in part because he accepted Sapir's incorrect identification of iterative suffix -g^hŋ, which is derivational, with the habitual/periodic suffix -g^hŋ, which is inflectional. These morphemes co-occur in forms such as /ʔa gadkadaʃiŋg^hŋgin/ "I used to jump," where the verb has the structure gadkadaʃ-"jump"-g^hŋ "iterative"-g^hŋ "habitual/periodic"-g^hŋ "past."

The differences between Haida (1) and Haida (2) have crucial consequences for Sapir's comparison. I have omitted the pronominal particles from Haida (2), for reasons discussed below in connection

with Hymes' comparison. I have also separated the derivational suffixes from the stem, where they appeared in Swanton under the guise of predicate roots, or, conceivably, noun roots. One of the most curious aspects of the treatment of Haida historically is the willingness of investigators to accept the description of absolutely uninflectable forms as roots (which are "stems" in Swanton's terminology.) Of all the derivational suffixes only the locative morphemes are described in Swanton as suffixal. Even more serious, as indicated earlier, is the assignment of the aspect suffixes and the plural suffixes to the "stem" class and the remaining inflectional suffixes to a single final position class. Semantically there is almost no resemblance between the Haida inflectional suffixes and the suffixes of Athapaskan-Eyak and Tlingit; and the evidential and old information anaphora suffixes are without any parallel at all. Furthermore, Swanton had identified the causative/control prefix giŋ- as an instrumental; yet in forms such as /la ɬʌ giŋʌuqaʔʌʔagʌn/ "I made him go there" giŋ precedes ʌu-, which is the instrumental for "by means of a boat."

It is also true that ʌu is the root for "boat," and hence Sapir utilized this and similar forms as his basis in claiming that Haida shared the "Na-Dene" feature of allowing noun stems to function as prefixes. Sapir had the shape prefixes principally in mind in making this claim, though there are no noun roots in that class at all; the instrumentals are much better evidence on the point. Seven of them are identical in shape with noun stems. It is also true, however, that seven, perhaps eight of the instrumentals are identical in shape with semantically similar or identical verb stems. These facts, combined with the endocentric properties of the Haida base and the great likelihood of a recent origin for the prefix class nearest the root, strongly suggest that the instrumentals themselves are a late development, and the synchronic tendencies observable in Haida base-formation suggest a simple process by which such an instrumental position class may have been created.⁴ In short, the presence in the instrumental class

of forms grammatically identical with both noun and verb roots radically separates the use of nominal forms in Athapaskan-Eyak and Tlingit prefixation from the Haida case.

Finally, Sapir mentions that "while compounding of verb stems is most luxuriently developed in Haida, indications are not lacking of the presence of the process also in Tlingit and Athapaskan." (p. 544.) Here again Sapir gives the impression of using circumlocutions to avoid confronting the weakness of the comparison. He provides only two examples, one from Tlingit and one from Athapaskan, neither of which greatly resembles examples of Haida, where the essence of the process is that not only roots, but root-derivational suffix sequences, are compounded. Sapir further comments that "psychologically similar to the Haida type of verb composition is the use in Tlingit and Athapaskan of two independent verb forms to form a logical unit, e.g. Tl. $ga\dot{x} \ g\ddot{x}\text{-}i\text{-}sa\text{-}t^hi$ 'cry-you-will-be,' i.e. 'you will cry' (cf. such Haida compounds as $t^ha\text{-}g\ddot{x}$ 'to eat-be,' i.e. 'to eat.')." This example is quite inaccurate and based on Swanton's confusion of the suffix -ga, described in footnote 1, with the neutral tense/modal suffix -ga which is used in all complete non-past declarative sentences. If the former suffix were added ta-ga would be understood by a Haida speaker as 'was eaten,' as in $/\text{?}u \text{ tagaga}/$ 'It was, has been, is eaten.' In this example the final -ga is the tense/modal suffix. Sapir also errs in regarding the -ga which produces the passive translation as independently inflectable; it is not, and thus cannot be used to illustrate compounding. It is true, however, that later in his article Sapir seems to accept this compounding as essentially "peculiar to Haida."

