

The Languages of Native America: **HISTORICAL AND COMPARATIVE ASSESSMENT**

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Salishan and the Northwest

Laurence C. Thompson

1. The Family

The Salishan¹ family is large--some 23 languages extending aboriginally over most of the present state of Washington, much of southern British Columbia, northern Idaho, and western Montana, and a small area of the north Oregon coast. The diversity of tribal groups embraced was well understood by the late nineteenth century (J. W. Powell 1891:102-5), but the number of distinct languages involved remained vague until recently, and subgrouping is still a problem: only now is there beginning to be sufficient descriptive work to clarify dialect continuities and permit the comparisons necessary to distinguish shared innovations from common retentions.

Boas recognized twenty "dialects" (what we would now call languages), and saw a major cleavage between the Interior and the Coast (Boas and Haeberlin 1927). Studying percentages of cognates in the core vocabulary represented primarily in the word lists Boas had assembled, Swadesh (1950) identified 23 languages (although not all the same ones we now recognize) and four main divisions of the family, adding the northerly and southerly detached enclaves Bella Coola and Tillamook on a par with Interior and Coast, the latter in turn with further

ramification. Current research has led to a somewhat different interim classification, shown in Table 1. While such family-tree type schemes obscure many diffusional effects and other similarities, they do give some notion of the way we think a primitive unity was successively modified and split up.

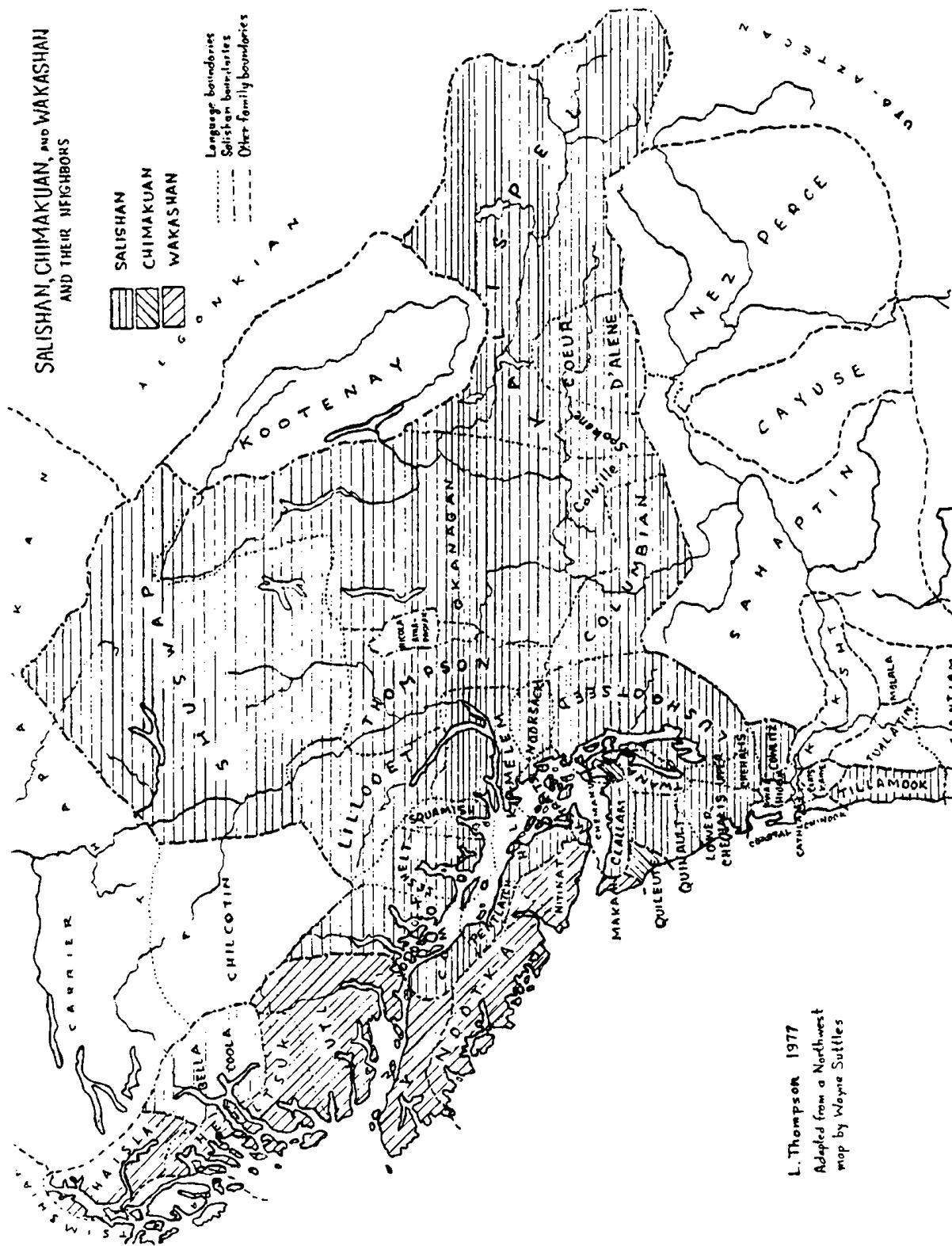
Table 1. SALISHAN LANGUAGES

Bella Coola (Be) (Main body, continued:)

Main Body:	Tsamosan Division
Coast Division	Inland
Central Salish	Upper Chehalis (Ch)
Comox (Cx)	Cowlitz (Cz)
Pentlatch (Pt)	Maritime
Seshelt (Se)	Quinault (Qn)
Squamish (Sq)	Lower Chehalis (Lo)
Nooksack (Nk)	Interior Division
Halkomelem (Hl)	Northern
Straits	Lillooet (Li)
Clallam (Cl)	Thompson (Th)
Northern Straits (Ns)	Shuswap (Sh)
Lushootseed (Ld)	Southern
Twana (Tw)	Columbian (Cm)
Tillamook (Ti)	Okanagan (Ok)
	Kalispel (Ka)
	Coeur d'Alene (Cr)

It seems likely that the Proto-Salishan speakers originally settled along the shores of the protected inland salt waterways, around the mouth of the Fraser River or nearby. Under the pressure of increasing population, favored by the bountiful food supply, the group must have expanded gradually along the Gulf of Georgia to the north and Puget Sound to the south, developing distinctive regional ways of speaking.

SALISHAN, CHIMAKUAN, AND WAKASHAN
AND THEIR NEIGHBORS



L. THOMPSON 1977
Adapted from a Northwest
map by Wayne Suttles

Eventually, whether by original removal to a distant village site or by the encroachment of alien (Wakashan) peoples severing their connection with the central mass, the ancestors of the Bella Coola were isolated far to the north. Probably somewhat later a considerable group left the central body and crossed the mountains into the interior plateau country, developing eventually seven distinct Interior Salish languages and stretching across northern Idaho to western Montana. About the same time a southerly group broke away and went to occupy the flat wood- and prairie-lands to the south of Puget Sound, eventually expanding toward the open ocean and occupying the Pacific littoral. This is the group we now call Tsamosan (Swadesh's Olympic)--four languages. But probably before they reached the ocean another fragment--ancestors of the Tillamook--left the southern end of the central body and eventually settled south of the Columbia River on the north Oregon coast. Meanwhile the central body itself had diversified, but, maintaining greater contact through a network of family and other social ties, it continued to act as a diffusion area, giving us ten historic languages strung out along the inland waterway. Two of these--Clallam and Northern Straits--share many innovations and form the Straits subgroup; in fact, they are so similar that some scholars (following Boas) consider them dialects of a single language, despite limitations of mutual intelligibility.

2. Salishan Typology

Table 2 gives a generalized phonological chart; individual languages differ from this in various details. What we find is a rich consonantal system with extensive matching in articulatory positions between obstruent and sonorant subsystems.

Table 2. GENERALIZED SALISHAN PHONOLOGICAL SYSTEM

p	t	c		k	q	k ^w	q ^w	?
p'	t'	c'	χ	k'	q'	k ^w	q ^w	
		s	χ	x	χ	x ^w	χ ^w	(h)
m	n	(r)	l	y	(γ)	w	(γ ^w)	
m'	n'	(r')	l'	y'	(γ')	w'	(γ ^w)	
				i		u		
					ə			
					a			

Among the obstruents (basically voiceless), stops and affricates pattern together and oppose plain and glottalized ejective manners; corresponding voiceless fricatives form a third manner. The gaps in this system are also characteristic--in fact, of the fifty-odd languages of the Northwest only four have a labial fricative, and, although the unglottalized lateral affricate is quite common in other Northwest languages, only one Salishan language, Comox, has it as a rare, obviously borrowed phoneme. The prevelar-uvular oppositions are also

strongly characteristic. However, where we show here a k-series (prevelar), many Salishan languages have instead an alveopalatal č-series, which is to a great extent functionally equivalent; a few languages have both series. The opposition of rounded and unrounded velars is again generally characteristic of the area. Two Central Salish languages--Halkomelem and Comox--have an interdental affricate series ($t^θ$, θ, and marginal $t^θ$). In all the languages except Tillamook h is infrequent.

The sonorants in parentheses appear in relatively few languages--all Interior. Tongue-tip flaps and/or trills (r, r') are limited to Southern Interior languages (in Kalispel only in the Spokane dialect). Sonorants that fit the uvular series are general for Interior Salish; they are typically articulated as pharyngeals or with pharyngealization. Northern Interior languages and northern dialects of Okanagan have a rare set of prevelar voiced fricatives (γ, γ'). On the Coast the small Straits Salish group has velar nasals ŋ, ŋ'. Several languages lack l, l', having converted earlier voiced laterals to semi-vowels, usually y, y'.

