

There are two other major transitivizing affixes in Okanagan, -it and -x(i)t. These are added to word-stems just like -nt and -st, and with regard to their suffixal requirements, -it patterns with -nt (requires the same affixes as -nt), while -x(i)t patterns with -st. Both affixes add yet another person referent to the form (and this is why they have been called ditransitive), -x(i)t adding the notion 'on behalf of', and -it adding the notion 'so-and-so's'. Without giving charts (which can be inferred), and without going into details, we exemplify the forms so as to give an idea of their force:

k'u čx'-eit-is i? kawáp-s 'he promised me his horse'

k'u may-xít-s i? cáwt-s 'he told me his story (for my benefit)'

k'u may-it-is i? cáwt-s 'he told me his story'

MARKING SURFACES IN COEUR D'ALENE  
AND UNIVERSALS IN ANATOMICAL NOMENCLATURE

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The human body has a special salience among all the things in the environment which people perceive and name. It forms a naturally bounded field containing clusters of related parts and functions. One would expect any language to organize a corresponding semantic field along a few basic dimensions, enabling speakers to discriminate among a maximum number of anatomical parts and functions by using a minimum number of morphemes. Since all human bodies share similarities of form and function, comparison of anatomical nomenclatures from diverse languages should reveal the extent to which semantic fields can diverge from a common experiential base.

The problem of anatomical nomenclature is analogous to that of color terminology. Studies of color perception have established a neurophysiological system of four hues and two brightnesses (Kay 1981). This neurophysiology of color provides an elegant basis for cross-cultural comparison of color terminologies. Languages may lump these natural categories by combining hues in their color terminologies, or they may overdifferentiate by naming intermediate areas where hues intersect.

To my knowledge, no such innate structure has been demonstrated for anatomical perception. While a perceptual structure corresponding to the human form, the face or the eyes would be a likely possibility, proving its existence might be more difficult in the case of anatomy than in the case of color.

The difficulty lies in separating responses to innate perceptions from responses which are learned. However, the body is such a discrete and salient part of the perceptual environment of all humans that the difference between innate and acquired percepts is not likely to be linguistically significant.

Research on anatomical nomenclatures demonstrates that languages differ widely in the reference and construction of anatomical terms (Brown 1976). Attempting to bring some order to this diversity, Brown advanced 12 principles of anatomical classification and nomenclature. One principle limits the hierarchy of anatomical terms in any language to six levels. Several other principles specify what is labeled. The human body, the arm or upper limb, the finger, toe, fingernail and toenail are said to be labeled in all languages. Still other principles specify the construction of terms, some being primary (having a single unanalyzable lexeme) while others are secondary (having more than one lexeme, such as "forearm"). For example, principle 3 states that all body parts immediately possessed by the term for the whole body are labeled by primary lexemes. Principles 4 and 5 state that the arm (or upper limb) and leg (or lower limb) are always labeled by primary lexemes. Principles 6 and 7 state that the hand and foot, if labeled, are always labeled by unanalyzable primary lexemes.

While Brown's method provides a simple model for comparison

of anatomical nomenclatures, it has serious weaknesses. Most importantly, it uproots terms from their cultural matrices, so that comparisons must be superficial. Before attempting comparisons, it would be better procedure to define semantic structures underlying entire nomenclatures. The comparison of structures should yield more significant results than the comparison of isolated terms for specific anatomical parts. The same criticism applies to comparisons of the syntax of anatomical terms. It would be better to compare the syntactic structures of language specific classes of anatomical terms, than to compare terms for specific anatomical parts.

The principles which Brown advances suggest that he is using the term "lexeme" synonymously with "word," but his use of the term "forearm" as an example of a secondary lexeme belies that notion. For purposes of comparing compound lexical structures, it will be most useful to define a lexeme as any minimally distinctive word or morpheme which has semantic content (verbal, adjectival, nominal) (Cf. Berlin 1981; Conklin 1969). With this definition as a basis, comparisons of syntax can move to a more complex level, rising above the level of the term to the level of nomenclature.

This paper describes the anatomical nomenclature of Coeur d'Alene, a Salish language of northern Idaho and Washington. While Coeur d'Alene anatomical nomenclature provides support for

several of Brown's principles, it does not conform to principles 3, 4, 5, 6 and 7 described above. The Coeur d'Alene nomenclature suggests that a language may develop semantic distinctions which allocate whole sets of terms to form-classes which supercede the proposed lexical universals. Coeur d'Alene anatomical terms are divided into two major form-classes according to whether they are marked by a lexical suffix denoting a part of the anatomy. Marked terms appear to be applied only to visible surface parts of the body, while unmarked terms are more frequently applied to body parts which are not normally visible. The marked terms for visible parts make full use of the synthetic potential of the language by using locative affixes to create topographical descriptions of body parts. Such compound lexical descriptions commonly take the generic form "It is a surface contiguous to a particular place on an organ." Since the upper and lower limbs, the hand and the foot are visible parts, they are allocated by their semantic status to the marked form-class which precludes their being primary lexemes.

Taxonomic studies of life forms, social statuses and human activities have made extensive use of the semantic relation of inclusion in which one thing is classified as a "kind of" another (Agar 1981; Berlin 1981; Conklin 1969; Spradley 1979). In anatomical nomenclatures, the semantic relations "part of" or "connected to" are said to be more appropriate for specifying

relations among parts of the whole (Brown 1976; McClure 1975). However, it is probably true that appropriate elicitation techniques would uncover several semantic relationships among terms in the anatomical nomenclature of any language. Some relations would be manifest in the literal meanings of complex terms, but others would emerge only in discourse. For example, in English the little finger is a "kind of" a finger, but it is a "part of" the hand. The "kind of" relation is manifest in the structure of the term, but the "part of" relation is hidden. The arm and the torso are both "part of" the body, but the arm is "connected to" the torso. The arm is also a "kind of" a limb. None of these relations are evident in the structure of the terms themselves.

The same flexibility of definition of anatomical parts is probably also true of Coeur d'Alene, but in this study we consider only the semantic relations which are manifest in the structure of the anatomical terms. While Coeur d'Alene topographical description does not depend precisely upon the notions "part of" or "connected to," as suggested by Brown, the locative prefixes do relate more closely to these ideas than to the relation of "inclusion." A more appropriate general expression might be "contiguous to," which denotes either proximity or connection. Numerous specific locative prefixes meaning "on, part of," "on, not part of," "on an object larger than the subject," "amidst," and "within," can be subsumed under the idea of

contiguity. This characteristic of Coeur d'Alene anatomical terms derives from the general principles of the language as discussed in the following section.