What we are left with, then, are the following points: (1) the Na-Dene languages all contain postpositions which enter into construction with each other; (2) they all have a neuter/active distinction in the verb which is reflected pronominally; (3) They all have O S V constituent order. These are the "profound" similarities (to paraphrase Krauss 1968) which, of all those Sapir presents, survive examination. Against these we find (1) a virtual lack of any reference to number through suppletion; (2) no "characteristic" stem changes

associated with criteria of shape; (3) no evidence at all of nominal origin for postpositions; (4) a complete absence of anything even remotely like the Athapaskan-Eyak and Tlingit modal prefixes; (5) a radical grammatical division between root classes of noun and verb; (6) a well-developed system of derivational and inflectional suffixes. It perhaps bears repeating that Sapir did consider the modal prefixes which are non-existent in Haida the most typical Na-Dene structural trait.

1.7 Sapir follows his grammatical presentation with a lexical comparison of ninety-eight supposed cognate sets. A casual survey reveals that Haida is not included at all in thirty seven of these sets. The most disturbing statistic is that half of the "regular" phonological correspondences set up for Haida involve only a single correspondence set which survives scrutiny.

There are many Haida forms which indicate defective analysis or transcription. In (1), three "demonstrative stems" are given with shape ?a in each of the languages; in Skidegate ?a is not merely a demonstrative but a locational particle indicating proximity, and it is not a stem. Set (3) gives PA -ca-ŋ "obligatory future," H. -sa-ŋ "infallible future," which would be an extraordinary resemblance if the Haida form were correctly analyzed. However, it is not: what Swanton analyzed as -asaŋ for "infallible future" is the result of a thoroughly predictable contraction of the suffix sequence -ǵas "future"-g ŋ "neutral old information anaphora;" both the deletion of ǵ and of g are regular. In (16) A. go "toward," H. gua, gui (dit.) Sapir sets up a correspondence A. g: H. g, but these Haida forms are only variants or contractions of postpositional phrases containing gu as a first member; when, in (98), he sets up A. yo "that yonder," H. gu "there," Tl.yu "that yonder" he's deriving two different correspondences from a single morpheme, for the gu involved in (16) is the same morpheme as that in (98). In (19) A. -Ya "to go," H. -ǵa "to go in order to," Tl.-Ya "to go," the use of the hyphen and the parallel glosses creates the impression that the forms are comparable. However, -ǵa,

which Swanton described as a "stem," is in fact a suffix, and it does not mean "go," but rather indicates that some travelling is involved in accomplishing the action indicated by the verb root. In Athapaskan, however, the form given is a genuine verb root. In (25) A. hai "that," H. hao "that," Tl. "this," the Haida is mistranscribed; the form cited is /hʌw/, which involves Sapir in establishing a correspondence A.a: H.ʌ that is not among any he offers. Similarly the correspondence he sets up for "crane" in (12), A. deɬ , H. dilɔ , Tl. duɬ involves a correspondence A.e: H.i : Tl. u which is not included in Sapir's inventory, though the forms are accepted as cognates. In (44) A. tl'a "but behind," H.-dlǵa "after," the comparison does not involve single segments, since both synchronic analysis and evidence from Swanton's data show that forms such as -lǵa must be analyzed as -lǵa, so that the comparison would set up the correspondence A. ʔ: H. lǵ. (69) is, as far as both my own data and Swanton's are concerned, an incorrect gloss, for -ɬaɬ (not -taɬ, as Sapir gives it) means "downward motion." This form is a locative suffix; the Athapaskan forms ɬa "tail," ɬa-ŋ "backwards" are stems, as, I gather, the Tlingit is as well, so in addition this comparison involves non-comparable form-classes--especially since -ɬaɬ is a locative suffix, which neither Swanton nor Sapir ever tried to claim were stems. In (38) A. -ɬ "with," H. ʔaɬ "with" is questionable, because the form ʔaɬ is extremely infrequent; "with" is almost always translated by ʔad, and ʔad is the form used in any compounds into which a form meaning "with" enters, e.g. d ɲʔad. In (73) A. tsa "ring-like object," H. sda- "ring shaped object," sda is the prefix; there are no nouns with which it is identical.

Another problem with Sapir's analysis is that when one investigates syllable-final consonants one finds no systematic correspondences at all. Thus A. n corresponds to H. Ø (62); ɬ (50), since ɬ is the final segment in the underlying form; w in (29). A. d corresponds to either d (21) or n (42), and so on. Comparison of the vowels in (62) yields another correspondence which Sapir ignored, A.a: H.i.