Vowel systems are usually small, although vowels often exhibit wide variation. The central lax vowel ə, in particular, adapts strongly to its consonantal environments, and in many cases the foreign ear has great difficulty recognizing

whether a variant of ə or one of the tense vowels is being heard. Many occurrences of unstressed lax vowels are predictable in their environments, while others contrast, making analysis complicated. Some languages have developed more complex vowel systems, further adding to analytical problems.

Interior languages all show some adaptation of vowels to retracted tongue-root position, which is inherent in postvelars and r, r'; there are likewise cases where such retracted vowels appear without conditioning factors.

Most languages show alternations between stressed and unstressed realizations of morphemes--the stressed occurrences having characteristic tense vowels, the unstressed versions having ə or no vowel at all. When vowels disappear adjacent to sonorants, these sonorants become partly or wholly syllabic. In the case of semivowels they are simply replaced by the corresponding vowels; thus there are important morphophonemic alternations between y and i, w and u. On the other hand, disappearance of vowels can also leave long strings of obstruents. One language, Bella Coola, has gone to the extreme in this, presenting whole utterances without vowels. Rounded elements have important interrelationships as we might expect: for many languages the contrast between plain and rounded velars is neutralized before and/or after u.

The grammar is likewise complex. Usual clauses begin

with a predicate, the only obligatory element. This can be followed by one or more subordinate phrases elaborating references implicit in the predicate, or providing additional information. The heart of the predicate is a transitive or intransitive word. It is often accompanied by one or more particles detailing such information as aspect, relative time and place, degree of validity, and so on. Transitive words imply agents and patients. Intransitives are varied--some indicating actions or states, much like familiar English intransitive verbs, but others referring to entities more like English nouns; these are asserted as existing or identified ('there is a man', 'it is a stone', etc.) With the addition of appropriate affixes or particles fully inflected forms (both transitive and intransitive) can be marked for use not as the predicate of a clause but as one of the adjunct elements, so that these now can be seen as subordinated predicates. Words then fall into two major categories: full words, which can appear as predicates, and particles, which cannot. In such a system the familiar opposition of noun and verb seems alien and misleading as a descriptive device. One type of particle is especially characteristic throughout the family: deictics clarify the relationship of the predicate and of entities connected with it to the situation in which the speech act occurs, and the knowledge and experience of the speaker and hearers.

Full words can be quite simple, consisting only of a single root, but more commonly involving several morphemes. For most of the languages prefixes are limited to a few important ones, but suffixes are legion. There are also a few infixes, and all the languages make quite extensive use of reduplicative affixes. In addition to a host of grammatical affixes there is also a large body of suffixes that carry lexical meaning, now usually called lexical suffixes (following Kinkade 1963:352). They cover a number of semantic classes such as parts of the body, other familiar elements of nature, various artifacts, and some concepts; they are frequently extended to metaphorical and abstract uses. Words commonly have up to three of these. Transitive words indicate both object and subject, in that order, as suffixes after the ubiquitous transitive marker -t (although it is frequently disguised by morphophonemic developments); third person object, however, is zero. Other affixes indicate the kind of relationship between subject and object, some aspectual information, the extent of control involved, etc. A single word can thus incorporate a large number of semantically discrete ideas. Morphophonemic changes often obscure the underlying shape of stems and/or affixes. This complex of factors justifies the label polysynthetic.

3. Comparative Phonology

3.1. Boas.

Comparative Salishan begins with Boas and Haeberlin (1927), which sets forth the most important sound correspondences. It was originally intended as an explanatory essay to accompany vocabularies in 35 Salishan dialects, including at least one representative of all 23 languages. (In this full documentation, which has remained unpublished [Boas et al MS], Boas recognized the weak quality of the phonetic recordings; his brilliance and his own practical experience with many of the languages enabled him to transcend their limitations.) While no formal reconstructions are provided, the discussion presumes the direction of change in most cases, so that one can infer quite well the sort of reconstruction intended (Table 3). The proto-phonemes listed without parentheses are specifically mentioned as presumed earlier stages in the statement about shifts; those in parentheses are exemplified as essentially identical elements unchanged in most languages. One sees emerging here the typical Northwest phonology just outlined. The ejectives, however, are very inconsistently recorded in the material, and only *k' is specifically mentioned. (As we might expect, the discussion includes some statements that have subsequently proven erroneous; we shall ignore those in the summary except where they are important to an understanding

of the evolution of the historical phonology.)

Table 3. PROTO-SALISH PHONEMES
INFERRRED FROM BOAS AND HAEBERLIN (1927)

p	t	(c)		k	q	k ^w	q ^w	(?)
(p̥)	(t̥)	(c̥)	(x̥)	k'	(q̥)	(kʷ)		
		(s)	(ɬ)	x	x̥	xʷ	x̥ʷ	(h)
m	n	l	y			w		
			i			u		
			a					

Most of the material on which this comparison depended was collected either by Boas himself during the last two decades of the nineteenth century, at a time when, to quote his own comment, he "had not mastered sufficiently the art of clear phonetic perception and rendering" (Boas and Haeberlin 1927:117), or by James Teit, who was still less experienced and only sketchily trained. Forms for some languages are cited from earlier sources which reflect still less sophistication. A notable exception, however, is Sapir's Noun Reduplication in Comox (1915b), based on a few sessions with a Nootka informant whose mother was Comox; it includes comments about the apparent history of some sounds and identifies some words as Wakan-shan loans.

The main set of shifts discussed is the one involving the palatalization of simple prevelars; rounded prevelars were not so affected, nor any of the uvulars. Boas points out that

prevelars and uvulars have often been confused by field workers recording these languages (an observation confirmed by recent field studies), so that some of the apparent anomalies are to be explained this way. Yet there are cases where many languages show rounded prevelars which correspond to alveopalatals in other languages. We shall see that this problem leads to some important insights later.

Examples are given for *k and *x, which appear unchanged or somewhat fronted in Lillooet, Thompson, Shuswap, Columbian, and Okanagan of the Interior Division, in Bella Coola, and commonly in Cowlitz of the Tsamosan Division. In all other languages they have shifted, primarily to alveopalatals č, š. The two areas showing the shift are discontinuous, with Kalispel and Coeur d'Alene to the east of the k-x block, the rest of the languages to the west of it.

Another important shift affected eastern Interior languages: *a is fronted and raised to i in Okanagan and Coeur d'Alene, while (Boas says) Columbian, Lillooet, Thompson, and Shuswap retain the original vowel. The notations in these other languages show a quite regularly in the etymologies offered; this is of considerable interest, because although the data are full of inconsistencies and vowels are surely difficult to perceive, it seems unlikely that so many words would have been so consistently mis-perceived as containing a:

mid-twentieth-century investigations of Lillooet, Thompson, and Shuswap reveal regular fronting of the vowels involved, so that recent recordings show [æ] and [ɛ] type pronunciations. Boas notes quite a high [e] before y in Thompson, which is still the case; this may well have been the start of a sound shift that has taken place during the past half-century or a little more. Thompson speakers still sporadically produce [a] rather than [æ] or [ɛ], so the change is not yet completed.

Boas observes just such a change affecting Halkomelem among the Central languages, with neighboring Nooksack and the Lkungen dialect of Northern Straits sometimes showing it. He cites examples with more conservative [a] in Squamish, Seshelt, Pentlatch, Comox, and Lushootseed, and in the Lummi dialect of Northern Straits. By the 1950s all Northern Straits dialects, including Lummi, showed this shift. (Nooksack seems also to have nearly generalized it.) So it seems this innovation may have started with Halkomelem (where in fact, quite a high vowel, close to cardinal [ɛ] or higher, is usually heard) and spread to neighboring Nooksack and Northern Straits. The Northern Interior languages were then between two areas where original *a was being fronted and raised. A similar change can be inferred for Tillamook, for which Boas' own recordings show almost invariably [a]; but recordings of the 1930s show many cases of [æ] and considerable vacillation; in the 1960s,

the last known speakers of the language used almost exclusively [æ, ε] in the pertinent positions.

Boas signals *l developed to a semivowel in several languages--usually y (appearing as i, as does inherited y, between consonants or between consonant and pause): thus in Thompson and Clallam, and often in Squamish. Comox, on the other hand, has w for *l in the environment of u, and sometimes *l is apparently simply lost. More localized is the change of *y to an unusual z-sound (an alveolar slit spirant) in Lillooet and Thompson.

In Comox, original semivowels become voiced stops/affricates (*y > j, *w > *gʷ > gy); Lushootseed has a parallel development resulting in d² gʷ. Boas also refers to corresponding č in Straits and suggests y in other languages may be a later development. Part of the confusion is due to the troublesome distribution of sibilants in the languages around the mouth of the Fraser. We now know that in mainland Halkomelem there is partial complementation and free variation between [s] and [š], [ts] and [tš], while in the island dialects and in Straits languages those elements are in contrast. However, in Northern Straits C has a quite limited distribution. Both there and in Clallam the recordings vacillate, so that apparently the contrasts were not recognized. The picture is further complicated by the fact that original *k has developed to

s in Northern Straits, to c in Clallam.

Finally, Boas recognizes several localized developments. Eastern Halkomelem dialects show l < *n. Tillamook evidences w < *m, h < *p. Bella Coola frequently loses vowels, shifts *q > x̣, and vocalizes final *-ən as -a. Several Interior languages have merged *t' and *χ'; in Lillooet, Thompson, and Shuswap as χ', in Coeur d'Alene as t'. The perception of ejectives was so poor that Boas states this as a more general interchange of t with "affricative l". Here a Grassmann's Law type of rule heightened the confusion: in Shuswap, Okanagan, and Kalispel (also in Tillamook), the first in a sequence of two ejectives is deglottalized, and in the first two languages deglottalization of χ' results in t.