#### Locative and Anatomical Affixes in Coeur d'Alene

Our study of the semantic organization of Coeur d'Alene anatomical terms encountered a problem which we have not seen previously discussed in the anthropological literature on folk classification systems--the problem of accurate translation of polymorphemic terms. A semantic analysis cannot claim to display psychological reality unless marked features are properly understood in relation to one another. Where the features of analysis are themselves morphemes, it is necessary to understand not only the meanings of the morphemes, but also features of meaning governed by syntax. Consequently, this paper presents an analysis of syntax within terms in order to arrive at a valid basis for describing the semantic organization of Coeur d'Alene anatomical nomenclature. The resulting translations are presented in the appendix.

Coeur d'Alene anatomical terms utilize a fundamental characteristic of Salish syntax: the frequent use of lexical suffixes denoting "body-parts and local ideas" (Reichard 1938: 523). In fact, the majority of suffixes refer to body parts. Reichard attempted to elucidate the semantics of nominal

suffixes in verbal forms, but her explanation is none too clear, and perhaps not strictly relevant to the problem of anatomical terms, which are not characteristically verbal. She observed that stress on the suffix causes the suffix to function as part of the verb stem, creating compound verbs with meanings such as "foot-struck," meaning "to put on a moccasin" where "foot" corresponds to the Coeur d'Alene suffix. Where the stress falls on the root rather than on the suffix, the nominal suffix serves a locative adverbial function, indicating which part of the body has been altered or clothed. In spite of the shift in emphasis, the term retains the meaning of putting on a moccasin. Both stress patterns "can be used transitively in both active and passive" (Reichard 1938:572).

If Reichard's observation concerning compounding of suffixes to roots in verbs were to hold true for the anatomical terms, it would be necessary to take this into account in translation, however analysis of the terms reveals few complex stems. One way of determining compounding patterns within a polymorphemic term is to request a literate native speaker to parse out the major and minor constituents. A less direct way is to present alternative translations in which putative compounds are indicated by corresponding English compounds. In this study co-author Nicodemus, a native speaker of Coeur d'Alene,

performed a parsing of compound stems and compound suffixes. His analyses were checked by presenting him with a choice of alternative English translations. His choices of translations generally accorded well with his analyses of terms. The results are presented in Table 1 and the data in the appendix A.

Inspection of the marked anatomical terms reveals several patterns according to number of suffixes (one or two), number of vowels in the suffix (one or two) and location of primary stress (on root or suffix). One large group has a stressed root with a single suffix of only one vowel. About as many terms have unstressed roots with compound suffixes. Reichard's observation that stressed suffixes tend to compound to the root appears to be supported only by a very few terms with a single stressed suffix and by one term with root stress and two suffixes. Terms with two suffixes and suffix stress do not normally manifest compounding of the first suffix to the root. Thus, root-suffix compounding will affect translation in only five of the total of 66 terms, and there is reason to think at least two of these may also permit the more common analysis. The implications of compounding for translation are represented by the difference in interpretation between examples 1 and 3 in Figure 1.

In addition to suffixes, prefixes also express locative ideas, and as Reichard put it, "characteristically direction." She observed that "the locative affixes may be compounded, two

are often used together" (Reichard 1938:526). Finally, she found that "The greatest degree of specification is demanded for locative and prepositional ideas. . . ." (1938:528). These characteristics of the Coeur d'Alene language are important to an understanding of anatomical terms.

#### Form-Classes and Semantic Categories of Coeur d'Alene Anatomical Terms

Coeur d'Alene anatomical terms assort into two major form-classes according to whether they are marked or unmarked with a anatomical lexical suffix. Marked terms form the largest grouping, accounting for 48 of a total of 67 recorded terms. The 19 unmarked terms assort into two categories: those which refer to functions, appearances or other characteristics, including metaphorical terms, and those which have unanalyzable stems. These classes and categories are presented in Table 2.

Terms for respiratory organs fall clearly into the functional category of the unmarked class. These include the throat, which "swallows food," the larynx or "windpipe," which is "that which scolds," and the term for the lungs, which are "light, light" referring to weight. Similarly, the term for the throat or esophagus means "a constriction for eating." The term for vein or artery means "it carries water," the heart is "it bubbles" in the continuative aspect [an interpretation denied

by one native translator], and the brain is named for the characteristic of branching outward. The same term could be applied to a car battery. Two of the three terms for genital organs also have functional referents. These are the breasts, which are "for nursing" and the penis, which takes the term for urine.

Two unmarked terms refer to the entire body, one to the living body and the other to the corpse. In symbolism remindful of Levi-Strauss' The Raw and the Cooked, the term for body takes the stem "flesh" from morphemes meaning "raw" and "inherently," while the term for corpse makes use of a root meaning "scorch" [an interpretation denied by one native translator]. If valid, the idea of scorching may derive from an extended use of the term for animal carcasses which, of course, actually are cooked. The Coeur d'Alene were not known to practice cremation in aboriginal times, so funerary custom is an unlikely source of the derivation.

Terms in the unanalyzable class have roots which have no meanings apart from these of the terms themselves. These include [k<sup>h</sup>ept] "spine," [sitč] "belly," [sčam] "bone," and [tix<sup>h</sup>cč] "tongue," [tinč] "tendon, muscle," [mótus] "kidney" and [k<sup>h</sup>ax] "fingernail." The latter term also occurs as the root of [k<sup>h</sup>axqinct] "fingernail." Further analysis of these terms is highly speculative. One might analyse the term for tongue as

//tax<sup>h</sup>-c-č// from //tox<sup>h</sup>// "collect" or "add to a store,"  
 //-c // "end, limit of length," and //-č// "separable" (Reichard 1945:56, 57). Rather than rely upon these vague possibilities, it is probably best to say that the terms have discrete stems which may take nominal or aspectual affixes, such as the nominal //s-// of //s-čam// and the //-t// "inherent" of //k<sup>h</sup>ep-t//.

Marking may be determined by the visibility of the organ referents. Marked terms refer almost exclusively to surface parts, while unmarked terms most often refer to non-visible internal organs of the gastrointestinal tract (tooth, tongue), the respiratory tract (windpipe, throat, lungs), the circulatory system (heart, veins), the skeleton and muscles (bone, spine, muscle or tendon), the nervous system (brain) and the urinary tract (kidney) (see Table 3).

A semantic category of internality would account nicely for the parts named above, but the class of unmarked terms also includes some surface parts, including the unique beginners "body" and "corpse." If visibility is the key, modesty in dress might account for the inclusion of the surface genital parts, "penis" and "breast," among the unmarked terms. However, there still remain in the unmarked category terms whose referents are indisputably external and visually perceptible, including "fingernail" (although one form of this term is marked by the suffix for finger), "skin," and "belly" [sitč]. This

categorical fuzziness is much less than that found in form-classes of other languages, such as the noun-classes of Swahili. While the semantic categories of surface and internal or visible and non-visible are hypothetical, perhaps it is relevant that the ideas of inner and outer forms are important in at least one other American Indian philosophy, though not necessarily in the field of anatomical terms (Witherspoon 1977).

