Dialectal developments in Chinookan 'tense' systems, an areal-historical analysis

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Note: In this draft, reconstructed forms are preceded by the mark '◦' rather than asterisk, for typographical reasons only.

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§0. This paper[1] seeks to explain the historical developments in all of the Chinookan dialects that start from a single inherited inflectional category and build out of this varying complex 'tense' systems. It is a study in the rise of a whole inflectional system from simple beginnings. Briefly, it turns out that corresponding to linear geographical extension from west to east, the tense category shows increasing development into an articulated morpho-syntactic paradigm. The end points of the geographical area both fit into local patterns, simple taxis and aspect distinctions on the Pacific coast, multi-tense distinctions in the southern Plateau.

It should be observed at the outset that such studies of the rise and development of inflectional systems, syntactic in underlying form and morphological in expression at the surface, have always been at the heart of the most successful traditions of historical linguistics, in particular the study of Indo-European languages. The more profoundly we realize that there is an implicit metric for evaluating correspondences of phonetic form, the more we will see that the best correspondences involve syntactic-morphological-phonological parallelisms jointly. This implies that we direct our attention to morphosyntactic history at the very outset of historical-comparative work, in order to know even where to look for sound correspondences. Inflectional categories have always been at the heart of this. Comparisons of the phonological forms of root lexemes are the weakest sort of evidence in historical linguistics, even though they be phonemically one-to-one; this has not always been appreciated in discussions of American languages. Such is the heuristic value of studies of grammatical categories.

Furthermore, such facts as are established below are of direct formal value to contemporary linguistic theory. They are 'analogical' developments in the sense of Jerzy Kuryłowicz's rigorous general theory.[2] None can be accounted for easily within the generative grammatical tradition of rule-mechanisms.[3] They require explanations in terms of relationships holding between surface forms, and also between their respective underlying structures or semantic functions.[4] In these terms alone the developments are seen to be fairly transparent to historical explanation. The rise of new, articulated grammatical categories at the surface of language thus becomes a good test case in which we can see the sorts of information that will have to be built into grammars of languages, so that the historical changes are implied therein.

§1.1. The speakers of local Chinookan dialects at one time lived in groups along the Columbia River eastward from the Pacific for almost two hundred miles inland, and in the Willamette Valley at Oregon City, slightly to the south of Portland. Yet in basic morphophonemic processes grammatical categories, etc. they show a remarkable unity, giving rise to two 'language'-level units, traditionally called Lower Chinook and

Upper Chinook.[5] In the first are included the Shoalwater ("Chinook proper") and Clatsop dialects investigated by Boas; in the second are included Kathlamet, also from Boas, and the whole series of intergrading riverine dialects referred to in the language as kiksht. Of this latter set we have recordings of Clackamas (Jacobs), Cascades (Sapir, Silverstein), Wishram-Wasco (Sapir, Dyk, French, Hymes, Silverstein). While morphosyntactically and lexically this division seems to me to be based on the vagaries of sampling more than anything else, still, phonologically, there are a few dramatic sound shifts we can note in explaining the phonetically divergent Shoalwater Chinook material that Boas gathered from Charles Cultee (Q'ltí). I assumes that it is primarily on this basis that the classification into Upper and Lower is maintained.

Note, for example the (morpho)phonemic forms of the cognate stems in (1), taken from Wasco and Shoalwater. In Wasco, by a rule

(1) (a) Wasco (w)a-qakilak (b) Shoalwater wa-qakil 'woman, wife'

of voicing of simple stops before a sonorant segment (vocalic or resonant), we get the phonetic form (2a). In Shoalwater, by rules of

(2) (a) Wasco (w)a-gagílak (b) Shoalwater u?úg^{w}il

weakening of pre-tonic uvulars, voicing, contraction of rising diphthongs, low vowel coloration (rounding), and labiogutturalization, the latter three strictly ordered, we get phonetic form (2b). Both dialects have regular penultimate stress, save for some morphological exceptions. Both dialects have voicing and labiogutturalization (=labiovelarization + labiouvularization) rules; the dramatic phonetic difference in Shoalwater is triggered by the contraction of wa- feminine gender morpheme to u-.[6] (When the prefix is neuter gender ɬ (ƛ-), the result in Shoalwater is contrasting ƛ'ágil.) The labiogutturalization rule is an areal phonological feature, widespread as a persistently low-level phonetic process throughout the Northwest.[7]

Observe also that the Wasco form shows a lexical suffix -ak which the Shoalwater form lacks (hence the difference in stressed syllable). The other kiksht dialects also have this suffix, and the Kathlamet texts show an alternation between the suffixed and unsuffixed forms. As head of a noun phrase, this item shows an alternation of stems, with the suffixed form overwhelmingly preponderant. But in the syntactic function of modifier to the noun phrase head, where Boas translates 'female', the usage is unsuffixed, as in (3). The consistent

(3) Kathlamet iɬpámam ɬqagíl ɬk'ásk'as[8] 'she-came-out a-female child'

stress pattern for this form is irregular, and it would seem that the forms of both (2a) and (2b) are regularizations of this, one suffixal, shared by all Upper Chinookan dialects, one by retraction of the stress. In both of these cases, the irregular ultimate-stress, unsuffixed lex-

eme is merged with a regularized form.

The force of this example is to demonstrate the separation of synchronic forms, which show certain surface shapes and motivate certain rules, from historical processes, which explain the temporal relationships of the synchronic forms. It is on the basis of history that we subgroup dialects. In this example, though a simple split of Lower and Upper Chinook is indicated by the apparent synchronic forms, the historical explanation shows that both Shoalwater and kiksht have innovated lexically, Kathlamet preserving a more ancient state of affairs, while Shoalwater has innovated phonologically in the uvular-weakening and contraction rules. In examining the tense systems of the dialects, therefore, we should carefully separate the apparent "typological" correspondences from the historical processes necessary as explanation.[9] We will then be able to evaluate the traditional classification of the dialects, based as it is on a sampling of Chinookan localisms.

§1.2. But sampling of surface forms is only one problem---a universal one, of course---of the materials at hand. We have also to reckon with the kinds of materials gathered and the date of the work. This determines the corpus (finite or infinite) from which our structural, and hence historical, inferences must be made.

In 1890 and 1891 Boas worked with Charles Q'lti on Shoalwater (Lower Chinook) and Kathlamet (Upper Chinook), working on the latter again in 1894. He was interested in gathering narrative texts, mythological and historical, and his supplementary elicitation from Q'lti was directed to clarifying these only. Boas says of Q'lti in the introductions to these text collections:[10]

> "After he had once grasped what was wanted, he explained to me the grammatical structure of sentences by means of examples and elucidated the sense of difficult periods. This work was the more difficult as we conversed only by means of the Chinook jargon."

Hence Boas' knowledge of these dialects, and ours derivatively, is limited by these two factors: the occurrences in text form the basis of contrastive, clarifying elicitation, and the medium of contact communication was a jargon, a semantically and structurally reduced language.[11] Traditional oral literature always shows marked stylistic fixedness, frequently archaic in form from the point of view of everyday language, but learned by the community in phrasal collocations. Some syntactic categories of the everyday language will be systematically skewed.[12] Moreover, in translating through Chinook Jargon, a great deal of the referential specificity of linguistic forms is necessarily lost. Boas' translations in the published versions are interlinear and running in English, so that he has re-expanded the translation medium to a semantically-elaborated form.[13] For all but isolated lexical items, he had to use the knowledge of the Chinookan (Shoalwater and Kathlamet) linguistic system to effect this, and hence the re-translation depends on the very corpus that we suspect shows skewing of categories.

Similarly, Sapir in 1905 worked primarily on textual material of

Wishram (Wasco), myth and ethnographic narrative dictated mostly by Louis Simpson and translated into English by Peter McGuff. Morphological paradigmatic material in his notebooks supplements this. The Simpson dictations of myth text in particular show some striking stylizations when compared with the everyday speech of present-day informants. Some of his speech traits have been identified also in the speech of his agnatic neice, who was a neighbor of his as a child. Of Peter McGuff, Sapir tells us:[14]

> "Having lived much of his life with the Wishrams, he speaks their language fluently, though long contact in early life with the Cascades Indians on the Columbia is responsible for a number of un-Wishram phonetic peculiarities that the linguistic material obtained from him exhibits."

If these distinctively Cascades traits affected McGuff's phonetics, it is by no means unlikely that some trace of Cascades usage may have entered either the translations or the supplementary material in Sapir's corpus. Indeed Sapir's remarks on the divergence of the Cascades dialect from the general kiksht pattern of tenses (§6.1. below) are almost certainly based on McGuff's usage. Thus the Wishram material itself must be used as a textual corpus with characteristic internal distributions.

Our Clackamas material, also, comes from a corpus of mythological and ethnographic dictations. Melville Jacobs, working in 1929 and 1930 with Victoria Howard of West Linn, Oregon, proceeded as follows:[15]

> "After only three or four days of preliminary recording of vocabulary and some sentence practice, I requested that my informant proceed with text dictations."

As it turned out, this was fortunate, since Mrs. Howard died shortly thereafter. Our Clackamas evidence, then, must be strictly philologically gleaned from attestations in the body of texts secured.

It was only with the late Walter Dyk's Wishram-Wasco fieldwork in 1931-33, with Philip Kahclamet (Charlie), continued by French, Hymes, and the present author, that attention shifted to techniques of grammatical and lexical elicitation. This different primary focus shades the sketch of dialectal phenomena, now to be drawn, with light from a certain direction. We can suspect that the reconstruction is a temporally composite one for 'real' time, from the perspective of myth-text archaism downriver, and from everyday conversational reality in the upriver Wishram-Wasco. The absolute time distribution of the fieldwork (1890-present) in real time is not very great, but the nature of the material gathered probably gives us a greater spread in 'apparent' time, if myth texts do in fact show archaic forms, or forms skewed to archaic distribution of categories. Thus our inferences for historical real time will also be skewed.

§2. With these qualifications, I want to survey the attested 'tense' systems seriatim, going upriver from Lower Chinook to the easternmost Upper Chinook. It turns out that the typological simplicity of Lower Chinook represents the most archaic formations in time, rather than a collapse of categories. It is a two-member system of true 'tense',

'Tense' formations of Chinookan dialects

Table I.

	Lower Chinook		Upper Chinook
	Shoalwater	Kathlamet	Kiksht
tense'			
ıarrative (remote)	a-/_C∼n-/_V	i-/_C∼ik-/_V ∼n-/_V	ka-/_C∼kal-/_V (-a/C_∼-ya/V_)[a] ∼(n-/_V)
ar			ni-/_C∼nik-/_V
:ecent			na-/_C∼nal-/_V -a/C_ -ya/V_
.mmediate			i-/_C∼ik-/_V
ɔresent (contin.)	Ø- (-t),(-x), etc.	Ø- (-t),(-x), etc.	Ø- (-t),(-x), etc.
future	Ø- -a/C_∼-ya/V_	a-/_C∼al-/_V -a/C_∼-ya/V_	a-/_C∼al-/_V -a/C_∼-ya/V_
rel. tense		na# (-a/C_∼-ya/V_)	
usitative	narrative- -ẋ	qa-/_C∼n-/_V -ẋ	ka-/_C∼kal-/_V -ẋ[b] ∼n-/_V
nominalizer	k# VERB	k#Poss, Loc, Stative VERB	k#Poss,[c] Loc,[c] Stative[d] VERB

[a]Sapir reports that this tense does not occur in Cascades dialect (see §6.1.).
[b]The usitative in Cascades should occur with prefix ni- _C nik- _V.
[c]This occurs in Clackamas and Cascades only, not in Wishram-Wasco.
[d]This occurs in Cascades only, not in Clackamas or Wishram-Wasco.

showing syntactic interactions with 'aspectual' and 'order' categories. As we go further upriver, more true temporal distinctions are made, and forms of diverse syntactic origin are molded into categories of true tense. I believe we can explain these increasingly complex systems as things developed within the dialect groupings, rather than having to assume they date from earliest proto-Chinookan times.

An overview of the complexity we must explain is given in the accompanying table. Here are separated for each significant semantic or syntactic function the relevant attested morphological forms, whether proclitic, prefix, or suffix. Observe that for Shoalwater and Kathlamet, there is only one referentially 'past' formation, while for kiksht there are five. All dialects have comparable 'present-continuative' formations, as well as 'future' forms, but Shoalwater features an unprefixed future, while all the Upper Chinook dialects have both prefix and suffix. We have good evidence of a 'relative' tense, a "future perfect" in Kathlamet alone, but this turns out to be crucial for the explanation of the multiple past tenses in kiksht (§§5.5., 6.1.). The 'usitative' occurs in all dialects, and is marked by a prefix and a final suffix -x̣; it expresses gnomic statements and habitual or cyclical occurrences of myths, as well as ordinary usitative meanings. The so-called 'nominalizer' marks a noun phrase derived from a clause; its referent is one of the participants in the clause.[16] Of particular note for our historical argument is the fact that this nominalizer is of unrestricted occurrence only in Shoalwater, and occurs only with non-finite formations in Upper Chinook, having in fact disappeared in usage altogether in current Wishram-Wasco.

Such obvious complementary distributions can be seized upon for historical explanation. The occurrence of unrestricted k# proclitic and the non-occurrence of past tenses with -k- in the prefix in Lower Chinook is complementary to the non-occurrence of k# with finite forms and the occurrence of -k- in the tense prefixes of all Upper Chinook dialects. The occurrence of a "future perfect" na# proclitic in Kathlamet and non-occurrence of n-initial past tenses is complementary to the non-occurrence of a relative tense and the occurrence of n-initial past tenses in kiksht. The possible occurrence of ni(g)- in the usitative of Cascades and the non-occurrence of a separate ga(l)- remote past is complementary to the occurrence of ga(l)- remote pasts and non-occurrence of ni(g)- elsewhere in kiksht; these dialects use the ga(l)- remote tense in the usitative. That the forms expressing these dialectally-complementary functions are of related shapes indicates that we are to relate them in historical explanations.

Common to all the dialects is the surface form-class arrangement of morphological elements in the verb as shown in (4). Since Chinook is

(4) Tense_1 (+Ergative pronominal) + Nominative pronominal (+Indirect object + Postposition) +Directional + √Root (+Subordinate root(s)) (+Aspectual) + Tense_2

'ergative' in its syntactic processes, only the subject of a transitive verb is represented by the ergative pronominal prefix;[17] the nominative pronominal represents both the object of a transitive and the subject of an intransitive

verb. The group of indirect object pronominal and lexical postposition together represent a particular kind of 'dativoid' relationship. In terms of functioning syntax (as opposed to fossilized constructions), they always occur together. The directional class denotes either action toward the here-and-now (e.g., toward first person, closer to the defining point of a temporal category), or lack of such specification (which usually signifies opposite denotation). The root, and its semantically permissible subordinate roots of motion (into, out of, etc.) may be followed by various lexicalized aspectual suffixes, such as the discretely repetitive in -l-ił, -n-ił that is common to the dialects. This leaves the two Tense classes to be accounted for.

I separate $Tense_1$ and $Tense_2$ because, as was seen on the chart, elements integral to referentially temporal categories occur both absolute-initially and -finally, though the particular elements may differ from dialect to dialect. For example the Clackamas form (5) has its initial

(5) JC1;1:170 ga-c-s-a-k-√bnáwnx 'he jumped up on her'[18]

morpheme of form-class $Tense_1$, in particular the remote past tense. No morpheme of $Tense_2$ form-class occurs; if we wish we may analyze this as an occurrence of zero, but such an analysis is not compelling. The Shoalwater form in (6), on the other hand, shows the future suffix -a

(6) BCh:44 m-ɬ-ú-√kʷɬ-a 'you (sg.) will carry it'

of form-class $Tense_2$ and no $Tense_1$ initial morpheme; the nominative pronominal (see (4) above) is the initial morpheme. Contrast further the Wishram-Wasco future form in (7), which has both $Tense_1$ prefix al- and

(7) SW:150 al-i-d-√í-mam-a 'he will come (⟹ and get to here)'

$Tense_2$ suffix -a; both are obligatory here for the 'future' reading. All Upper Chinook forms with the exception of the present-continuative have prefixes of $Tense_1$ form-class. Only the narrative (and narrative usitative) of Lower Chinook has such a prefix. In the continuatives, in fact, the continuative suffixes seem to be of the same form-class as the -a suffix; these are of aspectual-modal meaning, in point of fact. Similarly, the usitatives show an initial prefix of $Tense_1$ form-class without its strictly temporal denotation. Hence, the label 'Tense' for these two form-classes is somewhat teleological (or retrospective) from a strictly analytic point of view, and indicates features of formal arrangement actually.