3.2. Vogt.

The 1930s brought fuller descriptions of several languages: Boas' own sketch of Upper Chehalis in notes for an analyzed text (1934), Reichard's (1938) grammar of Coeur d'Alene, Edel's (1939) sketch of Tillamook, and Vogt's (1940a) Kalispel grammar, with texts and dictionary. These descriptions emphasize the important opposition between plain (unglottalized) and ejective stops/affricates, the distinctions between c, c', s, and č, č', š, and the independent status of ?, h, and of the lateral fricative ť. The Coeur d'Alene phonological system clearly shows

three sets of additional sonorants to which Reichard assigns various r-type symbols.

Vogt (1940b) clarifies several descriptive problems in Coeur d'Alene and Okanagan as well as in Kalispel: the distinctive nature of glottalized sonorants parallel to plain ones (distinct from sequences of sonorants with glottal stop); the alternation of stressed vowels with unstressed Θ; and the glottalization of preceding plain consonants by a following underlying ?. He observes that several of Reichard's surface vowels in Coeur d'Alene are positional variants of a common central vowel, which he writes Θ for the neighboring languages. He advances the Boas-Haeberlin comparison in recognizing earlier distinctive *r, *r', evidenced in Coeur d'Alene, Okanagan, and the Spokane dialect of Kalispel, but falling together with reflexes of *l, *l', in the other Kalispel dialects; and identifies an apparent shift of stress in Coeur d'Alene toward the beginning of words. He cites the correspondence of Coeur d'Alene d to Kalispel y, i, and of gʷ to w, u, implying changes similar to those observed in Comox. He clarifies vowel correspondences, showing that besides Cr Ok i : Ka i, there is Cr Ok i : Ka e (a low front vowel).

An important step of Vogt's concerns Reichard's r-type elements beyond the apicals: R, R', ḙʷ, ḡʷ fill out the resonant series and correspond to Ka Ø, ?, w, u?. He recognizes,

despite meager and misleading phonetic description, that these sounds (whose pharyngeal quality now explains their mystery) match χ , χ^w , functioning as uvular sonorants. (For the move of uvulars to pharyngeal articulation in neighboring Wakashan and the general problem of pharyngeals, see Jacobsen 1969.)

Actually, all the Interior Salish languages have these uvular-pharyngeal sonorants, which in some languages--particularly Kalispel--are very hard to perceive (Kinkade 1967). They are not very common, however, and it has been difficult to identify clear cognates in the other divisions. A few rather doubtful etymologies suggest that they have been devoiced to uvular fricatives in some coast languages; it may also be that some of the difficult problems with vowel correspondences will be relatable to these elements.

The implications of Vogt's comparative efforts are shown in Table 4. New information is boxed in the chart; parenthesized elements are reflected indirectly in the discussion. The unglottalized lateral affricate represents the morphophonemically deglottalized variant of χ , which Vogt elevated to distinctive status historically.

Table 4. EARLIER SYSTEM INFERRED
FROM VOGT (1940a)

p	t	c	x	k	q	k ^w	q ^w	?
p'	t'	c'	x'	k'	q'	k ^w	q ^w	
	s		f	x	x	x ^w	x ^w	
m	n	r	l	y	ʃ	w	ʃ ^w	h
(m)	(n)	(r)	(l)	(y)	(ʃ)	(w)	(ʃ ^w)	
			i		u			
				(ə)				
			e		a			

3.3. Swadesh.

During the next decade two more descriptive studies appeared--Newman's (1947) phonology of Bella Coola, and Tweddell's (1950) sketch of Lushootseed. Swadesh draws on these publications, as well as on the studies already cited, in his investigation of comparative Salishan, to update the unpublished materials on the languages in the Boas Collection. It was this body of material to which he first applied his glotto-chronological technique (Swadesh 1950), which has sparked similar considerations in most of the world's language families. (Among further Salishan applications, see especially Elmendorf 1951, 1962a, 1969, 1970, 1976; Suttles and Elmendorf 1963; Jorgensen 1969.)

In the course of this work Swadesh reconstructs a number of forms for Proto-Salish (with etymologies contained in a slip file in the Boas Collection called "Salish Cognates").

He presents his results in a kind of "wave theory" phonology (Swadesh 1952), citing nine etymologies and setting up the Proto-Salish system shown in Table 5. Although he gives no correspondences, he discusses in detail the sound changes implied. The system differs from Vogt's only in omitting glottalized sonorants (for lack of confirming data) and in simplifying the vowel inventory. However, Swadesh's understanding of the details of developments goes far beyond the earlier studies. In fact, Vogt's view is really only of the ancestor of Coeur d'Alene, Kalispel, and Okanagan (i.e. southeastern Interior Salish), while Swadesh's encompasses the entire family. It is interesting that practically the same phonemic proto-system is reconstructible from three closely related Interior languages as Swadesh deduces from the entire body of material. On the other hand, Swadesh's understanding of the complex dynamics and details of development is impressive, especially given the chaotic and difficult source material.

Table 5. PROTO-SALISH PHONEMES
OF SWADESH (1952)

p	t	c	χ	k	q	k ^w	q ^w	?
p'	t'	c'	χ'	k'	q'	k ^w	q ^w	
		s		x	χ	x ^w	χ ^w	(h)
m	n	r	l	y	ʕ	w	ʕ ^w	
				i		u		
					a			

Swadesh sees several sweeping changes operating over the territory. One shifted $*r > l$ in most languages, r remaining only as Vogt noted (see above) and in Columbian. This must be a very old change which diffused slowly, reaching Kalispel very recently: the dialects having only l nevertheless show retracted vowels before l which continues old $*r$. Similarly in Thompson $*r > l$ must be the most recent of a set of shifts: $*l > y$, but no cases of original $*r$ are involved; still earlier $*y > z$, as in Lillooet, not affecting the reflexes of original $*l$.

Palatalization of unrounded prevelars to č č' š characterizes many languages. In some cases the changes have gone further, depalatalizing these elements. Thus Clallam shows c c' s from $*k *k' *x$, and most Northern Straits dialects show further c > s, affecting also original *c. Thus in those dialects original $*k$, $*c$, $*x$, and $*s$ all appear as s. Given these developments and inaccurate recordings of sibilants and affricates (as noted above), it is understandable that Swadesh missed the contrast between c and č, c' and č', s and š in several languages. For this reason, his view of developments in the northern Central languages is seriously skewed.

Swadesh also cites interesting parallel developments in languages which are not now contiguous. The palatalization of prevelars (as Boas noted) involves languages on two sides of a

central conservative area. But such a common change can easily be independent in the two areas. More striking is the shift of *w to a stop, found in Coeur d'Alene, Tillamook, Lushootseed, the Straits languages, and Comox. (A similar change is taking place in Quinault of the Tsamosan Division, where /w/ has the allophone [gʷ] before vowels.) In Coeur d'Alene, Lushootseed, and Comox the reflex is a voiced stop, which Comox has further delabialized; in Straits languages the stop is devoiced to kʷ, and in Tillamook, Swadesh observes, it is devoiced and delabialized.² The history of original *y is similar, although not entirely parallel: it develops to a stop in the same languages as *w, except for Tillamook; Swadesh somehow does not recognize the change in Lushootseed, and because he has missed the c/č contrast in Straits, he cannot recognize that č is the reflex of *y there.

He discusses the change of *l to semivowels in some detail, suggesting original contiguity for the languages sharing it. The problem is more complex than he realizes and needs to be studied in conjunction with other kinds of evidence for earlier location of the languages and in connection with the development of *l in neighboring Wakashan.

One confusion assumes major importance: Swadesh had the prejudice that in all the Salish languages central vowels are nondistinctive transition vowels between consonants (1952:235).

This led him to drop any ə-type vowels from transcriptions, and in turn made it impossible for him to recognize the dynamics of stress shifts and prevocalic consonant developments in a number of languages. (His unpublished etymologies contain some cases of reconstructed *ə, but they lack internal consistency; it seems he must have proceeded to reconstruction in an impressionistic way, with many resulting inconsistencies.)

3.4. Current Research.

Recent comparative phonological discussions reflect further advances in descriptive coverage. Besides many articles on specialized problems, there are now grammars and fairly extensive lexical coverage on Shuswap (Gibson 1973, Kuipers 1974a), Squamish (Kuipers 1967, 1969), Northern Straits (Mitchell 1968, Efrat 1969, Raffo 1972), Lushootseed (Snyder 1968a, b; Hess 1967, 1976), Upper Chehalis (Kinkade 1963-64; a dictionary of this and closely related Cowlitz now in preparation). Several other languages have quite extensive grammatical sketches: Okanagan (Watkins 1970, Mattina 1973; Mattina also has a dictionary in progress), Spokane dialect of Kalispel (Carlson 1972; he also has a general dictionary of Kalispel in progress), Thompson (Thompson and Thompson, in press b; they also have a full grammar and dictionary in progress), Bella Coola (Newman 1969a,b, 1971; Davis and Saunders 1973, along with numerous

separate papers by these two authors on detailed analytical problems), Clallam (Thompson and Thompson 1971). Kuipers has set up a format for classified word lists of 1800 items, and several are already prepared: Shuswap (Kuipers 1975), Bella Coola (Nater, in press), Seshelt (Timmers, in press), Lillooet (Eijk, in press). An earlier, but similarly extensive, list covers three dialects of Halkomelem (Elmendorf and Suttles 1960). Four languages have detailed generative phonological treatment: Coeur d'Alene (Sloat 1966, Johnson 1975), Lower Chehalis (Snow 1969), Comox (J. Davis 1970), Twana (Drachman 1969). The most pressing need remains full descriptions of the languages still spoken.

3.4.1. Additional developments. Ignored earlier, the development of θ, t^θ in Halkomelem and Comox is signaled by Elmendorf and Suttles (1960:5-6), Elmendorf (1962:7). They reflect PS *c, *c'; rare t^θ perhaps results from an old cluster *ts.