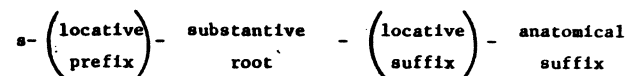
Terms for internal organs also occur among the marked terms, but these comprise only two of the total of 47. These are "liver," and "intestine." [Other possibilities are [tinč] "tendon, muscle," and [motus] "kidney." However, on morphonemic grounds one would expect \*[tinč] as the realization of //t-inč// on-belly. The term for kidney may be analyzed as //mot-us// "smoke-face, eye," but such a derivation makes no sense to contemporary speakers of Coeur d'Alene.]

Although popular conceptions of American Indian speech stress the beauty of metaphorical expression and such expressions can be found in other semantic fields of Coeur d'Alene, clearly metaphorical terms are surprisingly rare in the anatomical field. The stomach is likened to a canoe and the leg to a log. The little finger is the "smallest child of the fingers" and the pupil of the eye is "the little Indian (person) on the eye." While metaphorical terms may be drawn from the environment, it is equally possible in the case of the term for stomach that the anatomical term appeared

first and was later applied to its environmental mate. Etymology may settle this question.

Terms marked by one or more anatomical suffixes form the largest and most complex category. The most common categories of marking are "face, eye," and "hand." This is not a surprising distribution as the face and hands are centers of activity and communication where most distinctions are to be expected in any language. Following the suffixes for the face and hands in frequency of occurrence are the categories "leg, foot," "head," and "arm." The frequency distribution of lexical suffixes in marking anatomical terms is shown in Table 3.

The majority of marked terms are constructed on the following plan:



The initial //s-// is a nominalizing prefix and the parentheses signify optional affixes. A few roots do refer to states, processes or actions, rather than to substantives.

As suggested by the structure displayed above, Coeur d'Alene anatomical terms are characteristically topographic. The most common type, comprising 24 of 67 terms, is based on the root //čem// meaning "surface." To the root are attached prefixes and suffixes specifying location of the surface with respect to an organ. The two most common locative prefixes attached to the root are //čit-// "on or above an object broader than the subject" and



//cin-// "under, below." In the anatomical domain, these prefixes occur only with the root for surface as //čitčem// and //cinčem//. Since they appear to be bound to the root, it is tempting to interpret the complexes as "inferior surface" and "superior surface," however, the locational references of these prefixes appear to be directed not to the root itself, but to the suffix, whether simple or compound. They do not refer to a location on or prepositional to the surface; instead, they locate the surface with respect to the suffixes and in doing so they actually appear to provide the first element in a split predicate. By this interpretation, it is the full predicates with //čit-// or //cin-// rather than the locative prefixes themselves which are bound to the root "surface," but perhaps only in the anatomical field. The two alternative analyses of the term [sčetčemičončt] "back of the hand" are shown in Figure 1. Other prepositional notions which locate the surface are "amidst," "within," and "on, part of," "on, not part of."

A penultimate suffix between the root and the anatomical suffix ordinarily specifies location of the surface with respect to the organ referenced by the anatomical suffix. It may be specified as "the back of," "the center of," "the edge of," or "the ridge of" the organ or at the place where the legs join the organ. Three of the anatomical suffixes also serve the function of penultimate locative suffixing. When used in this way they seem to lose their anatomical reference but maintain a metaphorical

positional reference. These are //iwis// "waist," //-ičəh// "back," and //-us// "face."

We have now considered two syntactical problems in the translation of the marked anatomical terms. The first problem is that of stem compounding. The implications for translation are shown by the differences in the interpretations of examples 1 and 3 in Figure 1. The second problem is that of the function of the locational prefix, whose implications for translation are shown by the differences between examples 1 and 2 in Figure 3. With these considerations in mind, we suggest that a marked term can most often be translated as "It is the surface on (amidst, within, at) the back of (center of, edge of, ridge of, meeting of) an organ." In even more general terms, it can be translated as "It is a surface contiguous to a particular place on an organ."

#### Conclusions

Coeur d'Alene anatomical nomenclature reveals a unique perception of the human body. Coeur d'Alene perceptions of the body are reflected in the grammar of their language as well as in the referents of particular terms. The topographical conception of visible surface organs is reflected in the synthetic organization of anatomical terms. Terms for organs which are known primarily by their functions and terms for inner organs

or covered surface parts make less use of the synthetic potential of the language.

The nomenclature consists of terms in two major form-classes: those which are marked with an anatomical lexical suffix and those which are unmarked. Marked terms have topographical referents which can most often be translated as "It is a surface contiguous to a particular place on an organ." With few exceptions, marked terms refer to surface parts or to parts visible from the surface. The largest categories of marked terms are, respectively, "face, eye" "hand," "leg, foot," "head," and "arm." In all, seventeen anatomical suffixes mark the terms.

Internal organs, with several exceptions, fall into the class of unmarked terms. Such terms may be either semantically functional or unanalyzable. The "functional" category also includes metaphorical terms and terms which refer to appearances. This class also includes the unique beginners "body" and "corpse."

Saunders and Davis (1974) reported a similar synthetic structure in the anatomical terms of Bella Coola, a Salish language spoken in British Columbia. In spite of a basic similarity in the syntax of anatomical terms, there are many differences in the semantics of reference. Common roots in Bella Coola nomenclature mean "to be an object," "located at," "hair," "muscle," "to fold," "hole," and "bone." In the

recorded Coeur d'Alene terms, probably only a fraction of the terms once known in the language, only the roots "hair," and "bone" match with these Bella Coola roots. Other Coeur d'Alene roots and stems mean "surface," "person," "left," "right," "youngest child," "nail," "raise," "forward," "kick," "split," "clench," "extend," "ejecting cavity," "bend," and "bitter." Two suffixes meaning "eye" and "ear" also serve as roots. The root meaning "surface" is by far the most common in the Coeur d'Alene system and in fact is the only one occurring in more than three terms.

In some respects it is difficult to compare our findings directly with those of Brown (1976) because several of his principles concern ranking. Hierarchy does not emerge naturally from the Coeur d'Alene terms, unless one considers the anatomical suffixes as representative of a first level of classification below that of the whole body, in which case the Coeur d'Alene anatomical nomenclature could be considered to display two ranks. A third rank might be represented by the term for little finger which means the "smallest child" of the finger, where "fingers" is represented by a compound or secondary lexeme meaning "tip of the hand." However, this is the only term of its type in the nomenclature. It appears that ranking can only be applied to the Coeur d'Alene terms in a very artificial manner.