However, these cases do not trouble Sapir at all; he has what he regards as an adequate explanation: "... numerous cases are found that correspond according to regular phonetic law except for the final consonant; sometimes two of the three Na-Dene languages agree as against the other; often the simple vocalic stem is found in one or two, but extended by a final consonant in the other... examples of this sort make it fairly obvious that many of the stems with final consonants that are yielded by a purely descriptive analysis are ultimately reducible to vocalic stems followed by what was originally a suffixed element. That all Na-Dene stems with final consonants are of such origin cannot be demonstrated, but it does not seem at all improbable." (pp. 535-6.) None of Sapir's examples for Skidegate contains any suggestion whatever of suffixation; the forms $x\Delta l$ - "by means of fire acting outside the body" and xay "sunshine" are supposed to share a root xa , and this is his sole example of "internal evidence" for Skidegate. It is difficult for me to understand the acceptance of this extremely shoddy appeal to unrecoverable forms by later scholars working in Na-Dene.

In other cases too one has serious doubts about Sapir's comparison. Sapir compares A. -ne, -n "person, people," H. na "live, house," Tl. na "people." The parallelism of the Haida and Tlingit forms supplied Sapir with the "Na" part of Na-Dene, but in fact Skidegate na does not mean live in general but rather "dwell within a house," and is not used for being alive generally. This form is then parallel semantically to the forms guk^w "house," guk^w-1 "continuative" which is the stem of the Kwakwala word for "to reside." The connection with "human being" seems extremely attenuated; human beings reside, but they also eat, sleep and so on. In other instances the forms in the comparison are so resemblant that it is extremely implausible to suggest them as cognates: thus A. ts!u "fir, spruce," H. c!o "cedar," or A. k!a, "arrow," H. q!a "harpoon," Tl. q!a "point." It does not seem unfair to conclude that since Sapir is willing to ignore violations of the vowel correspondences he has set up, believes it unnecessary to take account of correspondences in final segments (since these are said to be relics of old suffixes), and

is willing to compare stems with suffixes or prefixes, without much regard for the actual comparability of glosses, he might have been expected to produce a far greater number of correspondences than he offers. Krauss has criticized Pinnow's writings on Na-Dene for a style of analysis which "permits him to posit a large variety of ad hoc explanations, e.g. contractions with affixes, metatheses, shifts in position of glottalization, and also folk etymology....to this writer it seems clear that with the kind of machinery constructed by Pinnow [in one of his earlier articles] virtually any language could as easily be included in Na-Dene." (Krauss 1973, p.958). Krauss' comments are entirely justified, but the theory of Na-Dene to which Pinnow brings such machinery rests largely on Sapir's analysis which, as I believe the preceding examination demonstrates, contains a similarly ad hoc approach to the data.

2.0 Sapir's 1915 statement was his only systematic defence of Na-Dene. He had not at that time done any fieldwork with Haida, but finally had the opportunity to do so in 1920, and in 1921 published "The Phonetics of Haida" on the basis of a few hours of elicitation with Peter Kelley. Various developments in Sapir's views on Haida and Na-Dene are reflected in his phonological description.

Sapir begins by outlining his view of the phoneme inventory. He rejects Swanton's treatment of secondary articulations as the effect of separate segments, and instead sets up separate series of palatalized and labialized consonants. This yields, of course, a far larger consonant inventory than Swanton reported, making it appear that Haida's inventory is quite congruent with that in Tlingit and Athapaskan. There is now considerable evidence that reductions of syllabic segments to non-syllabic produces a large number of surface [C^w], [C^y] segments, and that front segments can also be palatalized. In most instances these [d^y], [t^y] and [t̥^y] segments are produced at morpheme boundaries or through epenthesis, but not always: styu "sea urchin," tya(ǰ) "kill (one person)." In the sequence niǰ "drink"-ga "reported or inferred information" ǰ voices and a is inserted preceding it, causing i to lose

syllabicity. Deletion of *g* produces the surface form [nʷǰláɡʌn]. Furthermore, the restriction of [dʷ] to the front of syllables, where [d] can appear in syllable final position as well, is predicted by the constraints which require *w* and *y* to be the initial segment in any final clusters; the same constraints explain the absence of [w̥] and [y̥] in syllable final position, if these are interpreted (as abundant alternations require) to be /ʷw/ and /ʷy/; that is, as labialized and palatalized glottal stop. There is thus a large body of phonological evidence that makes the interpretation of both labialized and palatalized segments as sequences plausible; none makes Sapir's analysis preferable. Hence the superficial similarity of the consonant inventories (as presented, e.g., in Krauss 1964) is spurious.