In Kuipers' (1970) beginnings of a Salishan etymological dictionary (157 roots reconstructed from his own Squamish and Shuswap materials, compared with Coeur d'Alene, Kalispel, and occasional Halkomelem and Okanagan forms) another proto-phoneme emerges: uncommon *γ represents the correspondence of Li Th Sh NOk γ to Cr ġ, to y in other Interior languages, and perhaps y on the Coast, although clear etymologies are lacking. This gives the very full Proto-Salish system shown

in Table 6. Among sonorants note that *w fills the rounded prevelar position, but *γ now rivals *y as unrounded prevelar. Of doubted antiquity, glottalized sonorants are parenthesized.

Table 6. PROTO-SALISH PHONEMES
OF KUIPERS (1970)

p	t	c		k	q	k ^w	q ^w	?
p'	t'	c'	χ	k'	q'	k ^w	q ^w	
		s	ł	x	ł	x ^w	ł ^w	h
m	n	r	l	y	γ	ń	w	ńw
(m̪)	(n̪)	(r̪)	(l̪)	(y̪)	(γ̪)	(ń̪)	(w̪)	(ńw̪)
			i		u			
				ə				
				a				

3.4.2. Labiovelars. Straits Salish shows an interesting set of correspondences: where most other languages have m, Clallam and Northern Straits most often have instead a velar nasal n̪. Boas and Haeberlin (1927:134f) considered this a shift *m > n̪, and Swadesh (1952:241) repeats this opinion. Important etymologies unrecognized in the earlier studies relate to this matter, showing that where most other languages have p or p̪, Straits languages show primarily č, č̪, respectively. Thompson (1965) suggests these correspondences reflect an original labiovelar series. Noting them independently, Suttles (1965) sees č, č̪, n̪ as the regular Straits reflexes of Proto-Salish *p, *p̪, *m, Straits cases of p, p̪, m all to be explained as loans fitting a convincing set of semantic categories. But

there remain Straits words containing labials, including some grammatical morphemes, for which no source is identifiable. The problem remains troublesome and must be studied with fuller materials and in a broader context of borrowing which takes into account words which have been borrowed from Straits.

Whatever the explanation for the Straits words containing labials, tracing the $p : \chi$ type correspondences to PS labiovelars still appears attractive, and is less in conflict than it might seem with the high frequency of historic labiovelars. Many of these have obviously developed from plain velars in rounded environments. Cases in which $*k^w$ and $*k^{lw}$ are clearly to be reconstructed from historic labiovelars are surprisingly few. More study may well reveal particular environments in which labiovelars were retained, while elsewhere they developed to labials in most languages, but to palatals in Straits.

If that is correct, and all Straits words with labials are loans, then the Proto-Salish system lacked labials ($*w$ clearly functions as a velar)--a feature directly continued in Tillamook. This would fit interestingly with other languages in the area which are weak in labials. On the other hand, the system would contain $*\eta^w$ without corresponding $*\eta$. Etymologies thought to contain PS $*y$ but showing inappropriate reflexes in certain languages may well reflect such a $*\eta$. And the rare Proto-Interior $*\gamma$ may reflect the same element.

3.4.3. Occlusion of sonorants. Lushootseed and Twana share with Chimakuan Quileute and Wakashan Nitinat and Makah the development of original nasals to voiced stops, leaving nasal-less systems contradicting the universality of nasals (Ferguson 1963). Thompson and Thompson (1972) suggest this development began with Lushootseed as an extension of the voiced stops/affricates it developed from original semivowels ($d^z < *y, g^w < *w$), then diffused to adjacent Twana, and on to Quileute, Makah, and Nitinat. In this connection, it is noteworthy that Comox, which also developed stops/affricates from original semivowels, shows a similar tendency to convert nasals to voiced stops (Sapir 1915b).

The Lushootseed semivowel development is interesting in itself. Usually $*y > d^z$, but \check{y} is also observed where there is another palatal in the word. The history is obscured by a later development in northern Lushootseed by which alveopalatais dissimilated to alveolar affricates and fricatives when an alveopalatal precedes in the same word (cf. 'tooth' NLd $d^zədís Nk yənís$; 'leg, foot' NLd $\check{y}əsəd$ SLd $\check{y}éšəd$ Ti yəšən). A similar dissimilation may explain the cases of g in Lushootseed, presumably delabialized reflexes of $*w$. For $*w$ and perhaps $*y$, it appears that glottalization acted to prevent the development to a stop (contrary to the suggestions of Drachman [1969:205-10] and Hoard [1971:75-6]). Investigation of this

will require inquiry into the history of glottalized sonorants in this and other Central languages.

In Northern Straits, Efrat (in press) shows that the different shapes roots assume in certain aspectual stems are best understood through recognition that some roots end in a plain sonorant, others in a glottalized sonorant. This fits with evidence in Clallam, indicating reconstruction of glottalized sonorants for Proto-Straits, and evidence elsewhere in Central Salish makes it probable Proto-Central Salish had such distinctive elements. Work in the Tsamosan and Interior Divisions also indicates glottalized sonorants for those proto-languages, and deeper comparison now confirms them for Proto-Salish. The picture is clouded by the fact that glottalized sonorants have developed secondarily in a number of the modern languages; especially evident is the morphological use of glottalization to convey diminutive and other specialized notions.

In some languages glottalization moves about in words, apparently tending to be attracted by stress; this is observable at least in Shuswap (Kuipers 1974a:30) and Twana (Drachman 1969:passim). But in Thompson certain roots have the property of glottalizing any sonorant in the immediately following suffix. Squamish (Kuipers 1967:55) also has such roots; probably also Kalispel, Upper Chehalis, Straits, Halkomelem, and Tillamook. The roots themselves often contain no

synchronously recognizable glottalic element, while others actually containing glottalized sonorants fail to have this effect; some glottalizing element is indicated for the proto-language as part of those roots.

Original glottalized semivowels were decomposed in Pre-Straits and Pre-Tillamook to *?*y* *?*w* between vowels under certain stress conditions. A similar development affected all glottalized sonorants in Comox. In Thompson *'*y*' often appears as *c'*. Straits appears to have developed *č*, *kʷ* from *'*y*', *'*w*' under particular circumstances. Further study of this topic is much needed.

3.4.4. Other effects on sonorants. Nearly everywhere final *-l was devoiced to -ɬ, falling together with original *ɬ and often extending analogically to non-final position. A few languages, particularly Columbian, retain the voiced -l; Upper Chehalis, Cowlitz, Lushootseed, and Tillamook have a number of cases of alternating -ɬ and -l-. A similar fate befell **w*, but perhaps earlier; evidence for this is especially clear in Tillamook, where -xʷ ~ -gʷ-, -g- (all from **w*).

In Kalispel *n > y before s. Carlson (1976a) discusses this with Spokane examples, showing that it has resulted in a regular synchronic alternation. He suggests the change began as palatalization of n to ñ at a time before *x had become š, when *s may have been more palatal (as it often is in the

historic k-languages). Before š and č, *n is lost altogether. Bits of evidence in other languages indicate that this development may go back to Proto-Interior at least, while the shift before s is apparently limited to Kalispel.

3.4.5. Vowels. Less progress has been made in understanding the vowels. Nevertheless it seems clear that the proto-language must have had a basic four-vowel system:

i	u
ə	
a	

This has been preserved in several languages, and the ways in which more complex systems have arisen can easily be recognized.

The need to reconstruct *ə is least obvious, but evidence is offered by Kuipers (1970) and, for Proto-Interior Salish, by Kinkade and Sloat (1972). In several coastal languages *ə is necessary even in unstressed positions to provide the environments for certain stress shifts and consonantal developments.

3.4.6. Stress and ablaut. In most modern Salish languages many morphemes appear under stress with tense vowels which disappear or are reduced to ə when unstressed; such a system may have characterized earlier stages (Kinkade and Sloat 1972; Kuipers, in press: sec. 5). However, many morphemes with *ə as principal vowel have no reconstructible counterparts with

tense vowels. It appears Proto-Salish roots were either "strong", with tense vowels; or "weak", with *ə. Main word stress fell on a strong root unless it was captured by a strong suffix; it fell on a weak root only if no suffix could take it. Judging from evidence in Upper Chehalis (Kinkade 1966), Lushootseed (Hess 1976), and Straits (Thompson and Thompson 1971), unstressed syllables retained underlying vowels. Many modern consonant clusters result from subsequent loss of these, whereas many consonant correspondence irregularities likely reflect simplified old clusters. Vowel loss also led to stress shifts, developing into penultimate stress patterning in many Coast languages. Some unusual vowel correspondences are due to umlaut (Thompson 1972; Thompson, Thompson, and Efrat 1974); others reflect vocalization of syllabic sonorants and possibly original qualitative ablaut (Kuipers 1970; in press).

3.4.7. Unrounding of (post)velars. Related to questions about the origin of historic labiovelars (3.4.2.) is evidence for delabialization of such elements in a few languages. Tsammosan languages and Tillamook sometimes show reflexes appropriate for unrounded velars and uvulars in correspondence with labialized elements in other languages. Beyond obvious unrounding before *i in Tillamook the conditioning of the development in all these languages is unclear. Especially problematic is the 2d singular subject suffix, for which Shuswap

(while generally lacking unrounding tendencies) supports the reconstruction *-ax suggested by these languages. Yet no convincing rounding influence is evident to account for *-ax^w indicated by most languages.

3.4.8. Short-range comparisons are needed to provide firmer bases for deeper level reconstruction. There is already Interior Salish work (discussed above) and the beginnings of Halkomelem dialect comparison (Elmendorf and Suttles 1960) and Proto-Straits reconstruction (Thompson, Thompson, and Efrat 1974). Kinkade (1973) explains the puzzling mixture of prevelar and alveopalatal reflexes of PS *k *k' *x in Cowlitz corresponding to Upper Chehalis uniform č č' š. Within words unrounded prevelars were fronted to alveopalatals directly before *i (assimilation); they also shifted before a uvular in the same morpheme (dissimilation). But the palatal shift was blocked in the presence of an alveolar sibilant in the same morpheme (dissimilative retention).

