

NORTHWEST LANGUAGES IN SEARCH OF A UNIVERSAL WORD ORDER TYPOLOGY

by

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INTRODUCTION

This paper is concerned with the fundamentals of word order typology and certain basic issues in the description of word order in the languages native to Northwestern North America. A number of Northwest languages are important to word order typology, either because they represent rare word order types, or simply because they are difficult to fit into any of the discrete categories of basic word order which form the foundations of most current approaches to word order typology. While some Northwest languages clearly have a basic word order, some others arguably do not, while still others have a basic word order but only in a partial way. In order to effectively compare and contrast the word order characteristics of Northwest languages, it is necessary to develop a word order typology based directly on the fundamental variables of word order. My point of view is that categories of basic word order are not ultimately the fundamentals of word order typology, but only a product of the intersecting of certain independent variables of word order. For all languages, these independent variables of word order can be measured and each language can be described in terms of each variable.

In this paper, I am primarily concerned with the word order characteristics of a small set of Northwest languages as token representatives of the overall linguistic diversity of the Northwest. These languages belong to six language families and include Miluk Coos, Hanis Coos, Siuslaw, Alsea, Northern Kalapuya, Central Kalapuya, Kootenay, and a number of Salishan languages. What I say about the word order characteristics of individual Salishan languages in this paper is based on grammatical descriptions of those languages written by Salishanists.

In contrast, what I say about Miluk Coos, Siuslaw, Alsea, Northern Kalapuya, and Central Kalapuya, all of which are no longer spoken, is based entirely on my own examination of texts in these languages published either by Leo J. Frachtenberg (1914, 1917, 1920), or by Melville Jacobs (1939, 1940, and 1945). For Hanis Coos, there are not only texts published by Frachtenberg (1913) and some published by Jacobs (1939, and 1940) but there is also a grammatical description of Hanis Coos by Frachtenberg (1922a). There is also a grammatical description of Siuslaw by Frachtenberg (1922b).

Probably just because of the fact that there are published grammatical descriptions of Hanis Coos and Siuslaw, Greenberg (1966), in a footnote (p.105), is able to take note of Hanis Coos (which he refers to simply as Coos) and Siuslaw, along with Coeur d'Alene, a Salishan language for which there is also a published description, as languages which are exceptions to his language universal number one, which says that in declarative sentences with nominal subject and object, the dominant order is always one in which the subject precedes the object. Greenberg (1966, p. 110) specifically lists Coeur d'Alene as having the order VOS (Verb-Object-Subject), and he lists Coos and Siuslaw as (both) having the orders VOS and OVS. More recently, Matthew Dryer (1983) and Marianne Mithun (1984) have written about word order in Hanis Coos (generally referring to the language simply as Coos), both of these authors mentioning that Coos represents an exception to the commonly assumed universal that languages put old information before new information within clauses or sentences. Mithun (1984) suggests further that (Hanis) Coos is a language lacking a basic word order in that it appears that all word order variation in the language, of which there is a very great deal, is governed by discourse pragmatics in such a way that no word order

really qualifies as pragmatically unmarked, or even as a least pragmatically marked order.

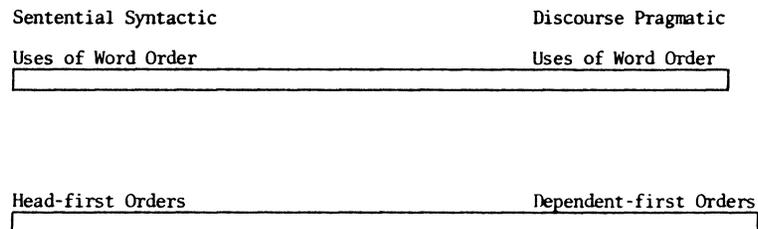
What I say about Coeur d'Alene word order in this paper is based on the grammatical description of the language by Gladys Reichard (1938). My remarks on Coeur d'Alene word order are quite tentative because I do not have access to a substantial corpus of Coeur d'Alene text materials. In contrast, I am in a much better position to talk about Kootenay word order, since I can not only refer to the substantial corpus of Kootenay texts collected by Franz Boas (1918), but I can also refer to my own collection of tape recorded Kootenay texts, which includes some very long texts which were tape recorded in 1982 from a monolingual speaker of the language. It is instructive to note that the long tape recorded Kootenay texts have very few examples of nominal subjects and objects occurring together in the same clauses, while the texts collected by Boas (1918), all of which were taken down through dictation either in 1914 or earlier, have many more examples of clauses containing both nominal subject and nominal object together in the same clause. Short tape recorded texts have an intermediate frequency of such clauses which is similar to the frequency of such clauses in the very longest dictated texts of Boas (1918). It does not appear that the language has changed greatly in this regard since 1914, but it does appear that the length of texts and the manner in which they are recorded have a great deal to do with the amount of evidence which they offer for the existence of a basic word order in the language. The oldest and shortest dictated texts of Boas (1918) offer evidence that VOS is the basic word order of Kootenay, at least it can be said that in those texts VOS clauses outnumber VSO, and SVO clauses, while SOV and OSV clauses do not occur. On the other hand, some long tape recorded texts contain

no VOS, VSO, or SVO clauses at all and offer no evidence that a word representing a grammatical subject can even occur together in the same clause with a word representing a grammatical object. To make the matter more difficult, some short tape recorded texts have about as many VSO clauses as VOS clauses, making it impossible to say that VOS is clearly the numerically dominant word order in Kootenay texts which contain VOS clauses. The fact that dictated texts offer the strongest evidence that VOS is the basic word order of Kootenay is relevant to any discussion of the evidence that VOS is the basic word order of languages such as Hanis Coos, Miluk Coos, Siuslaw, and Alsea since all the texts which we have for these four, no longer spoken languages are texts which were taken down through dictation.

In addition to the Kootenay texts which I can refer to, I am also able to refer to my Kootenay field notes from 1968 through 1984,<sup>1</sup> and I am able to refer to the published works on Kootenay by Boas (1926) and by Paul Garvin (1947, 1948a, 1948b, 1951a, 1951b, 1953, 1954, 1957, and 1958).

#### TOWARD A UNIVERSAL WORD ORDER TYPOLOGY

In order for word order typology to be adequate to the task of dealing with all of the languages native to the Northwest, it must recognize at least three fundamental variables of word order. One of these fundamental variables is the matter of what uses different languages make of word order. This typically involves a compromise in individual languages between phrase-level and sentence-level syntactic uses of word order as opposed to discourse pragmatic uses of word order. Another fundamental variable of word order is the matter of how languages order syntactic head words in relation to words which are the syntactic dependents of such head words, in other words, how languages order heads and dependents. A third fundamental variable is the matter of how languages order grammatical subjects in relation to grammatical objects. These three fundamental variables of word order can be pictures as three linear scales of measure:

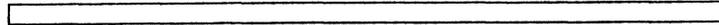


Subject before Object

Object before Subject

Order

Order



I assume a great deal in the way of syntactic theory and general linguistics in setting up and labeling these three linear scales of measure, but almost as much in the way of syntactic theory and general linguistics is assumed by those who use the term 'basic word order' and who set up a word order typology based on categories of basic word order.

#### BASIC WORD ORDER

There are six mathematically possible arrangements of subject, object, and verb:

VSO	SVO	SOV
VOS	OVS	OSV

A language is said to have one of these arrangements as its basic word order when that particular word order is either the only arrangement allowed in the language (which is rarely the case), or is the numerically dominant order and also the least marked order in terms of discourse pragmatics. For example, in English the order SVO is basic not only because it serves to distinguish subject noun phrases from object noun phrases as in the following sentences:

<u>S</u>	<u>V</u>	<u>O</u>
The cat	saw	the dog.

<u>S</u>	<u>V</u>	<u>O</u>
The dog	saw	the cat.

but because other arrangements of subject, object, and verb which do occur in English are fairly obviously marked, for example by intonation, and also fairly obviously have specific discourse pragmatic functions, as with the second sentence of the following pair of sentences where the fronting of the object is said to represent a process of topicalization.

<u>S</u>	<u>V</u>	<u>O</u>	(unmarked and basic)	<u>O</u>	<u>S</u>	<u>V</u>	(marked)
I	don't like	that.		That,	I	don't like.	