A second point in Sapir's paper which has bearing on the Na-Dene question concerns his handling of Haida inflectional suffixes. Sapir may have become aware of the comparative difficulties posed by these suffixes; he writes, "I hope to show at a future opportunity that the whole tense/modal system of Haida is nothing but a loose compounding of demonstrative elements and particle verbs and that the synthetic nature of this scheme is more apparent than real. Thus Swanton's 'infallible future' is merely a verb phrase 'a-sa-ŋ-[a] 'this will be [duratively].'" (Sapir, 1923, p. 156.) As I have indicated previously Swanton's "infallible future" is a contraction of -ǰas-gʌŋ, so that Sapir's analysis is totally mistaken. This passage seems to me to illustrate Sapir's approach to the problem of documentation in historical work on Na-Dene perfectly; it is made with total assurance and no evidence. It also points to a recurrent theme in the literature on Na-Dene: the idea that Haida is somehow "looser" than its supposed congeners, even, as in this case, where it seems to be quite unified. Reduction of the Haida inflectional system to postclitic syntactic material would, given Sapir's view of the history of Na-Dene, better enable Haida to play the role of maintaining the original loose, analytic structure (which supposedly became rigidified into fixed positions in Athapaskan and Tlingit) of

Proto-Na-Dene. Sapir never pursued the point, however; nor did he ever write about Haida again.

A third point of interest for Na-Dene in this paper is Sapir's acceptance of the explanation first offered by Swanton for the extreme frequency of syllable initial consonant clusters in which /s/ or /ʈ/ is the first segment. Swanton proposed that these two fricatives are vestiges of the classifiers in Tlingit and Athapaskan;⁵ in his 1915 paper Sapir claimed that the initial clusters corresponded to single segments in Athapaskan. In "The Phonetics of Haida" he reverses his position and endorsed the classifier explanation. As it happens, there is no evidence whatever that either of these fricatives in initial clusters has been segmentable at any time. There is a much simpler explanation for the distribution of /s/ and /ʈ/, based upon their phonological anteriority. As front fricatives they have a much wider range of distribution within syllables than back fricatives, not only in initial clusters but in final position as well, where they may occur but not /x/ or /χ/. However, neither /s/ nor /ʈ/ may precede semivowels, which is possible for both /x/ and /χ/. This restriction separates the front fricatives not only from the back fricatives, but from the front stops as well, since, as noted earlier, the stops may be palatalized. These fricative-consonant clusters are distributed through all form classes and morphological types in the language.

In general, then, Sapir's phonetic treatment of Haida continues to reflect his faith in Na-Dene and the lack of any empirical base for his claims. His interpretations are certainly original, much more so than Swanton's, and Sapir was far more talented analytically; burdened with his Na-Dene preconceptions, however, his account of the actual data is less useful at present to the contemporary investigator than Swanton's.

3.0 An article by Haeberlin on Haida appeared in the same issue of IJAL with Sapir's phonetics paper. Haeberlin was not concerned with

Na-Dene as such, but had come to certain conclusions about the structural integrity of the Haida verb on the basis of Swanton's textual material. In essence, Haeberlin questions the four-part model of the verb discussed in the introductory part of this paper on the grounds that one cannot establish fixed position classes for stems in Haida--that, for example, elements appear to the left of shape classifiers which also appear as roots and therefore, according to Swanton's schema, should only appear to the right of the shape prefixes. Haeberlin concludes from such facts that "instead of assuming different categories of elements and attributing to them different positions in them different positions in the complex, it is imperative it view the situation from the broader standpoint of stems in general... a freer view of view of the combination of stems is warrented." (Haeberlin 1923, p. 162.) Note that Haeberlin means by "stem" verbal morphemes generally. What he is suggesting is that the division between affixes and roots cannot be made in Haida: "Our view of the Haida verbal complex as a stem or group of stems modified by definite classes of prefixes and suffixes must change."