According to Brown's third principle, "All parts immediately possessed by the Whole are labeled by primary lexemes." As discussed in the introduction to this paper, Brown's idea of an analyzable secondary lexeme appears to include such compound terms as "forearm." In the Coeur d'Alene nomenclature, "parts immediately possessed by the whole" would presumably refer to terms such as the head, the arms and the legs. In fact, all of these are labeled with secondary lexemes respectively meaning "clench-top," "extend-arm," and "surface-log-leg." Principle 3 is not confirmed.

According to principle 4, "/arm (and hand)/, is labeled in all human anatomical partonomies. This parton is always labeled by a primary lexeme." As we have shown, the Coeur d'Alene term for arm is a secondary lexeme. The same disagreement occurs with principle 5, which states: "leg (and foot)/, if labeled, is always labeled by an unanalyzable primary lexeme. In principles 6 and 7, he makes the same claims for the terms for hand and foot, that if labeled, they will be unanalyzable primary lexemes. The Coeur d'Alene terms for lower limb, hand and foot are secondary lexemes respectively meaning "surface-log-leg," "(unanalyzable morpheme)-hand," and "kick-lower limb." Thus, principles 4, 5, 6, and 7 are also disconfirmed.

If Coeur d'Alene anatomical terms fail to conform to the universals proposed by Brown, it may be due to the character

of the language in which predication requires the frequent use of locational affixes and lexical anatomical suffixes. Anatomical terms are much like other predications in the Coeur d'Alene language. The imbedding of anatomical terms pertaining to visible parts of the body in polysynthetic syntax apparently overrides universal tendencies to label the leg, arm, hand and foot with simple, unanalyzable lexemes.

Thus, it appears that Brown's twelve principles of anatomical nomenclature are not truly universal. They may be regarded as strong tendencies which are superceded in particular cases by general semantic features which allocate terms to form-classes. Terms for arm, leg, hand and foot can thereby be allocated to a class made up entirely of secondary lexemes in contradiction to five of the twelve proposed universals. In the study of any particular nomenclature, it is better to proceed inductively, studying the general semantic and syntactic organization of the field before attempting to compare the results to the universals postulated by Brown. This more relativistic approach may ultimately lead to universal principles describing the general structure of nomenclatures, rather than to universals specifying the structure of terms for specific body parts.

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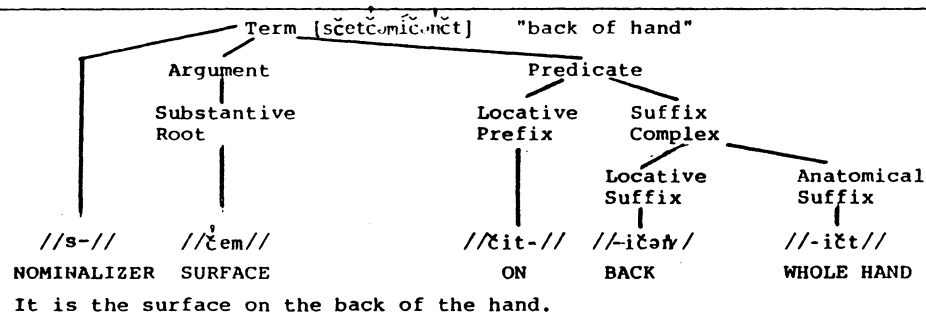
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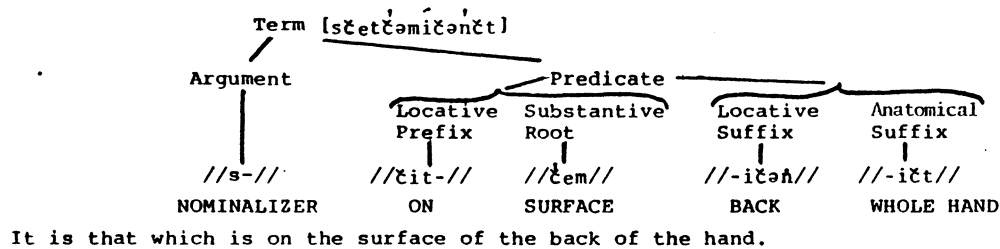
FIGURE 1  
Alternative Analyses and Translations of  
Marked Term [sčetčəmičəhčt]

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### 1. Correct Analysis



### 2. Incorrect Analyses



3.

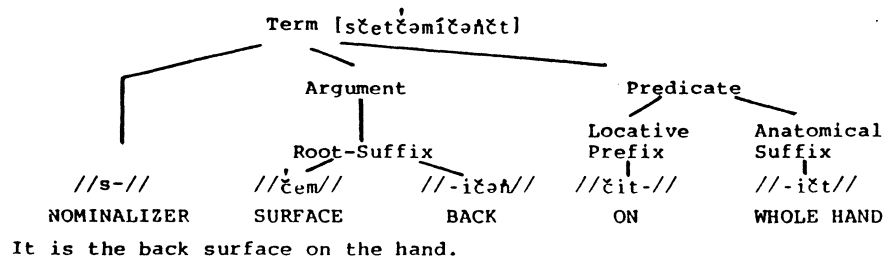


TABLE 1  
Number of Suffix Compounded Stems by Stress Pattern,  
One or Two Suffixes, and Number of Vowels in First Suffix

	Number of Terms	Terms with Compound Stems
Root Stressed		
One Suffix		
One Vowel	15	0
Two Suffixes		
One Vowel	1	1
Suffix Stressed		
One Suffix		
Two Vowels	3	2
Two Suffixes		
One Vowel	8	1
Two Vowels	6	1
Total	33	5

TABLE 2  
Form-Classes and Semantic Categories of  
Coeur d'Alene Anatomical Terms

Form-Class	Semantic Category	Number of Terms	
Marked		N	Total
	Face, eye	<u>10</u>	
	Hand	<u>9</u>	
	Leg, foot	<u>8</u>	
	Head	<u>4</u>	
	Arm	<u>3</u>	
Unmarked	Other	<u>14</u>	<u>48</u>
	Functional (function, appearance, metaphor)	<u>11</u>	
	Unanalyzable	<u>8</u>	<u>19</u>
Total		<u>67</u>	<u>67</u>

TABLE 3

Marked and Unmarked Anatomical Terms of Coeur d'Alene  
by Semantic Categories of Surface and Function