The matter of figuring word order typology in terms of basic word order categories such as VSO, VOS, SVO, OVS, SOV, and OSV is complicated by the fact that the notion of basic word order extends to other word order constructions which languages have. For example, Hawkins (1983: page 11) in a discussion of the notion of basic word order, says that the basic adjective position of Japanese is AdjN (i.e. Adjective-Noun), while the basic genitive of Samoan is NGen (i.e. Noun-Genitive). This means that in a given language there may be several word order constructions which have a basic word order. Most of these word order constructions are binary and their particular basic word orders, in given languages, can be stated with two-letter codes, as is done by Hawkins in one of the indexes to his survey of the word order traits of some 350 languages. In this index, Hawkins (1983: pages 320-342) lists the trait AN (= AdjN = Adjective-Noun) for Japanese, while he lists the trait NG (= NGen = Noun-Genitive) for Samoan. The following is a chart of the basic word orders of four constructions in Japanese, Samoan, and English, following the information listed by Hawkins in this index:

	Subject, Object, and Verb	Adposition	Adjective and Noun	Genitive and Noun
Japanese:	SOV	Po	AN	GN
Samoan:	V-initial	Pr	NA	NG
English	SVO	Pr	AN	GN/NG

#### Meaning of Symbols:

SOV = Subject-Object-Verb (as the basic order).

V-initial = Verb-Nominal Arguments (as the basic order).

SVO = Subject-Verb-Object (as the basic order).

Po = Postpositional (as the (basic) order of adpositions in relation to nouns).

Pr = Prepositional (as the (basic) order of adpositions in relation to nouns).

AN = Adjective-Noun (as the basic order).

NA = Noun-Adjective (as the basic order).

GN = Genitive-Noun = Possessor-Possessed (as the basic order).

NG = Noun-Genitive = Possessed-Possessor (as the basic order).

For many of the binary word order constructions in particular languages, there is only one invariant word order for the construction, and in such cases it is unnecessary to describe the invariant word order as 'basic'. Typically, it is necessary to use the term 'basic word order' when there are alternant orders for a particular construction in a particular language, but where one of the orders has a numerical dominance over the other order or orders which can not be explained as entirely the result of discourse pragmatic uses of word order. This is most typically the case for the construction which represents arrangements of subject, object, and verb. There is typically less reason to use the term 'basic word order' in reference to other constructions such as possessive constructions and adjectival constructions and the term 'basic word order' is generally not used in reference to adpositional constructions.

#### THE NATURAL CO-OCCURRENCE OF PARTICULAR WORD ORDER TRAITS WITH EACH OTHER

Hawkins (1983) points out that because every language has several different word order constructions, and each construction has its own (basic) word order, there are, in theory, a very large number of what I will call 'word order trait co-occurrence types'. Hawkins points out, however, that many of these mathematically possible word order trait co-occurrence types are very rare or do not occur at all in the survey that Hawkins makes of the word order traits of some 350 languages. The main thrust of word order typology, following Greenberg's (1966) pioneering paper on language universals and word order typology, has been an attempt to explain why certain mathematically possible word order trait co-occurrence types are either very rare or apparently do not occur, while other possible types are extremely common. Word order typologists such as Greenberg (1966), Vennemann (1976, and 1981), Comrie (1981), and Hawkins (1983) have noted that certain word order traits typically go together with certain other word order traits cross-linguistically. One approach has been to state the matter of what traits naturally go together with each other in terms of 'implicational universals', having the form: 'If a language has trait X, it will also have trait Y'. The word order traits in question are the (basic) word orders for particular constructions.

While the approach of formulating implicational universals has been highly favored in the literature on word order typology, most of the word order universals which have been proposed have been essentially statements of statistical tendency. Universals which are stated as absolute claims that certain word order traits or certain combinations of word order traits cannot exist in natural human languages are all too easily struck down as false. There do not appear to

be any hard and fast rules about what word order traits can exist in natural human languages, at least within the limits of mathematical or logical possibility, and there do not appear to be any hard and fast rules about which word order traits may or may not occur together in the same language. Nonetheless, it does appear that certain word order traits naturally go together, while other word order traits typically do not.

Hawkins (1983) and Vennemann (1976 and 1981) see word order constructions as consisting of syntactic heads (or operands) and modifiers (or specifiers or operators). Languages tend to order heads and modifiers (or heads and specifiers, or operands and operators) in a consistent manner in different word order constructions. This can also be stated in terms of dependency analysis as described by Johanna Nichols (1983 and 1984), following Tesnière (1966) and others. In dependency analysis, various word order constructions consist of syntactic heads and their syntactic dependents. The tendency is for languages to order heads and dependents in the same way in different word order constructions. The terminology of dependency analysis lends itself to a typology where languages can be measured in terms of how head-first or dependent-first they are. Given the facts about the word order traits of Japanese, Samoan, and English listed above, it can be said that Japanese is dependent-first, while Samoan is head-first. English is about evenly split between head-first orders (VO, Pr, NG) and dependent-first orders (SV, AN, GN). In these terms, the order SVO is a split order with the value dependent-head-dependent, and following from this, it is no surprise that Hawkins (1983) finds the occurrence of the trait SVO as a basic order to be a statistically poor predictor for the occurrence of other word order traits in languages. In contrast, the occurrence of the trait SOV as a basic order and the occurrence

of the trait VSO as a basic order both turn out to be statistically fairly good predictors of the occurrence of other word order traits in languages. The order SOV, in dependency analysis, has the value dependent-dependent-head, while the order VSO has the value head-dependent-dependent. One of the problems with the use of tripartite basic word orders such as VSO, SVO, and SOV as the basis of word order typology is that other word order constructions in languages are binary and are therefore either in the order head-dependent or in the order dependent-head. It is only in the case of the tripartite basic word orders which represent arrangements of subject, object, and verb that a single word order trait can be something other than entirely head-first or entirely dependent-first.

The following chart is given by Nichols (1984) as a listing of the dependency relations in the syntactic constructions which she discusses in her paper which is concerned with establishing a typology of morphological marking.

<u>Level</u>	<u>Head</u>	<u>Dependent</u>
Phrase:	possessed noun	possessor
	noun	modifying adjective
	adposition	object of adposition
Clause:	verb	arguments and adverbials
	auxiliary verb	lexical (main) verb
Sentence:	main clause	relative or subordinate clause

#### ADPOSITION ORDER AS A TYPE INDICATOR

Hawkins (1983) suggests that prepositions and postpositions are better and more general as 'type indicators' than the basic word orders VSO and SOV, and that the basic word order SVO is not a type indicator. These suggestions are based on statistical facts about the co-occurrence of different word order traits in individual languages in Hawkins' survey of some 350 languages. This amounts to a suggestion that the basic order of adpositions is a better and more general predictor of other word order traits than the basic order of subject, object, and verb. Prepositions represent the order Adposition-Noun, while postpositions represent the order Noun-Adposition. As a binary word order construction, adposition order is subject to two of the three fundamental variables of word order. Languages may vary, at least in theory, in how they use the word order of this construction, whether for phrase level syntactic purposes or for discourse level pragmatic purposes. Languages may also vary in terms of the ordering of the syntactic head of this construction (which is the adposition) in relation to the syntactic dependent of the construction (which is the noun). Typically, languages with adposition constructions have a basic word order for this construction but have that basic word order stand as the only order, at least for each particular adposition which the language may have. Typically, then, languages do not use the word order of adposition constructions for discourse pragmatic purposes. This makes the order of adpositions in languages a typically straightforward head-first or dependent-first word order trait and therefore as good an indicator as any of how head-first or dependent-first individual languages may be overall. The poor performance of the basic word order

SVO as a predictor of other word order traits, which is to say as a predictor or whether other word order constructions in a given language will be head-first or dependent-first in terms of their basic word order, is something which is easily explained by noting that the basic word order SVO counts as the order dependent-Head-dependent in terms of dependency analysis. This is neither a head-first nor a dependent-first order, unlike the basic word order VSO which counts as Head-dependent-dependent in terms of dependency analysis, and the basic word order SOV which counts as dependent-dependent-Head in terms of dependency analysis. The fact that grammatical subjects and grammatical objects both count as dependents in dependency analysis is in agreement with the statistical facts about the co-occurrence of different word order traits in Hawkins' survey of some 350 languages. This fact is not brought out directly, though, by Hawkins' statement that prepositions and postpositions are better type indicators than the basic word orders VSO and SOV, and his statement that the basic word order SVO is not a type indicator. Ultimately it is necessary to simply measure how head-first or dependent-first individual languages actually are, and to use such measurements as the basis of one aspect of word order typology, rather than as the basis of word order typology as a whole. It is certainly true, though, that the scale which measures how languages order heads and dependents is a very important axis in word order typology, since all word order constructions can be analyzed in terms of heads and dependents. There are great limitations, however, in the utility of any single type of word order construction as a basis of word order typology. The use of prepositions and postpositions as type indicators, for example, is limited by the fact that there are languages, such as Kootenay, which do not have either prepositions or postpositions.