§3.1. In fact, in Shoalwater Chinook, verbs with just an initial prefix a-, or n- before vowels, are all a kind of narrative aorist, what Boas calls in his Handbook sketch "a transitional stage, a change from one state to another." (BG:577). Thus, in (8), a typical narrative form, the initial

(8) BCh:26 a-šg-i-á-√qš-im-niɬ[19] 'they (du.) bit him repeatedly'

a- serves to mark this event as one in a sequence of such events, each one following upon the other: thus, in English, "He went inland, he went to take the two wolves; he brought the two wolves; he carried them two home, arriving at his house; he threw them two down before that old man. Now they two bit him ((the old man)) repeatedly; they two would pull at him." (BCh:25-6). It should be observed that after a sequence of actions by one actor, the conjunctive adverb 'now' begins the next such sequence. Each English clause, represented minimally by a Chinook verb, either paraphrases the preceding one (adding a nuance of specificity), or follows the completion of the preceding one in strict temporal order.

From examining the whole Boas Shoalwater corpus, I am convinced that this narrative aorist usage presupposes that in the grammatical system this morpheme a-~n- is a 'completive' aspectual prefix, or in ordinary Slavistic terms, a 'perfective' aspect. 'Tense' as such, specifically (remote) past, is irrelevant to the grammatical characterization of this construction in opposition to the other Shoalwater forms. This aspect morpheme is, however, the traditionally inflectional sort, because the action is distributed with respect to the referential temporal axis, 'completed' at some point on that axis. The temporal axis is implicitly set up by the narrative sequence. We can contrast in Chinook the suffix sequence -im-niƛ in (8), 'repeatedly', which is derivationally aspect-like. Observe, however, that temporal extension or completion is inferred by us, but that within Chinook the 'repeatedly' formation simply distributes the same pieces of action over-and-over as the imposed partition of the total action being predicated. It says nothing about temporal aspect.[20]

It will become apparent just below that Shoalwater has a simple system of temporal aspect cross-cut by tense, though skewed in paradigmatic elaboration; this is worked out in Upper Chinook, where the prefix morphemes are uniquely tense elements, and all temporal meanings are expressed by prefixes, while all the aspectual distinctions have been completely taken over by the derivational suffixes cognate to the Lower Chinook 'aspectoidal' set.[21]

The preconsonantal alternant a- of the Shoalwater completive morpheme complements an allomorph n-, which occurs before vowels, as in (9). This form is significant in showing a third person plural pronom-

(9) BCh:211 n-u-x̣^{w}-i-k'ɬulal-mam[22] 'they went to get roots (for themselves)'

inal form -u-, from underlying -t-, as the conditioning environment for the prefix allomorphy. Pronominal -t- must first change to -u-, regular before any guttural inflectional morpheme (such as in (9) the medio-passive -x̣(^{w})- which follows), in order to produce the conditioning environment for a- → n-. Similarly, in (10) the third singular masculine

(10) BCh:49 a-y-ɬ-ʃmaqt 'he fainted away dead'

pronominal, underlying -i-, becomes -y- by a rather low-level phonetic adjustment (it is unstressed before a vowel). This too determines the shape of the tense prefix, preventing the alternation of a- to n-.

For historical conclusions, we can interpret the two features of initial position and context-sensitivity to all changes in following morphemes (but none vice-versa) as evidence of the lateness of $Tense_1$ as a morphological element. In fact the same synchronic evidence is found in all Chinookan dialects. Everywhere the alternations of the pronominal morphemes look the same, and everywhere they determine the shape of the initial $Tense_1$ morphemes, though these latter differ from dialect to dialect. In other words we have synchronic morphophonemic evidence for the recency of the $Tense_1$ form-class, and, in turn, an historical insight into why its members should look different from dialect to dialect.

The particular alternation of n- and a- in Shoalwater is suppletive, as must be the case with monophonemic morpheme alternants; but the alternants hardly share some common phonetic features which should set them apart as 'natural' rule-governed allomorphs. In such cases, we suspect that the alternants may be the morphophonemic debris of a single morpheme incorporating both phonemes sequentially, ·an- or ·na-. Both of these forms provide a basis for historical explanation if we hypothesize that ·n is lost before consonants, ·a is lost before vowels. For either of the reconstructions, however, one of these truncations operates "at a distance"; we can therefore conclude that the changes are not simply phonetic in character, but reflect a genuine restructuring of the rules of alternation. It will become clear in dealing with the Kathlamet 'future' forms that the common inherited system had a morpheme ·an- with regular truncation of the ·-n- before a like consonant, giving ·a-. Thus we would reconstruct a state where all verb forms with first person (exclusive) pronominal immediately following the completive morpheme have allomorph ·a-. This phonetically-natural alternation has been replaced by an alternation a-~n-, the latter form produced by rule. This has taken place under the pressure created by a principle of maximal differentiation of forms in a paradigm of equally-motivated structures (see fn. 2).

Within the inherited paradigm of personal forms of the verb, if an aspect proclitic ·an# coalesced with the inflected verb[23] as its initial prefix, it would characteristically truncate the ·-n- before a like consonant. Then there would be two allomorphs here, with the inherited ·an- occurring now before consonants other than n and before vowels, ·an-~·a-/__n. Under these phonetically-produced circumstances, we would have homophony of first person forms in several cases where n- 'first person singular' is followed by a further consonantal pronominal. It is impossible, for example, to tell whether the phonetic sequence ·[antkV-] initially represents morphological ·{a+ntk-} 'perfective' + 'first du. excl. ergative' or ·{an+tk-} 'perfective' + 'third plural ergative'. The first of these results from our truncation rule (-n+n- → -n-), which has not applied in the second. The consequence is that the truncation rule is uniformly extended to <u>all</u> preconsonantal cases, so that the particular pronominal following the 'perfective' morpheme is uniquely recoverable from the phonetic form. Thus we get ·an-~·a-/__C, that is, there is

truncation before all consonants. Now in the intransitive paradigm, where the nominative pronominals immediately follow the aspect morpheme, we find in turn that the first person singular and the third person singular feminine or masculine forms of a verb would be homophonous. These third person forms exhaust the set of vowel-initial verbs, but the phonetic forms of morphological sequences ·an+V- are identical with the forms of morphological sequence ·a+n+V-, where the -n- here is first person singular and the V belongs to any form-class. Again here, the result is a restructuring in order to resolve the ambiguity, whereby a-~n-/__V as attested. Paradigmatic structure in terms of maximal recoverability of morphemes from phonetic forms motivates these changes. Interestingly, Kathlamet presupposes just the same inherited system, but the restructuring is slightly different.

§3.2. The prefixed 'perfective' form of the verb in Shoalwater is systematically opposed to a non-prefixed 'present-continuative', and a suffixed 'future'. The 'present-continuative' makes a kind of participial ("-ing form") or stative predicate, and may overtly show a suffix of the ambiguously aspectoidal-modal form-class, as does (11). The initial,

(11) BCh:107 (a-)ɑ́-ɬλχ̣a-t 'she is going down to the beach'

parenthesized morpheme is the third person singular feminine pronominal; were it our Tense$_1$ 'perfective' morpheme, we would have n- regularly before a vowel. Contrast a narrative form such as (12), which has the

(12) BCh:39 n-(a-)ɑ́-ɬpɛ̆ga 'she went inland (away from beach)'

'perfective' prefix in initial position before a vowel, and so the alternant n- occurs. It should be observe that the root in (12) occurs unsuffixed, in contrast to the root-plus-suffix combination in (11). The -t suffix is descriptive of ongoing activity as a "steady-state". In contrast to both of these forms, moreover, is a prefix- and suffix-less verb (13),

(13) BCh:50 i-ɑ́-ɬya 'they ((3 sg. masc. number-gender))[24] are going'

which is a continuative with third person singular masculine pronominal, directional -u- and verb root -ɬya 'go' only. It occurs in a typical quotation of a myth actor's reported perception; many continuatives are in fact found in complement clauses of verbs of saying, perception, etc.

As we might expect, the formally "zero" form is functionally the "zero" form, the present of attested description. From the point of view of the aspectual prefix system, this is the unmarked 'imperfective' form of the verb, opposed to the prefixed 'perfective'. This kind of form, without a member of either Tense$_1$ or Tense$_2$ form-classes, is the minimal verb in Shoalwater, and the inherited minimal construction in Chinook generally. We can deduce from the recency of the morphological Tense$_1$ prefix, moreover, that the 'perfective' was formerly expressed by a syntactic particle ·an as a loose proclitic to the minimal verb.

Its coalescence motivates further changes in the morphological paradigm of the verb. So the inherited zero imperfective is originally opposed to a perfective construction with a proclitic element, which is attested as the Tense$_1$ perfective morpheme in Shoalwater.

§3.3. Contrasting with this aspectual opposition is a temporal opposition of 'future' vs. 'non-future'. The prefixless form of §3.2. is opposed by suffix to a form in -a∼-ya that serves as a future tense, polite imperative, and even as a realizable conditional. An example of this formation, with suffix -a after consonant-final root, is given above in (6). The suffix, which is pan-Chinookan in future formations, seems to arise from a morphophonemic process of ablaut once general, and now still sporadically attested in certain roots. This -a-:-∅- ("full grade":"zero grade") ablaut of roots is connected with specific suffixes, and can best be taken as a very marginal process in the attested dialects. But it serves to explain historically the peculiarities of the future suffix.

For, there are very archaic roots, such as that for 'to go' (see (13) above), showing a kind of samprasāraṇa ablaut, i∼ya, u∼wa.[25] Such suffixes as the -t of (11) require of these verbs the short form (a → ∅), while the roots in final position appear in long form, as in (13) above. The unsuffixed present-continuative has the same form as the future. Note also that the narrative forms of such roots, since they occur finally, will be the same, as in the homophonous forms (14) and (15), perfective and future respectively. Such homophony, rep-

(14) BCh:63 n-(a-)ú-ɬya 'she went'
(15) BCh:64 n-ú-ɬya 'I shall go'

resenting syntagmas that differ in two categories, can be tolerated more than the homophony within a single paradigm that motivated our restructuring in §3.1.

Such purely temporal distinctions of present vs. future have been developed, then, by a restructuring of the unsuffixed form of the present-continuative, which, it should be noted, is not specifically restricted by the suffix (-t, -x, etc.) to the present, and hence can have future reference. For our class of alternating roots, such a distinction of occurring with a following suffix vs. occurring finally implies, by this samprasāraṇa, the formal alternation of the root itself. Observe then that the future usage of the present-continuative formation has an obligatory correlation of full-grade root, while the specifically present usage has a suffix, and hence obligatory zero grade root. This stage I. of the development, as in (16), leads to the following generalization: all

(16) root alternations, stage I. -i-:-ia; -u-:-ua; -a-:-a; -C-:-C ((suffixed 'present' : unsuffixed 'future'))

roots except consonant-final ones end in -a in the unsuffixed forms; some roots in -a in unsuffixed form lose this vowel in suffixed form. The

first part of this generalization would be more general, would express a greater regularity, if the consonant-final stems also participated. The second part of this generalization would be more general if the samprasārana roots lose their alternations. The direction of restructuring is determined in fact by the direction of 'motivation' of the structures and meanings. The specifically present usage is (a) more elaborate syntagmatically, (b) semantically fundamental, (c) more distinct in phonetic form than the specifically future usage, contextually determinable only, as we saw from its homophony with the unsuffixed present usage. The "future" usage is thus semantically 'motivated' with respect to the "present" usage ("is founded upon" the present) and is therefore in proper structural relation to become the marked member of a new overt category, giving surface formal motivation to the semantic relation. Hence the direction of "analogical" change, that gives unique formal expression to a 'future' vs. a 'present' in a new surface 'tense' category, is uniquely determined to involve a spread of the vowel -a in (16) to the consonant stems, in other words the creation of a phonologically overt morpheme. The analogical change resulting in the emergence of a new surface morpheme proceeds, then, from the constrained or general tendencies in languages, to overt, unambiguous expression of contextual meanings; it represents the effects of localization of meaning within a proposition in recurrent paradigmatic categories.

The direction of analogy is constrained by the existing relative motivation of forms. After the restructuring, the unsuffixed forms of the roots in etymological final consonant appear with suffix -a, as in (17). Thus a root like -√t 'give' has a future form -√ta. The only

(17) root alternations, stage II. -i-:-ia; -u-:-ua; -a-:-a; -C-:-Ca

type of root in stage II. which does not show alternations now are those with suffixed -a. We should have to postulate here a rule of vowel coalescence such that (morpho)phonemic -a+-a in the 'future' becomes a single phonetic vowel in the structurally "suffixed" form. The alternation spreads overtly to this class of roots as well, giving rise to a segmentable suffix that is differentiated from the root by the automatic insertion of the glide -y-. Thus the roots in unsuffixed -a also show the proper alternation, stage III., as in (18).

(18) 'future' suffix, stage III. -i-:-ia; -u-:-ua; -a-:-aya; -C-:-Ca

These analogical developments are clearly still in operation (as they should be if they are general metaconditions on systemic stability), evidence shows, since there are several attestations of hyperforms in the texts from Charles Q'lti. Recall that in final position, the roots such as 'go' (see (15) above) show no special 'future' form. Scattered among such forms as (15) are alternative constructions, that seem to disambiguate the function of the verb with non-alternating root by the addition of an overt future suffix. Forms (19) and (20) dem-

(19) BCh:64 n-ú-√ya-ya[26] 'I shall go'
(20) BCh:172 i-t-√iá-ya 'he will come'

onstrate this hypercharacterization of the future with an overt -a suffix, phonetically in proper form with the glide -y- between the root (in inherited final form) and the accreted suffix. This stage of development, as illustrated in (21), is preserved in process in the Shoal-

(21) 'future' suffix separable at surface, stage III.'
-i-:-iaya; -u-:-uaya; -a-:-aya; -C-:-Ca

water texts, where forms such as (19) and (20) alternate with the forms of stage III. predicted by (18). I have come across no other such hypercharacterization of forms of -√ya in the other dialects, and, from our chart above (§2.) it should be clear that in Upper Chinook the future forms of this verb (as of all others) have a prefix characterizing them as well as a suffix. Only in Lower Chinook are the future forms prefixless, and hence those samprasārana roots at stage III. ((18)) still show ambiguous forms. Here is an example of complementary distribution of features by dialect,[27] leading to a reconstruction of the motivation for an historical change. All dialects, however, have inherited some distinctive 'future' form.

§3.4. Shoalwater or Lower Chinook, then, has a perfective vs. imperfective aspectual distinction cross-cut in the imperfective by a future vs. non-future temporal distinction. The latter is a pan-Chinookan category, clearly, but its origin in a contextualized special usage of the imperfective (present-continuative) is recoverable. In addition, there is a usitative or habitual formation that occurs in the narratives, formed from the narrative in a-~n- by the addition of the usitative suffix -x̣, as in (22). These forms are used in describing cyclically-re-

(22) BCh:29 a-šg-i-l-√ʔím-am-x̣ 'they two would go to feed him'

peated activities, though, it is clear, the segmented actions are completed each time they occur. Thus the passage from which form (22) comes should be rendered in English: "Now they (indef.) ruined him. They cut his hair off. Now they hung him up in smoke. Now at dark those two mice would always go (a-št-ú-√i-x̣); they two would always bring him (a-šk-ƛ-í-l-u-√kʷƛ-x̣[ax̣]) water. Thus they would always go to feed him (22) every night." Such passages entirely in usitatives are frequently employed to describe traditional customs in the texts. It should be observed that this category does not negate in any way the perfectivity of the action, but "quantifies" it[28] as cyclically segmentable. This completes the survey of the Lower Chinook finite verbal categories. I turn now to a deverbative nominalized construction.

§3.5. There occurs also a syntactic derivational proclitic, a transformational marker indicating a reference to one participant (of perhaps

several) in the predication. I have indicated the exact semantic specification in §2. above, at fn. 16. For such a finite predication as (23), where the verb root is the same as in (22), the inflection

(23) BCh:22 taka a-ƛ̓-ƛ-ƛ-l-ɬʔim ƛ-ʔulí-ma ƛ-guƛílx̣mk 'then he$_1$ gave it$_2$ (meat) to it$_3$(person) to eat'

includes a transitive subject (-ƛ̓- 'he$_1$'), transitive object (-ƛ- 'it$_2$'), and indirect object (-ƛ-l- 'it$_3$-to'). I include the subscripts to identify the separate referents. By a transformation of nominalization focused on the nominative noun phrase (here, functioning as the transitive object),[29] the predication, minus the direct object or nominative, is put in constituency with proclitic k# and the construction becomes a noun phrase itself. Thus (24) is a noun phrase consisting of the 'invisible'

(24) BCh:22 qʌ́ta k#ƛ̓-ƛ-l-ɬʔim 'that$_2$ ((stuff)) which he$_1$ gave to it$_3$ to eat'

demonstrative followed by the derived noun in k#. The stem of the noun consists of the full predication, minus the transitive object nominative, and of course minus any Tense$_1$ form-class morpheme. It should be remarked that this construction is distinct from the relative clause construction, where the relative clause functions as a modifier of a noun head. In the latter case, the deverbative is found as an inalienably possessed form.

In Chinook, nouns can function as intransitive predications, with a pronominal prefix of the nominative set. The minimally marked pronominal, that of the third person singular masculine, i-, serves where no other is specified. Thus such a noun as (24) can be made into a predication of the most unmarked sort 'it was something which he$_1$ gave to it$_3$ to eat' by this mechanism. Notice that still there is, formally, no Tense$_1$ morpheme on such a predication; nouns never are inflected for tense in this fashion. It is crucial to our understanding of the historical developments to see that the free k# proclitic is in dialectal complementary distribution with the Tense$_1$ morphemes in (-)i(g)-; we will have to postulate the movement of such a predicated k# construction from the nominal to the verbal paradigms.