Marked Terms for Surface Parts

face (1)	little finger (17)	arm (32)
cheek (2)	finger nail (18)	armpit (33)
forehead (3)	shoulder blade (19)	shoulder (34)
eye (4)	surface of leg (20)	ear (35)
inner eyes (5)	knee (21)	nose (36)
pupil of eye (6)	foot (22)	nostrils (37)
eyelash (7)	ankle (23)	chin (38)
eyebrows (8), (9)	sole (24)	neck (39)
eye ridges (10)	instep (25)	back of neck (40)
hand (11)	toenail (26)	chest (41)
left hand (?) (12)	vulva (27)	abdomen (42)
right hand (13)	head (28)	back (43)
wrist (14)	cranium (29)	waist (44)
palm (15)	back of head (30)	buttock (45)
back of hand (16)	top of head (31)	anus (46)

Marked Terms for Internal Organs

liver (47)  
intestine (48)

Unmarked Functional Terms for Surface Parts

body (49)                      breasts (58)  
corpse (50)                  penis (59)

Unmarked Functional Terms for Internal Organs

brain (51)                      windpipe (54)                  heart (56)  
tooth (52)                      lungs (55)                      vein (57)  
throat (53)

Unmarked Unanalyzable Terms for Surface Parts

belly (60)  
skin (61)  
finger nail (62)

Unmarked Unanalyzable Terms for Internal Organs

tongue (63)                      spine (65)                      kidney (67)  
bone (64)                          tendon, muscle (66)

TABLE 4  
Anatomical Suffixes and Their Frequency of  
Occurrence in Anatomical Terms

Suffix	Number of Occurrences
//us// eye, face;	10
//ins// tooth;	1
//içs// palm of hand;	0
//içt// whole hand	9
//inç// hollow, belly	2
//ip// bottom, behind, after	1
//ips// neck	0
//iqs// chest, breast	1
//ups// anus, tail	1
//qən// head	4
//çən// foot, leg	8
//cən// mouth, edge	1
//g <sup>w</sup> əl// canoe, wagon, abdomen	1
//num// body	0
//ini// ear	1
//i <sup>w</sup> is// waist	1
//ixən// arm, wing	3
//içəh// back, ridge	1
//əʔqs// nose, beak	2
//ilps// throat, mane	1
//ilg <sup>w</sup> is// heart, stomach	0
//ilumx <sup>w</sup> // person	0
Total	48

\* this table does not include lexical suffixes used as penultimate orienting markers, as in [sçetçəmicəhçt] where //içəh// means "back of" rather than "back."

APPENDIX : ANATOMICAL TERMS LISTED ACCORDING TO NATIVE  
TRANSLATOR'S GLOSS WITH MORPHOLOGICAL ANALYSIS AND CLOSE  
TRANSLATION

Terms Marked with the Suffix //us// "face, eye"

- "face" [stúsman] //s-t-us-mən// NOMINALIZER - POSSESSIVE (?)  
eye, orifice for light - INSTRUMENTAL; It has eyes.
- "cheek" [scençémus] //s-cin-çem-us// NOM - below - surface -  
eye; It is the surface below the eye.
- "forehead, on same side as the face," "surface on the  
back side of the front" [sçetçemíçəhçus] //s-çit-çem-içəh-us//  
NOM - on [on surface or object broader than subject] - surface -  
back, ridge - face. [This is one of only two terms in which the  
first suffix attaches to the root to form a compound stem];  
It is the back surface on the face.
- "eye" [sçíúsman] //s-ç-iúsman// NOM - on, not part of - face;  
It is on the face.
- "inner eyes" [səníúsman] //s-hən-REDUPLICATION-iúsman//  
NOM - in, into, out of - PLURAL - eye; It is in the eyes.  
[Normally CV-CVC reduplication signifies DIMINUTIVE, however  
in view of the gloss it seems more likely that the s on  
reduplicated iús has been deleted due to the following t  
for a plural derivation.]
- "pupil of the eye" [stçíntus] //s-t-REDUPLICATION-çint-us//  
NOM - on, part of - DIM - people, Indian - eye; It is the little  
Indian (person) on the eye.

Terms Marked with the Suffix //-us// "face, eye" (continued)

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7. "eyelash" [stgyp<sup>1</sup>ič<sup>2</sup>e<sup>3</sup>us] //s-t-g<sup>4</sup>ep-ič<sup>2</sup>e<sup>3</sup>-us// NOM - on, part of - long hair - inside of, edge of - face, eye; It is the long hairs on the edge of the eye.
8. "eyebrows" [sgypgyp<sup>1</sup>ič<sup>2</sup>e<sup>3</sup>us] //s-REDUP-g<sup>4</sup>ep-ič<sup>2</sup>e<sup>3</sup>-us// NOM - PLUR - long hair - edge of - eye; It is the long hairs at the edge of the eye (Compare number 7).
9. "eyebrows" [stgypgyp<sup>1</sup>ič<sup>2</sup>ə<sup>3</sup>us] //s-t-REDUP-g<sup>4</sup>ep-ič<sup>2</sup>ə<sup>3</sup>-us// NOM - on, part of - PLUR - long hair - forehead (back-face) (Compare number 3); It is the long hairs on the forehead.
10. "eye ridges, behind the eyebrows" [scenč<sup>1</sup>əm<sup>2</sup>i<sup>3</sup>lx<sup>4</sup>ə<sup>5</sup>us] //s-cin-č<sup>1</sup>em-i<sup>2</sup>lx<sup>4</sup>ə<sup>5</sup>-us// NOM - under - surface - (?) - eye, face;

Terms Marked with the Suffix //-ičt// "whole hand"

11. "hand" [sč<sup>1</sup>i<sup>2</sup>yeč<sup>3</sup>t] //s-č<sup>1</sup>i<sup>2</sup>-ičt// NOM - be there (?) - whole hand; It is the hand.
12. "left hand" [stč<sup>1</sup>ik<sup>2</sup>e<sup>3</sup>] //s-t-č<sup>1</sup>ik<sup>2</sup>-i// NOM - on, part of - left side - hand (?); It is the left hand.
13. "right hand" [stč<sup>1</sup>iheč<sup>3</sup>t] //s-t-č<sup>1</sup>ih-ičt// NOM - on, part of - right (hand), approach - hand; It is the right hand.
14. "wrist" [scenč<sup>1</sup>əmcinč<sup>3</sup>t] //s-cin-č<sup>1</sup>em-cən-ičt// NOM - under, below - surface - edge - whole hand; It is the surface below the edge of the hand (when the hand is held vertically).
15. "palm" [sənč<sup>1</sup>əm<sup>2</sup>ič<sup>3</sup>ə<sup>4</sup>nč<sup>5</sup>t] //s-hən-č<sup>1</sup>em-ič<sup>3</sup>ə<sup>4</sup>-nč<sup>5</sup>-t// NOM - in - surface - back - whole hand; It is the surface within the back of the hand.