## LANGUAGES WITHOUT BASIC WORD ORDERS

For a language to have a basic word order for any construction, whether it be a basic word order for the construction of subject, object, and verb, a basic word order for adpositions, or a basic word order for any other construction, the language must be a language which makes at least some use of word order for sentential syntactic purposes. Presumably, all languages, or nearly all languages, have some word order constructions where the order of the constituents is entirely fixed, showing no variation in well formed grammatical sentences. For constructions where there is no word order variation in a particular language, however, the term basic word order is unnecessary, since there are no non-basic orders.

There may well be no languages where literally all matters of word order are governed entirely by discourse pragmatics, since it may be the case that in all languages some constructions have fixed word orders, and therefore have word orders which serve the syntactic purpose of helping to identify the syntactic roles of the constituents. On the other hand, there do appear to be languages where all observable word order variation is so entirely governed by discourse pragmatics that there is no need to identify any particular word order in any particular word order construction as a basic word order, and there may be no clear way to justify the selection of one word order over another as the basic word order of any construction. Marianne Mithun (1984) suggests that Hanis Coos (often referred to simply as Coos), Cayuga (an Iroquoian language), and Ngandi (an Australian language) are languages of this extreme type which lack basic word orders in all word order constructions where there is any variation in word order.

Most current approaches to word order typology are so concerned with categories of basic word order that languages lacking basic word orders are either seen as being outside of word order typology or the languages are brought into word order typology by being described as having one of the six mathematically possible basic word orders. For example, Mithun (personal communication) suggests that some or all of the Algonquian languages may be like most of the languages of the neighboring Iroquoian family in lacking basic word orders. Most Algonquian languages and most Iroquoian languages are simply not mentioned in the literature on word order typology, but Ojibwa, an Algonquian language, has been described by Tomlin and Rhodes (1979) as having a basic word order of VOS, while Hawkins (1983) lists Ojibwa as having a basic word order of SVO. In both cases, a primary source of data on the language is Bloomfield (1956 = 1957), but evidently Tomlin and Rhodes, and Hawkins are using different criteria for determining the basic word order of Ojibwa. Bloomfield (1956 = 1957) says of Ojibwa word order that it is decidedly flexible and he does not describe any particular word order as numerically dominant or basic. The paper on Ojibwa word order by Tomlin and Rhodes (1979) gives useful information about Ojibwa word order not given by Bloomfield (1956 = 1957), but what is still needed is a measurement of the extent to which Ojibwa uses word order variation for discourse pragmatic purposes as opposed to using word order for the purposes of identifying the constituents of various syntactic constructions. For example, it would be helpful to know if the Ojibwa obviative system is as reliable as the Kootenay obviative system is in indirectly distinguishing subjects from objects when nominal subjects and objects occur together in the same clauses. In Kootenay, word order has essentially no role in distinguishing subjects from objects. It also happens

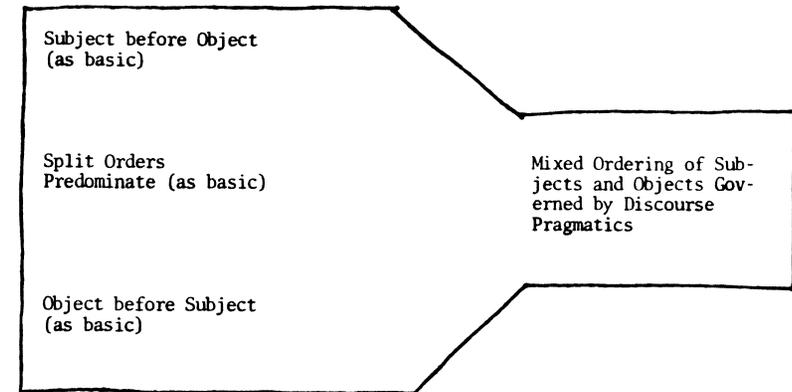
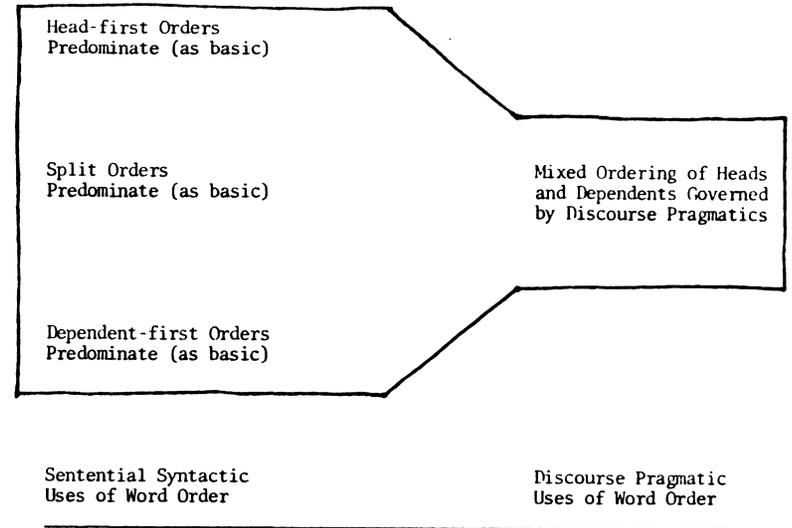
that in Kootenay, VOS and SVO are relatively common arrangements of subject, object, and verb when all three constituents are represented by separate words in a clause. This is something which happens rather rarely in Kootenay, however, and it is also something which happens rather rarely in the Ojibwa texts of Bloomfield (1956 = 1957) so that in both languages the text frequency of VOS and SVO clauses is really rather low. It may simply not be justified to identify either of these rarely occurring word orders as unmarked in discourse pragmatic terms just because other orders such as VSO, OVS, SOV, and OSV occur even more rarely or do not occur at all in these languages.

TWO-DIMENSIONAL DIAGRAMS OF WORD ORDER VARIABILITY

THE THREE-DIMENSIONAL SPACE OF WORD ORDER TYPOLOGY

The three linear scales which measure the fundamental variables of word order can be thought of as connected together in such a way as to form a three-dimensional typological space within which individual languages occupy particular areas. Certain areas within the overall typological space lend themselves to being labeled with typological terms. These terms, however, all imply some kind of measurement. Some of the terms involve the coming together of two scales of measurement and incorporate the familiar notion of basic word order. One can, for example speak of a language as having predominantly head-first basic word orders for those of its word order constructions which allow any variation in word order. A language may be entirely head-first or entirely dependent-first in all of its word order constructions including those constructions which do not allow any variation in word order.

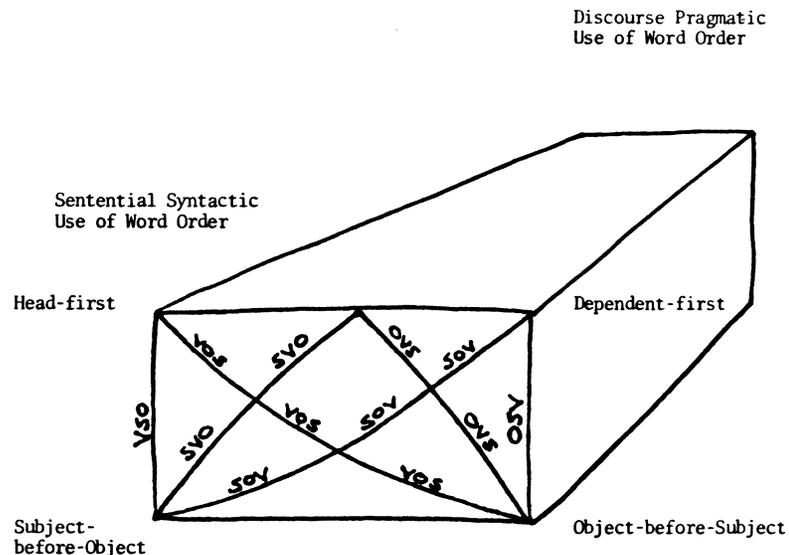
The following two diagrams are an attempt to represent the three-dimensional typological space of word order variability in two dimensions. The two diagrams can be thought of as stacked one on top of the other and connected, but with a space between them. In the diagrams below, it is just an arbitrary decision on my part to draw the diagrams so that the head-first side of the one diagram would fit over (or under) the subject-before-object side of the second diagram. There are, in any event, other ways to draw the diagrams, either as separate diagrams, or as diagrams which fit together as a three-dimensional figure representing the typological space of word order variability. More than one aspect of the diagrams below involves an element of arbitrariness. The two diagrams below have a common axis, which is depicted as a labeled straight line between the two diagrams.