§4.1. The inflectional system for aspect and tense found in Shoalwater Chinook seems to be just like that of its immediate neighbors from the Salishan language family. In particular, Chehalis, to the north and east of Shoalwater on the northern bank of the Columbia, and Tillamook to the south of Clatsop on the southern shore, along the Oregon coast, show categorial systems that appear to match almost point for point. The dominant distinctions here, as apparently in the majority of Salish languages, are those of aspect, and tense may be secondarily marked, if at all, by a different paradigmatic set.

For Upper Chehalis, as reported by Kinkade,[30] we must distinguish three aspects, of which two merge in many paradigmatic functions. The principal distinction, then, is between a "continuative"

aspect, and two non-continuative ones, the "completive" and the "stative". The first of these "expresses action which occurs over a period of time...the continuative aspect generally corresponds to the so-called 'progressive tense' of English." There is a prefix s- on verbs and a distinctive set of pronominal suffixes for the continuative. The completive aspect "expresses an action which occurs at one point in time, or repeatedly (but separately), in the past or in the future," while the stative aspect "expresses a state or condition, something that is or was habitually in one state." The completive is marked with the definite article ʔ/tet prefixed,[31] the stative with a prefix ʔac-, and both share a set of pronominal suffixes.

The tense category has an unmarked present, a future distinctively marked by ɬ-,[32] and a past marked by the proclitic particle ta. The restrictions that emerge on co-occurrence with aspectual categories are of interest, for they show striking parallelisms to the Chinookan system. The future marker replaces the continuative prefix s-, just as in Shoalwater the development of a future suffix -a leads to its alternation with the continuative suffixes on present-continuative forms. In addition, the past tense marker does not occur with any regular form of the completive aspect,[33] and hence only past and future completives (as quoted above) can really be cited. Shoalwater employs only the first of these possibilities, in the narrative texts, so, subject to these sampling problems (§2.2.), we cannot say whether or not a perfective future existed. But it is clear from the other dialects that the perfective form and the future form have been compounded (see §5.1. below), filling out the expected paradigm. Finally, the future ɬ in Upper Chehalis with the "stative" prefix ʔac- has the value of a conditional or subjunctive, and so is not a directly-coded full expression of the two categories of tense and aspect, while the past occurs regularly with the stative in independent predications. Again, this is akin to the Shoalwater habitual or usitative, which has a distinct suffix -x̣ co-occurring with the perfective prefix, and again, the texts give meager evidence on present usitatives, but the upriver Chinookan dialects fill out this paradigmatic possibility.

Lower Chinook, then, is very much akin to Upper Chehalis in its aspectual and temporal systems. In both, we can compare the categories which function in their full semantic values, and see point-for-point analogy, though the actual surface expression of those categories is widely different. Both have a continuative vs. non-continuative (or imperfective vs. perfective) aspectual split, and within the non-continuative (perfective), both contrast a true narrative (punctual perfective) and an habitual. In both, the perfective implies non-present temporal value, though Chinook data show a further restriction to past specifically. In both, the habitual has basically a non-future temporal value, though Chinook data show a further restriction to past specifically.[34] The unused possibilities developed historically in the upriver Chinook dialects, which may be evidence for the correctness of the systemic analogy.

It should be remarked of Upper Chehalis, in comparison to the

Shoalwater constructions with k# nominalizing particle, that verb forms with s- prefix "are frequently used as nouns, with or without suffixes in their continuative form, and thus serve a function comparable to gerunds in English." This dual membership of s- forms, to both finite verbal and deverbative syntactic systems, has also become the mechanism for building the temporal system of Upper Chinook, as was mentioned in §3.5. It is just further evidence that abstract categorial and syntactic mechanisms are areal features, not just words borrowed from language to language.

§4.2. Turning now to Tillamook, we have much less clear information available in the grammatical sketch of May Mandelbaum Edel.[35] She distinguishes the system of Nehalim from that of Chehalis, by saying that the Chehalis "prefix s serves to differentiate the aspects of the verb, but no such function is apparent in Tillamook." From her discussion, the precise full semantic structure is not clear; however certain facts of distribution seem to match the Upper Chehalis data. For example, Edel's prefix ga-, which she glosses as 'future', is almost always in complementary distribution with the ubiquitous s- verb prefix and nominalizer. Note that the Upper Chehalis ɬ- 'future' alternates similarly with s- 'continuative'.

Edel identifies, then, a ubiquitous s- prefix which I would equate with the Upper Chehalis continuative, and a future ga-, which replaces it. In addition, she gives a prefix na- that precedes s-, never co-occurs with ga-, to which she assigns the meaning 'past'. "This is always first in the word complex," she tells us. If the s- is continuative, as opposed to non-continuative (presumably marked by zero), then the regular formation in Tillamook with na-s- shows semantically co-occurrence of "past" with 'continuative', but no co-occurrence of "past" with 'non-continuative'; i.e., the 'past' morpheme does not co-occur with following zero prefix. Again, this seems to be parallel to the restrictions already discussed in Shoalwater and Upper Chehalis.[36] The 'usitative' or 'stative' categories cannot be clearly located in Edel's materials.[37]

It should be remarked that in Upper Chehalis the marker of the 'completive' (or 'perfective') constructions is the definite article. Tillamook shows no such usage. Rather the articles are proclitic to the verb phrase in the function of pronominals cross-referencing the central third person participant in a predication. The Tillamook definite articles[38] are subcategorized for number, 'singular vs. plural', and gender, 'feminine vs. non-feminine'. In pre-verb position, the plural category intersects with the 'feminine' category (doubly-marked) as ɬ(a), the non-feminine with the singular (unmarked) as t(a). It would take us far afield to discuss the entire article-demonstrative system, which includes several deictic distinctions. But it should be clear that one can easily postulate an historical continuity resulting in a system with 'completive' marked by the article (Upper Chehalis) from a system where the article has third person pronominal value in the verb phrase and agrees in number-gender with a cross-referenced

noun participant, the completive itself being marked by zero (Tillamook). In other words, a system of the Tillamook type antedates both the attested Upper Chehalis and Tillamook 'perfective' or 'completive' constructions. The Tillamook system with zero perfective is older, and the Upper Chehalis system with perfective marked by the (semantically unmarked) non-feminine article is a fully regular analogical development, as shown in (25). When the pronominal is

(25) $_{VP}$[Pronominal $_{V}$[Ø completive + Verb]] > (a) Tillamook - no change, > (b) Upper Chehalis $_{VP}$[$_{V}$[Pronominal completive + Verb]]

reinterpreted as the specific 'completive' marker in Upper Chehalis, the non-feminine form is generalized to all cases, i.e., the pronominal loses its cross-referencing function.

The existence of a gender category in Tillamook is paralleled by Upper Chehalis, by the way, as Kinkade reports.[39] However, the feminine forms are very weakly developed and the informant occasionally used non-feminine forms where feminine ones were to be expected. The consistent use of non-feminine definite articles to mark the 'completive' forms is then understandable. Gender of just this form exists also in Squamish, as reported by Kuipers,[40] where the gender distinctions appear only on noun phrases, not in verb phrases. In Squamish, in fact, a 'continuous' or 'iterative' aspectual clitic wa[41] is opposed to zero non-continuous, or shall we say 'perfective'. All the evidence points to an old Salish aspectual distinction between zero 'completive' or 'perfective' forms and overtly marked 'continuative' or 'imperfective' forms, in fact, probably s-prefixed forms (Squamish 'factual'). Tillamook is formally more conservative ("marginalità"?) in retaining this system than Upper Chehalis, as the pronominal proclitic usage demonstrates.[42]

Additionally, on the status of Tillamook na- we have further comparative data from Squamish,[43] where a proclitic na occurs with verb phrases (very rarely with lexical nouns) in a "nominal paradigm" that is semantically akin to English restrictive relative clauses, and in 'factive'[44] clauses of many types. Kuipers remarks of his examples that they "might create the impression that /na/ corresponds to the English non-present tense. To be sure, the two do correspond in a number of cases, but /na/ is not a tense-morpheme, it merely refers to a fact...it cannot refer to future events." There are also na forms that fill out the finite paradigm in the third person. These usages suggest that Edel was misled to equate its grammatical status in Tillamook to the English tense morpheme. The Squamish morpheme is clearly primarily an unmarked locative indicator '(be) there-then',[45] and its 'factive' functions are extensions of this pointing meaning. The Tillamook usage seems to be very similar, actually (cf. fn. 36). So Edel's "past" meaning is only one, contextualized function of this proclitic.

Tillamook, then, seems to have a zero 'completive' prefix, and an s- 'continuative' and nominalizer, along an aspectual dimension, and a $g^{w}ə$- (phonetic [ga]-) 'future' proclitic, all clearly identifiable as

such. In addition, it has a na- 'factive' that assumes, for our interpretation, the functions of a specifically 'past' tense by its positing things as true facts, and, like the 'past' morpheme of Upper Chehalis, is complementary with the 'completive' form. Once more, we are struck by the categorial analogy to the Shoalwater Chinook system of aspects and tenses, and once more the geographical spread of abstract categorial stuff must be noted. Tillamook in particular bears a very close relationship to Chinook in the use of number-gender proclitics as cross-referencing devices of the verbal piece to external noun phrases. This obvious historical retention of Tillamook must be correlated with the exuberance of such indexing in the contiguous Chinook. Finally, it will become clear in discussing kiksht in §6.1. that the reconstructable Salishan ·na deictic predicate[46] may be the specific element, proclitic in Shoalwater and Kathlamet, from which two tense morphemes have developed. The Tillamook data are important for the areal motivation of this.

§5.0. Returning now to the Chinookan dialects, we will be able to trace systematic innovations in the aspectual and temporal morphemes found in Shoalwater (§3.) which presuppose a structure like that of Shoalwater for their basis. Kathlamet, next upriver, shows formally the simplest but structurally the most profound innovations, which themselves must be taken as the basis for further developments in kiksht. Looking back at the comparative table of constructions, we see that the Kathlamet developments are the creation of a specifically temporal past tense, with only subsidiary perfectivity, the strengthening of the 'future' tense with inherent perfectivity, the regular expression (with a proclitic na) of a "relative" tense, particularly in the future ("future anterior"), and the reformation of the usitative. In other words, Kathlamet has essentially changed all the major temporal-aspectual constructions except the present-continuative. This last needs no discussion. I take up the others in logical order, trying to explicate the innovations historically in terms of the effects of each on the structure of the system.

§5.1. In logical priority for its "triggering" value, the strengthening of the future tense seems primary. Recall that we postulated for common Chinook itself the development of an overt 'future' suffix -a ∼-(a)ya, from a full-grade of the verb root. Kathlamet shows a future tense formation with both this suffix and a prefix a-∼al-. The innovation here is the compounding of the prefix with the suffix. Thus note that example (26) is the Kathlamet correspondent of Shoalwater

(26) BK:61 a-n-ú-ɬya 'I shall go'

example (15). This particular root, of the samprasārana class, shows the alternative analogical form (19) in Shoalwater. In Kathlamet and in the kiksht dialects, where an overt prefix is found, no such analogical hyperform is found. On the basis of maximal regular surface dif-

ferentiation, this is just what one would expect.

The preconsonantal a- future in Kathlamet alternates with a prevocalic form al-, as shown in (27). This form also shows the regular postvocalic suffix form -ya, as expected. Contrast form (28),

(27) BK:11 al-i-ɬčukti-ya 'it will get light'
(28) BG:579 a-m(-a)-ů-ɬkʷɬ-a 'you (sg.) will carry her'

with both preconsonantal prefix a- and postconsonantal suffix -a (and cf. form (6) of Shoalwater above).[47] The future suffix shows the morphophonemic effects of the usual sort of epenthetic glide -y- (and -w-) inserted between two vowels. Thus the future prefix, in having a prevocalic alternant al- has a rather exceptional form, in that we must in effect specify epenthesis of -l- between two vowels. This casts doubt on an historical interpretation directly from the morphophonemic facts, just as in the Shoalwater perfective prefix (§3.1.), the alternation was exceptional from the phonetic point of view. That is, the synchronic alternation is not just a reflection of a "rule addition" of any regular type. Instead, we must deal with the restructuring of an inherited prefix of similar shape. What then is the origin of the prefix?

I think we must compare this Kathlamet 'future' prefix to the 'perfective' prefix of Shoalwater, the inherited form of which was postulated to be ·an-∼·a- (by regular truncation of a consonant before a like consonant). Recall from that argument that the restructuring was motivated by two paradigmatic ambiguities, first the preconsonantal ambiguity of first person (-n-) forms and all other preconsonantal perfective forms, the phonetic sequence [anC-] being interpretable as either first person a+n(+)C- or other person an+C-; second, the prevocalic ambiguity of first person singular and third person singular perfective forms, the phonetic sequence [anV-] being interpretable as either first person a+n+V— or third person an+V—. Both Shoalwater and Kathlamet obviously share the first change, whereby the perfective alternants are distributed ·a- before consonants, ·an- before vowels. It can be presupposed for the common Chinookan period. In the latter, historically second, change, only third person singular masculine or feminine, and certain allomorphs[48] of the third plural have such vocalic shapes. It is the third person forms, not the first person forms, that innovate in Shoalwater by dropping the initial a- of the perfective prefix. This is predicted from the relative markedness of the third person and first person as members of a paradigm, the former providing the relative motivation for the latter.

On just the same basis, we must explain the innovation of the Kathlamet a-∼al- prefix as resulting from the inherited ambiguity of the ·[anV—] phonetic sequence. The restructuring is a "dissimilation" of ·an- > al- in the forms that require it, namely the third person members of the paradigm. This particular change is entirely natural for the language, which has l∼n alternations in a great many forms as vestiges of an augmentative-diminutive pair, for example in the post-

position -n-~-l-, in loanwords such as Sahaptian X̌alk 'blacktail deer' > Upper Chinookan -č'ank,[49] etc.

We should note in particular that the phonological change historically can be described as a morphologically-restricted "sound change" of precisely the form proposed as crucial to the generative "non-autonomous" theory.[50] So can the Shoalwater change in the same inherited morpheme. Such a view both obscures the nature of the particular change and eschews explanation of the change on the basis of the inherited surface forms, from which children construct grammars, by hypothesis. Only by showing the motivation for the change in terms of paradigmatic structure and surface ambiguity can we explain the reasons for these specific developments. Were we to write a rule for Kathlamet showing that ·-n- of the inherited perfective morpheme changes to -l-, this leaves out of the picture all the real conditioning factors. We cannot thereby explain the change in terms of surface ambiguity of first and third person forms; we cannot thereby locate the proper locus of innovation in the third person forms specifically; we cannot thereby see why the resulting system is in a real sense more highly-valued. With a clear notion of a paradigm, with a sense of the 'polarity' of surface forms, with a principled basis of relative markedness of forms and functions (meanings), we can appreciate the separate innovations of both Shoalwater and Kathlamet as dependent on the very same weak point in the inherited systems.

Both Shoalwater and Kathlamet show, then, an ironing out of a weakness in surface differentiation of paradigmatic forms. The profound syntactic innovation in Kathlamet is the use of the ·a-~·an- prefixal morpheme in the future tense. For this, we must see a typological parallelism in the "perfective present" of such language families as Slavic, where the regular 'future' tense is normally expressed in this fashion. In Russian, for example, the morphological present tense of the perfective aspect codes the 'future' meaning. Recall, from §4.1., that in Upper Chehalis the future marker ɬ- co-occurs with the perfective ("completive"), but not with the imperfective ("continuative"); observe the same restriction probably applies to Tillamook (§4.2.). As the 'future' developed into a distinct temporal category from the full-grade of the present formation in Chinook, this same universal tendency to present-plus-perfective expressing a 'future' was played out in Kathlamet. The 'perfective' prefix ·a-~·al- was compounded with the emerging ·-(y)a suffix to characterize the 'future' tense. That it did not happen in Shoalwater is not counterevidence to the general tendency, of course; were a specifically 'continuative' (or 'imperfective') marker so compounded, this would serve as counterevidence.

The developments must be recapitulated as follows. Both Kathlamet and Shoalwater inherited a 'perfective' prefix ·a-~·an-, and both innovated in restructuring to reduce the ambiguity of forms, Kathlamet showing new a-~al-, Shoalwater showing new a-~n-. Both dialects inherited an emergent 'future' marker ·-(y)a, which was strengthened in Kathlamet by compounding the 'perfective' prefix to the suf-

fixed form. Recall from examples (19) - (20) that in Shoalwater, where no such compounding took place, we find a compounding of the future marker itself on those verbs whose semantically 'future' forms remain ambiguous. These complementarities in historical innovations should be considered important confirmation of the explanations offered, though precise explanation of why the innovations should differ cannot yet be deterministically resolved.