Terms Marked with the Suffix //-ičt// "whole hand" (continued)

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16. "surface of the back of the hand" [sč<sup>1</sup>etč<sup>2</sup>əm<sup>3</sup>ič<sup>4</sup>ə<sup>5</sup>nč<sup>6</sup>t] //s-č<sup>1</sup>it-č<sup>2</sup>em-ič<sup>3</sup>ə<sup>4</sup>-nč<sup>6</sup>-t// NOM - on, above - surface - back - hand; It is the surface on the back of the hand.
17. "little finger" [scc<sup>1</sup>əw<sup>2</sup>təm<sup>3</sup>šq<sup>4</sup>ə<sup>5</sup>nč<sup>6</sup>t] //s-REDUP-ci<sup>1</sup>w<sup>2</sup>tumš-qən-ičt// NOM - DIMINUTIVE - youngest child - finger (tip - hand); It is the youngest child of the fingers.
18. "fingernail" [k<sup>1</sup>əxq<sup>2</sup>i<sup>3</sup>nč<sup>4</sup>t] //kw<sup>1</sup>ex-qən-ičt// claw - finger (tip - hand); the claw of the finger.
19. "shoulder blade" [sx<sup>1</sup>ə<sup>2</sup>l<sup>3</sup>əč<sup>4</sup>t] //s-x<sup>1</sup>ə<sup>2</sup>l<sup>3</sup>-ičt// NOM - raise whole hand; The hand raises up.

Terms Marked with the Suffix //-šən// "leg, foot"

20. "the whole surface of the leg" [stč<sup>1</sup>amalq<sup>2</sup>šən] //s-t-č<sup>1</sup>em-ilq-šən// NOM - on, part of - log (surface - sticklike object) - leg, foot [This is one of two terms in which Nicodemus prefers to parse out the root and first suffix together to form the compound stem [č<sup>1</sup>amalq] "log.,"]; It is the log on the leg. Nicodemus' preference for the compound stem derives from his familiarity with the word [č<sup>1</sup>amalq<sup>2</sup>] "log." The word would make equally good sense derived in the normal way from a compound suffix //-ilqšən// and translated as "It is the surface on the cylinder (log) of the leg."
21. "knee" [sč<sup>1</sup>a<sup>2</sup>q<sup>3</sup>i<sup>4</sup>nšən] //s-č<sup>1</sup>i<sup>2</sup>-q<sup>3</sup>ən-šən// NOM - forward - top - NOM - foot; It is forward of the top of the foot.



Terms Marked with the Suffix // -šon// "leg, foot" (continued) 326

22. "foot" [scúʔušon] //s-cuʔ-šon// NOM - punch - leg, foot;

It is (the part of) the leg (which) kicks.

23. "ankle" [scenčomcínšon] //s-cin-čem-con-šon// NOM -

under, below - surface - edge - leg; It is the surface below the edge of the leg. Note/ The compound suffix // -conšon// connotes "walking."

24. "sole, surface of the bottom of the foot" [sənčemičonšon] //s-hon-čem-ičon-šon// NOM - in - surface - back, ridge - foot;

It is the surface in the ridge of the foot (compare no. 25).

25. "instep, front of the foot" [sčetčomičonšon] //s-čit-čem-ičon-šon// NOM - on - surface - back, ridge - foot; It is the surface on the ridge of the foot (compare no. 24).

26. "toenail" [kʰaxqínšon] //kʰex-qon-on-šon// claw - toe (tip - that which - foot); the claw of the toe.

27. "woman's genitals" (vulva) [sniʔsáqʔšon] //s-nəʔ-siʔ-šon// NOM - among - gaping, split in two - where two things meet - leg, foot; It is the split in between the legs.

Terms Marked with the Suffix // -qon// "head"

28. "head" [qomqon] //qʰem-qon// (?) clench, cramp - head, top; clenched at the top.

29. "brain case" (cranium) [sčámqon] //s-čám-qon// NOM - bone - head, top; It is the head bone.

30. "back of the head" [scančomápqon] //s-cin-čem-ip-qon// NOM - under, below - surface - bottom, behind, after, end - head; // -ipqon// "top of head"; It is the surface below the top of the head (compare no. 31).

Terms Marked with the Suffix // -qon// "head" (continued) 327

31. "top of the head" [čniʔčomáwəsqon] //č-nəʔ-čem-iwis-qon// on, not part of - amongst - surface - between, together - head, top; //iwisqon// "in hair on top of head"; on the surface in the hair at the top of the head.

Terms Marked with the Suffix // -xən// "arm"

32. "arm" [sčogʷáxən] //s-čegʷ-ixən// NOM - extend - arm; It is the arm-extension.

33. "armpit, below the shoulder" [scančomáxən] //s-cin-čem-ixən// NOM - under - surface - arm; It is the surface under the arm.

34. "shoulder" [stčámósaxən] //s-t-čem-us-ixən// NOM - on, part of - surface - face, eye - arm; It is the surface on the face of the arm. Reichard (1938: 624) has "-os-saxən, top of arm, perhaps ball and socket joint."

Other Marked Terms

35. "ear" [tʰineʔ] //t-ini// on, part of - ear; part of the ear.

36. "nose" [sniʔčámiʔqs] //s-nəʔ-čem-əʔqs// NOM - among, amidst - surface - nose; It is the surface amidst the nose (Compare number 37).

37. "nostrils" [sniʔčámčamiʔqs] //s-nəʔ-REDUP-čem-əʔqs// NOM - amidst - PLUR - surface - nose; It is the surfaces amidst the nose.

38. "chin" [sčomíʔəns] //s-čem-ip-ins// NOM - surface - bottom - tooth; It is the surface of the bottom of the teeth. (This was broken out as a compound stem //čem-ip// which was translated as "surface of the bottom.")

## ADDITIONAL TERMS, NOTES AND CORRECTIONS

Additional Terms

68. "hair" /čEpqínEn/
69. "top of the head, pate" /hEnčámqEn/
70. "forehead" /scetčEmí'lk'we'us/
71. "mouth" /stčémcEn/
72. "chin," "jaw" /sk'wede'cínpe'ne/
73. "beard, mustache" /sg'wépcEn/
74. "lips" /spElí'EmcEn/
75. "cavity of the mouth," palate, roof of mouth" /sEnčEmálpq'w/
76. "ribs" /četpéste' /
77. "wrist" /cencEmílčt/
78. "thumb" /ščehípčt/
79. "nipple, teat" /stúmEm/
80. "navel, belly button" /tíg'wem/
81. "testes" /míčmečp/
82. "testes" /hEnmIlmIlk'wípe'st/ (stud horse)
83. "crotch," "the whole inner surface of both legs, from foot to foot" /sEnčámalsEn/
84. "pubic hair" /snI'g'wépsEn/
85. "heel" /ščEmípEle'sEn/
86. "toes" /stáRRsEn/, /stáRsEn/
87. "blood" /mítčede' /
88. "womb" /hEnq'wásq'w'se'En/
89. "clitoris" /snI'čEmússEn/