The two diagrams above could each be depicted as rectangles or as triangles, depending on how one wants to view the kind of word order variability that exists when the word order of a particular construction is entirely governed by discourse pragmatic factors in a particular language. Looked at from the standpoint of basic word order, examples of entirely pragmatically governed word order variability represent a kind of vanishing point, and a triangular diagram would seem appropriate. Looked at from the standpoint of discourse pragmatics, however, examples of entirely pragmatically governed word order variability are at the focus of scholarly concern and the actual statistics of the variability are a matter for special study. Given that point of view, a rectangular diagram would seem appropriate, so that the variability could be displayed along a linear scale for each construction where word order variability is controlled by discourse pragmatics in particular languages. The diagrams above represent a compromise between these two points of view.

An individual basic word order, such as SOV, is not a compact area on either of the two diagrams above, but must be depicted as a connection between an area at the sentential-syntactic-use-of-word-order end of one of the two diagrams to an area at the sentential-syntactic-use-of-word-order end of the other diagram. This is illustrated in the following three-dimensional diagram which has the form of a truncated wedge, viewed at an angle, where each two-dimensional diagram of word order variability is depicted as a truncated triangular plane. In the diagram below, the basic word orders VSO, VOS, SVO, OVS, SOV, and OSV are each represented as lines connecting two points on the three-dimensional diagram. The lines are curved in various ways only in order to make it possible to clearly label each line. The three-dimensional diagram below deals only with the construction involving arrangements of subject, object, and verb.

A THREE-DIMENSIONAL REPRESENTATION OF TRIPARTITE BASIC WORD ORDERS



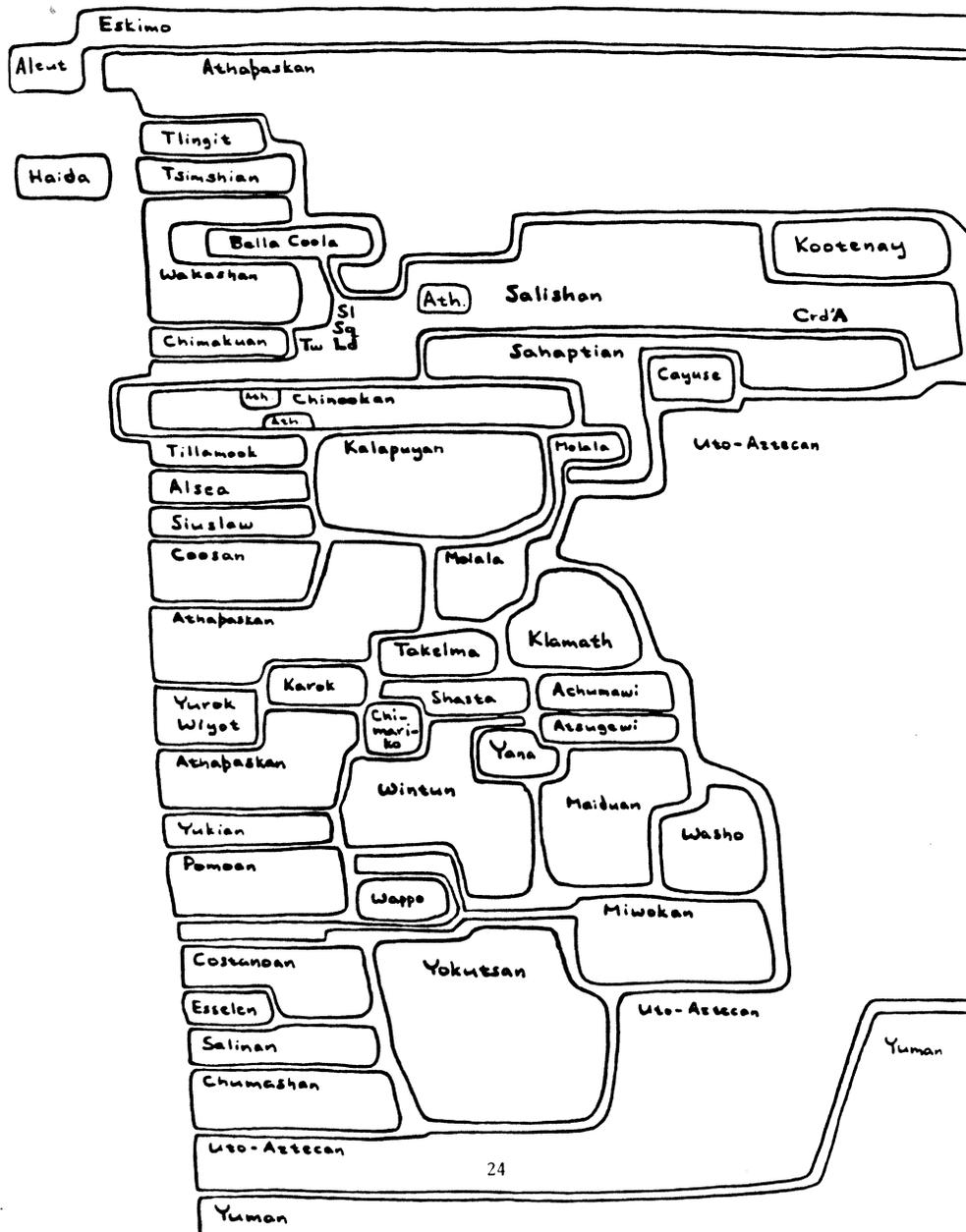
MAP

The following abstract map is offered here in the way of geographical orientation for a discussion below which mentions a variety of Northwest languages of several language families. The labeled units on the map are language families where there is no question about the reliability of the languages within each family. Genetically isolated languages are treated as single-member language families. The map represents the language families native to Alaska, the Yukon, British Columbia, Washington State, Oregon, California, and following from that, the map also covers parts of adjacent States, an additional Canadian Province, and the Northwest Territories. The area that I refer to in this paper as the Northwest is only a small part of the area covered by the map. The Northwest as a language area, variously defined, generally includes the languages native to British Columbia, Washington State, and Oregon. The Athabaskan area of Central and Northern British Columbia, and the Uto-Aztecan area of Eastern Oregon are generally treated as parts of other language areas. Northern Idaho and Northwestern Montana are included in the area I refer to in this paper as the Northwest.

The area of the map is one of great linguistic diversity. The map allows this diversity to be depicted and labeled through a kind of graphic distortion which enlarges the territories of language families spoken, or once spoken, over small areas and which, in compensation, devotes less space to language families spoken over large areas. At the same time, the geographical relationships between the different language families are preserved, at least in the abstract.

Within the area on the map labeled Salishan, there are abbreviations for five Salishan languages. These are given here with the names of the languages which they represent:

- Crd'A = Coeur d'Alene
- Ld = Lushootseed
- Sq = Squamish
- Sl = Sliamon (a variety of Comox)
- Tw = Twana



NORTHWEST LANGUAGES WHERE BASIC WORD ORDER IS PROBLEMATICAL

Out of the fifty-four to sixty-six or so languages which can be counted as languages native to the Northwest, there are at least eight languages which do not fit neatly into any of the six mathematically possible word order categories which represent arrangements of subject, object, and verb. The word order characteristics of these eight languages alone call for a kind of word order typology where the matter of basic word order is not the central issue and defining criteria of word order type. It then follows that a kind of word order typology not primarily concerned with basic word order categories is needed in order to compare and contrast the word order characteristics of Northwest languages and to describe the Northwest as a linguistic area. The eight languages in question are: Hanis Coos, Miluk Coos, Alsea, Siuslaw, Kootenay, Coeur d'Alene, Lushootseed, and Squamish. The last three, Coeur d'Alene, Lushootseed, and Squamish are Salishan languages, some of whose word order traits are mentioned in this paper, along with some of the word order traits of two other Salishan languages, Twana and Sliamon. These last two Salishan languages are discussed briefly in this paper in order to outline the typological diversity among the Salishan languages in the matter of basic word order. One reason I mention any of the Salishan languages in this paper is that by doing so I may stimulate one or more Salishanists to take up the matter of word order typology within Salishan. The Salishan languages are by no means all of the same type in the matter of their word order traits. Coeur d'Alene, Lushootseed, and Squamish each have different ways of not clearly having a basic word order in terms of the six basic word order categories.

Sliamon straightforwardly has VSO as its basic word order, while Twana appears to be the only language in the Northwest which straightforwardly has VOS as its basic word order.