The evidence for the extreme positional freedom which would justify such a radical step consists of a few examples comparable to a series of English forms like "careful," "fullness," "fill" "fulfill," "offshoot," "brush-off" and so on--essentially lexical facts reflecting idiosyncratic historical processes of word formation and reinterpretation of morpheme function. These facts can be accounted for in Haida most simply in terms of the endocentric tendencies of Haida stem formation. Swanton's third class contains an elaborate subdivision of the stems into "stems in initial position," and four distinct groups of "stems in final position;" in a form such as /tandaŋindaŋiŋs/, which Heberlin cites, the causative suffix -da appears to the left of ŋiŋs, which obviously contradicts Swanton's description of -da as a "stem in terminal position." Similarly, the form gay- "action of water" which Swanton overlooked is an instrumental prefix and also is grammatically identical with an independent verb which means "float;" Haeberlin con-

cludes from examples like this that "the composition of the stems is freer than Swanton assumes." But Haeberlin ignores the fact that membership in the instrumental position class is limited to approximately thirty morphemes out of several thousand stems, and that the extreme freedom Haeberlin posits has no synchronic basis. This freedom, however, represents an important article of faith on the part of those who have seen Haida structure in terms of the morphological structures of Athapaskan and Tlingit, and I have included this discussion of Haeberlin's position to anticipate any invocation of his argument to support a "fluid" structure for Haida.

4.0 During the forty years following Sapir's 1915 statement no significant extension of his work appeared. In 1956 a renewal of interest in the Na-Dene question was signalled by the appearance of a paper by Dell Hymes on "Na-Dene and the Positional Analysis of Categories." In this paper Hymes concerned himself with three interconnected problems: the theoretical status of grammatical evidence, particularly morphology, in establishing historical relationships among languages; the method of comparative reconstruction of position classes; and the status of the Na-Dene phylum. According to Hymes, a principled reconstruction of the position classes of a Proto-Na-Dene verb should be as convincing a demonstration of genetic connection as reconstruction of a significant number of shared lexical items.

The model of the Haida verb which Hymes uses as the input to the comparison is adopted from Sapir's description, presented in Figure 1, but extended to include an "indirect object," a "postposition" and an adverbial element (see Figure 2.) Hymes comments that "Swanton distinguished a class of 'adverbs.' Their position is inferred from statements about 'compound' postpositions, a distributive -*ǰa* 'suffixed' to postpositions, a locative -*t* 'suffixed' to postpositions, and the statement that the position which

Athapaskan	Tlingit	Haida
1. Indirect Object	1. Indirect Object	1. Indirect Object
2. Postposition	2. Postposition	2. Postposition
3. Adverbial	3. Adverbial	3. Adverbial
4. Iterative		
5. Direct Object	4. Direct Object	4. Direct Object
	5. Noun-stem	
6. Mode-Aspect	6. Mode-Aspect	
7. Subject Pronoun	7. Subject Pronoun	5. Subject Pronoun
		6. Instrumental
8. Classifier	8. Classifier	7. Noun Classifier
		8. Classifier
9. Stem	9. Stem	9. Stem
		10. Locative
10. Tense-Modal	10. Tense-Modal	11. Tense-Modal

(adapted from Hymes, 1956, p.631.)

FIGURE 2

adverbs take 'connects them closely' with postpositions." (Hymes, 1956, p. 631.) I shall consider the last part of this statement first.

The full passage from Swanton to which Hymes refers is: "the position which adverbs take in the sentence, and their use in general, connect them closely with connectives [postpositions.] Both are subordinated to the verb in the same way, and the only difference lies in the fact that an adverb does not refer to a substantival modifier of the verb so directly as does a connective. The fact that adverbial modifiers sometimes do refer to such a substantive... shows how close the relationship is." (Swanton, 1911, p.265.)

Hymes has misread Swanton's statement in a fundamental way; for what Swanton is referring to--as both his description and my own data make clear--is not syntagmatic ordering of adverbials and postpositions, but rather distributional parallelism. If, indeed, there is any preferred

order it is Adverbial-Postposition; Swanton's claim of parallelism is thus, I believe, in error, for genuine postpositions never, to my knowledge, precede adverbials with which they form constituents. This distributional restriction is paralleled by the quasi-nominal character of many of the adverbials; thus in /kyah gi ʔa qaḡasga/ "I'm going to go outside," kyah "outside" is perhaps better glossed as "the outside;" i.e., designating a particular precinct rather than a general spatial relation. In this respect it is quite different from gi "to." Similar statements apply to qada in /qada ḡaw ʔu ʔiḡi/ "It's out on, across the water." The "'compound' postpositions" to which Hymes refers are precisely that--sequences of postpositions which form constituents, as in /ʔu gu ḡaw di xwig n/ "I was cold on a boat," where ʔu gu ḡa form a single constituent containing ʔu "boat," gu "undifferentiated space," ḡa "bounded space;" the latter two particles are postpositions. The -ḡa form which is "'suffixed' to postpositions" is, as Swanton states explicitly, also suffixed to nouns and number forms; in addition, I believe it may be suffixed to verb roots, as in /stiḡa/ "angry," where sti is the root for "sick." There is no basis at all for assigning -ḡa a particular position in the verbal complex; it is lexical in its application. In a phrase like /tḡinḡa gi/ "to the woods" it precedes a postposition. Finally, -t is apparently a frozen form which appears idiosyncratically on a few postpositions; its meaning is not as straightforward as Swanton suggests. It is most certainly not a productive suffix of the language, and neither in meaning nor distribution does it resemble the adverbials Swanton speaks of.