§5.2. We can now deal with the form of the Kathlamet past tense. This, as we see from examples (29) and (30), is characterized

(29) BK:124 i-ƛ'-ɬ-u-ɮkʷɬ 'he carried them'
(30) BK:77 ig-a-x-ɮk'ʷá-mam 'she arrived home'

by a prefix i- before consonants and phonemic ik-, phonetic [ig-], before vowels. The verb root is in its historical "zero"-grade, and thus the formation corresponds exactly to the Shoalwater perfective formation in structure, though the shapes of the prefixes differ. Again here, as in the Kathlamet 'future' prefix, the use of a consonant -k- (phonetic -g-) as an epenthetic element between vowels is phonologically aberrant in Chinook, and we must seek the historical roots of the formation in some syntactically distinct place. Of course, now that we have seen how the inherited 'perfective' morpheme ·a-∼·an- was compounded with the 'future' marker, it becomes clear to us that indeed the inherited perfective has been replaced by another form. As the prefix-plus-suffix combination becomes the specifically 'future' construction, as opposed to a paradigmatic 'present+perfective', some mechanism is necessary to take over the role of the 'perfective' in its narrative aorist, or 'past' meaning. The two developments, then, are linked morphological innovations.

We should recall here, from our chart of forms (§2.) and from the Shoalwater discussion (§3.5.), that all the Upper Chinookan dialects, including Kathlamet, have tenses with (-)i(k)-, and a restricted deverbative nominalizer k#, while Shoalwater alone has no such tense forms and an unrestricted nominalizer. It seems clear, then, that the construction with k# proclitic, clearly an inherited locution, has been taken over by the verbal system in Upper Chinook from the nominal system. Form (24) above, from Shoalwater, is a derived noun phrase. It lacks any morpheme of Tense1 form-class (see (4)) and it lacks a nominative pronominal (functioning as direct object). This noun can be reverbalized by prefixing the singular masculine pronominal i-, the most unmarked and ubiquitous pronominal form.[51] We should then have an initial sequence of this predicate form of the nominal ·i+k#.[52] This is uniquely a 'third person' predication, "it is the one which (whom) ...," where the topic of the clause is the underlying direct object. No matter what transitive subject (ergative) follows the k# proclitic, the topic is fixed as the third person.

The innovation of Upper Chinook, preserved in Kathlamet in particular, is to create a new primary verbal paradigm from these

ik- predications, with the characteristic alternations of i- before consonants, ig- before vowels. Again here, we can pin-point the locus of formal innovation to the third person singular forms, the fundamental forms of any paradigm. The third person singular forms of the inherited predicating nominal have transitive subjects of third person singular following the sequence ·i+k#. These pronominals, as Sapir showed long ago,[53] can be recovered historically and derive from ·-i+k- for the masculine (>-č-), ·-a+k- for the feminine (>-k-). The vowels of these pronominals should perhaps be put in parentheses, because at the common Chinookan period the unstressed vowels here dropped. The -k- element still serves in most persons and numbers[54] as the marker of the ergative pronominal series. As the k# proclitic becomes fused morphologically into the verb in the Tense_1 prefix-class, the pan-Chinookan phonological rule (31), which

(31) $C_i \cdot C_i \longrightarrow C_i$ $\quad$ $_i$= same features

conflates two like consonants into one, comes into play.[55] This rule would apply to both third person singular forms of the new paradigm, as shown in (32). In terms of surface distinctness, this resulting

(32) $\cdot\{i+k+(\{{i \atop a}\})k- \longrightarrow \cdot[ik-]$

phonetic sequence is now to be segmented i-k- , that is, in effect the phonological rule in the third person singular forms is to be interpreted as truncation of the ·-k- of the new Tense_1 prefix. Thus the third person singular shows a morphophonemic alternant i- of the new prefix before the transitive pronominals. This means that the alternation is of the same type as the already-existing alternation of the al-~a- prefix, in the same form-class, only restricted to third person singular forms. This situation is shown in (33). The direction of analogical

(33) al- before vowels ~ a- before consonants :: ik- before vowels ~ i- before consonants k, č

spread of this alternation is totally determined, and the prefix ·ik- adapts to truncation of its final consonant before all consonants. This gives the system as attested.

It should be remarked once more that the reconstruction of history in terms of analogical processes motivates the developments in strict fashion. Merely to say that the rule of conflation (31), in the case (32), becomes a generalized rule of truncation (in terms of feature-counting, it is simpler; in terms of limitation to specific morpheme, rather than a general phonetic process, it is more complicated) obviates explanatory motivation. The motivation comes from the following three conditions: (a) the maximal surface distinctness criterion, whereby the phonetic sequence ·[ik-] of (32) is interpreted as a direct agglutination of ·{i-} Tense_1 morpheme plus ·{k} transitive sub-

ject morpheme; (b) the model of alternation that the inherited $Tense_1$ morpheme ·al-∼a- shows when ·{i↓k-} replaces it; (c) the unmarked status in the new paradigm of the third person singular formations. Observe that these deterministic motivating factors are expressible in terms of surface facts in relation to conditions on morphological analyzability. The configuration of rule mechanisms by itself is powerless to explain the historical change (in fact, it would predict the unattested---and impossible?---changes).

The whole development of this new, primary verbal paradigm in ig-∼i- is based on the inherited, secondary predicating function of the k# nominal, which was a nomen patientis of a particular sort. In an ergative language, this is very much functionally akin to a nomen actoris of an accusative language. We have innumerable examples in Indo-European of the building up of verbal paradigms, in particular of past-perfect forms, from such nouns, by comparable analogical processes that depend on secondary predicating function of third person forms, e.g. Persian, late Sanskrit. The triggering mechanism in Upper Chinook is the compounding of the inherited (past-)perfective prefix with the emergent 'future' suffix, into a compound 'future' construction. That the new 'past' paradigm is indeed a replacement of the uncompounded ·a(l)- prefix is supported by the fact that the verb root is in proper "zero" or unmarked form. The present-continuatives remain unaffected.

§5.3. Before discussing the other Kathlamet prefix innovations, I should clarify my assertions above (§5.1.) that Kathlamet shared the development of a prevocalic n- prefix in the inherited perfective. We have evidence for this in a number of forms where we would expect ig-, as well as in the prevocalic alternant of the usitative (§5.4.). Shoalwater innovations, completely system-internal, give rise to a perfective morpheme that alternates a- before consonants∼n- before vowels. Kathlamet innovations, dependent in part on the productivity of l∼n alternations areally, give rise to the prefix of the future that alternates a- before consonants∼al- before vowels. Both of these dialects presuppose a common development where this prefix alternates as ·a- before consonants and ·an- before vowels.

From this last, prevocalic alternant Kathlamet preserves in a marginal use the truncated n- form, just as in Shoalwater. At first we might conclude that the prevocalic n- was an artifact of the data on Kathlamet, which Boas gathered from Q'lti concurrently with the Shoalwater data (§1.2.). We might attribute these sporadic instances of prevocalic n- verb forms to "dialect mixture" or "interference". However, all the kiksht dialects also preserve this prevocalic n- form as a sporadic alternant of just the same sort. These data were collected in different places from different informants. (There is no evidence of it, however, in current Wishram-Wasco.) So we can say that the whole of Upper Chinook preserves in this marginal allomorph evidence of having shared the morphophonemic innovation still preserved as the unique system of the Shoalwater perfective. What is remarkable

from a systemic point of view is that in those Upper Chinookan dialects, all of which replace the inherited ·an- perfective, the ·n- allomorph is relegated to facultative alternation with newer morphemes developed in the several dialects.

Kathlamet, replacing the "narrative" perfective by i-∼ig-, has as an alternant of the latter a prevocalic n-, as in (34). We should

(34) BK:225 n-i-x-ɬk'ʷɬå-mam 'he got home'

compare (30) above. It occurs, of course, only before vowels, namely in intransitive third person constructions. (Perhaps this is the reason for its persistence.) Without any usitative suffix, it is of extremely rare occurrence. As a component of a usitative construction, as in (35), it is of frequent occurrence, being the regular

(35) BK:131 n-i-x-ɬk'ʷɬå-mam-x̣ 'he would get home'

prevocalic allomorph of the innovating prevocalic usitative (§5.4.). If we compare the usitative construction of Shoalwater (§3.4.), which employs the same suffix and the 'perfective' prefix, we can see that the function of the various categories of aspect, tense, etc. in Kathlamet has tended toward more separate expression. The Kathlamet 'past' is totally distinct from the 'present' and the 'future' and from the 'usitative'. Only as a prevocalic allomorph now unrelated to the inherited perfective does the n- survive in Kathlamet. This supports our reconstruction of the history as one of maximal distinct expression of a new set of categories.

The position of this inherited morph in the Kathlamet system demonstrates, further, the way in which old material is preserved in a language. If n- was a competing prevocalic alternant of the inherited perfective morpheme, then as i-∼ig- became the dominant and unique past tense marker, we observe that the morph n- was preserved as the regular prevocalic alternant in a "secondary" (see fn. 2) use of the inherited perfective, namely as the Tense_1 prefix of the usitative, in construction with the suffix -x̣. The continuity here between Shoalwater and Kathlamet appears clearly on chart I. above (§2.). The "primary" function of the morph n- was mostly taken over by prevocalic past ig- in Kathlamet by the time of Q'lti's text dictations, and n- remains here as a sporadic prevocalic 'past' alternant. Thus, for a synchronic description of Kathlamet morphology, we would have to analyze the system as containing two separate morphemes, 'past' and 'usitative prefix'. The first has an optional prevocalic alternant n-, the second an obligatory prevocalic alternant n-, and these are <u>not</u> morphophonemically related. But the fact that both these n- morphs are historically the same emerges from a comparison with Shoalwater and a theory of analogical change by syntactic category. No amount of internal reconstruction of the rules of the dialects will get at these historical developments, nor will mere phonological comparison.

§5.4. We have seen the prevocalic usitative prefix alternant in (35), then, which combines in construction with the suffix -x̣ in the usitative formation. This n- allomorph alternates with a prefix qa- preconsonantally, as shown in (36). The form is glossed

(36) BK:123 (ƛ-gunax̣) qa-ƛg-i-ú-√štx̣^{w}a-x̣ '(another one) would "pack" him'

so as to show the repeated and expected nature of the action; the action recurs as a matter of course, whether by customary knowledge or by the nature of the circumstances. The whole sentence from which (36) is taken may be translated as follows: "Whenever one became tired (tl· qa-ƛ-x̣-ú-√x̣^{w}a-x̣), then again another one would "pack" that younger brother." The contingency of the latter action on the first state (in parentheses) is irrelevant to the usitative. The central function here is to show the habitual recurrence of the two, contingency-linked predications. Observe that the prevocalic alternant n- has these same properties, as in (37), which I have given a close translation. The aspectual, modal and tactical structures of both these

(37) BK:125 núƛ'ix n-(a-) ú-√i-x̣, aqa wi iáčqm̓ n-i-x̣-l-ú-√x̣^{w}a-x̣ i-čá-wan 'A-little (farther) she-would-go, now again sick it-would-become her-belly.'

sentences are the same. It should be noted, in addition, that usitatives occur in simple sentences also, without such contingency taxis. In (38),

(38) BK:188 čákwaix špaq n-i-x̣-ú-√x̣^{w}a-x̣ yáxi i-kak'úƛitx 'In-the-summertime dry it-would-become that lake.'

we find a statement of a recurrent natural phenomenon of the yearly seasonal cycle. In (38), as in (37) and the form for 'tired' just above, we have the usitative construction of the verb root -√x̣(w) 'make, do'[56] with an epenthetic -a- following between verb root and following identical consonant.

It is clear from §5.3. that the prevocalic n- alternant of the usitative construction continues the inherited 'perfective' morph of that shape. Shoalwater, as we saw (§3.4.), has this regular formation, where the usitative meaning contrasts with the perfective meaning by the presence or absence of the suffix -x̣. In other words the usitative is really coded by the suffix alone. Kathlamet, characteristically, compounds the inherited suffix with a prefix. In the vowel-initial verb forms, the prefix is n-; in the consonant-initial verb forms, the prefix is qa-. The latter needs historical explanation, for it is the specifically Kathlamet innovation.

In seeking to explain the source and development of the prefix qa-, we are faced with many potential sources. One is borrowing from a neighboring language, in particular Salishan or Sahaptian.[57] Another is the nominal paradigm, in which are found deverbatives in q(V-), paralleling those in k# discussed above (fn. 16 and §3.5.).

We have already seen how Kathlamet built a new 'past' morpheme from the deverbative nouns in k# (§5.2.); have we here a parallel case? Finally, a third source is the indefinite-interrogative stem qa-, which occurs in numerous words of the particle syntactic category. I shall now take these in order, trying to eliminate the first two possible sources, and to substantiate the third as the historical one.

In Upper Chehalis, according to Kinkade,[58] there is an 'adverbial prefix' {nk^{w}s-} of constant shape, indicating 'habitual action'. It is "one of the three most common adverbial prefixes," and "might well be considered a fourth aspect marker" (see §4.1.) were it not for co-occurrence with following -s- 'continuative' and ʔac- 'stative' morphemes.[59] As an 'aspectoid' morpheme, then, this has a certain structurally anomalous position. We might think it to be an innovation of Chehalis, replacing a possible source for the Kathlamet usitative qa-, were it not for sound comparative data establishing its Salishan age. Tillamook, as we learn from Edel,[60] has a "locative" prefix nš-, with a vague meaning that seems, from the glosses of examples, to be a kind of continuing or habitual state morpheme. Thus for example ɬa nš-s-nə́x̣-i 'I know it' (root √nux̣ or √nəx̣^{w}), where a locative meaning is certainly not patent. The article (see §4.2.) appears here, signalling the cross-reference to a third person participant. Rather than calling the prefix in question a "locative", we should see nš- as indicative of something about the state of the subject ('I') as "knower". Note the occurrence of -s- prefix in particular.

It should probably be clear that the source for both these usages must be in a certain kind of noun of agency which expresses customary or habitual properties of the referent. In both of these languages this referent appears as the subject of the predication. Striking confirmation is found in Squamish, for example,[61] where the prefix sequence nəx^{w}-s- is the regular nomen agentis formation, e.g. nəx^{w}-s-ʔíƛn 'eater' from root √ʔiƛn 'eat (itr.)'. It is this nomen agentis, used predicatively, that is the source of the Upper Chehalis habitual and probably of the mysterious Tillamook prefix as well.[62] It seems reasonable to conclude, therefore, that the formation is ancient within Salishan,[63] and the Upper Chehalis 'habitual', anomalous in its own system, comes from an older, predicative use of nouns of agency, a complex formation with ·na(+)k^{w}+s- at an earlier time. The point, then, is that no habitual in qa- could have the local Salishan dialects as a source, on the direct evidence of attested form, nor should any such source be postulated, because the habitual seems to be a recent development locally within Salishan in this form, coming from a predicative noun of agency.

Another loan source we might consider is Sahaptian. Klikitat, the Sahaptin dialect closest to Kathlamet geographically, shows the pan-Sahaptian usitative formation in clear form. Contrast the verbs recorded by Melville Jacobs:[64] iqə́pta 'will shoot', iqə́pna 'shot', iqə́pnəx̣ana 'were shooting'; átux̣^{w}ənana 'shot and killed it', átux̣^{w}ənax̣ana 'would (habitually) shoot and kill it'. The past habitual is

in -x̣ana, the past in -(n)a, the future in -ta; thus the 'usitative' morpheme itself is -x̣a-. As Jacobs observes in his grammar,[65] under certain phonological conditions this morpheme appears as -x̣ finally, when no tense morpheme follows. We should note then that the overt form of the Sahaptin usitative morpheme is a suffix, not a prefix, of shape -x̣(a-). The only possibility for the borrowing hypothesis would be if this derived from an earlier *-q(a-). This is in fact the case, in one sense.

If we compare Nez Perce,[66] the other Sahaptian language, we find that the frequentative morpheme is underlying {-q-}, a suffix that precedes just the recent and remote past tense clitics. There are various automatic morphophonemic adjustments of this morpheme, depending on the sequence in which it is found. After a plural morpheme -eʔnik-, it disappears, -k+q- reducing to -k-; before 'recent past' -qa or 'remote past' -ne, it shows epenthesis of -a-, giving -qaqa and -qana (vowel harmony here); finally, when no tense morpheme follows, it spirantizes to -x̣. By combining these possible conditions, the allomorphs are generated. Comparing now the Nez Perce sequence -qana with the Klikitat sequence -x̣ana, and the Nez Perce final -x̣ with Klikitat -x̣, we see that the Sahaptian form must have been medial *-q(a)-, final *-x̣, both allomorphs of the reconstructable underlying form *-q(-). But it is just this suffixed morpheme which is cognate to the Chinookan usitative suffix -x̣, under the Penutian hypothesis. Its age in Sahaptian is indicated by its position, epenthetic behavior, and the phonological divergence of the dialects (-q- = -x̣-, but -x̣ = -x̣); its age in Chinookan is indicated by the agreement of all the dialects which presuppose the same usitative suffix (not prefix, note). Thus Sahaptian is cognate in suffix formation, and has not contributed an embedded suffix to Kathlamet alone, to serve in its presumed morphophonemic form as a prefix in the borrowing language.