Coeur d'Alene, an Interior Salishan language spoken in Idaho not far from where Kootenay is spoken, appears to be like Kootenay in being basically a verb-initial language, with other word order traits which show a preference for ordering syntactic heads before syntactic dependents. In these two languages, Coeur d'Alene and Kootenay, the ordering of subjects and objects, however, seems to be entirely governed by discourse pragmatics. The situation in the two Coos languages, Hanis and Miluk, and apparently also in Alsea and Siuslaw, is different in that it can be argued that for these four languages word order variation, including the position of the verb in clauses, is entirely governed by discourse pragmatics. These four languages, Hanis, Miluk, Alsea, and Siuslaw, do not appear to have a basic position for verbs in clauses and they do not appear to be predominantly head-first in their word order traits overall. Nonetheless, it has been or could be argued that Coeur d'Alene, Kootenay, the Coos languages, Alsea, and Siuslaw each have VOS as a dominant and/or least pragmatically marked arrangement of subject, object, and verb. Given some definitions of what a basic word order is, these languages can each be argued to have VOS as their basic word order, although for some of these languages the numerical dominance of the order VOS may be an product of discourse pragmatic principles at work in the composition of particular texts recorded under particular circumstances. None of these languages unquestionably has VOS as its basic word order, and for this reason it is highly advantageous to have ways to describe the word order characteristics of these languages without having to refer directly to categories of basic word order.

#### THE BELIEVABILITY PROBLEM WITH KALAPUYAN BASIC WORD ORDER

For Northern Kalapuya and Central Kalapuya, which are the two Kalapuyan languages attested by connected text materials, the matter of determining a basic word order is not in itself problematical. For Yonkalla, the third and southernmost Kalapuyan language which is apparently not attested by any connected text materials, determining a basic word order is problematical, at least because of the lack of text materials, although I have not yet had a chance to examine the Yonkalla materials which do exist, and I will leave Yonkalla out of consideration here. Northern Kalapuya and Central Kalapuya have SVO as their most common arrangement of subject, object, and verb. The numerical dominance of the order SVO over other orders is extreme, especially in the texts recorded from the very last fluent speakers of these languages, and it is an unavoidable conclusion that SVO was the basic word order of these languages as they were spoken by the very last fluent speakers. The order SVO is less numerically dominant as an arrangement of subject, object, and verb in the Kalapuyan texts which were recorded at an earlier date from an earlier generation of speakers, but these earlier texts still have SVO as the most common arrangement and it can be argued that all of the Kalapuyan texts give evidence of SVO as a basic word order. It happens, though, that SVO is a very rare basic word order among American Indian languages, and it appears that all of the Kalapuyan texts were recorded from individuals who were not only speakers of Kalapuyan languages but were also speakers of Chinook Jargon and English. Chinook Jargon is usually described as having a basic word order of SVO and English certainly has a basic word order of SVO. All of this suggests that the SVO basic word of Northern Kalapuya and of Central Kala-

puya might be the result of linguistic diffusion and that the Kalapuyan languages might have had a different basic word order before there was contact with Chinook Jargon and English. Another and more likely possibility is that originally the Kalapuyan languages had less of a basic word order and that at an earlier time the Kalapuyan languages were more like the Coos languages, Alsea, and Siuslaw in the matter of word order by having word order largely or entirely governed by discourse pragmatics. In that case, the influence of Chinook Jargon and English was to diminish the role played by discourse pragmatics in Kalapuyan word order. For one thing, the earliest and also the most recently recorded Kalapuyan texts show about the same word order characteristics in terms of the ordering of syntactic heads and syntactic dependents. The Kalapuyan languages are like the Coos languages, Alsea, and Siuslaw in the fact that these languages do not consistently put syntactic heads before syntactic dependents, nor do they do the opposite and consistently put syntactic dependents before syntactic heads, although in most word order constructions in the Kalapuyan languages, dependent-first word orders are much more common than head-first word orders.

What is important for word order typology as applied to Northwest languages is the fact that the role played by discourse pragmatics in different languages can be measured along with the independent matter of how head-first or dependent-first individual languages are. For the Kalapuyan languages, it is much more informative to measure these variables than simply to say that the Kalapuyan languages are SVO, with the qualification that this basic word order may have been the result of linguistic diffusion.

## MAPPING WORD ORDER TRAITS IN THE NORTHWEST

The word order characteristics of languages have a great deal to do with linguistic geography and linguistic diffusion. There is a strong tendency for languages which have long been in contact to have similar word order characteristics. Moreover, it is a well established fact that demonstrably related languages may have rather different word order characteristics. For example, Indo-European languages like Welsh and Irish have VSO as a basic word order and are predominantly head-first on the basis of this and other head-dependent constructions, while other Indo-European languages such as Hindi and neighboring Indo-European languages of India have SOV as a basic word order and are predominantly dependent-first, as are most of the other languages of India. While it is true that similarities in word order traits may make unconvincing evidence for the genetic relatedness of languages, similarities in word order traits are quite important in showing how languages fit into linguistic areas, and in the matter of defining linguistic areas and subareas.

Looking at the word order traits of the languages of the Northwest from an areal perspective, it turns out to be more useful to talk about how head-first or dependent-first individual languages are than it is to talk only about what basic word orders individual languages have or can be argued to have. For example, one cannot say that the Coos languages and the Kalapuyan languages have the same basic word orders, but one can say that Coos and Kalapuyan fit into Oregon in a natural way in that the languages of both of these families have word order characteristics which are neither entirely head-first nor entirely dependent-first. This is natural since languages to the north of them such as

the Chinookan languages and the Salishan languages are predominantly head-first while languages to the south and east of them are predominantly dependent-first, or so it would seem, given what little is said about word order in the descriptive literature on the other languages of Oregon, and on the languages of the Northwest in general. From this literature, it appears that all of the Salishan languages are predominantly head-first in their overall word order characteristics, although there are Salishan languages whose word order characteristics are not described in the literature and there are other Salishan languages whose word order characteristics are described only to a limited extent. For most Salishan languages, it is possible to turn directly to published or otherwise available text materials or to examine other kinds of available data in order to determine the word order characteristics of the languages. There is, in any event, a need for Salishanists to take up the matter of word order in Salishan and fill in the gaps in the literature on the subject. My own tentative remarks on the word order characteristics of certain Salishan languages, immediately below, are intended to show how useful it would be to have more definitive statements on the word order characteristics of Salishan languages from specialists on the individual languages.

## COEUR D'ALENE WORD ORDER

Coeur d'Alene was mentioned by Greenberg (1966) as a language with VOS as its dominant word order, and Hawkins (1983), following Greenberg, lists Coeur d'Alene as a language with VOS as its basic word order. Greenberg (1966) bases his remarks on Coeur d'Alene word order on the description of Coeur d'Alene by Gladys Reichard (1938). From the way Reichard describes Coeur d'Alene word order, however, it would appear that while Coeur d'Alene does have VOS as a common or usual word order, the language does not use word order to distinguish subject nouns from object nouns, or agent nouns from patient nouns, and that it is very much like Kootenay, Miluk Coos, Hanis Coos, Siuslaw, and Alsea in arguably not having a basic word order in terms of subject, object, and verb. Apparently in Coeur d'Alene, whenever an agent noun occurs together in the same clause with a patient noun, the agent noun is preceded by a particle or preposition [ʔä] ~ [ʔa] which is apparently cognate to the particle or preposition of the form /ʔə/ which occurs in certain other Salishan languages and in those languages /ʔə/ marks agent nouns in clauses which have verbs with what can be called passive verb morphology. In Coeur d'Alene, the verb apparently does not need to be passive for an agent noun to be marked with this preposition. The following two examples from Reichard (1938, pp. 679-680) show the preposition marking an agent noun in a clause with a passive verb and in a clause with an active verb. I have retranscribed the examples in a minimal sort of way, substituting the letter [š] for [c], the letter [ʔ] for ['], and the letter [ə] for [E], but making no attempt to phonemicize Reichard's transcription or otherwise bring it into line with current transcriptional practice among Salishanists.

COEUR D'ALENE EXAMPLES

Verb-transitive	Indirect Object	Direct Object	(Agent-)Subject
tšiltš	x <sup>w</sup> ä <sup>a</sup> ban	x <sup>w</sup> a <sup>a</sup> mimš	x <sup>w</sup> a <sup>?</sup> a <sup>a</sup> djən.
he gave it to him	the Ben	the box	the John

'John gave the box to Ben.'