Thus the adverbial category of the verb which Hymes posits does not exist. The other categories he introduces--Indirect Object and Postposition--are ruled out of the comparison by his own theoretical framework. Hymes notes that "when more than three [affixal position classes] are found in sequence" shared amongst languages "chance is almost wholly ruled out... the fundamental positional structure of

the verb cannot be an isolated historical connection...." (pp. 627-628.) Now, none of the positions to the right of the Instrumental, position 6, are positions of the verb. Hymes' positions 1-11 might be a Haida sentence, but only 5-11 are position classes of the verb. Hymes offers the following rationale for this apparent inconsistency: "the positions in Na-Dene may well have represented separate words rather than affixes and stem; in modern Haida the sequence is mostly a matter of syntax, word order." (p. 630.) But the foreground marker h_Λw in Haida is just as integral a part of the clause as indirect object plus postposition, and the fact that postpositions form constituents with the (pro-)nouns preceding them means that the indirect object + postposition sequence must precede h_Λw when it appears in the sentence, just as this sequence must precede the direct object when it appears in the sentence. In a language with verb-final sentence structure and O S V order, the indirect object must appear to the left of the direct object; if it is in constituency with a postposition the postposition must also appear to the left of the direct object. But precisely where is not, in Haida, predictable; it depends what else is in the sentence. These facts have nothing to do with a comparison of affixal position classes unless one assumes that there is a historical connection between the free words and the affixes--in which case the premise one desires to prove is assumed and one's argument becomes thoroughly circular. If Hymes is going to discuss positional order of non-affixes, he has ignored material--such as h_Λw--which is of critical importance in establishing sentence order, since any constituent it forms must appear to the left of all others in the sentence--thus, one can have S h_Λw O V or even S h_Λw InO V order in the clause. Moreover, h_Λw is a function of full clauses; it does not appear in isolated phrases or other contexts in which a verb is lacking. The fact that postpositions appear to the left of subjects is a syntactic fact, not a morphological fact and hence cannot be admitted to the comparison of "affixal position classes."

Hymes makes other serious errors. He identifies syllable initial consonant clusters with the Athapaskan and Tlingit classifiers, offering no new evidence, and mistakenly credits Sapir, rather than Swanton, with first making this identification. He claims that Haida lacks an iterative, which is untrue (see discussion under 1.6). He repeats the inaccurate generalization that the possessive *-ǵa* does not appear with body parts or kin terms. Finally, his model of the verb has the same deficiencies discussed in 1.6 for Sapir's analysis, and is equally invalid for use in a comparison. For both methodological and empirical reasons, then, it must unfortunately be concluded that insofar as Haida is an important part of Hymes' framework his comparison and reconstruction is groundless.

5.0 Since Hymes' article appeared most work on Na-Dene has been presented by Michael Krauss and H.-J. Pinnow. Krauss' work is extremely important, but does not require discussion here, as it does not contain any strong claims about the historical position of Haida, or present any new evidence for Haida's status. During the last decade Krauss has moved towards a very conservative position on Haida relative to his early impression that Sapir's 1915 paper "removes the thesis of a common origin for the Na-Dene languages 'beyond the realm of the merely probable.'" (1965, p. 18.) Krauss also expresses the opinion in this paper that the stem-initial fricatives in Haida clusters are historically connected with the Na-Dene classifiers. It is currently Krauss' view that Haida cannot be shown to be a Na-Dene language.⁶ Pinnow's writing supports the classical position, using lexical evidence rather than grammatical. The most detailed statements he has made concerning Haida are contained in a paper titled "Genetic Relationship vs. Borrowing in Na-Dene." (Pinnow, 1968.)