If borrowing is not the origin of this prefixal qa-, then, does it reflect the reverbalization of deverbative nouns in q-? All the Chinookan dialects show deverbatives from the set of mediopassive or reflexive verbs (see fn. 56) in various -x̣- and -x- forms. In the absolute, or unpossessed form, these nouns have stem-initial -q- and -k-, while in possessed form, post-tonically, they have the corresponding spirant initial consonant.[67] Thus from an older mediopassive *-x̣+k+ɬni-m 'float on' (>modern -ɬxni 'float'), we have Kathlamet noun i-kắnim 'canoe' (BK:186), possessed form i-tá-xanim 'their canoe' (BK:183); from a mediopassive construction -x̣+l+ɬnxa-k^{w} 'to be set up around' we have Shoalwater u-q^{w}ɬnxak 'plank' (BG: 613), possessive u-iá-x̣inxak 'his plank'. The pattern in quite regular. But why should such a deverbative, with no transitivity implied (contrast kɬ forms above), be taken over precisely in the transitive usitatives, never in the vowel-initial intransitive third person forms? This would necessitate major restructuring both of the order-classes of morphemes and of the particular form-classes

represented. I can think of no well-founded analogical mechanism for (a) dropping the initial gender prefix and (b) inserting after q- all possible pronominal schemata of the verb, preceded by epenthesis of -a-. Why, moreover, is it only the q- form in its unpossessed (intransitive) state, as opposed to the -k- forms of these reflexive nominals, that is employed? The telling points against such a deverbative origin of the usitatives in qa- are three: first, the vast majority of such "instrumental" deverbatives lack the usitative suffix; second, in reverbalizing a noun, a pronominal prefix would be necessary preceding the deverbative prefix (compare ·i+kɬ > ig-); third, the innovating form is just preconsonantal qa-, never any other form, nor any prevocalic ··q-, which would imply a totally arbitrary selection, for certain verbs only, of deverbatives to serve as the model. The explanation is just not viable.

We are left, then, with the third possibility for historical source of the qa- morph. This is the pan-Chinookan morpheme for indefinite-interrogatives, {qa-}. It occurs in many compound particles in all the dialects, as well as by itself. These particles have, from our point of view, a double semantic function, serving as both interrogatives and as positive indefinites. As interrogatives they correspond to our Wh-words; as indefinites to our pairs of some-any words. Thus (39) demonstrates the interrogative construction, with

(39) BK:179-80 qa imə́x̣ux̣ 'how are you?'

isolate qa, while (40) demonstrates the any-how, any-way construc-

(40) BK:132 nísɬt qa igíkim ikauxau 'Owl did not speak nohow'

tion with a negative, which I translate into a non-standard English construction for illustrative purposes. Some of the perticles and their contextual translations are qa-nə́-x̣ 'how much' (BK:137), qə́-x̣(pa) 'where' (BK:66,183), qə́-wa 'several (= some of many)' (BK:181), qa(-t-)gi 'how' (BK:132,180). All of these share the common meaning of indicating an indefinite, surmised quantification of whatever they refer to. It is just this meaning which is so well suited for the usitatives: together we would translate qa with a usitative as 'however', 'whatever', 'whenever', and so forth. They combine the uncertainty of the indefinites with the repetition by habit of the usitative; the negative negates this. Observe (41), where

(41) BK:175 ništ qančíx̣ qa-ɬg-i-l-√qʷím-x̣ yaxi iɬámxix 'not ever would they feed that younger brother of theirs'

the qa- form qančix̣ 'when; sometime' co-occurs with the usitative in qa- -x̣. This is the result of the historical incorporation of qa-, the unmarked manner indefinite, onto the usitative form. An intermediate form, from an intermediate stage of development, is preserved in an example from a myth text, (42), where we have two

(42) BK:60 ƛiápla imúlakmaxˑ kínuwa iámaq qa-n-i-(i)-l-u-√χˑʷa-χˑ, niɬt qa i-ú-√maqt-χˑ 'As-many elks (as) in-vain I would shoot, they are in no way ever dead!'[68]

clauses, the first with a qa- -χˑ usitative on the verb -√χˑ(ʷ) 'do, make', while the second clause shows a prefixless usitative in -χˑ preceded by the qa- phrase. This is just the route we would postulate for the development of the qa- -χˑ usitative. The qa conflated with a prefixless usitative in such constructions, but remained distinct where the usitative had the n- prefix inherited as the prevocalic morph. Thus we do not have ··qa-∼··qan- as the alternation of the usitative form, but rather qa-/__C∼n-/__V, from two distinct etymological sources, a highly asymmetric allomorphy. It is precisely the development of the 'future' prefix out of the old 'perfective' a-∼al- morphs, but not out of the n- allomorph, that reveals the fact that we are indeed dealing with reinterpretation of surface allomorphs.

§5.5. A related kind of innovation in Kathlamet is the creation of the 'future anterior'. Again here, we find the compounding of an adverbial proclitic element to the verb, and again here, the distribution in Kathlamet is asymmetric. The na- 'anterior' forms are related to the 'future' forms in semantic specialization, as shown in (43).

(43) BK:121 a-n-ƛ-u-√wɬqˈ-m-a, mánixˑ na-n-x-√kˈʷá-mam 'I will swallow them, when I have arrived home'

Though the na- form here has past meaning, the contingency is clearly predicated in the future. This association is frequently made syntactically overt, when the prefix na- appears on an otherwise 'future' form, as in (44). Were this a true 'future' form, with a- prefix and

(44) BK:124 a-mɬ-χˑ-√ƛχˑɬ́m-a, manixˑ na-mɬ-ú-√pq-am-a 'you (pl.) will eat, when you get inside (my house)'

-a suffix, the initial prefix would be truncated na- → n-, due to coalescence of similar vowels. This does not seem to be the case, however, since there is a restriction on the occurrence of the n- initial forms. Like the qa- forms, na- forms occur only with verbs which are consonant-initial in whatever follows.

This restriction, which is common to both these Kathlamet innovations, can be substantiated by looking at functionally equivalent forms. For example, manixˑ clauses with the same semantic structure appear with a future construction if the verb has vowel-initial pronominals. Note example (45), where the first clause has 'future'

(45) BK:123 mánixˑ al-a-m-g-at-√qʷ-am-a, aqa čˈpak ləp a-m-χˑ-u-√χˑʷ-a 'when she has come upon you (sg.), then boil strongly (= be boiling vigorously)'

verb in al- followed by the vocalic pronominal -a- 'she'. This is characteristic of such constructions. But the reverse does not hold, that all consonant-initial verbs have anterior forms in na-; for example we have the form (46), with a regular future formation of

(46) BK:181 mánix̣ a-ƛg-i-√qɬkl-áya (ƛ-g^{w}aƛɬlx) 'when (a person) sees him'

the verb. So the distribution of na- is restricted by phonological form, at the very least.[69]

In occurrence, then, the anterior na- forms are rather weakly developed. From the comparison of other dialects, which lack this formation, it is clear that this is a category on the rise, not on the decline.[70] Again, as with the qa- usitative innovation, we must question the origin of such a morph(eme). Again, paralleling the qa- innovation, the na- forms seem to be the result of compounding of an adverbial morpheme onto the verb, as a prefix.

The particular adverbial morpheme is a prefix na- that creates subordinate predications, 'when' or 'where' clauses, together with whatever follows. It is pan-Chinookan, and of quite some antiquity, from the fact that deverbative nouns have arisen from the subordinate predications. One of the largest class of such nouns is the set of local names, as Boas observed (BG:614) in glossing na- as "local prefix". Thus na-ƛx̣^{w}áp 'hole' from the predicate particle ƛx̣^{w}ap 'dig out, dug out' is a pan-Chinookan formation, literally "where there is dug up". Note also the existence of place names such as Shoalwater na-ʔɬlim 'country of the Tillamook', with characteristic prefix. But all Chinookan adverbial formations are structurally indifferent to time vs. place; they are always equivalent distinctions at the surface. Thus note the Shoalwater formation glossed as 'day' (= "daylight"), na-ʔáƛax̣ (BCh:88), literally "when (there is) sun", derived from the stem -qáƛax̣ 'sun'. It seems that Kathlamet shows the compounding of just this prefixal na- to signal temporal, rather than spatial definite location, 'when V,' in the clauses we have seen above. As we observed, it is a marginal and unstable construction, but its importance for Upper Chinook as a whole will emerge below (§6.).

That all the Chinookan dialects have the freely-compounded na- prefix of locational value, would indicate that this formation should be projected far back to the common period. Indeed, there are related frozen suffixal constructions of directionality with -na suffix, máƛ-na(t) in Shoalwater and in Kathlamet, 'at (toward) the water' which attest to its age. We should compare here the productive -la(-t) constructions of the same meaning in kiksht, e.g. Wasco šax̣-la-t(-) 'toward above'. It is tempting to relate this obvious Chinookan ·na to the locative ·na of Salishan, discussed above at §4.2., which shows much the same central reconstructable meaning and much the same historical development to temporal uses. Any direct connection for the source of this morpheme, however, must have been at a far ear-

lier period than dialectal Kathlamet. In fact, any direct connection must be dated to the common Chinookan period. Further, since the development in Kathlamet parallels that for Salishan, it is impossible to distinguish what is areally conditioned categorial development from what is parallel, independent internal development. It is best, then, to see the Kathlamet na- forms as system-internal innovations.

§5.6. This exposition of the Kathlamet system has omitted mention of the 'present' formations, and of the deverbative nominalizations in k#. The former are the same as those of Shoalwater. The latter, as was mentioned in discussing the new i-~ig- 'past', is limited in its domain of operation to adjective-like stative verbs, and to possessive constructions, which are built on noun stems. When we recall that it is from the transitive verb that the fullest, typical i-~ig- past has arisen, we can appreciate the diagnostic character of the residue of productive k# forms: adjectivals and possessive constructions are nowhere in Chinookan inflected for tense or for aspect, and so did not participate in the innovation.

Summarizing, then, Kathlamet has "strengthened" the inherited 'future' form by compounding a morpheme a-~al- cognate with the Shoalwater 'perfective' (§5.1.), which resulted in the adaptation of predicating forms of nominals in k# as a new 'past' tense in i-~ig- (§5.2.). These joint innovations have the effect of severing the inherited 'perfective' morpheme from its free, independent, categorial status, characteristic still of Shoalwater (narrative aorist perfectives). Hence the inherited allomorph n- of the perfective, which once alternated with a- (§5.3.), is adapted as an alternant of new distribution in the Kathlamet system. It is prevocalic allomorph both of the preconsonantal i- 'past'---sporadic in occurrence---, and of the newly-developed preconsonantal qa- 'usitative' prefix (§5.4.), which replaces the inherited 'perfective' morpheme on usitatives. Finally, a 'future anterior' in na- occurs only preconsonantally (§5.5.), and alternates with the regular prevocalic morph of the 'future' prefix al-.

§6.0. Just as the system of Shoalwater is presupposed by all the developments in Kathlamet, so the system of Kathlamet is presupposed by all the developments in the kiksht dialects further upriver. In other words, the developments in kiksht presuppose a system like that of Kathlamet as their inherited system. The particular weaknesses in the Kathlamet, or inherited system are the form of the new usitative prefix qa-(~n-) and of the anterior prefix na-(~al-?), both of which innovations are limited to preconsonantal position. The kiksht dialects restructure these both in interesting ways, adding yet more prefixal forms to the verbal system. It should be noted that in terms of number of distinct categories and their formal expression, Kathlamet has preserved the number of categories of the Shoalwater system, adding a weak "relative tense", the 'future anterior', and severing 'past narrative' meaning from the 'perfective'. Perfectivity,

in fact, has clearly become a residual meaning of the new i-~ig- 'past' tense, and occurs nowhere in the system independently. The triggering innovation in Kathlamet has clearly been the strengthening of the inherited 'future' with the inherited 'perfective' prefix. Rather than an independent 'perfective' prefix as in Shoalwater that recurs for example with 'usitative' suffix -x̣, Kathlamet shows a maximal formal independence of all the newly-aligned tense and other categories, each within its own sphere of entirely-distinct expression. The reintegration of the two weak points in that system, with limited distribution, into a system of parallel formal expression, gives us the elaborate prefixal structures of the kiksht dialects.

We can understand the changes that each of the systems undergoes by reference to surface structural formal patterns as expressions of primary and secondary categorial meanings. I do not see any explanation forthcoming from description of morphophonemic rules by themselves, even with input and output conditions on the specific phonological changes. In the kiksht dialects, we will see the elaboration of 'past'-tense morphemes to four, based upon the regularization of the na- and qa- morphs within the prefix paradigm. Three new past tenses are created, the 'relative' tense is lost, and the 'usitative' acquires a structure akin to the Shoalwater formation, once again. In each of these changes, we see reinterpretation of meaning relations that in turn depend upon overt formal relations of categories, and cannot be explained by morphophonemic change alone.

In geographical terms, the dialects of kiksht contrast dramatically with the the two dialects discussed in §§3., 5. While there was rather wide divergence between Kathlamet and Shoalwater---and there is wide divergence between either of these and kiksht---the riverine kiksht dialects show among themselves an intergrading continuity from the Clackamas on the Willamette to the Wishram-Wasco about The Dalles. Speakers of these refer to the whole group by the single linguistic taxon 'kɪkšt', but can identify localisms within it. Our large samples, such as text collections, are discrete in geographical provenience, but it is clear that high mutual intelligibility prevailed over the area, a rather large segment of the whole Chinookan territory.[71]

We shall take up, in turn, the creation of the n- past tenses, and the creation of the ga(l)- past tense, the latter in connection with the form of the usitative construction. The rest of the kiksht system is homologous to the system of Kathlamet, that is, there has apparently been no further change. A few local developments in one or another of the dialects can be mentioned in passing.

§6.1. From the chart above (§2.), it can be seen that all kiksht dialects share two past tense morphemes in initial n-,[72] na(l)- and ni(g)-. These morphemes both refer to a time further back from the here-and-now of the speech situation than the time of the i(g)- past tense. In temporal succession, in fact, there is a strictly increasing distance back from i(g)- to na(l)- to ni(g)-. If we add the future prefix a(l)- and use '›' to symbolize order of temporal referential priority

of forms with these prefixes, then the schema (47) shows the se-

(47) ni(g)- > na(l)- > i(g)- > a(l)-

quence that will be relevant for our discussion. We can observe the allomorphy of these two n-past prefixes by examples (48) through (51),

(48) ni-č-ɬ-u-√x̣ 'he did it long ago'
(49) nig-ɬ-x̣-u-√x̣ 'he became long ago'
(50) na-č-i-ú-√x̣^{w}-a 'he did it recently'
(51) nal-i-x̣-ú-√x̣^{w}-a 'he recently became'

taken from Wishram-Wasco, all involving the root -√x̣(^{w}). For the 'far past' we have preconsonantal ni- alternating with prevocalic nig-; for the 'recent past' we have preconsonantal na- alternating with prevocalic nal-. This formal parallelism of allomorphy between the n-set and the other two prefixes of (47) should be the clue to their origin; ni(g)- is parallel to i(g)- just as na(l)- is parallel to a(l)-. Both of these n-tense prefixes result from an analogical change starting from the inherited "relative" tense found in Kathlamet (§5.5.).

Recall that the "future anterior" in Kathlamet was characterized by the prefix na- preconsonantally, usually occurring with a form showing the future suffix -a (e.g. (44) above). The regular 'future' formation occurs prevocalically. This may be schematized na-C——-a ~ al-V——-a. I have found in the Q'lti Kathlamet texts a form which is deviant for Kathlamet, but which regularizes the anterior form in the expected direction. This is shown in (52). Since this is an anterior

(52) BK:181 manɬx̣ nal-u-x̣^{w}-a-√x̣-a[73] t-ɬ̣ɬ̣xam 'when there will be people'

form with vocalic pronominal (after phonological change, as shown in fn. 73), we would expect a 'future' prefix al-. To this future construction in al- -a, however, has been prefixed the distinctive mark of the anterior tense, n-; thus we have compounded n+al-. This development is expected only if we can appeal to the fact that distinct categories tend to distinct primary expression, as opposed to contextualized expression as secondary meanings of other formations, here the 'future'.

The form (52) is, as I mentioned, exceptional in Kathlamet. Nevertheless, it is presupposed as the starting point for the developments in kiksht. Such an alternation of a relative future tense with na-/__C ~ n+al-/__V will lead to the segmentation of the preconsonantal alternant into just such an "anterior" morpheme followed by the preconsonantal alternant of the 'future', that is na-/__C > n+a-/__C. The analogical pattern is clear, since the 'future anterior' is semantically dependent on the 'future', as shown in (53). The 'future' forms are inherited; we have

(53) 'future' al-/__V~ a-/__C :: 'future anterior' n+al-/__V ~ na-/__C >
al- : a- :: n+al- : n+a-

also evidence for the third term of the proportion in (52) within Kathlamet itself. Notice also that the form of the fourth term is inherited; what we show to be an innovation is its morphemic segmentation. Thus by (53) we show how a separate 'anterior' morpheme was developed, of shape ·n-.