Verb-passive	Direct Object	Subject	Agent (non-subject)
i <sup>t</sup> tšiltəm	x <sup>w</sup> a <sup>a</sup> mimš	x <sup>w</sup> ä <sup>a</sup> bän	x <sup>w</sup> a <sup>?</sup> a <sup>a</sup> djən.
he is being given	the box	the Ben	by John

'Ben is being given the box by John.'

Elsewhere, Reichard (1939) cites the verb root involved in these examples as given below. She also gives a description of the preposition involved in these two examples, and her description is reproduced here:

tšii<sup>t</sup> 'give' p. 583.

ä- (a-), 'a general preposition used with nominal forms. expresses: locative ideas, on, in, into, at, to; instrumental, with, by means of; agent, by.' p. 591.

LUSHOOTSEED WORD ORDER

Lushootseed, a Coast Salishan language spoken in the Puget Sound area of Washington State, does not have a clear basic word order in terms of subject, object, and verb, because in Lushootseed, words representing grammatical subjects and words representing grammatical objects cannot occur together in the same clauses. This means that the orders VSO, VOS, SVO, OVS, SOV, and OSV are all ungrammatical orders in Lushootseed at the level of the clause. It happens, however, that there are constructions in Lushootseed where a verb with what can be called passive morphology is accompanied by a word representing a patient noun as a grammatical subject and where in the same construction there is an agent noun introduced by the preposition /<sup>?</sup>ə/ which effectively marks the agent noun as an agent in such constructions since the patient noun is unmarked. In this situation, word order is 'free' and different word orders are used for different discourse pragmatic effects.

The following Lushootseed examples come from Hess and Hilbert (1978, pp. 22-23). In these examples, I supply the grammatical relation labels: verb, subject, object of a preposition; and the semantic labels: action, agent, and patient.

LUSHOOTSEED EXAMPLES

Verb	Object of a Preposition	Subject
ACTION	AGENT	PATIENT
ləčalatəb	ʔə ti sqʷəbayʔ	ti čáčas.
(s)he is getting chased	(by) the dog	the boy
'The dog is chasing the boy'.		

Verb	Subject	Object of a Preposition
ACTION	PATIENT	AGENT
ləčalatəb	ti čáčas	ʔə ti sqʷəbayʔ.
(s)he is getting chased	the boy	(by) the dog
'The dog is chasing the boy'.		

The following is a listing of morphemes occurring in the examples above, in the order of their occurrence in the examples. The definitions are from Hess (1976).

lə-	aspectual prefix 'progressive'
čal(a)	'chase, follow'
-t	a transitive suffix
-əb	middle voice suffix

LUSHOOTSEED

ʔə	particle linking <u>agent</u> , <u>instrument</u> , and <u>manner</u> words and phrases to predication.
ti	article
	1. new information
	2. emphasis
s-qʷəbáyʔ	'dog'
čáčas	'child (up to 10 or 12 years)'

## LUSHOOTSEED

Lushootseed does have constructions which can be described as SVO sentences, but these must be analyzed as consisting of two clauses, where the subject noun stands as a predication in its own right, and where the transitive verb is preceded by the article ti. Contrast the two examples below from Hess and Hilbert (1978 p. 122), where the first example is ostensibly an SVO sentence (but not an SVO clause) and the second example is semantically a Verb-Agent-Patient sentence (but not a VSO clause). With these examples, the semantic terms: Actor, Action, and Affected are supplied by Hess and Hilbert (1978).

ACTOR	ACTION	AFFECTED
dscapa?	ti tuk <sup>w</sup> ax <sup>w</sup> ad	tsi sk <sup>w</sup> uy.
my grandfather	helped	mother
'My grandfather was the one who helped mother.'		

ACTION	ACTOR	AFFECTED
tuk <sup>w</sup> ax <sup>w</sup> atəb	?ə ti dscapa?	tsi sk <sup>w</sup> uy.
is helped	(by) my grandfather	mother
'My grandfather helped mother.'		

## SQUAMISH WORD ORDER

For Squamish, a Coast Salishan language of British Columbia, the problem with stating a basic word order is somewhat like the problem of stating a basic word order for Coeur d'Alene and for Kootenay, but the problem is not exactly the same. Hawkins (1983) lists Squamish along with Fijian, Samoan, Tagalog, and Tongan as verb-initial languages having no basic relative order of subject and object. He includes Squamish in this category on the basis of his reading of what Kuipers (1967) says about word order in Squamish. What Kuipers (1967, pp. 169-170) actually says is that in Squamish both VSO and VOS clauses occur, but VSO is the usual order and VOS clauses must be supported by context to be interpreted as VOS. This means that Squamish makes some use of word order to distinguish subjects from objects. In contrast, Kootenay makes essentially no use of word order to distinguish subjects from objects, and apparently the same is true for Coeur d'Alene. The word order which Squamish uses to distinguish subjects from objects when the context does not make the matter obvious is the order VSO, and so VSO must be the basic word order in Squamish for clauses containing a verb along with a separate word designating a grammatical subject and a separate word designating a grammatical object. What sets Squamish off from many VSO languages is that in Squamish VOS is an acceptable order when context makes the identification of the subject and object possible regardless of word order. In many languages where VSO is the basic word order, the order VOS is simply ungrammatical and there is no reliance on context to distinguish subjects from objects. There are also languages where VOS is the basic word order and where the order VSO is ungrammatical, making a reliance on context unnecessary.

SQUAMISH

In Squamish clauses with active transitive verbs, subjects and objects may be indistinguishable except by word order or context. This is the case with the following two examples given by Kuipers (1967, p. 170), who puts parentheses around example (2) exhibiting the order VOS, which requires the support of context to be interpreted as meaning the same thing as example (1).

1. VSO /na čəmtas ta Tám ta Píta/ 'Tom bit Peter.'  
 (2. VOS /na čəmtas ta Píta ta Tám/ 'Tom bit Peter.')

A slightly different situation exists in Squamish clauses with transitive verbs which have been passivized, since the agent (if represented by a separate word) is marked by a distinctive article /ʔa/ as in the following examples, where Kuipers uses the letter 'R' for 'relatum', in this case 'the initiator of an action expressed by a passive verb'. Kuipers notes that the order of example (3) is much more usual than the order of example (4). This means that in Squamish the order Verb-Agent-Patient is more common than the order Verb-Patient-Agent, with either active verbs or passive verbs. With passive verbs, however, neither the use of a particular word order, nor the support of context is necessary in order to distinguish agents from patients.

3. VRS /na čəmtəm ʔa Tám ta Píta/ 'Tom bit Peter.'  
 4. VSR /na čəmtəm ta Píta ʔa Tám/ 'Tom bit Peter.'

SLIAMON WORD ORDER

In Sliamon, a variety of Comox, a Coast Salishan language spoken a little to the north of Squamish, there is no trouble determining that the basic word order is VSO. In Sliamon, a difference in meaning accompanies a difference in word order when active transitive verbs are involved. This means, in effect, that clauses with the order VOS are ungrammatical, and word order is the principal device for distinguishing subjects from objects. Word order does not play the same role in clauses with passive verbs, however, since in such clauses in Sliamon, a word representing an agent (if present in the clause) is preceded by the preposition /ʔə/ which marks the word as the agent. The following Sliamon examples are given by Davis (1980), and closely parallel the Squamish examples given above which come from Kuipers (1967). One important difference is that the Sliamon example number (2) below contrasts in meaning with the Sliamon examples (1), (3), and (4), whereas all four of the Squamish examples given above are described by Kuipers as having the same meaning.

1. VSO qəqəy-t-əs Joe Jim 'Joe beats Jim up.'  
 beat-transitive-(s)he  
 2. VSO qəqəy-t-əs Jim Joe 'Jim beats Joe up.'  
 3. V-Agt.-Subj. qəqəy-t-əm ʔə Joe Jim 'Jim is being beaten  
 beat-trans-intr prep. up by Joe.'  
 (i.e. passive)  
 4. V-Subj.-Agt. qəqəy-t-əm Jim ʔə Joe 'Jim is being beaten  
 up by Joe.'

TWANA WORD ORDER

Twana, a Coast Salishan language closely related to and neighboring Lushootseed, unquestionably has VOS as a basic word order, at least given the evidence provided by the last proficient speaker. In Twana, the order VOS distinguishes subject noun phrases from object noun phrases in sentences with active transitive verbs. Nile Thompson (personal communication) reports an absence of VSO sentences in Twana and the fact that his attempts to elicit them from a native speaker of the language resulted in the interpretation of such sentences as VOS sentences. Nile Thompson (1984) does report the existence of SVO sentences in Twana, but these involve the use of a particle /ʔəd/ 'and' which precedes the verb in such sentences and requires the interpretation that such sentences consist of two clauses, one of which is the subject of the sentence as an intransitive predication. The other clause contains a transitive verb with its own unmarked third person subject, its own third person object, and additionally an object noun phrase following the verb.