3.4.9. Retraction. Several Interior Salish problems relate to the production of sounds with retracted tongue-root (cf. work on effects of tongue-root retraction elsewhere in the world: e.g. Stewart 1967, Pike 1967, Gregerson 1976). Evidence for PS *r (Kinkade and Thompson 1974) varies on this theme. Occurrences of r are limited to the second consonant position in roots not containing uvulars. Thompson, where PS *l > y,

shows l corresponding to r; also (borrowings aside) to l in r-languages in stems with uvulars and in positions other than C₂. This indicates a wider distribution for PS *r, supported by adjacent retracted vowels in several languages.

In Kuipers' recent summary of Proto-Salish phonological typology (in press; see also 1973) he reconstructs a retracting feature, ultimately (pre-Salish?) equated with pharyngealization, to account for special consonants ç, §, and dark l in Lillooet and Thompson and unmotivated retracted vowels throughout the Interior. He then derives r from *l as C₂ after retracted vowels.

Sloat (1972) explains morphophonemic shifts to retracted vowels in Coeur d'Alene suffixes as the effect of special-property roots. Other Interior languages are similar; Mattina (1976) shows that in Colville cognate roots show pharyngeals, which move to suffixes when stress shifts to those suffixes.

Proto-Salish presumably developed retracted allophones of vowels in syllables having a consonant produced with tongue-root retraction. Vowels in suffixes assimilated after such stems. Kuipers' retracting feature may as well be reconstructed *ɸ, distinct, however, from historic ɸ, ɸʷ, which go back to uvular sonorants. In Okanagan *ɸ coalesced with *χ; in other languages it disappeared, leaving retracted vowels and Li Th ç, §, l.

Kuipers' reconstruction is economical and well motivated, but the *l > r theory faces considerable conflicting evidence and does not explain why the environment for the shift was so limited. The other approach posits infrequent but generally distributed *r, developing to l in most of the descendant languages. This shift would only recently have reached Interior Salish, where retracted effects associated with l are widely observable. In the r-languages, affected last, it would perhaps have begun in stem-initial and spread as dissimilation to cooccurring uvulars; l-allomorphs developing in suffixes were then generalized. What remains is r as C₂ in stems without uvulars. In Spokane, where vowels preceding r are unretracted, the dynamics of Schane (1971) are evoked: marked allophones reverting to their unmarked counterparts in environments where they do not contrast.

Salishan's Athapaskan neighbor Chilcotin has a similar relationship between paired vowels and consonants (Krauss 1975; Cook, in press). Retraction may well be an areal feature.

3.4.10. Revised phonological chart. The most recent studies suggest a different Proto-Salish system, sketched in Table 7. New or changed reconstructions are boxed. Labials are cited in parentheses because the historic labials may all come from labiovelars. Similarly *r, *r' are parenthesized because they may have developed from laterals. Note that the semivowels

now form a separate subsystem.

Table 7. PROTO-SALISH SYSTEM
EMERGING FROM CURRENT RESEARCH

(p)	t	c		k	k ^w	q	q ^w	?
(p)	t'	c'	x'	k'	k ^w	q'	q ^w	
		s	χ	x	x ^w	χ	χ ^w	h
(m)	n	(r)	l	?ŋ	ŋ ^w	χ̄	χ̄ ^w	χ̄
(m')	n'	(r')	l'		ŋ̄ ^w	χ̄'	χ̄ ^w	χ̄'
				y	w			
				y'	w'			
				i	u			
				ə				
				a				

4. Comparative Grammar.

4.1. Early Survey.

The first extensive grammatical comparison is Reichard's (1958-60) monograph, based primarily on Coeur d'Alene (Reichard 1938), Kalispel (Vogt 1940a), Tillamook (Edel 1939), Upper Chehalis (Boas 1934), and Lushootseed (Tweddell 1950). It refers also to Swadesh's (1950, 1952) coverage. Restating paradigms and other information for convenience in comparison, Reichard also does considerable reinterpretation. She compares pronominal elements, special transitive formations, deictic elements, stem formatives, lexical suffixes, compound stems, numerals, reduplicative elements, and particles serving various syntactic functions. She concludes with a long summary

of problems, a reconsideration of phonological changes (identifying a few developments not previously noted and commenting insightfully on Swadesh's treatment), a comparative vocabulary, and a summary of the aspects of Salishan structure which reappear in the various languages and so are characteristic for the family. Only the beginnings of a comparative grammar, it is nevertheless important, and especially impressive when we recognize the limitations of the descriptions on which it is based.

4.2. Individual Topics.

4.2.1. The pronominal system. Hoard (1971) takes up pronominal elements and proposes a reconstruction for each case warranting it. The view is much improved over Reichard's, since it takes into account fresh and generally more reliable descriptive coverage of many languages, as compared with Reichard's unevenly represented five. These treatments, supplemented now by further study, indicate that Proto-Salish almost certainly had at least the following sets of personal deictics: (1) possessives ('my', 'your', etc.) of which the first and second singular elements were prefixes, the rest suffixes; (2) object suffixes, attached directly to stems ending in *-t 'transitive'; (3) subject suffixes, apparently originally attached to either intransitive stems or to transitive stems directly after the

object suffixes; and (4) full words with predicative force ('I'm the one, it is I who...', etc.). The object suffixes consisted of two sub-sets, one used with causative stems, the other with other transitives.

Original use of the subject suffixes is unclear, but four patterns are widespread. (1) Everywhere there are at least traces of their use in transitive forms following object suffixes. (2) In all languages except Bella Coola and Tillamook they appear attached to a particle base *k, yielding subject clitics widely used as intransitive subjects. (3) In the Northern Interior, in Central languages, and in Tillamook they are associated with a particle *wə, apparently originally a subordinator. (4) In at least many Central languages and Tillamook they are attached to predicative words in other kinds of conjoined or subordinate constructions. That such pronominal elements do not constitute simple substitution for NP-type adjuncts is evident from the considerable syntactic differences (Hukari 1976a).

4.2.2. Pluralization. Except for predicative third person plural ('they're the ones', etc.) and first and second person plural throughout the system, pluralization is optional in Salishan. The ways in which plural reference is emphasized in the various languages are diverse. In Proto-Salish the third person must have been, as it is in all the descendant languages,

mostly ambiguous as to number; there were perhaps a number of disambiguating devices with different kinds of emphasis. One such device is possibly reconstructible: stem-initial CVC-reduplication is fairly widespread, covering repetition of acts, extensiveness of states, and intensification of qualities, as well as pluralization (often collective, but sometimes distributive) of subjects or objects, and it is used with first and second persons as well as third.

Salishan languages have paired roots, one indicating singular, the other plural agents or patients. But optional pluralization by regular devices is available to these pairs also, yielding contrasts 'a few act' (from singular roots) vs. 'many act'. The circumstances are thus different from those in some Amerindian families where a system of suppletive roots for singular and plural reference parallels a larger formal system with a particular device for pluralizing singular expressions. The system appears very old. While a number of cognates are to be observed among the roots involved, these roots have sometimes quite shifted their meanings in some languages, or differ as to singular or plural reference. In some languages the matter is complicated by the existence of pairs of phonologically related roots. At least Thompson and Upper Chehalis have systematic pairs of roots differing only in Θ vs. tense vowel, the latter signalling plural. A few others differ by one

consonant (e.g. Th cíxʷ 'lie', míxʷ 'several lie'). The overall aspect of Proto-Salish handling of pluralization is still unclear.

4.2.3. Special affix types. The earliest Salishan comparison of all is a study of reduplication types by Haeberlin (1918), still the only extensive coverage of that topic. The available grammars state the patterns for individual languages, and Hess (1966) studies the northern Lushootseed system in detail. Kuipers (in press: sec 8) summarizes the most common types.

Far more attention has been devoted to lexical suffixes. It is estimated that each language aboriginally utilized some 100-150, plus perhaps a few dozen non-productive ones. Every Salish grammar has described their use. Again Haeberlin was pioneer, making an extensive comparative survey (now edited and published: Haeberlin 1974), originally intended, like Haeberlin 1918, for the general Salishan comparison Boas planned (3.1 above). (Neither study attempts reconstruction, but they provide invaluable bases for further elicitation and analysis.) Newman (1968) categorizes the semantic spheres covered by lexical suffixes. Hamp (1968) contrasts the use of similar elements in Chimakuan Quileute. Kinkade (1969) compares Salishan lexical suffixes with those of Wakashan and Chimakuan, finding no convincing support for the Mosan hypothesis (5.1 below). Categorization in semantic and grammatical terms is offered by some

synchronic studies (Kuipers 1967, 1974a; Davis and Saunders 1973; Saunders and Davis 1975a, b, c). Other scholars see broader functions and doubt the suffixes should be considered copies of underlying nouns. They are dominant in non-accultured usage and often have generalizing functions; in folk taxonomies they sometimes fit nodes unnamed by independent words (Amoss 1969, Kinkade 1975a).

4.2.4. The noun/verb problem. Several scholars have commented on the difficulty or relative meaninglessness of attempting to distinguish clearly between nouns and verbs in Salishan languages. Reichard (1938: *passim*) signals the extensive coincidence of nominal and verbal stems in Coeur d'Alene and notes that many apparent verbs appear nominal in form. Edel (1939: 5) finds no rigorous distinction between noun and verb stems in Tillamook. Newman (1969a: 176-177) indicates the lack of inflectional criteria for distinguishing Bella Coola nouns and verbs; even inflected transitive words can function as either predicates or substantives and such functions must be defined syntactically. Kuipers (1968) contrasts Squamish and English usage, concluding that Squamish is better described without a noun/verb opposition. Kinkade (p. c.) is preparing a full study with extensive exemplification from many languages of the family. In studying texts in these languages one is continually struck by the predicative "feel" of all full words.