Once we have the syntactic analysis of na(l)- into n+a(l)-, where the latter is the regular 'future' formative, we can see that the creation of the fourth tense prefix is determined by simple extension of the domain of this 'anterior' morpheme through the analogical mechanism (54). The crucial formal facts bearing on the correctness of (54)

(54) a(l)- ∢ i(g)- :: n+a(l)- ∢ x; x = n+i(g)-

are that for each n-tense form, the rest of the verb has precisely the correct shape were this the historical mechanism: in (50) - (51) above the verb ends with the characteristic -a suffix, while in (48) - (49) above the verb has no suffix, just as for the i(g)- forms we saw in Kathlamet, or as we could show for Wishram-Wasco, (55) - (56).

(55) i-č-ɬ-u-ɲ̓x̣ 'he just did it'
(56) ig-ɬ-x̣-u-ɲ̓x̣ 'he just became'

The crucial semantic facts here are that as i(g)- predications precede (of necessity) a(l)- predications, so ni(g)- predications precede na(l)- predications. The unprefixed present-continuatives, all with various continuative suffixes as in the other dialects, are out of this system on both formal and semantic grounds;[74] formally they are prefixless, while semantically they are nuanced by obligatory aspectual or voice suffixes.

The proportion (54) determines the ordering within the respective halves of the prefixed verb system. But in addition, it is the case that both n-tenses are anterior to both the other tenses, as can be seen in (47). In particular, it is important to see that the na(l)- tense is more remote than the i(g)- tense. This is just a reflection of the "internal logic" of the system. Recall from (43) above in Kathlamet that there were examples of the na- relative tense with otherwise unsuffixed, or "past" verbs. In terms of the analogical developments here, we can simply say that this is precedent for a uniformly 'past' interpretation of n-initial tense forms. If this is so, then it seems reasonable to assume that the entire "anterior" set with n-prefixes will refer to time earlier than the entire "non-anterior" system inherited. But we cannot force this issue with the data now at hand.

All of the kiksht dialects, as I observed above, have these four prefixed tense forms. In manuscript notes from Ottawa during the 'teens,[75] Sapir indicated that the Cascades dialect, which his interpreter Peter McGuff knew (§1.2.), was limited to these four prefixed past tenses, as opposed to the other kiksht dialects where there is a fifth. This would be startling confirmation of the primacy of the developments just outlined as distinctive of kiksht as a whole. However, my contact with Cascades speakers who use the fifth past tense form as well,

combined with the geographical and social facts, may indicate that McGuff was looking for some point of difference explicitly to point out in distinguishing his home dialect from the Wishram of Louis Simpson, for whom he interpreted. Clackamas, further downriver from Cascades, has a fifth tense, as does Wishram-Wasco further upriver. We have, as I mentioned, a kind of dialect continuum with basically phonetic and lexical scatter, rather than clear structural differences, as with the other two cases, Shoalwater and Kathlamet. There was, furthermore, a continuous tradition of exogamous intermarriage throughout this region, and it is highly unlikely that a geographical localism could maintain such clear structural distinctness when clearly the population was regional in social affiliation.

Were we to accept this as true for McGuff's time, however, our historical reconstruction would have to postulate that Cascades either never devloped the fifth tense, or it has lost it. The latter seems more unlikely even in an exceptional case, given the geographical and social facts. To show the former, we must have Cascades data on the usitative (other than my own which show the fifth tense form), as will become clear in seeing the development linking the usitative to the fifth tense, with prefix ga(l)-.

§6.2. Among the kiksht dialects, at least Clackamas and Wishram-Wasco have a fifth prefixed tense form which we may gloss 'remote past'. In these dialects it is the past tense referring to time remotely distant from the present, earlier than all the other tenses. Thus it is the predication par excellence of the myth era, in particular. It should be observed also that the i(g)- past tense in kiksht, though clearly identical historically with the i(k)- of Kathlamet, is the 'immediate past', since the n-initial past tenses are both anterior to this formation by the analogical mechanism that created them.

The alternants in preconsonantal and prevocalic positions are given for the prefix ga(l)- with the Wishram-Wasco verb -√ẋ(ʷ) in (57) and (58) respectively. The alternation parallels exactly that of na(l)- and of

(57) ga-ɤ-i-u-√ẋ(ʷ-a) 'he did it some time ago'[76]
(58) gal-i-ẋ-u-√ẋ(ʷ-a) 'he became some time ago'

a(l)-. These examples indicate also the variation that exists between a suffixed -a form of the verb root, and an unsuffixed form. In the Clackamas and Wishram text collections, this variation is preponderantly in favor of the unsuffixed forms of verbs. For example, (59) and (60)

(59) JC1:98 ga-ɤ-ɬ-ɑ́-√lxam 'he told them'
(60) SW:112 ga-ɤ-i-ɑ́-√lxam 'he told him'

give, respectively, typical myth narrative tense forms in Clackamas and Wishram-Wasco. Contrast true future tenses from the same roots in (61) and (62). In giving isolated forms especially, current kiksht

(61) JC1:145 a-g-m̥-t-√lxám-a 'she will tell you (sg.)'

(62) SW:52 a-m-i-u-√lxâm-a 'you (sg.) will tell him'

speakers tend to add the -a suffix to the ga(l)- tense verbs. It is therefore reasonable to see this as an extension of the -a suffix on the analogy of both na(l)- and a(l)- tense forms, and to accept the evidence of myth texts as in fact more archaic.

This is important for our historical interpretation, of course, because it indicates that the ga(l)- tense is both a recent creation---subject to the analogical pressure of initially-rhyming forms that are themselves kiksht creations---and still in a state of being integrated into a paradigmatic structure. Further, it indicates that we are not to seek an historical explanation of the ga(l)- tense along the same lines as the n-initial past tenses (§6.1.), which were compounded on the analogy of the inherited 'future'. Rather, we are to seek its explanation in the qa- usitative prefix still attested in Kathlamet, which, it will be recalled, occurs with the "zero grade" root form.

The qa- usitative in Kathlamet predicates customary or habitual action in the texts. Recall, from §5.4., that this prefix occurs only preconsonantally, alternating with prevocalic n-, and both of these prefix alternants co-occur with suffix -ẋ on the verb. Myth texts, which explain the recurrent order of things, the essential nature of the named myth actors as personality types,[77] are one context where we expect a high density of such forms. (I have collected Wishram-Wasco myths dictated entirely in usitative forms with ga(l)- -ẋ.) It is just this point of contact that would lead to the identification of the qa- prefix as a myth-time past tense. The i(g)- past tense, once the innovation of §6.1. is under way, is no longer the most remote past tense, recall. The prevocalic allomorph n- of the usitative has the same shape as the sporadic prevocalic allomorph of the single past tense i(g)- of Kathlamet. Hence the conditions (a) having a "hole" in the system, (b) having one common allomorph n-, obtain for the usitative prefix qa- to be construed as the preconsonantal allomorph of a new 'remote past' tense prefix. This is shown in the historical schema (63),

(63) 'usitative' [n-/__V ~ qa-/__C] -ẋ :: 'remote past' n-/__V~[i(g)- > ∅] > [n- : qa-] -ẋ :: n- : ·qa-

where the assumption of a ·qa- preconsonantal 'remote past' restores the proportionality of the system, filling the hole left by the removal of i(g)-. Once this change has taken place, then clearly the systemic regularity of all prefixes ending in preconsonantal —a- obtains by the parallel analogical creation of a regular prevocalic form in ·qal-, as shown in (64). The alternant n- prevocalically remains a marginal and

(64) a-/__C~al-/__V :: na-/__C~nal-/__V :: ·qa-/__C~n-/__V > a- : al- :: na- : nal- :: ·qa- : ·qal- (: n-)

sporadic allomorph of the 'remote past'.

It should be observed that I have indicated by asterisks that the

forms ·qa- and ·qal- are not directly attested historically. That this is the morphological mechanism for the creation of the kiksht remote tense is clear; but there is a phonological difference in the attested forms of the morpheme, as shown in (57)-(58) above. The attested morpheme shows a velar initial consonant, voiced g-, rather than a uvular initial consonant, voiceless q-. How are we to explain this difference? It seems to me that the change we must then postulate from inherited uvular ·qa(l)- to attested velar ga(l)- depends on the difference between the voiced and voiceless allophones.

For, if we examine the range of applicability of the rules of voicing stops before sonorant segments, we find an interesting dialectal distribution. For the seven primary (simple) stop positions, represented by p, t, k, k^w, q, q^w, (ʔ), only the first four have regular voiceless-voiced alternations in Shoalwater and in Kathlamet. All of the first six have these alternants in kiksht. In other words, the voiced alternants g, g^w are kiksht innovations, not common Chinookan elements. This can be seen from the comparison once more of the two forms in (1) - (2). While in Wishram-Wasco the stops -q- and -k- both voice before the vocalic segments -a-, -i- (to -g-, -g- respectively), in Shoalwater the uvular -q- alternates pretonically with -ʔ-, otherwise not at all, while the velar -k- alternates with voiced -g-. Observe also that the Kathlamet form in (3) preserves the -q- before -a- but voices -k- to -g- before -i-. The Shoalwater q-ʔ alternation must be dialect-specific, moreover; no trace of such a process is found elsewhere. So we may say that kiksht, like the other dialects, inherited a non-alternating q- phoneme.[78]

I am suggesting, then, that the kiksht change of ·qa(l)- prefix to ga(l)- prefix dates from a time before the incorporation of ·q into the regular set of pre-sonorant voicing alternations. In order to appear as a "regular" morpheme of tense, ·qa(l)- should show regular voiced stop before the vowel. Since ·g is not phonemically operative as an element in an alternation, it is replaced in this prefix by g-. But this replacement seems to be determined by a "maximal distinctness" principle as well, since we could easily assume that this should have been one of the morphemes that gave rise to a voiced g historically, rather than changing its localization series.

In the first place, there is a special, pan-Chinookan morpheme q-, which occurs only as a so-called "indefinite agent," namely a transitive subject (ergative) slot filler in verbs. It is to be distinguished from a true "indefinite" of which, however, one can definitely conceive for referential purposes. This last is expressed by various overt noun phrase devices in the several dialects. Shoalwater so uses the noun i-kta[79] (masc. sg.) and the prefixless tan for 'what, something', and either a pronoun ƛa-ksta or the noun for 'person' ƛ-g^waƛɬxmk for 'someone'. Kathlamet and kiksht have tan(gi) for 'something' and łan(gi) (Wishram-Wasco šan(gi)) for 'someone'. These noun phrases take regular third person pronominal morphemes as verbal cross-referencing markers, and can occur in any of the three case functions represented in the schema (4). The q- morpheme, invariant in shape, on the

other hand, occurs only in the ergative form-class and never cross-references any noun phrase. For this reason q- verb forms are frequently translated by Boas as passives. From the formal point of view, whenever a q- form occurs followed by -a-, whether pronominal or epenthetic (before a cluster of consonants), it is homophonous with a verb beginning in putative ·qa(l)- 'remote past'.

Second, kiksht shows the reflex aġa of Upper Chinookan ·áqa[80] with medial voiced -ġ-. This is frequently reduced, by sandhi phenomena, to ⁺'ġa, aġ'⁺, or even ⁺'ġ'⁺. It is frequently found in immediate preverbal position. Were our putative 'remote past' morpheme ·qa(l)-, in initial position in the verb, subject to voicing, giving ·ġa(l)-, the resulting phonetic sequence would obscure the nature of the verbal form entirely. It could be a future form preceded by ·aġa (⁺'ġ'⁺a(l)—) as well as a remote past in ·ġa(l)-. The replacement of ·qa(l)- by ka(l)- (→ phonetic [ga(l)-]) preserves the integrity of the word boundary, and permits unique identification of the form. It is a question of preserving a "Grenzsignal" in Troubetzkoyan terms.

I have been arguing, then, that conditions of distinctness of forms are the relevant ones in motivating the "irregular" shift of expected ·qa(l)- to attested ga(l)- 'remote past' prefix. These conditions involve both voiceless and putative voiced alternants of the uvular initial ·q-. Were this form preserved as such, then verb-internal homophony results; were it voiced to ·ġ-, then phrasal homophony results in an important phrase type. Since the latter possibility would create at that stage a new phonemic entity, not otherwise inherited in initial position, the morpheme ·qa(l)- is regularized by shift of ·q- to underlying k-, subject to regular voicing rules and resulting in a morphemic shape ga(l)-. Thereby the morpheme is regularized phonologically, the 'remote past' is a uniquely identifiable category, and the word boundary is preserved in surface form. I see no way other than this of motivating such a change.

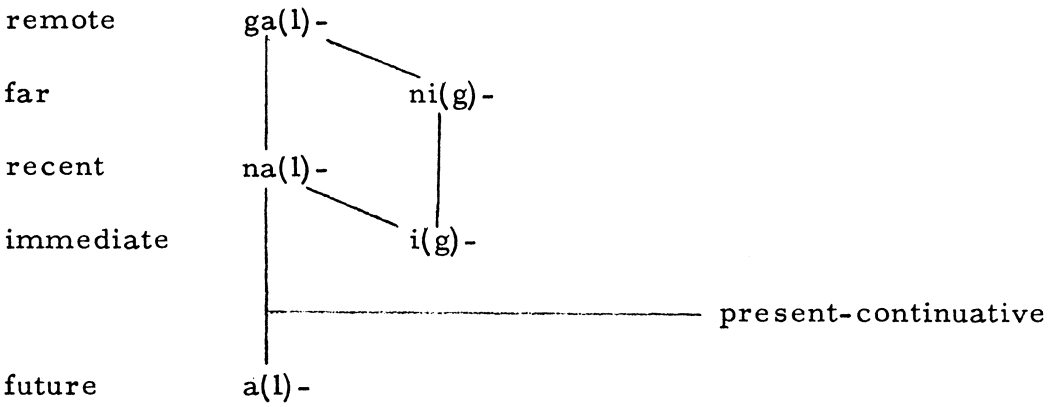
In kiksht, we should observe, the myth usitative has a form once more structurally akin to Shoalwater. The prefix is the same as that of the 'remote past', ga(l)-, and the suffix is -x̣. Were the developments not as set forth here, we would not be able to explain this. Since our reconstruction has shown that the inherited preconsonantal qa- of the usitative, still attested in Kathlamet, was the origin of the kiksht ga(l)- morpheme, we have motivated this very replacement of inherited usitative prefix ·qa- by ga-, and its new prevocalic alternant gal- follows from the analogical regularization (64).

§6.3. The overall system of verbal categories in kiksht, which can be seen in the chart in §2., is very different from that of Shoalwater (§3.), the most archaic dialect. Instead of Shoalwater perfective vs. continuative aspectual categories and present vs. future temporal categories, we now have a complex set of basically temporal categories. The Shoalwater system has perfective vs. continuative expressed in the initial prefix morpheme, and present vs. future expressed in the suffix morpheme. In kiksht, all prefixed verb forms are temporal forms,

and they contrast as an ordered set with the continuative-present forms; they all seem to imply a residual perfectivity, when no contradictory 'aspectoidal' suffix appears. Thus grammatical aspect has shifted in kiksht to suffixal expression, while the prefix system has become entirely temporal.

The internal relations of the prefixed forms permit us to group them in parallel sets, as shown in (65). For the past tenses in par-

(65)



ticular, we may look upon the set as forming two pairs of forms: a relatively "recent" set, and a relatively "remote" set, within each of which there is a relatively "recent" and a relatively "remote" form. The variation in formal properties clearly parallels this, na(l)- and ga(l)- being the relatively "remote" members of each of the grouped pairs. In fact, translated into our European time-reckoning system for the purposes of translation, the major break comes between the two n- initial tense forms, roughly on the order of a week or less ago for na(l)- , but several months ago or less for ni(g)-. While I do not wish to give a complete semantic analysis of the system, including its interrelations with the deictic verbal categories, this "recent" vs. "remote" structure is important for areal considerations.

It turns out that the Sahaptian dialects, of which we have made mention already, are the intimate neighbors of the easterly Chinookan dialects, and these show just such 'recent' vs. 'remote' temporal affixes. Furthermore, the 'recent' and 'remote' categories seem to be ancient in Sahaptian, but quite new within Chinookan, namely, in the easterly kiksht dialects only. As exemplified in §5.4., in discussing the cognation of usitative morphemes, Nez Perce has 'recent past' in final suffix -qa, and 'remote past' in final suffix -na∼-ne, as well as unmarked 'past' in -a∼-e.[81] These are final postfixes morphophonemically, preceded by an underlying word juncture. There are exact cognates of the latter two morphemes clearly analyzable for Sahaptin dialects, including the Klikitat quoted above in §5.4., and it may turn out that the Nez Perce -qa has a cognate in the two Sahaptin forms in the northwest dialects, -(n)x̣ə 'almost' or -tx̣au 'immediately'.[82] These two Sahaptin dialectal forms occur with following -na suffix, however, and great caution must be used in proposing a diachronic argument relating them, which I am not now prepared to do. The

Nez Perce forms, however, are exactly those we have postulated as inherited in kiksht, na- (as in Kathlamet) becoming the more "recent" prefix, ·qa- (> ga(l)-) becoming the more "remote" one.