The following examples are drawn from N. Thompson (1984, pp. 27-28):

V-transitive	Object	Subject
bik*rdk*édad	tibédas	təstibʔát.
he is grabbing	the-son-his	the-man

'The man is grabbing his son.'

Subject as Predication	Sentential Conjunction	Verb-transitive	Object
tistibʔát	ʔəd	bik*rdk*édad	tibédas.
the man	and	is grabbing	the-child

'It is the man who is grabbing his son.'

In order to compare and contrast the word order characteristics of Coeur d'Alene, Lushootseed, Squamish, Sliamon, and Twana; it is necessary to do more than merely say whether the languages have basic word orders and to identify what those basic word orders are. It is necessary to specifically describe how the languages order syntactic heads in relation to syntactic dependents, and as a completely separate matter, it is necessary to describe how the languages order subjects in relation to objects. It is also necessary to describe the extent to which word order is used to distinguish subjects from objects and the extent to which word order is used to distinguish syntactic heads from syntactic dependents. It appears that the Salishan languages are alike in that they all preferentially order heads before dependents, which is to say that the Salishan languages all appear to be predominantly head-first languages. One manifestation of this is that they all appear to have verb-initial basic word orders.

One of the ways that the five Salishan languages discussed here differ is in the matter of the extent to which word order is used to distinguish subjects from objects. Sliamon and Twana, which have different basic word orders, are alike in that they use word order to distinguish subjects from objects, while Coeur d'Alene and Lushootseed do not. Squamish apparently makes some use of word order to distinguish subjects from objects, but also relies to a certain extent on context to do this. Coeur d'Alene and Lushootseed each have somewhat different ways of avoiding the need to distinguish subjects from objects by word order or context.

Languages which have especially reliable ways of distinguishing subjects from objects, without the use of word order, for example by directly marking ergative subjects as in the Coos languages, Alsea, and Siuslaw, or indirectly by means of a system of noun-verb agreement such as the obviative system of Kootenay, are languages which have no need to use word order or context to distinguish subjects from objects. It happens that in the Coos languages, Alsea, Siuslaw, and Kootenay all indications are that the ordering of subjects in relation to objects is governed entirely by discourse pragmatics. In Kootenay, however, word order does appear to have a role in the completely separate matter of distinguishing syntactic heads from syntactic dependents. What this means is that Kootenay, like the Salishan languages, is a predominantly head-first language with a verb-initial basic word order, but it is a basic word order with no basic order for subject in relation to object. One might symbolize this as V-- as opposed to VSO or VOS. Hawkins (1983) recognizes such a basic word order category, which he calls 'verb-initial', but he puts Squamish into this category, while putting Coeur d'Alene into the VOS category. On the basis of what I know about these languages, I would say that Kootenay and Coeur d'Alene have basic word orders of V--, while Squamish has a basic word order of VSO. While in Squamish the order VSO is more common than the order VOS, which needs the support of context to be understood as VOS, in Kootenay the orders VOS, VSO, and SVO all occur and are understood to be what they are without the support of context. On the other hand, while VOS, VSO, and SVO are common arrangements of subject, object, and verb in Kootenay, the orders OVS, SOV, and OSV, generally

do not occur in Kootenay and have to be counted as ungrammatical. The fact that SVO is common and grammatical in Kootenay, while the order OVS is not, is something which needs to be explained, perhaps within a theory of discourse pragmatics. In the building of such a theory it is particularly instructive to examine the distribution of word orders in languages such as Miluk Coos where word order appears to be entirely governed by discourse pragmatics.

In Miluk Coos, the word orders VOS, VSO, SVO, OVS, and SOV all occur in texts. All of these arrangements of subject, object, and verb are grammatical and all of them occur at characteristic places in individual Miluk Coos texts. Each one of these word orders fulfills a particular function in discourse pragmatic terms and it is possible to describe these discourse pragmatic functions in analytical terms. In Miluk Coos, words representing what might be called 'newsworthy new information' occur at the beginnings of clauses. For example, SOV clauses occur right at the beginning of some Miluk Coos texts, and even as the title of one text, where two entities are simultaneously introduced for the first time, one as the grammatical subject and one as the grammatical object of the same clause. SVO clauses occur where an entity is being newly introduced as a grammatical subject, but the grammatical object of the clause is already established as an entity in the discourse. In similar fashion, the order OVS occurs where the grammatical object is being newly introduced but the subject of the clause is already established as an entity in the discourse. The orders VOS and VSO occur when both subject and object are already established as entities in the discourse and the newsworthy new information in the clause is represented by the verb which says what the subject is doing to the object. The specific order VSO is called for when the subject is less well established as

an entity in the discourse than the object which occurs in the clause with it. The order VOS is more common than the order VSO in Miluk Coos texts, but this may simply reflect the circumstance that nouns occurring as grammatical objects are generally less well established as entities in discourse than the grammatical subjects which occur in the same clauses with them. An alternative explanation for the numerical predominance of the order VOS over VSO in Miluk Coos texts is that VOS is the least pragmatically marked order.

As a general principle in Miluk Coos, once an entity has been introduced into a text by the use of an overt noun phrase, that particular entity is rarely mentioned again in the text by means of a noun phrase, although the entity may be the subject or object of any number of clauses by means of zero anaphora. If one assumes that there is an underlying noun phrase for every instance of zero anaphora, then it follows that a tripartite word order such as VOS, although rare in absolute terms, could be the underlying and therefore basic word order of the language. It could be argued as well, though, that any subject noun phrase or object noun phrase occurring anywhere in a Miluk Coos text occurs as a pragmatically marked element, just by virtue of the fact that it occurs as an overt noun phrase. By this argument, the unmarked situation in discourse pragmatic terms in Miluk Coos is when noun phrases are represented only by zero anaphora. It can even be argued that the numerically dominant word order for transitive clauses in Miluk Coos is the non-order V, which could actually stand as the basic order, with the understanding that overt noun phrases are only added for emphasis or are added for clarity as afterthoughts. In this regard, it is worth keeping in mind that all of the Miluk Coos texts were taken down in dictation at a necessarily slow pace and many post-verbal noun phrases in the Miluk Coos texts may literally be afterthoughts.

No matter how one argues for or against VOS as the numerically dominant and least pragmatically marked word order of Miluk Coos, the fact remains that Miluk Coos is a language where word order variation serves entirely discourse pragmatic functions in those constructions where word order variation occurs at all. There is nothing unusual about Miluk Coos in this regard; something similar could be said about the word order variation which occurs in many, if not all languages which have some amount of word order variation. What makes it possible to argue that Miluk Coos does not have a basic word order for any word order construction is the fact that where word order variation occurs in Miluk Coos at all, the variation tends to be absolute, with all mathematically possible word orders occurring as grammatical orders, each with its own discourse pragmatic function. There do not appear to be word orders in Miluk Coos which serve anything but discourse pragmatic functions, except for the word orders of syntactic constructions where there is only one invariable word order. In fact though, there are very few word order constructions in Miluk Coos where there is no word order variation. The general principle in Miluk Coos is that only morphological constructions have fixed linear orders, while what can be called syntactic constructions have highly variable orders. The chief problem in making this generalization for the language is the fact that there are some difficulties in the matter of drawing the line between morphology and syntax in Miluk Coos. It may prove to be possible to draw the line between morphology and syntax in Miluk Coos in such a way so that there are no syntactic constructions in the language without highly variable word orders. In any event, it is not appropriate to say that Miluk Coos word order is free, since word order in the language is governed by discourse pragmatic principles, even if it is not governed by syntactic phrase structure rules.