Terms for Anatomical Parts According to Side of Body

	<u>Right Side</u>	<u>Left Side</u>
eye	stčínus	stčík'we'us
ear	stčínene'	stčík'wene'
cheek	scencínus	scencík'we'us
shoulder	stčahmósEXEn	stčákwa'hósEXEn
arm	stčíhečt	stčík'we'
hand	stčíhečt	stčík'we'
leg	stčahamalsEn	stčák'wa'alq'sEn
foot	stčínšEn	stčík'we'sEn

Corrections

page.para.line

- 305.2.2-6 should read "Those include terms for the larynx, which is 'that which scolds' and the lungs, which are 'light, light' referring to weight. Similarly, the term for the throat or esophagus means 'it swallows food.'"
- 308.1.4 morphophonemic (sp.)
- 309.1.8 Tables 2 and 4.
- 324.#12 should read "/s-t-cik'wí// NOM - on, part of - left side; It is the left hand."
- 304.1.12 these and other statistics subject to revision due to inclusion of more terms

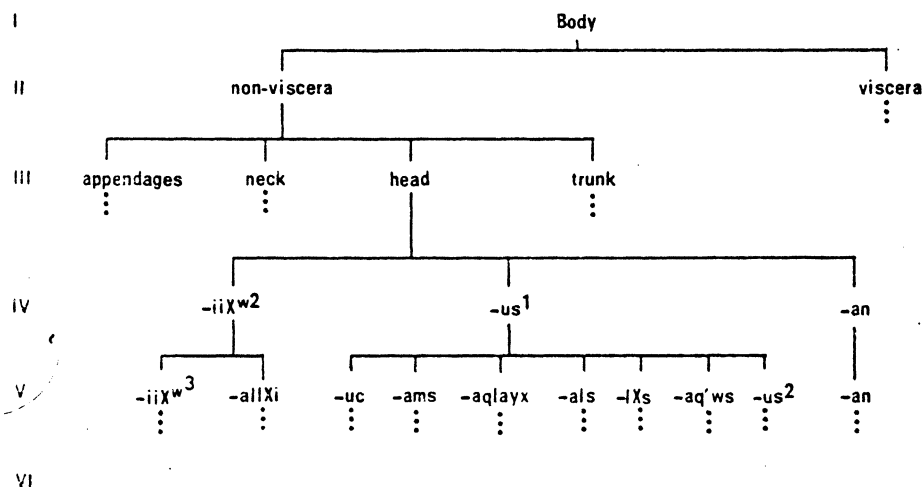


Figure 2: Revised Bella Coola body-part hierarchy. Details of head only. (Saunders and Davis 1974, Fig. 10)

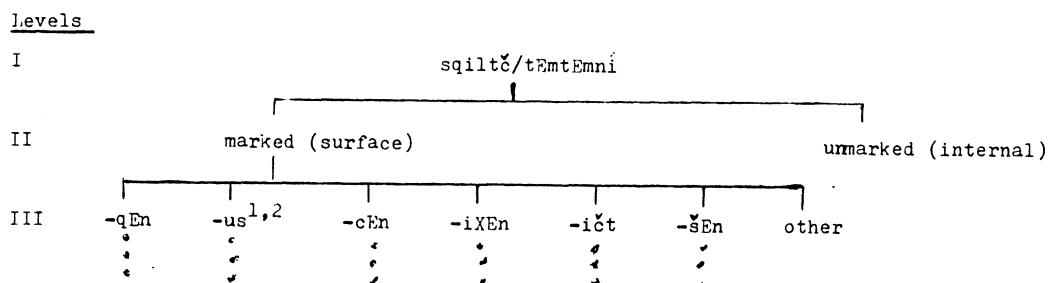
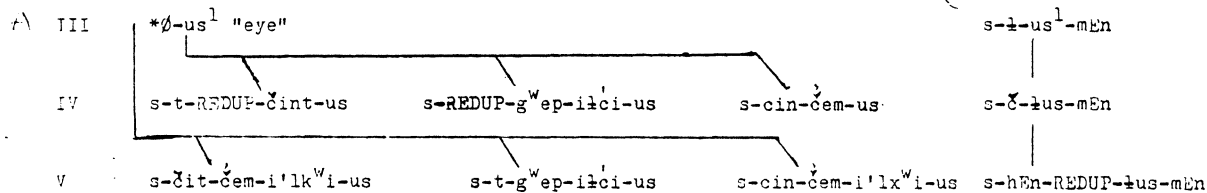


Figure 3: Coeur d'Alene body-part hierarchy

Levels



B)