The specific values of the forms -na/na- and (-qa)/qa- as 'recent' and 'remote' are reversed in the two families. But the categories are the same. This leads us to wonder whether there has been influence over a long period of time of one family on another. Specifically, since only the ·-na suffix is patently reconstructable as such for Sahaptian as a whole, should we not see this as the earliest influence on the kiksht dialects? Recall from §6.1. that the n-initial "anterior" tenses were the first to be created. (It is the hole left by this restructuring of i(g)- to 'immediate past' that then motivates the creation of a new myth past tense.) In particular, the inherited prefix na- served as the basis for this innovation. It seems likely that the original Sahaptian system had ·-e 'past' : ·-ne 'remote past', and that such was the areal model for the first kiksht innovation. The creation of the ga(l)- past tense in kiksht is a logical necessity of the system internally, and gives the symmetry of myth past and usitative that we discussed above. It is more than possible that at the stage when this morpheme was still uvular-initial, ·qa(l)-, it served as a model itself for yet another Sahaptian past tense, in postfixed -qa, which displaced the inherited Sahaptian ·-e as 'recent' past tense, and created a triplet of temporal forms: ·-ne > ·-qa : ·-e,[83] 'remote', 'recent', 'unmarked (immediate)'.

Notes

[1]The first, abbreviated draft of this paper was read to the Xth Conference on American Indian Languages, at the annual meeting of the American Anthropological Association, New York, November, 1971, and was presented to my class in advanced historical linguistics, Australian National University, Canberra, in July, 1972. I thank Dell Hymes and R.M.W. Dixon for comments on that draft. Paul Friedrich's work on Homeric aspect and tense concurrently with the revision of this paper has been invaluable as a stimulus to precise formulation.
Field work on Upper Chinook, which has illuminated the analysis of all the dialects, was supported in 1966-1971 by the American Philosophical Society (Phillips Fund), the National Science Foundation (Graduate Fellowship Program), and the Society of Fellows, Harvard University, to all of which I am most grateful.

[2]Firmly in the European tradition of Meillet, much of Kuryłowicz's insights derive from specific studies of Indo-European linguistic history, with a phrase here and there giving a hint of their true theoretical import. However, in his 'Dérivation lexicale et dérivation syntaxique,' BSL 37.79-92 (1936) ((=RIL.II, 42-50)), 'La nature des procès dits 'analogiques',' AL 5.121-38 (1945/49) ((=RIL.II, 158-74)), The inflectional categories of Indo-European (Heidelberg, Carl Winter, 1964), Ch. I, Kuryłowicz outlines the most important surface morphosyntactic developments in relation to their semantic organization, in a general way. It should be noted in particular that the whole diachronic theory rests on an articulated theory of (a) synchronic relative markedness and relative formal motivation (Saussure), which Kuryłowicz speaks of in terms of 'founding forms' and 'founded forms' ('unmarked' and 'marked', 'arbitrary' and 'motivated'), and (b) relative hierarchy of functions, which Kuryłowicz speaks of in terms of 'primary' and 'secondary'. Terminological differences should not obscure the contemporary relevance of every example discussed in that tradition. Perhaps the term 'analogy' has mistakenly been equated with the less testable notions of the American Neogrammarian tradition, encapsulated in Bloomfield's Language, §16.6, Chh. 22-24.

[3]Some of the most important historical implications of generative theory are summarized in Paul Kipasky, 'Linguistic universals and linguistic change,' pp. ((170))-210 of E. Bach and R.T. Harms (Eds.), Universals in linguistic theory (New York, Holt, Rinehart, Winston, 1968), and tempered considerably (perhaps equivalently, given up) in idem, 'Historical linguistics,' pp. 576-649 of W.O. Dingwall (Ed.), A survey of linguistic science (College Park, Md., Un. Md., 1971). Also, the polemic of Paul Postal, Aspects of phonological theory, part III (New York, Harper and Row, 1968) is an excessive misstatement of the issues. See also R. D. King, Historical linguistics and generative grammar (New York, Holt, Rinehart, Winston, 1969), and its admirable review

by Lyle Campbell, Lg. 47.191-209 (1971). Unfortunately, for morpho-syntactic aspects of language, we must extrapolate from these works that deal mainly with phonology at the automatic level. However, a good deal of what comes under the morphological system in the 'analogical' approach comes under the rubric of phonology in the generative approach. If historical developments justify the particular synchronic descriptions (as I do not think, but as is claimed by Kiparsky for example), the fact that the analogical approach can handle these facts easily and the latter cannot is important evidence for these theorists.

[4]We might say, then, that all historical changes of this kind are "global" or "transderivational." These notions of current theoretical preoccupation are too unconstrained to be of more than terminological value, however.

[5]See F. Boas, Chinook texts, BBAE 20 (1894), pp. 5-6; idem, Kathlamet texts, BBAE 26 (1901), p.6; J.W. Powell, "Indian linguistic families of America north of Mexico," ARBAE 7 (1891), pp.65-66 and references there. It should be remarked that the cultural division into two Chinookan culture areas, should we insist on it, would be justified in terms of Lower and Upper communities that do not match the linguistic classification. The cultural 'Lower' group includes the Kathlamet and their neighbors; the 'Upper' group includes the Clackamas and more easterly people.

[6]Actually, the phonetic form recorded by Boas is [o?o-]. High vowels i, u are lowered to mid-high pronunciation in the environment of a uvular or glottal stop. This is a low-level and variable coloration, which occurs in most languages I know of with these consonants and a three-point underlying vowel system. This example is interesting in another way also. There are regular reflexes in all Chinookan dialects of a change u > a before uvulars. Thus the verb stem -qlaqɬ(q) 'recognize' comes from an older, "thematic" construction *-ql-u-/qɬ(q), where there has been vowel shift that obscured its complex character and promoted its reinterpretation as a single unanalyzable unit. This change is preserved as an alternation in Shoalwater only, (Boas, BBAE 40(1):570 (1911)) and must obviously be ordered after the specifically Shoalwater rule weakening pre-tonic uvulars. I refrain from a digression to analyze further the generative phonological characterization, in terms of 'global rule' insertion or 'opacity' (cf. fn. 3).

[7]For the interesting results of this neutralization of morphophonemic guttural and labioguttural, see my paper on 'Chinook Jargon', Lg. 48. 378-406 (1972), fnn. 20, 26.

[8]Boas, BBAE 26:157 (1901).

[9]It is this merging of synchronic rule processes and historical changes

that characterizes the earliest attempts at formulation of the diachronic implications of generative grammar. Thus Bloomfield's famous observation in his 'Menomini morphophonemics,' TCLP 8. 105-115 (1939), p.106, was cited with approval in justifying this position (see M. Halle, 'Phonology in a generative grammar,' Word 18. 54-72 (1962), N. Chomsky and M. Halle, The sound pattern of English, part III (New York, Harper and Row, 1968), and others). However, it is clear that the case in which synchronic rules are identical in form and order to historical processes is a very special one, and indeed the most trivial. For a somewhat weaker hypothesis, represented in Kiparsky's 1968 paper and King's 1969 book (see fn. 3), the form of linguistic change is constrained by changes in the form and order of rules. There is no necessary reason following from the theory of synchronic grammar alone why change should operate on rules, however, nor indeed why the process of change should be expressed in terms of rule changes. Note in particular that Kiparsky's theory of 'bleeding' and 'feeding' orders deals with the relationships of inputs and outputs of rules, not with the form of the rules themselves, as motivating change of a particular kind. Finally, the most recent version of Kiparsky's thesis in terms of paradigmatic pressure and rule opacity (1971, see fn. 3), is essentially equivalent to an impoverished theory of 'analogy' in the Kuryłowiczan sense.

For morphophonemics, or phonology, these questions have always been at the heart of synchronic theory. Rulon Wells' 'Automatic alternation,' Lg. 25.99-116 (1949) and C.F. Hockett's 'Two models of grammatical description,' Word 10.210-31 (1954) ((= RIL.I, 386-99)), F.G. Lounsbury's Oneida verb morphology, YUPA 48 (1953), pp. 14-15 ((= RIL.I, 381)) exemplify one approach, sharply separating diachrony from synchrony.

[10]BBAE 20 (1894), p.6; BBAE 26 (1901), p.6.

[11]See my 'Chinook Jargon: language contact and the problem of multi-level generative systems,' Lg. 48.378-406, 596-625 (1972) for an extensive characterization of these properties.

[12]Boas himself was very aware of these effects for some of his work. Note his remarks in his sketch of 'Tsimshian,' BBAE 40(1):283-422 (1911), p.404 on the dearth of attested "indicative" forms of predicates in Tsimshian texts, as opposed to "subjunctive" forms: "On account of the tendency of the Tsimshian language to express all narrative in the subjunctive mood, indicative forms are quite rare, and occur almost only in statements of self-experienced facts." This is close to the celebrated cases of 'evidential' verbal categories, and corresponds to narrative entirely in terms of 'quotative' syntax. See R. Jakobson, 'Shifters, verbal categories, and the Russian verb' (1957), reprinted in his Selected Writings, II, pp. 130-147 (The Hague, Mouton, 1971). Bruce Rigsby, in work on Nass-Gitksan Tsimshian dialects, has shown the correlation that obtains between Boas' "indicative" and independent clause syntax,

and between Boas' "subjunctive" and subordinate clause syntax. Subordinate clause syntax occurs with certain initial particles, ever-present in narrative, and hence is structurally akin to this widespread usage in Algonquian languages, Predicating particle + subordinate clause, where in Algonquian the subordinated clause is in the 'conjunct' or 'interrogative' order. See L. Bloomfield, 'Algonquian,' VFPA 6:85-129 (1946), §§45-50, and any grammar of an Algonquian language.

[13]Compare the late Melville Jacobs' remarks on a Clackamas version of a Molale myth heard by his informant, Mrs. Victoria Howard, in Chinook Jargon. See Clackamas Chinook texts, II, IURCAFL-P 11 (1959), p. 641, fn. 370.

[14]Edward Sapir, Wishram texts, PAES 2 (1909), p. xii.

[15]Melville Jacobs, Clackamas Chinook texts, I, IURCAFL-P 8 (1958), p. 2.

[16]Thus, in a kind of logical notation, if 'f(x, y)' represents the semantic interpretation of a proposition embodied in a clause, then '$(\iota x)(\exists y)$ f(x, y)', "the x, such that there is a y such that f of (x, y)", is the semantic interpretation of the related noun phrase with {k#} proclitic. When the clause is a possessive phrase, 'Poss(x, y)', "x possesses y," then the related noun phrase indicates "the x who possesses y." Inalienable possessive clauses, overtly nouns, represent a variety of obligatory two-place relations, such as kinship relations, locational relations, etc. The overt stem of such nouns denotes the y of our general functional notation, and hence the k# proclitic form is used extensively for relative clauses on the reciprocal kin designation (k # Poss(x, child) = 'who is parent of y'), and for tribal names (k # Loc(x, -sq'u) = 'who comes from -sq'u (= cup-shaped rock), Wasco Indian').

[17]This is an accurate statement for some level of derivation that depends on the prior application of several transformational rules. For example, there is a syntactic transformation that 'thematizes' an intransitive construction with nominative and 'dative' noun phrases of a certain specification. The resulting form appears with underlying 'dative' as an ergative noun phrase, and this is cross-referenced accordingly in the verb prefix system. Again, Chinook has the analogue of a passive construction whereby the underlying ergative noun phrase becomes a nominative noun phrase, and again the pronominal cross-reference operates on the output of this rule. This level of syntactic structure at which such 'case marking' occurs has been called "shallow structure" in some of the recent literature.

[18]Here and in the following examples, to avoid the necessity of individual footnotes, I cite sources as follows: BCh = Shoalwater, as in fn. 5; BK = Kathlamet, ibid; BG = Boas' 'Chinook' sketch, BBAE 40(1):559-677

(1911); JCl = Jacobs' Clackamas texts, as in fnn. 15, 13 (vols. 1 and 2 respectively); SW = Wishram (-Wasco), as in fn. 14; otherwise from my own data collections.
I automatically transcribe examples in a close-to-phonetic orthography, to make them pronounceable, applying such rules as voicing of stops, vocalization of interconsonantal resonants, etc. The morpheme divisions, where given, are to aid in analysis of form-classes by comparison with chart (4).

[19]The stress here marked by Boas on the antepenult should probably be amended to penultimate position. The directional morpheme -u- 'non-proximad' motion appears as -a- because of the operation of the phonological change noted in fn. 6.

[20]I am indebted to Paul Friedrich for raising my consciousness about 'aspect' by letting me read some of his unpublished work on Homeric Greek. He makes a careful distinction, which I at first questioned, between 'aspectal' and 'aspectoid' systems. I would speculate that a universal exists of the following form. If a language with both inflection and derivation has both kinds of sets, then the true aspectal morphemes are inflectional and the aspectoid morphemes are derivational, but never vice-versa.

N.B. [22]The stress is always drawn to the morpheme -k'i-, which marks the analogue of the Indo-European passive. This particular form is based on a nominal root -k'iulal-(maxˀ) 'rooted vegetable(s)', which is a regular -k'i- form. The productive denominative verb formation in -xˀ-l+Noun, retains the form of the noun, and means 'to get/do N for oneself'. The phonetic forms -x^{w}-i- are automatically produced from the intermediate phonological sequence -u-xˀ-l-; see text, infra.

[21]Thus, note, the aspectoid derivational suffixes referring to the distribution of action, have an inverted markedness semantically, because they oppose a characterization of repetition, duration, etc. to a non-specified (suffixless) form. Hence Hymes' observation of the inherent 'perfectivity' of Wishram-Wasco verbs, made in several places (e.g., 'Two types of linguistic relativity,' in W. Bright (Ed.), Sociolinguistics, pp. 114-167 (The Hague, Mouton, 1966), p. 134), is fully justified by the historical data. The suffixless verbs of Upper Chinook seem effectively like perfectives because they fail to specify 'distributed' action, whether in time or space.

[23]As Edward Sapir hypothesized ('A Chinookan phonetic law,' IJAL 4. 105-10 (1926), reprinted in his Selected writings (Berkeley, Univ. Calif., 1949), pp. 197-205), Chinook is an agglutinative language, formerly built of syntactic phrases with fixed orders of proclitic and enclitic words that have coalesced into morphological words partly under the influence of unifying phrasal stress accent. That certain morphemes violate the usual penultimate accentuation is useful historical informa-

tion, which I cannot go into here. This further example---distinct from those analyzed by Sapir---serves to confirm his inference.

[24]The third singular masculine pronominal agrees grammatically with a noun phrase lakt i-k^{w}lí-ma 'four whales', where 'whales' consists of this prefix, the stem, and a pluralizing suffix -ma, cognate with and derived from a pluralizer -ma-x̣. The noun is of the invariant gender-class, that simply keeps its characteristic prefix and adds -ma for the plural. This is a common regional stem for 'fierceful monster, whale, etc.'

[25]The phonetic forms [ya] and [wa] are quoted, when actually the phonemic transcription should show /ia/ and /ua/. Observe also that this alternation is distinct from a generalized phonetic contraction wa > u attested in Shoalwater form (2b) and in fn. 24, ·i-k^{w}alí-ma(x̣) > ikulíma, though they may have been connected at some point.

[26]Observe the position of the stress, which is regular (penultimate) for the form without the accreted suffix (as in form (15) above), but which is irregularly antepenultimate in the suffixed form. Q'lti appears to regularize in form (20), but this is a reflection of the fact that the root must be stressed in the -t- form, since the initial pronominal prefix cannot take the stress.

[27]Actually, we should probably separate the spread of the "hypercharacterization" into several stages, inasmuch as all the dialects show a number of forms in -u- : -waya, but only Shoalwater hypercharacterizes the -i- roots such as this one. In addition, as we might expect, Wasco shows tendencies to spread the -(y)a future to the last possible case of stage III', the consonant-final roots, so that a root -√kl has a future -√kla-ya. This seems to have been regularized for roots in final resonant (l, n, m) in particular, reflecting their vocalization properties. The analogical mechanism is of course transparent throughout.

[28]This term is Jakobson's in 'Shifters...', see fn. 12.

[29]The intransitive subject and transitive object are equivalent for most transformations in Chinook; in the ergative case-schema, they are called 'nominative' (cf. §2. above).

[30]M. Dale Kinkade, 'Phonology and morphology of Upper Chehalis:III,' IJAL 30.32-61 (1964). The discussion of aspectual and temporal categories is at §§3.1.-3.3., pp. 32-37.

[31]Kinkade tells us that indefinite article {t} is also used "occasionally." I wonder how frequent this actually is, whether or not it can be seen as a sandhi allegro form, or a sporadic ungrammatical formation produced by the informant.

[32]Kinkade distinguishes two future markers, ɬ- and a particle {ƛ'a}, the former used in independent clauses, the latter in dependent clauses. From a more consistently syntactic perspective, as Kinkade himself recognizes, the ƛ'a is a purposive infinitival complement marker, not really a tense marker, and may be considered a transformationally-inserted marker of certain unrealized subordinate predications. It is akin to the other Salishan nominalizers for subordinate clauses. Compare Squamish especially. Note that Upper Chehalis ƛ'a co-occurs freely with the continuative marker s-, whereas the real future tense morpheme replaces it.