One wonders whether this may not be a quite natural concomitant of polysynthetic structure.

4.2.5. Numerals. Elmendorf (1962b) shows that from the point of view of the number system, Tillamook aligns more closely with Central Salish than with the Tsamosan Division (a characterization since supported by the study of other features).

The numbers invite further consideration. It appears that a decimal system has been superimposed on a quaternary system. The first four numbers are widely related and apparently unsegmentable. There is evidence for borrowing of some terms for higher numbers within subgroups. The word for '8' is analyzable as 'twice 4' in the Tsamosan languages (the word on which the name for that group is based). Words for '5' and '10', although widely cognate, are clearly analyzable as containing the lexical suffix for 'hand'.

4.2.6. Kinship. Elmendorf (1961) has also studied kin systems comparatively. Although he bases his conclusions on only the terms involved in aunt/uncle/niece/nephew and grandparent/grandchild categories, he offers convincing evidence that the Southern Interior systems are closer to the original than are most coastal systems, and Tillamook again helps confirm this conclusion. Suttles (1965a) extends Elmendorf's discussion, showing that while a hasty view of the Halkomelem system leaves the impression of great simplicity, close linguistic work with

traditional texts uncovers considerable complexity. In addition to the terms of reference easily uncovered by genealogically oriented questions ('my father', etc.), there are also two other sets of terms--one for address ('father!'), the other designating kin status ('one who is a father'). Other Coast languages need comparable investigation.

4.2.7. Prefixation. Newman (1976) explores categories utilizing prefixes (in some cases proclitics). Besides several topics discussed elsewhere, he studies spatial elements, suggesting a few basic ones have come to be combined in different ways in different languages. (Some of these were probably rather roots, as they still are in many languages; the set *?*u*- 'directional'/*?*a*- 'locative' may reflect an early pattern of vocalic symbolism.) He posits a rich proto-system, severely curtailed in Bella Coola and most Coast languages, but perhaps elaborated in the south Interior. He also discusses prefixes expressing predicative notions like 'eat', 'have', 'make', assembling the few recognizable cognates. Apparently now vestigial, this type may have been more important at the earlier horizon.

An especially important prefix is the so-called "nominalizer" *s*-. Its functions are remarkably similar throughout the family (except in Comox, where a diffused Kwakiutlan pattern prohibiting initial consonant clusters precludes *s-C* forms), signaling reference to products, results, or generalized

concepts. It is widespread as a subordinator. In many languages it seems to serve as a major aspectual marker. Some scholars now prefer to gloss it 'absolutive'.

Newman's monograph concludes with a valuable summary and interpretation of the observed facts. Although Bella Coola exhibits many prefixes, only the "nominalizer" s- and the stative-progressive ?al- are productive. Often it has clearly dropped from usage prefixes which must have been common in Proto-Salish. Sporadic frozen forms in various languages suggest that Proto-Salish had a number of productive prefixes which have gone out of use nearly everywhere. This hints that Salishan may earlier have had a more strongly prefixing structure, which has since been greatly reduced. Such a characterization is in striking contrast with the observed structure of Wakashan and Chimakuan, where, except for reduplicative material, prefixes are entirely lacking.

4.2.8. Aspect. The problem of aspect is one of the most vexing ones in grammatical comparison. Just one aspectual category, the stative, is widespread if not universal (reports for some languages are not too clear). It is marked by a prefix which can be reconstructed something like *?ac- ~ *?as-, apparently with dissimilation of *c to *s before coronals other than *s. This or a derived alternation has survived in some languages, while others have generalized one alternant.

Newman (1976) concludes that Proto-Salish must have had also a continuative (durative) and perhaps a completive aspect. These categories, however, present numerous difficulties in the comparison. Many languages have such an obligatory opposition while in others simple predicates seem ambiguous in this respect, although disambiguating particles are available; the particles are frequently unrelated. In Upper Chehalis and Cowlitz the stems are different for the two aspectual forms, and, furthermore, the continuative is associated with one set of pronouns, the completive with another. In Columbian the distinction is indicated by a set of prefixes and suffixes. In all three languages the opposition is marked quite differently in the intransitive and transitive. Another puzzling fact is that stative forms in Upper Chehalis and Cowlitz are associated with the completive, while in Columbian the stative prefix is part of the apparatus for marking transitive forms as continuative. Coeur d'Alene is similar to Columbian.

Straits languages mark the continuative with a variety of allo-morphs, only partly phonologically determined; most widespread is glottal stop infix in historically strong roots, suffixed in weak ones. Halkomelem, Squamish, and Comox more typically use reduplicative prefixes. Lushootseed and Twana use unrelated prefixes, and in Lushootseed this is only one of several aspectual distinctions which are still not well understood.

Thompson and Shuswap can express a continuative notion by means of an auxiliary, but this expression is optional; unmodified forms can carry either continuative or completive meanings.

Seemingly more basic in Thompson is the obligatory opposition changed vs. unchanged status. Changed status ('inchoative') is marked in strong roots by an infix which copies the stressed vowel and adds a glottal stop, in most weak roots by a suffix // -əp//. Cognate formations, with apparently the same meaning, are found throughout the Interior Division. Outside of it at least Tillamook has a cognate for the strong root formation. One wonders whether the Straits continuative is related. In any case, it would seem to demand reconstruction.

4.2.9. Aspectoidal categories. In addition to the major aspectual distinctions there are many others expressed in the different languages--relatively minor and more specialized, mixed with tense notions--resembling the category Friedrich (1974:S6) has called aspectoidal. Thompson, for example, utilizes a variety of affixes, auxiliaries, and postpositions to lend aspectual nuances; these include 'immediate', 'sudden result', 'developmental', 'completed', 'readied', 'perfective', 'imminent', 'actual', 'habitual', 'persistent', 'continuing'; 'immediate past', 'immediate future', 'general future'. Other Interior Salish languages seem to be similar. Kinkade (1976d) assembles the particles and particle-like elements reported

for this group. There are obvious cognate forms in several languages, but much more work will be necessary to perceive what the Proto-Salish system may have been like.

This brings up the matter of tense. Newman (1976) assumes a past and two future prefixes for Proto-Salish, although he notes tense is only weakly developed in the modern languages. His *k 'future' is better considered an 'irrealis', used to indicate also unrealized states and actions, thus covering future. Everywhere the marking of tense seems facultative, corroborating Silverstein's (1974) placing of Coastal Chinook in an ambiance of strong aspectual and low-yield tense distinctions.

4.2.10. Control. A category of control is fundamental to the entire predicative system of Salishan languages. Forms are obligatorily marked to indicate whether some agent is in control of the situation or not. Non-control forms refer either to acts, events, and situations involving accidental, unintentional, or involuntary actions or to those accomplished at the expense of much time, effort, or trouble. This opposition intersects with other major categories like transitive-intransitive, reflexive, passive, causative, unlike the situation in some languages where notions of limited control are conveyed in some cases by forms having other primary functions (e.g. formulas with get in English). In at least many of the Salish

languages the overwhelming majority of roots are [- control], and this explains why participants mentioned in connection with predicates consisting of just such roots are patients-- affected by the action or state designated. That is, whereas mention of an English root strike or squeeze or push immediately suggests to an English speaker an agent striking, squeezing, or pushing, the corresponding Salishan root suggests to a Salishan speaker that someone or something is struck, squeezed, or pushed. There is a large but limited class of roots which are [+ control], including such items as those meaning 'go', 'eat', 'drink', 'talk', 'give', etc. Certain affixes mark stems as [+ control], converting [- control] stems. There are also a few [+ limited control] morphemes; affixes of this type derive emphatic limited control forms even from [+ control] stems. A preliminary report on this matter was given at the 41st Americanist Congress (Thompson and Thompson, in press a) followed by a general treatment (Thompson, in press).

4.2.11. Pronominal subjects and objects. Because of the complex formal relationships between aspectual forms and pronominal elements, the Proto-Salish transitive system is still seen only in shadowy outline. Upper Chehalis and Cowlitz suffix objects in both the continuative and completive forms. Subjects are suffixed only in continuatives, while completives take clitic subjects. This is parallel to the treatment of

intransitive forms, where subjects are suffixes in the continuative, but clitics in the completive. Study of the Tsamosan systems is necessary to determine whether there is some internal explanation for these specialized associations; otherwise, they must reflect the original state of affairs.

Tillamook seems to have generalized the subject suffixes, but most Interior languages have sorted the elements out according to transitivity: transitives take subject suffixes, intransitives take subject clitics.

The Central languages may have gone through a stage like that of the Interior. The repeating pattern of stress shifting back to the penult and loss of material from final unstressed syllables has obliterated differences among forms and led to reinterpretation of what were earlier object-subject suffix complexes as simply objects. At the same time subject clitics, which are used throughout the intransitive system, came to be used with transitives, too, so that transitive forms now end with an object suffix and the subject is marked by an accompanying clitic. A significant exception is the third person subject suffix, which still appears with transitive forms in at least Straits and Halkomelem. Lillooet also shows this sort of system, which has the earmarks of recent influence from its coast neighbors.

In connection with clitic pronouns a problem of word

order development needs to be resolved. Most languages show these subjects as enclitics to the main predicate word, but in several languages auxiliaries (with meanings like 'very [much]', 'truly', 'always', etc.) can come first. In some, the subject may appear either enclitic to this auxiliary or to the main predicate; in others it must follow the auxiliary. There are a few languages where the subject clitics appear optionally either before or after the main predicate word. Ingram (1975) seeks to explain these cases as part of a general shift from SOV to VSO order. He sees the person markers appearing before the predicate as conservative from the earlier period when noun-phrase-like elements specifying subject and object must also have preceded. If, as Hukari (1976a) indicates for Lu-shootseed, these person markers are not pro-forms for noun phrases, the argument evaporates. In any case, Noonan (1976) finds the proposal wanting, both because of mis-analysis of the data and on general theoretical grounds. He considers the subject markers *kn*, etc., as old inflections of an auxiliary type verb, so that the constructions would be inflected verb plus complement (not the expected order for an SOV language).