Pinnow begins by noting that certain vocabulary items common to Athapaskan-Eyak, Tlingit and Haida which have been regarded as loans are very likely genuine cognates. He refers to Sapir's comparative Na-Dene vocabulary and then offers some "clear parallels in which the phonemic agreement is no less striking than in the words which have been

considered loans (animal names, etc.)," referring to several different semantic and grammatical domains. For verbs, Pinnow supplies a single correspondence set containing a Haida form: Tl. ʔù "dwell," H. ʔuu "to remain in one place." Pinnow has gotten this correspondence from Swanton's list of vocabulary in his HAIL grammar (Swanton, 1911, p. 269), which provides no examples of roots in context. But even if Swanton's gloss had been accurate, Pinnow has only provided half of it: the full gloss is "to remain in one place or to sit;" on p. 237 he glosses it as "to sit or continue to be." In fact, this form is not a verb stem but a suffix, and emerges from my data as a form with very limited distribution indicating singularity, as to opposed to plurality, which is indicated by a suffix -ʃaŋ: /gu ʔʌ naʔuga/ "I live there," /gu ʔiʌ naʃaŋa/ "We live there." I suggest that this is not a particularly clear parallel. For parallels in kinship terms he offers Tl. ʔʌtkʌtsku "child," H. kʌdʃu "small;" the Haida term is not comparable to the Tlingit term, however, as it is the result of combining a classificatory shape term kʌ with a suffix -ʃu which produces singular predicates when suffixed to shape classifiers, and does not exist in Tlingit. Pinnow also notes Tl. gít, yít "son," H. gʷId "son," Nav. ʎeʔ "man's son," which is not very useful since the Proto-Athapaskan form is not provided. However, there do not appear to be any PA sources for initial ʎ in Navajo which fit with the correspondences Sapir set up, since Ath. y: H.g: Tl. y, which is the closest, only applies preceding non-front vowels. Pinnow provides no explanation for this contradiction; indeed, he does not note it at all. These three forms are the total provided for Haida outside of faunal categories.

Pinnow next considers animal names. He offers five names which seem to him to be genuine cognates, the forms for "crane," "wolverine," "fur seal," "grizzly bear" and "red fox". I have discussed "crane" earlier in connection with Sapir's comparison; I will only add that I believe most linguists will find Pinnow's defense of this as a cognate--that the vocalic variation in the forms is completely irregular

and therefore they are less likely to be loans, which tend to exhibit more regularity--unacceptable. Krauss (1973) has done a skillful job of demolishing the term for "wolverine" from the point of view of Athapaskan; as far as Haida is concerned, the word, /nusg/, violates two canonical restrictions on syllable shape--no final velar segments and no final voiced segments--and therefore cannot be indigenous.

For the remaining sets involving Haida, Pinnow offers no correspondences to support the forms; in connection with the set for "red fox" he comments: "no one can maintain that particularly clear sound correspondences are involved, as is generally the case with loan word." (Pinnow, 1968, p. 210.) Since no actual evidence is offered to support these forms, a suspension of disbelief is required that other evidence makes impossible. The forms for both "wolverine" and "fox" Pinnow provides for "Na-Dene" appear with substantially the same shape in Tsimshian. Furthermore, with the exception of "crane," none of the forms Pinnow provides are the names for animals known in common to both the Queen Charlotte Islands and the mainland peoples in the comparison in pre-contact times. For fur seals, Drucker notes that they "were probably unknown to most Northwest Coast Indians in aboriginal times, for the migration route of the herds is further offshore than the natives ventured. The Haida and the Coast Tsimshians were the main exceptions: they pursued the numerous straggler from the main herd who came into Dixon entrance...." (1963, p.45). For information on the distribution of the other animals referred to see Cowan and Guiget (1975). While considerable resemblances are thus found among words for animals about which the Haida and the mainland people would have had to learn from each other, none of the very many animals known both on the mainland and the Queen Charlottes have names which Pinnow can produce as cognates. This consideration points to borrowing so strongly that it is difficult to visualize a type of rationale which could explain it on other grounds.