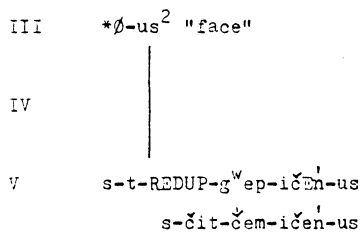


FIG. 5

Levels

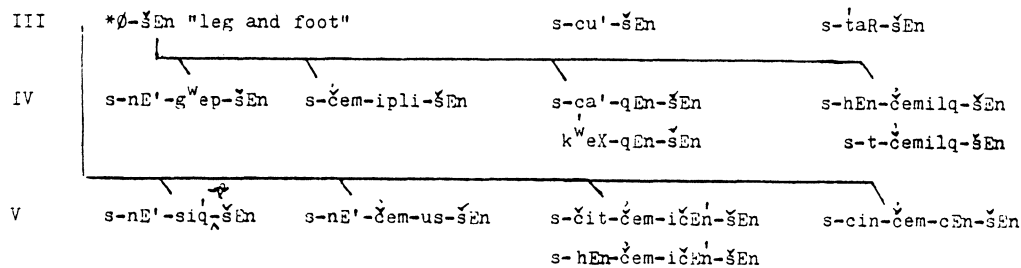


FIG. 6

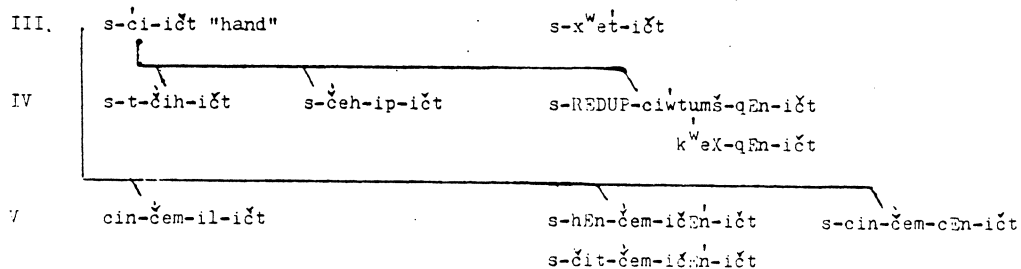


FIG. 7

Levels

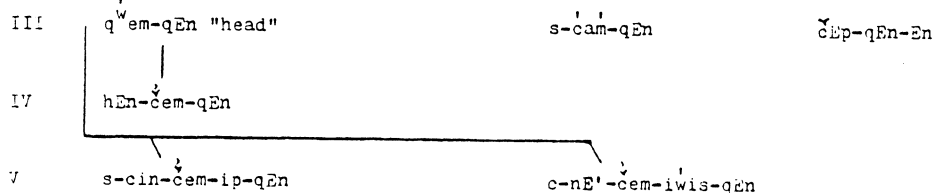


FIG. 8

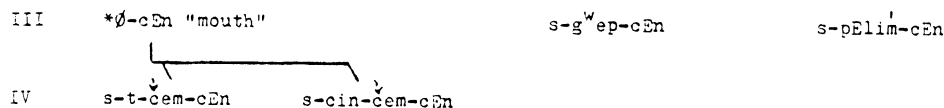
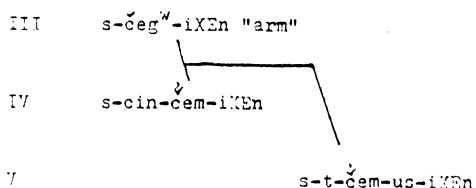


FIG. 9



39. "neck" [scenčémčon] //s-cin-čém-čon// NOM - under, below - surface - mouth, edge; It is the surface below the mouth.
40. "back of neck" (may apply only to animals) [sčémelps] //s-čém-ilps// NOM - surface - back of neck; It is the surface of the back of the neck.
41. [sčámōqs] //s-čém-iqs// NOM - surface - chest, breast; "chest"  
It is the surface of the chest.
42. "abdomen" [stčémgʷol] //s-t-čém-gʷol// NOM - on, part of surface - abdomen, canoe, wagon; It is the surface on the abdomen.
43. "back" [sənčómíčəh] //s-hən-čém-ičəh// NOM - in - surface - back; It is the back-surface.
44. "waist" [sčómíwəs] //s-čém-iwis// NOM - surface - between, together; It is the waist-surface.
45. "one buttock, surface by the anus" [četčémups] //čit-čém-ups// on, above - surface - anus, tail; It is the surface above the anus.
46. "anus, open bottom" [səqʷáqmep] //s-qʷe-čəm-ip// NOM - hollow, cavity - swallow, eject - bottom, behind, after; It is the ejecting cavity behind.
47. "liver" [peʔnenč] //peh-inč// bend - hollow, belly; bend in the belly.
48. "intestine" [stáxənč] //s-tex-inč// NOM - be bitter, sharp to taste - hollow, belly; It is (the part of) the belly which is bitter.

49. "human body" [sqíltč] //s-qel-t-č// NOM - raw - inherently - separable; It is flesh (inherently raw).
50. "corpse, carcass" [təmtəmni] //REDUP-tam-ni// DISTRIB - scorch - that which (?); that which is scorched.
51. "brain" [sčáqalx] //s-čeq-ilx// NOM - to branch, be bunched - away from center, outward; It branches outward.
52. "tooth" [xélexʷ] //xel-ixʷ// lie in order - willingly, involuntarily; lies in a row.
53. "throat" [sqemílon] //s-qem-olon// NOM - swallow - food; It swallows food.
54. "windpipe, means of scolding" [hənčómemeʔn] //hən-REDUP-čomen in - DIMIN - scold; that which scolds from within.
55. "lungs; light, light (weight); means of making light" [spíʔupew] //s-REDUP-piʷ// NOM - DISTRIB - light (weight); It is light, light.
56. "heart" [əcpúʔus] //əc-puʔs// CONTINUATIVE ASPECT - bubble; It bubbles.
57. "artery, vein" [səxʷíkʷeʔ] //sexʷ-č-kʷi// carry - inside - water; It carries water inside.
58. "breasts" [stúmʔuməm] //s-REDUP-čum-əm// NOM - PLUR - suck - cause, voluntarily; those which nurse (cause to be sucked).
59. "penis" [téčeʔyi] ; urine.

Unmarked, Unanalyzable Terms

60. "belly" [sitč]  
 61. "skin, hide" [pékut]  
 62. "fingernail, claw" [k'ax] (Compare number 18.)  
 63. "tongue" [tix'cč]  
 64. "bone" [sčam]  
 65. "spine" [k'épt]  
 66. "tendon, muscle" [tinč]  
 67. "kidney" [mó'us]

Sample Data Compiled in Table 3 "Number of Suffix Compounded Stems  
 by Stress Pattern, One or Two Suffixes, and Number of Vowels in  
 First Suffix" (Numbers refer to above terms)

	Terms	Terms with Compound Stems
Root Stressed		
One Suffix		
One Vowel	2, 6, 11, 12, 13, 17, 22, 27, 30, 40, 41, 42, 45, 46, 48	
Two Suffixes		
One Vowel	20	20
Suffix Stressed		
One Suffix		
Two Vowels	33, 43, 44	43, 44
Two Suffixes		
One Vowel	14, 17, 18, 21, 23, 30, 34, 38	38
Two Vowels	3, 7, 15, 16, 25, 31	3

Terms with Root //čən// "surface": 2, 3, 10, 14, 15, 16, 20,

21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45.

The Function of the Nootka Indicative Mood

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1. Nootka, a Southern Wakashan language,<sup>1</sup> has many suffixes, particularly ones indicating location, aspect, and mood.<sup>2</sup> Mood is, according to Lyons (1970:323), a 'grammatical category... indicating the speaker's attitude - his doubt or certainty; whether he is expressing a wish, issuing a command, asking a question, etc.'. The Nootka mood system includes a set of 'paradigmatic' suffixes, which follow the tense suffixes and are each associated with a particular person paradigm. Paradigmatic mood suffixes are in complementary distribution, never cooccurring in a single word. They are sub-categorized into the following groups:<sup>3</sup>

1. matrix irrealis: dubitative, purposive;
2. matrix realis: evidential, interrogative, imperative, and indicative (INDIC);
3. matrix/subordinate realis: absolutive (ABS), indefinite, relative, subordinate; and
4. matrix/subordinate irrealis: conditional.

This paper is concerned with the indicative mood.

2. In discourse, the ABS mood is the most frequent. It is the zero or unmarked mood. Predicates in the ABS mood inflect for person by means of the absolutive person series. In contrast, the INDIC mood is expressed by a syncretic mood-person paradigm.