The optional position for the *kn*-type subjects probably has a simpler history. Proto-Salish likely had subject enclitics attached, as in several modern languages, either to the main predicate or to a preceding auxiliary. In the early

history of some languages, some of these auxiliaries became so semantically unmarked that they tended to be omitted in rapid speech in clause initial position, leaving the enclitic subject pronoun optionally there before the main predicative word. Precisely this pattern is observable in Thompson where *w?éx kn ?íxm* 'I am singing' ('continuative-marker I sing') is most frequently shortened to *?ex kn ?íxm*, and in allegro speech the *?ex* is sometimes scarcely heard. Halkomelem has a similar tendency. Then, in languages like Squamish and Columbian, the auxiliaries went out of use altogether.

4.2.12. Passives. There are important problems concerned with the adjunct phrases by which predicates can be modified. Hess (1973) has explored some of these, drawing on Lushootseed, Straits, and Halkomelem materials. The type of English transitive sentence in which both agent and patient are indicated by noun phrases (e.g. Bill killed the bear) seems atypical of at least many Salish languages, and is actually impossible in Lushootseed, where only the patient can be so specified. In fact, such sentences as do occur in elicited material may represent one of the ways bilingual speakers tend to modify the tradition of their Indian languages in adaptation to the English model to please assiduous linguists. Even in languages which appear to permit such sentences, they are rare or nonexistent in spontaneous conversation and traditional texts

(noted most recently by Hukari 1976b).

However, there is a form of the predicate which has usually been called passive, and it permits specification in adjunct phrases of both agent and patient. The curious thing, as Hess (1973:92) points out, is that if the one function common to the passive in all languages is to provide agentless predication (Lyons 1968:378; similarly Chafe 1970:219-20) then the Lushootseed construction does not qualify, because it is precisely the only one in the language which permits a third person agent to be specified in the same predication as a third-person patient. In these rather full clauses the agent is introduced by a particle often called 'oblique', reminiscent of English by. That these may be recent innovations, possibly even under the influence of English, is suggested by the fact that in at least one language (Halkomelem: Hukari 1976b:90; Suttles 1976) the key predicative forms are formally subjectless transitive words inflected only for object. Parallel forms in Thompson sharply divide the third person passives, which can be supplemented by an adjunct specifying the agent, from the first- and second-person forms (containing regular object suffixes), which cannot.

4.2.13. Ditransitives. Transitive expressions involving two objects are particularly interesting. Spokane (Carlson 1976b) offers two different kinds of focus--focus on the beneficiary

or the benefit. For example 'I made a basket for Agnes' is represented in Spokane by two different sentences. One, utilizing a predicate with the suffix -ši, centers on Agnes, the beneficiary, and indicates that it is for her that I made the basket; it may mean that she is unable to make it herself, so I do it for her. The other, marked with the suffix -ł, centers on the basket (the benefit) and indicates by means of a preposition with the object Agnes that she is recipient. In some cases this second type can suggest some unfortunate or unpleasant consequence for the beneficiary, as in 'I lost Albert's dog' and 'I had sexual intercourse with Albert's wife'.

In Thompson (Thompson and Thompson 1976) only one construction is available, which serves both ranges of meaning. Here it is the -xi suffix, cognate with Spokane -ši, which is used, with just a few fossilized forms with -ł (but enough to suggest that Thompson has probably lost this category since Proto-Interior Salish times).

The "beneficiary" is commonly the least marked element-- i.e. the direct object. This leaves the languages with a ditransitive system that seems to function in exactly contrary fashion to that of more familiar languages, where the beneficiary is quite regularly the "indirect" object. So, for example, in the sentence meaning 'you smashed the woman's dish', 'woman' is the direct object, while 'dish' is marked by the

'oblique' particle, which does duty in other sentences to introduce instrumental and other secondary notions--in particular, as we noted above, to mark agents of apparent passives. Spokane and Thompson employ cognate particles for this purpose. Further comparisons will be necessary to determine whether Thompson and perhaps most other Salish languages have transferred the original functions of the -*t* suffix to the productive -*xi*, or whether Spokane (and some other southern Interior languages) have innovated a specialization of the two suffixes different from their original functions, which may only have been to mark the different focus. Kinkade (1976b) shows that Columbian has both -*xi* and -*t* forms but they do not seem to be semantically specialized in the way the comparable ones are in Spokane.

4.2.14. Modal categories are perhaps even less well understood than aspectual ones. In each language there is an assemblage of particles and affixes which convey modal sorts of meanings, but at the present level of most descriptions it is difficult to see how they fit into any clear system. Some major categories are, however, widespread. An imperative seems reconstructible as PS *-wa? ~ *-a? (distribution still unclear), appearing with both intransitive and transitive stems.

Another device that can be considered modal involves suffixation (or postponing) of subject markers to predicative

words in clauses introduced by subordinating particles--in particular *wə, which might be termed 'subjunctive'. Although the clauses introduced by this element in Thompson appear to be simply conjoined (closely connected with the previous clause or sentence--and texts often involve long strings of such sentences), some uses suggest more dependent status; in separate sentences this construction signals imperative or exhortative meaning. In other languages, such as Lushootseed and Tillamook, these clauses are regularly dependent and usually represent not-yet-realized, conditional, or contrary-to-fact notions.

The elements which now appear unintegrated in major systems in the languages carry meanings like 'should, ought', 'may', 'want to, feel like'. One category includes a number of evidentials--e.g. 'hearsay information', 'observed situation', 'presumably'. All these need more thorough descriptive and comparative study.

4.2.15. Negative constructions are similar throughout the family, but while in some languages the negative word acts as an auxiliary, in others it pre-empts the function of main predicate and requires the negated predicate to appear in subordinate form--usually with the absolute ("nominal") prefix. The negative words themselves are seldom cognate from language to language, although a negative in subsidiary uses in one language is sometimes cognate with the primary negative in

another. This is difficult to interpret historically, but may suggest that Proto-Salish had a complex system involving several negatives, each with different force.

4.2.16. Deictic systems. Many languages have phonologically relatable particles in two categories--those which occur at the end of predicate phrases, modifying preceding predicative words; and those which appear initially in complements or adjunct phrases, introducing those elements. Usually it is the initial consonant or cluster which is similar or identical in the two sets. In some languages the predicate postpositions are longer than the introductory particles so that they could be seen as containing a syllabic and final portion deriving them for this use, or, alternatively, the introductory particles could be seen as abbreviated forms of the longer words. No evidence has yet emerged to support either development historically. Several of the initial consonant elements appear cognate among many languages.

Preliminary consideration suggests that Proto-Salish had at least two intersecting oppositions: marked feminine or secondary vs. unmarked non-feminine or primary, and marked absent vs. unmarked present. A possible third opposition, less clear, may have been near vs. remote, probably both marked categories. The Interior Salish languages lack gender distinctions. Circumstances suggest that the gender systems of the other

languages, including Bella Coola, are retentions from the proto-language, and that the Interior languages lost them. This fits with the looser, more democratic social organization of the interior groups and the highly stratified coast societies. One can see the complex stratification as either acquired or lost, but it seems impossible to explain the gender distinguishing deictics of the coastal languages, interrelated as they appear to be, as innovations. On the other hand, the apparently cognate particles in the Interior are used rather differently in the different languages and are more easily seen as innovating in their functions. Several of these particles are used to introduce complements and adjuncts in Interior languages, so that the gender problem is related to the difficult question of what the marking of non-predicative sentence elements may have been in Proto-Salish.

4.2.17. Semantic domains. As the semantic systems of Salishan languages are more deeply plumbed one is struck by the importance of shape in connection with many roots--a feature reminiscent of the Athapaskan languages. Descriptive coverage is apt to be inadequate unless field research is specifically directed at the problem. For example, one root that is clearly reconstructible on the basis of its widespread occurrence has the meaning 'concave object (like a basket or canoe) turns upside down'. In Thompson two different roots refer to the

existence or development of space within a substance or object--one indicating a layer between two other layers, the other suggesting a porous condition, as a substance riddled with holes. More familiar differences like 'long, narrow (usually cylindrical) object is positioned' vs. 'flat object is positioned' are also common.

Other characteristic ways of looking at the world are evident from folk taxonomies, the investigation of which has barely begun. Several recent ethnobotanical studies (Turner 1973, 1974, 1975; Turner and Bell 1971) provide the background for studies of the native taxonomies of plants. Similar approaches to the animal world and other features are also indicated. Such work inevitably leads off into the realm of folklore, where the mythical significance of the animals becomes evident. Much of this has relevance for comparative work because we need to know the extensions and interconnections of concrete objects in order to consider the validity of proposed semantic shifts--which become more important as we consider more distant relationships.

Two detailed papers treat anatomical domains--Saunders and Davis' (1974) study of Bella Coola head bone nomenclature, and Kinkade's (1975a) treatment of the overall domain of anatomy in Columbian.

4.2.18. Diffusion. Although borrowed words are frequently mentioned in descriptive and comparative studies, extensive diffusional studies have been very limited. Bella Coola, obviously separated for a lengthy period from its Salishan relatives, has been a natural target for investigation. Newman (1974) presents a careful study of ecological vocabulary showing strong influence from neighboring Kwakiutlan groups. Nater (1974) has assembled numerous lexical similarities between Bella Coola and nearby languages.