6.0 In his Na-Dene comparison Hymes observes that "the existence of a Na-Dene relationship and the use of morphological criteria for

genetic relationship are... historically interrelated problems." (Hymes, 1956, p. 635.) We may hope that particularly poor use of morphological approaches to historical relationships, such as I believe has been documented in this paper for Na-Dene, will not prevent structural evidence from being invoked in the future. If now Na-Dene turns out to have been a dubious instance of grammatical comparison, the blame resides in the almost total lack of familiarity exhibited by the investigators concerned vis-a-vis Haida, and hence the willingness to apply whatever data was at hand, regardless of its quality or the quality of the descriptive frame in which it was presented. It is also true that much of the evidence on Haida structure available to Sapir and Hymes was of good quality, but because it was not well understood--as in the case of the adverbials, discussed in 4.0--or was cited in such a way as to suggest the very opposite of its actual meaning, as Sapir did more than once, a thoroughly false picture of comparative Na-Dene grammar emerged and has been invoked ever since whenever the question of Haida's historical relations arises. The lexical comparisons made by both Sapir and Pinnow violate the basic strictures of careful phonological reconstruction in a variety of ways, any one of which would, if permitted, erode the concept of cognacy into meaninglessness; even so they offer only a handful of purported cognates. Yet Hymes refers to "the significance of the phonological correspondences Sapir adduced, none of which were ever challenged in print." (Hymes, 1956, p. 633.) If comparative Na-Dene has any implications for other historical research, they ought to be warnings that deep comparative work ought not be undertaken without thorough documentation whose meaning and limitations are well understood by the researchers involved.

The situation at present may be summarized by noting that we have been expected to accept Na-Dene status for Haida on the basis of certain structural parallels and a very few correspondence sets, and that current investigations have revealed most of these

alleged parallels to be non-existent, and many of the correspondence sets to be either immediately dismissable or highly dubious and without systematic foundation. On the basis of three points of grammatical similarity, listed in 1.6, shall we continue to hypothesize a genetic relationship which very likely antedates Indo-European? To identify Haida as Na-Dene on our linguistic maps and charts implies that there is no reasonable doubt about the status of Haida, since an absolute proof of non-genetic connection is beyond the power of our methods. The paucity of evidence for the relationship indicated in this review raises, it would seem, considerable doubt beyond what would be generally considered "reasonable." If Haida is indeed a Na-Dene language, the proof has yet to be submitted. Until such genuine evidence has been presented, I suggest that Haida be treated precisely as any other language, e.g. Kutenai, for which no strong evidence has been offered to link it to any other, and which is therefore formally described as an isolate, regardless of any previous undemonstrable suggestions of genetic affinity.

FOOTNOTES

1. The suffixes -ju and -dal are often suffixed to shape prefixes to form inflectable predicate bases, but they can be applied to other types of form as well. -ga creates predicate bases when suffixed to non -predicate roots; when attached to predicate roots it has a passive or mediopassive translation: /qin/ "see," /ʔu qyangagan/ "it was seen," where the base is qin-ga. Other forms show that this sentence is best translated "It showed, manifested itself."
2. It is essential to note here that there are two morphemes here with the shape ga. The possessive suffix -ga appears inevitably in Sapir's example, since it is the possessive morpheme, but has nothing to do with the postposition ga. Sapir is not claiming anything about the possessive -ga; rather, he is trying to establish that the di in di gun-ga is the same di--a "possessive pronoun"--in di ga "to me." My argument challenges his interpretation of the parallelism.
3. I am indebted to Dr. Nancy Turner for these identifications. The domain of Haida plant names is thoroughly explored in Turner 1974.
4. Consider a situation in which shape classifiers were the leftmost prefixes in Skidegate. Since, out of thirty-one morphemes which must be assigned to the class of instrumentals all but seven are grammatically identical with verb roots, noun roots or (in the case of ʔun "by means of (being on) the back," identical in form to a postposition which means "resting on, placed on top of") particles, it is likely that the instrumentals were originally roots which were compounded with bases consisting of a shape prefix followed by a root. Instrumentals would thus originally have been Root₁ in constructions of the form Root₁-Prefix-Root₂.... The readiness with which Haida permits the compounding of root+suffix is clear evidence that there is no aversion to the presence of affixes in compounds per se. However, since the shape classifier applies ergatively to a single element in the clause, it would be impossible for more than one such prefix to appear in the verb; as for the instrumentals, except preceding shape classifiers they would be indistinguishable from any other roots. If, then, there eventually arose constraints on which roots could precede shape prefix-root sequences, a de facto class of instrumentals would have become created.
5. By "classifier" is meant a class of morphemes referring to aspectual/transitivity relations. See Krauss 1969 for the most deep and comprehensive examination of these forms yet presented.
6. This information was recently conveyed in a personal communication.

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