[33]Kinkade shows some of the ad hoc forms his informant used to translate a present vs. past completive aspect during elicitation, but he rejects these as "probably a result of my pressing for such a distinction." Moreover, he correctly notes that "a present tense completive form is illogical and not really to be expected."

[34]Note that repetitive and distributive suffixes in the present(-continuative) are found , but belong to 'aspectoid' systems, as in fnn. 20, 21 above.

[35]May Mandelbaum Edel, 'The Tillamook language,' IJAL 10.1-57 (1939), esp. §§30-34, pp. 17-19. She discusses the Nehalim, or northernmost Tillamook dialect.

[36]In response to a query by me, Lawrence Thompson graciously commented on Edel's analysis, contrasting his own intuitions on Tillamook, from salvage work with the last speaker. He finds the same cleavage of c-~ ʒ-~ s- forms ("realized" actions, states) and g^{w}ə- (ga-) forms ("unrealized"), which may be incorporated as two distinct categories (aspect vs. tense) plus co-occurrence restriction as we have done in the body of the text. However, he questions the existence of any na- 'past' form as Edel has put forth, preferring to see these forms as examples of locative and partitive prefixes akin to Thompson nə-. The etymological identity of these will become apparent below.

[37]Note also that Kalispel, as described by Hans Vogt (The Kalispel language, Oslo, Norske Videnskaps Akademi, 1940), has an aspectual system structured much as the languages described here, with a continuative, completive, and resultative (or "stative" in Kinkade's terms), and the completive has zero initial marker, while the continuative and resultative have es- prefix (p. 28). The resultative is only for transitive forms. I cannot discuss here the system in its details, but only note the cognacy of the ∅-completive and (e)s-continuative with the coastal developments.

Ka es- more likely cognate with Ch ʔac-.

[38]See Edel, op. cit., §72, IJAL 10.44-46 (1939).

[39]M. Dale Kinkade, 'Phonology and morphology of Upper Chehalis:IV,' IJAL 30.251-60 (1964), §§6.1.-6.2., pp. 258-9.

[40]Aert Kuipers, The Squamish language (The Hague, Mouton, 1967), pp. 136-41.

[41]Kuipers, op. cit., p. 159 and cross-references there.

[42]Boas observed the areal nature and exceptionality of gender in the languages of the Pacific coast in his paper 'The classification of American Indian languages,' Lg. 5.1-7 (1929), reprinted in Race, Language, and Culture (New York, Macmillan, 1940), pp. 219-225. He notes (RLC, p. 221) that Chinook, "all the dialects of Salish tribes that live along the coast northward and southward, and the Quileute" have pronominal gender, but not the Salish dialects of the interior. This remarkable Sprachbund effect cannot be understood historically as proceeding from Chinook, but rather vice versa. Gender must be ancient in Salishan-Chemakuan, and has been reinforced by areal cohesion. Within Penutian, Chinookan is very exceptional in having gender categories, and further, the form of the masculine-feminine distinction shows these to be innovations. This fits with the coastal provenance of Chinook with recent upriver spread, confirming all the tense-aspect data presented in this paper.

[43]Kuipers, op. cit., pp. 88-90, 92-5, 157-8.

[44]The term is Kiparsky and Kiparsky's ('Fact,' pp. 143-173 in M. Bierwisch and K. Heidolph (Eds.) Progress in linguistics, The Hague, Mouton, 1971). It refers to clauses whose truth value is presupposed to be T for their government by a particular higher verb form.

[45]{na} is in opposition with {ʔi} the marked, specifically 'proximal' here-and-now deictic predicating particle. This relationship of proximal = marked, distal - neutral = unmarked, recurs throughout the northwest.

[46]Not only Tillamook and Squamish show this morpheme, but also Thompson (cf. fn. 36), and, it seems clear, Kalispel. Vogt (op. cit., §§212, 228, pp. 72-3, 77) outlines the constructions with independent particle nê and compound particle nê+m (m = 'future'), which is obviously cognate. Kalispel has five stressed vowels, rather than three (or four at a low taxonomic level) as in these other languages.

[47]In his Handbook grammatical sketch (BG), Boas cites this example, irrefutably a transitive construction, as an example of the Kathlamet future, below a statement that the "prefix is confined to the intransitive verbs." Examples of transitive futures abound in the texts.

[48]The third person plural pronominal, underlying -t-, has alternant -u- before all the 'postpositional' morphemes (see schema (4) above), and when it is the nominative of a three-place verb (with ergative-nominative-dative participants).

[49]Of course, l~n alternations are pervasive as augmentative-diminutive pairs throughout the (north-) western part of North America. See Johanna Nichols, 'Consonantal symbolism in western North America,' Lg. 47.826-48(1971). In the Chinookan geographical area, all Sahaptian dialects still show active consonant shifts of this sort.

[50]See, for example, Paul Postal, op. cit. (fn. 3).

[51]See my discussion of the Chinookan person, number, gender systems in my paper 'Chinook Jargon', §3.7., pp. 396-400 (op. cit., fn. 11), for a justification of this claim. Wherever no other pronominal is specifiable, but the surface form-class arrangements require one, the i-form is used in its archi-categorial sense. Thus it fits our notion of the unmarked form, which is to be used as the neutralization of the whole category. By the way, it is the form that survives in the Chinook Jargon for cross-reference to third person nouns, as one would expect if markedness relations play a role in the formation of pidgin varieties of a language.

[52]The use of predicating forms of nominals is another areal pattern which Chinookan shares with Salishan and with remoter Mosan languages. It is frequently stated that there is no noun-verb dichotomy in these languages. This is true only for a certain (large) class of lexical roots. It is absurd at the level of syntax, and there are syntactic mechanisms in every one of these languages which I have seen to disconfirm a total identity syntactically of nominal and verbal syntagmas. For example, see Kuipers, op. cit. (fn. 40), §130, p. 88 on use of na (§4.2. above) in Squamish. One of the excellent features of Edel's Tillamook sketch (op. cit., fn. 35) is this explicit recognition of the difference between lexical-morphological analysis and morpho-syntactic analysis:

> "There is no rigorous distinction between noun and verb stems. This is common not only to Salish dialects but to many American Indian languages. Most stems, including purely substantival ones, may be treated as intransitive verbs. However, to serve as a noun, a verb must take one of a number of suffixes. To become more actively verbal a noun may take one of a series of factitives. These may also be used to change the forms of other verbs. In form and function nouns and verbs, as parts of sentences, are quite distinct." (p. 5)

[53]See fn. 23. Sapir's argument depends on showing that surviving palatalizations of i+k- ⟶ ič are remnants of a phonetic process that has left morphological consequences.

[54]The first and second person singular are natural exceptions. Their apparent exceptionality can now be explained on the basis of a general theory of ergativity (see my paper 'Hierarchy of features and ergativity.')

[55]Compare the effects of the same rule on the allomorphy of the inher-

ited ·an proclitic marker. Both Kathlamet and Shoalwater presuppose a stage at which ·-n- was conflated with following pronominal ·n-. We can be quite confident of this reconstruction of morphophonemic process given its pan-Chinookan ubiquity and its implication in two separately-developed Tense$_1$ prefixes. Numerous examples from many form-classes could be cited.

[56]We may remark in passing that the mediopassive form of the transitive verb roots is regularly expressed with the reflexive construction, much as in the Slavic languages the passive is so expressed. The verb -√ẋ(ʷ) in mediopassive construction -ẋ-u-√ẋ(ʷ) has the reflexive morpheme immediately following the pronominal morpheme functioning as subject. The pronominal is always the underlying nominative, or, in indirect reflexives such as n-i-ẋ-l-ú-√ẋʷa-ẋ of (37), the underlying dative. In the indirect reflexives, the postposition (see chart (4) above) appears to have a special form, which is morphophonemically resolvable. Thus -l- ⟹ -ẋ+l-, -gl- ⟹ -xl- (= ẋ+gl), -g̣l- ⟹ -ẋ·l- (= ẋ+g̣l), etc.

[57]Strictly speaking, Athapascan is also a potential source, the two allegedly Athapascan languages, Kwalhioqwa and Tlatskanie, having been spoken in the area. Since our knowledge of these languages is both questionable and minimal, I do not include them as a viable possibility. Moreover, from the earliest contact literature, it would seem that neither Chinooks nor anybody else took much notice of them, in terms of trade, marriage, etc.

[58]IJAL 30.57 (1964).

[59]nkʷs- is not used with a definite article in Upper Chehalis, that is, it does not seem to co-occur with the 'completive' aspect (§4.1.). I do not know what to make of this.

[60]IJAL 10.20 (1939).

[61]Kuipers, op. cit., §§169-177, pp. 113-16.

[62]We should note for typological purposes that within Indo-European there are two nouns of agency reconstructable, as Emile Benveniste has so clearly shown (Noms d'agent et noms d'action en Indo-européen, Paris, A. Maisonneuve, 1948). In particular, one in ·V + tér, with suffix stress, which nominalizes clauses and takes regular accusative objects, means 'the one who is by nature/custom to do verbal action V.' It is this formation which gets incorporated into the verbal system in several ways, e.g., in Sanskrit it is used for an eventual 'future' formation, by systematically building up a paradigm on the basis of the third person singular forms. Its relevance to our reconstruction in §5.2. should also be noted, where i-∼ig- forms of the Chinookan 'past' paradigm also result from predicative uses of the (third person) nominal forms in ·[k#V].

[63]We should probably compare as well the Kalispel prefix nkʷɬ- reported by Vogt (op. cit., §147, p.50). This he glosses as expressing 'companionship, togetherness', but this seems to be a residue of a once-wider meaning. Note also Reichard's 'Coeur d'Alene,' Hdbook, v.3:592 (1938), which gives nukʷ- 'companion, fellow of the same kind'. The Kalispel ɬ- which is morphologically analyzable, disappears before -s-, giving a surface form nkʷs-. Clearly, the ɬ of the Kalispel is to be compared with the ƛ clitic of Squamish (Kuipers, op. cit., §232, p.161, §§304-12, pp.196-8), which is a verb prefix giving an indirect relative meaning to the clause where it occurs. We postulate, then, an old Salishan nominalized relativization in ·na+kʷ-(#ɬ)#s-, with morphophonemic reduction of -ɬs- ⟶ -s-, as the basis for the nomen agentis. This argument could be developed at great length, including reconstruction of the ·kʷ morpheme, which I reserve for another place.

[64]Melville Jacobs, Northwest Sahaptin texts, 1. UWPA 2(6):175-244 (1929), pp. 175,196.

[65]Idem, A sketch of Northern Sahaptin grammar, UWPA 4(2):85-292 (1931), pp.204-5.

[66]See Haruo Aoki, Nez Perce grammar, UCPL 62 (1970), pp. 115-7, 123-4 for examples. For the correct analysis, see my review of that work, IJAL 38.62-76 (1972), pp. 73-5.

[67]This type of alternation is obviously very ancient; it will concern us no further in this paper.

[68]A more extensive analysis of this sentence: ƛ-iá-pla i-múlak-maχ 'their many-ness, the elks' is the indirect object of the verb -√χ(ʷ), cross-referenced by the sequence -i-l- 'them-on'. The noun is inherently third singular masculine (i-) even with the plural suffix -maχ, and ƛ- -pla is an inalienably possessed adjectival noun 'many'. i-(i)á-maq is the direct object (-i- in verb), again a possessed noun in form, meaning literally 'their (-ia-) mortal wounding'. kinuwa is an adverb 'in vain'. Thus X i-X-maq Z-i-X-l-u-√χ(ʷ) is the schema of the idiom.

[69]One wonders if in addition we are here dealing with the same phenomenon as English facultative alternation of anterior and non-anterior "futures" in most contexts. We can say, in unmarked form, 'when he arrives (will arrive) we will eat' or, in explicitly marked form, 'When he has (will have) arrived, we will eat.' Since the anteriors occur overtly sometime in Kathlamet, they must be dealt with.

[70]In particular, the developments in kiksht upriver presuppose the na- in just this form. See §6.1.

[71]Informants for Wishram-Wasco can readily understand virtually every-

thing in Jacobs' Clackamas collection, and one informant, Emma Bellinger, who was related by marriage to Clackamas, has discussed and given a running Wishram translation of these texts. Another Wishram informant, Dora Tulee, and a Wasco informant, Georgina Jackson, spontaneously offer both Wishram-Wasco and Cascades forms for various glosses where they differ. The divergence is lexical, except as noted below. All behavioral tests show a striking discontinuity for Kathlamet, and, of course, for Shoalwater, though Chinook Jargon items are readily recognized.

[72]This wording should contrast these morphemes with the sporadic prevocalic morph n- that is also found in kiksht, a remnant of the inherited Upper Chinookan system. I shall refer to this below.

[73]The form may not be morphologically recognizable because of the operation of phonological rules to the underlying form na-t-ẋ-u-√ẋ-a 'they (pl.) become'. Third person -t- becomes -u- before -ẋ- 'reflexive'. In turn, this becomes -ẋ^{w}- by labiogutturalization, and the -u- 'distad' prefix becomes -a- here, preserving in part an older, regular change; see ex. (2) and fn. 6 above. Observe that the verb root -√ẋ does not labialize, since the preceding underlying -u- has changed. Compare the form of -√ẋ(^{w}) in (42) above, §5.4.

[74]We could comment, in passing, on the great stability of these present-continuatives in all the developments of the Chinookan dialects, from this point of view. These forms just do not enter into analogical relations that depend on affinities of shape and partial semantic parallelism. See the chart of forms in §2. above.

[75]These are incorporated into Sapir-Dyk-French-Hymes-Silverstein lexical files primarily on Wishram-Wasco Chinook, in a state of being prepared for publication in the future.

[76]The adverbial 'some time ago' is the most frequently given English translation equivalent of the ga(l)- tense in my Wishram-Wasco data.

[77]See Melville Jacobs, The content and style of an oral literature (Chicago, Univ. Press, 1959), pp. 136-77, for the ethnographical development of this idea, demonstrated many times in the course of the current investigations of Dell Hymes and myself on Wishram-Wasco mythology.

[78]In manuscript notes to the first (?) draft of the late Walter Dyk's doctoral dissertation ('A grammar of Wishram, 1933, Yale), Sapir sets forth his view of the Chinookan voiceless-voiced opposition. (These notes are now in the possession of Dell Hymes, from whom I have xeroges.) For Chinookan Sapir feels that "it may well be that originally there were two distinct series, phonemically," and these have become automatic alternants by complex sound laws in certain environments. In fact, Sapir writes "I now incline very definitely to feel

that surd and sonant stops are phonemically distinct in W. but that secondary mechanical laws ((page cut off)) ..." must have obscured this distinctness in some cases. He notes the following distributions, remarking that "In most cases the surd or sonant is definitely fixed...":

"1) Noun stems still show an original distinction in their initials

"2) Demonstrative stems and adverbs show both types as phonemic, e.g. kwa-, dau-

"3) Characteristic particles specialized on sonant initials, e.g. dak, báubau, as though they all had augmentative consonantism

"4) Verb stems show mechanically variable initials

"5) To be carefully tested: all non-initial consonants of stems follow mechanical laws of surd-sonant distribution."

While I do not wish to elaborate here on this schema, or on the hypothesis in general, I should indicate that insofar as Sapir's reconstruction applies to the uvular series q, q^w, it would imply a common Chinookan distinction of ·q-·ġ, ·q^w-·$ġ^w$, contrary to my assertion in the body of the text. In fact, Sapir says "The phonemic importance of these variations ((as q-ġ in Wishram---MS)) is indicated by the fact that Lower Chinook has (apparently) ʔ for W. g(w) in many cases, but q(w) for W. q(w); e.g. W. a-ga-gílak : Ch. o-ʔó·-kʷil (< *o-$ġ^w$á-kil < *wa-gá-kil)." While the correspondence here works, there are many more where it does not, with no obvious morphological explanation, and there are numerous inverse correspondences, i.e., W. -q(ʷ)- = Ch. -ʔ(ʷ)-. Further, since Kathlamet shows no trace of differentiation of an original ·-q(ʷ)- and ·-ġ(ʷ)-, the evidence points rather to my conclusion, that common Chinookan ·q did not participate in the voiceless-voiced alternations, that this is a kiksht innovation, and that Lower Chinook (Shoalwater) independently developed the q(ʷ) - ʔ(ʷ) alternation. I do not take up the other consonants here.

[79]The relationship historically to the numeral 'one' -ix(a)t should not be overlooked. Cf. also my 'Chinook Jargon' (op.cit. fn. 11), p. 606, fn. 93.

[80]This corresponds to Shoalwater alta in syntax.

[81]See fnn. 64 - 66. The vocalic alternations are due to vowel harmony. See B. Rigsby and M. Silverstein, 'Nez Perce vowels and Proto-Sahaptian vowel harmony,' Lg. 45.45-59 (1969) and references there noted.

[82]Jacobs, op. cit. (fn. 65), pp. 201-2.

[83]See (47) in §6.1. for the symbolization here.