5. The Broader Perspective

5.1. Further Relationships of Salishan.

Efforts to relate the Salish family to other language groups have been hampered by the lack of rigorous reconstructions, which are only now beginning to be possible. Sapir's (1929) placing of Salish in a Mosan stock, ultimately part of his Algonkin-Wakashan phylum, was not documented. Swadesh's (1953a, b) sketch of a Mosan comparison has not seemed especially convincing to other scholars working in the field, and it has turned out to be impossible to carry any further the lines of relationship suggested there. Further doubt is cast by Swadesh's later position (e.g. 1964), that all the world's languages are ultimately related, but Mosan is not one of the

intermediate groupings, and at least Wakashan is viewed as more closely affiliated with a different stock.

To scholars working with comparative Salish, similarities to Chimakuan and Wakashan seem all to suggest diffusion, although some borrowings may reflect considerable antiquity. However, another unit in Sapir's Algonkin-Wakashan stock was Kootenay. Haas (1965) reviews the history of the search for affiliations of that language isolate, and goes on to consider the best available evidence. She reports primarily on her comparison with the considerable body of Algonkian reconstructions, but observes also a number of resemblances to forms in Salish languages. Some appear to reflect borrowing, but others may indicate a distant genetic connection. Lawrence Morgan, a student at the University of British Columbia, has begun assembling materials to demonstrate a genetic connection between Kootenay and Salishan. He has himself collected extensive material on Kootenay, including dialectal coverage, and has made a good deal of progress in its analysis, pushing beyond the limited treatments offered by Canestrelli (1926), Boas (1918, 1926), and Garvin (1947, 1948a, b, 1951a, b, 1953, 1954). Formal presentation of his results is yet to come, but the material looks promising. It includes comparison of some intricate grammatical details, and many of the proposed cognate morphemes must be isolated from surface forms both in Kootenay

and in Salishan languages in such a way that borrowing would seem a quite impossible explanation of the similarities involved. Some interesting non-identities are involved in the sound correspondences Morgan has recognized: Kootenay (Kt) t' : PS *c', Kt c : PS *ɿ, Kt c' : PS *χ, and Kt m ~ n ~ w ~ u corresponding to our newly suggested PS *ŋʷ.

5.2. Chimakuan and Wakashan.

The prospects for demonstrating a genetic relationship between these two families are perhaps better than for showing a connection of either with Salishan. The effort is not easy--not only because there is obviously a great deal of borrowed material between the two families, some of it perhaps dating back a long time, but because the Chimakuan family is so small--just two quite closely related languages, and documentation of the one (Chemakum) was severely limited before it became extinct. It then approaches the case of a language isolate being compared with a family. J. V. Powell's (1975) reconstruction of Proto-Chimakuan, and now a fairly extensive dictionary of Quileute (Powell and Woodruff 1976), the extant language, should help.

Powell (1976) proposes extensive etymologies, utilizing Heiltsuk data in comparison with Chimakuan, partly in order to reduce the incidence of loan material but partly, too,

because of the lack of a body of Wakashan reconstructions. Nonetheless, it appears probable that a good deal of the material presented reflects borrowing. The Chimakuan forms do indeed seem quite different from the Heiltsuk, but in much the same ways that cognate Nootkan forms do, so that the Chimakuan words may be borrowed from some Nootkan source. On the other hand, some very interesting correspondences are involved, and Powell offers some convincing explanations of developments which make the comparison look promising. Collaboration is certainly called for between researchers in the two families.

An obvious need here is reconstruction of Proto-Wakashan, and, behind that, full coverage of all the Wakashan languages, leading to reconstruction of the vocabulary and grammar of intermediary Proto-Nootkan and Proto-Kwakiutlan. (For Wakashan comparative work see coverage by Jacobsen in this volume.)

5.3. Other Groups.

Other Northwest groups have been considered genetically relatable to stocks belonging to other areas and so are most meaningfully discussed in connection with those stocks. A few comments about recent developments are, however, perhaps pertinent here.

Several small families are generally thought to be Penu-tian (see coverage by Silverstein in this volume): Takelma, in

southern Oregon; Kalapuyan, in the Willamette Valley; Coosan, Siuslaw, and Alsea on the Oregon coast; Chinookan in the lower Columbia valley; Sahaptian, Klamath, Molala, and Cayuse east of the Cascade mountains; and Tsimshian in west-central British Columbia. The connection of this last family is perhaps the most questioned; reconstruction of Proto-Tsimshian will benefit from further data now being collected by Dunn, who has indicated (1976; *in press*) that a southerly coastal dialect perhaps constitutes a third language in the family--as distinct from Coast Tsimshian as it is from the interior Nass-Gitksan.

Eyak and Athapaskan languages in the area are being studied in connection with the family generally (see coverage by Krauss elsewhere in this volume). The more remote connection of Tlingit remains problematic for at least some scholars; in addition to Krauss' treatment in this volume, see now also a recent monograph by Pinnow (1976). Haida, on the other hand, is a different story. Levine (1976) considers in careful detail the features which have been proposed to link Haida to Tlingit and Eyak-Athapaskan, forming the Na-Dene phylum (esp. Sapir 1915a, Hymes 1956, Pinnow 1968). He argues persuasively that all of these fail, and shows how much of the evidence cited in support of the hypothesis is erroneously analyzed and/or dubiously comparable. Haida then furnishes the area a new isolate.

5.4. Areal Studies.

In conclusion we should note that the Northwest is a classic example of a linguistic diffusion area. However, descriptions of the languages are only now beginning to provide the basis for serious areal studies. These will be interesting in their own right, as well as for their essential contributions to genetic comparison and reconstruction, and the insights they should afford general work on typology and universals. (For a survey of the fragmentary observations that can now be made on areal features in the Northwest see Thompson and Kinkade, in press; Kinkade 1976a.)

Notes

1. The terms Salish and Salishan are used interchangeably in the literature. There is perhaps some tendency to prefer the suffixed form when alluding to genetic connections, but it would be difficult to make that specialization stick. The most common term for referring to the reconstructed ancestor language is Proto-Salish. In some (mostly early) works the Latinized form (Lingua) Selica is used. The word derives from the Kalispel-Flathead Indians' term that designates their linguistic unity, but in most current usage in English it refers to the family or to one or more languages as members.

The present paper surveys primarily comparative Salishan; references to descriptive work are thus incidental, as they relate to comparative efforts. For a general survey of research on Northwest languages up to 1970 see Thompson 1973. For support of our research on this language family over many

years I am grateful to the U. S. National Science Foundation, the University of Washington Graduate Research Fund, the British Columbia Provincial Museum, and the Melville and Elizabeth Jacobs Research Fund (Whatcom Museum, Bellingham, Washington). I am also indebted to many colleagues--Indian experts, fellow researchers, and students--for cooperation and discussion on the many problems we have encountered in this research. In particular I thank Aert H. Kuipers for making available a pre-publication copy of his summary of Proto-Salish (Kuipers, in press); M. Dale Kinkade for discussion and suggestions as I drafted this paper; Philip N. Jenner, Sharon V. Mayes, and William R. Seaburg for critical reading of a late draft; and my wife, M. Terry Thompson, for help at all stages of the work.

Readers unfamiliar with the language, dialect, and group names central to the discussion here may wish to consult the following alphabetical list, in which broad phonetic transcriptions are supplied: Bella Coola [bèləkúlə], Chehalis [t̬̥ihélɪs], Chemakum [t̬̥émkəm], Chimakuan [t̬̥imækwən], Clallam [klæləm], Coeur d'Alene [kèrdəlén], Colville [kólvìl], Comox [kómòks], Cowlitz [káwlíts], Haida [háydə], Halkomelem [hàlkəméləm], Heiltsuk [háyltsuk], Kalispel [kælispl̬], Kootenay [kútəni], Kwakiutlan [kwákyutlən], Lillooet [líluwèt], Lkungen [ləkwúñən], Lummi [lámi], Lushootseed [ləšútsid], Makah [məkó], Mosan [mósen], Nitinat [nítənàt], Nooksack [núksæk], Nootkan [nútkən], Okanagan [òkənágən], Pentlatch [péntlætš], Puget [pyúdžít] (= Lushootseed), Quileute [kwíliyùt], Quinault [kwínòlt], Salish(an) [séliš(ən)], Seshelt [síšèlt], Shuswap [šúswòp], Spokane [spòkæn], Squamish [skwómiš], Tillamook [tíləmùk], Tsamosan [tsámòsən] (= Swadesh's Olympic), Tsimshian [tsímšæn, tsímšən], Twana [twónə], Wakashan [wɔkǽšən].

2. We now know that northern Tillamook, like its southern dialect, has an opposition corresponding to that of rounded vs. unrounded velars in the other languages. It is convenient to continue designating it in this way, although the "rounded" velars are usually rather neutral sounding while the "unrounded" ones are produced with lip-spreading (Thompson and Thompson 1966). The opposition was apparently maintained in all environments in the southern dialect, but in the north the rounding was lost before *i. The g^w Swadesh refers to here thus appears as g in these cases; it is devoiced in voiceless environments.

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Abbreviations:

AnL = Anthropological Linguistics.

CAIL = Conference on American Indian Languages. (Held at the annual meetings of the American Anthropological Association.)

CJL = Canadian Journal of Linguistics.

DC = Dutch Contributions to ICSL (preprints).

HNAI = Handbook of North American Indians, ed. William Sturtevant. Washington, D. C.: Smithsonian Institution.

ICSL = International Conference on Salish Languages. (Location given; pages in preprint cited where applicable.)

IJAL = International Journal of American Linguistics.

JanL = Janua Linguarum. The Hague: Mouton.

Lg. = Language.

NCSC = Northwest Coast Studies Conference. Burnaby, B. C.: Simon Fraser University.

SAS-P = Sacramento Anthropological Society Papers. Sacramento.

UCPL = University of California Publications in Linguistics. Berkeley and Los Angeles.

UH WPL = University of Hawaii Working Papers in Linguistics. Honolulu.

UW = University of Washington.

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