#### ALSEA WORD ORDER

Compared to other Northwest languages which are no longer spoken, Alsea is fairly well attested by the texts published by Frachtenberg (1917, and 1920), and there is also a grammatical description of Alsea by Frachtenberg, in manuscript form. In spite of this, the matter of Alsea word order remains something of a puzzle. A preliminary examination of the Alsea texts turns up examples of VOS, VSO, SVO, and OVS clauses, along with a larger number of VS, SV, VO, and V clauses, but so far no clear pattern of distribution has emerged that would allow one to say that the order VOS is more or less marked in discourse pragmatic terms than the order VSO. So far, neither order appears to be significantly more common than the other. On the other hand, SVO clauses are relatively rare and OVS clauses are quite rare. General indications are that word order in Alsea is governed by the same discourse pragmatic principles as word order in Miluk Coos is, although the matter needs additional research. It is clear that word order is not used to distinguish subjects from objects in Alsea, and it is quite plausible that Alsea does not have a basic word order. There is somewhat less evidence that VOS is the basic word order of Alsea than there is evidence that VOS is the basic word order of Miluk Coos, and there is no more evidence for VSO as the basic word order of Alsea than there is for VOS as the basic word order of Alsea. What is puzzling about Alsea word order is that if it is governed by the same discourse pragmatic principles as Miluk Coos word order is, why is it that VOS does not emerge as the most common arrangement of subject, object, and verb in Alsea as it does in Miluk Coos. The answer may be that VOS really is the most common arrangement in Alsea in particular texts and that it is the nature of particular texts which governs whether VOS is more or

less common than VSO in both Alsea and Miluk Coos. If this turns out to be true in the final analysis, then it would be very difficult to argue that VOS is the most common and therefore basic word order of Miluk Coos. It is also possible that Alsea word order and Miluk Coos word order are governed by the same general discourse pragmatic principles but not by exactly the same discourse pragmatic principles.

## SIUSLAW WORD ORDER

While Alsea word order presents a puzzle which can probably be solved with further work, Siuslaw word order is like a puzzle where most of the original pieces are gone, and there are pieces from a possibly different puzzle mixed in with the original pieces. Fortunately, the original pieces are clearly identified, so that the extent of the problem, at least, is clear. The basic problem is that out of some ninety-six pages of Siuslaw texts with translations published by Frachtenberg (1914) which attest the language, there are less than six pages of text material from a Siuslaw Indian, Louisa Smith, who was unquestionably a native speaker of the language. The rest of the text materials which attest the language are from William Smith, Louisa's husband, who was an Alsea Indian and a native speaker of Alsea who, Frachtenberg tells us, 'at an early age' had gained a knowledge of the language. Actually, both William and Louisa spoke the Lower Umpqua dialect of the language. There was also a Siuslaw dialect of the language, but that dialect is barely attested, although the name Siuslaw is now used to designate the whole language. One reason for this is the fact that the name 'Upper Umpqua', or simply 'Umpqua' is now used to designate an Athabaskan language which was spoken on the upper reaches of the Umpqua River. Problems of nomenclature aside, the language we know as Siuslaw, which is the subject of the grammatical description published by Frachtenberg (1922b), which is based on the texts published by Frachtenberg (1914), is a language which is mostly attested by texts recorded from an individual who may not have been a native speaker of the language. Whatever the case, this individual was a native speaker of Alsea, and he also contributed texts in Alsea to Frachtenberg's collection

of Alsea texts published in 1920 and he contributed a text to the collection of Alsea texts published earlier by Frachtenberg in 1917. This, at least, gives us an opportunity to compare the word order characteristics of William Smith's Siuslaw texts with the word order characteristics of his Alsea texts. This, of course, makes it all the more important to do further research on the word order characteristics of the Alsea texts in general.

Although Louisa Smith was unquestionably a native speaker of the language now referred to as Siuslaw, Frachtenberg found it so difficult to obtain texts from her that he gave up trying to do so and worked only with her husband. Frachtenberg says that Louisa's advanced age rendered her practically useless as a narrator, which is to say that she was someone who could not give dictation in the slowly metered way necessary for someone to take her words down in phonetic transcription. Whatever the merits of Louisa Smith as a narrator, the work of writing connected sentences in phonetic transcription in this language could not have been an easy task, even under the best of conditions. While it is unfortunate that Frachtenberg did not record a large amount of text materials from Louisa Smith, he did, at least, obtain two short texts from her, before giving up on her as a narrator. These texts deserve careful study, if only because of evidence they give about the authenticity of the Siuslaw used by Louisa's husband, William.

An examination of the Siuslaw texts dictated by Louisa Smith yields one VOS clause, one SVO clause, one VSO clause, and one OVS clause, in that relative order, and all in the first paragraph of the text titled: The Skunk and the Screech-Owl (Frachtenberg: 1914, page 86). The rest of this text and the other text by Louisa Smith have so far reliably yielded only one additional SVO clause

and one additional VOS clause. Taking the texts which were obtained from Louisa Smith as representative of the language, the indications are that Siuslaw word order could quite possibly have been governed entirely by the same discourse pragmatic principles which are revealed in an examination of Miluk Coos texts. While VOS is a possible basic word order for Siuslaw, there is no clear evidence that Siuslaw had a basic word order, any more than there is clear evidence that Alsea or the two Coos languages had a basic word order. As with Alsea and the two Coos languages, word order seems not to have had any role in distinguishing subjects from objects in Siuslaw.

#### THE RARITY OF OBJECT-BEFORE-SUBJECT ORDERS AS BASIC

If it can be effectively argued that the Coos languages, Siuslaw, and Alsea do not have a basic word order as an arrangement of subject, object, and verb, then it follows that these languages do not have VOS as a basic word order. In similar fashion, if it can be argued that Kootenay, and Coeur d'Alene do not have a basic order for subjects and objects in relation to each other, then it follows that these languages do not have VOS as a basic word order, either. There are so few languages in the world which have been described as having VOS as a basic word order that the question of whether these six Northwest languages have this as a basic word order makes a significant difference for the overall rarity of this as a basic word order. My own search of the literature on word order typology comes up with only some thirty-three languages in the world which have been described as, or just listed as, having VOS as a numerically dominant or basic word order, including Coos (treated in the literature as though it were one language), Siuslaw, Alsea, and Coeur d'Alene. The list of languages reported to have one of the other object-before-subject word orders as basic is even smaller. There are only reported to be eight languages with OVS as basic and only three languages with OSV as basic. Not all of the languages identified as having OVS as a basic word order are securely in that category. Macuxi (Macushi), one of the eight languages reported to have OVS as its basic word order, has recently been described by Neusa Carson (1985) as having a basic word order of SOV. Derbyshire and Pullum (1981), and Pullum (1981) tentatively describe Macuxi as having OVS as its basic word order, on the basis of their examination of descriptions of Macuxi which do not claim that the language has a basic word order of OVS. Carson's claim that Macuxi has a basic word order of SOV is based on her own field work on the language. Perhaps the language most securely in

the category of having OVS as a basic word order is Hixkaryana as described by Derbyshire and Pullum (1981). Macuxi and Hixkaryana are related languages and members of the Carib family. One way in which these two languages differ is that in Macuxi ergative subjects are reliably marked, while in Hixkaryana the marking of ergative subjects occurs only in subordinate clauses, apparently as a surviving trace of a more widespread system of ergative marking such as that of Macuxi. This may mean that Hixkaryana used to be a language where word order had little or no role in distinguishing subjects from objects, but that with the loss of a system which reliably marked nominal subjects in transitive clauses, Hixkaryana became a language where word order is now important in the matter of distinguishing nominal subjects from nominal objects when they occur together in the same clauses. It happens that in Macuxi, word order has little or no role in distinguishing subjects from objects and discourse pragmatics has a very large role in the matter of Macuxi word order. It is just this situation which makes Macuxi look like a language which might have OVS as its basic word order. In this regard, it would be interesting to know the extent to which it could be argued that Macuxi and other closely related Carib languages do not have a basic order of subject and object in relation to each other. It may be the case that some of the languages which have been said to have OVS or OSV as a basic word order are languages which arguably do not have a basic word order, at least in the matter of the ordering of subject in relation to object. If this is the case, it is all the more important if Hixkaryana and one or more related or neighboring languages turn out to have OVS as a basic word order which distinguishes subjects from objects. If all of this is true, then we already have a plausible theory about how languages might come

to have OVS as a basic word order. Some sort of theory seems called for, given the extreme rarity of object-before-subject word orders as basic. It is easy enough to say that it is just an historical accident that certain word orders are more common as basic word orders than others, but the rarity of languages which unquestionably have an object-before-subject basic word order is becoming more and more extreme rather than less extreme as more research into the matter is done. What seems clear is that object-before-subject word orders are highly disfavored as devices for distinguishing subjects from objects, although object-before-subject word orders may actually be favored on a text frequency basis in languages which have highly reliable ways of distinguishing subjects from objects other than word order.

The matter of explaining rare word order types is addressed by Jon Dayley (1985), who describes six competing motivations or principles which interact to favor certain word orders and disfavor others cross-linguistically. The majority of Mayan languages, including Tzutujil, which is described by Dayley (1981a) are languages with VOS as a basic word order. In Tzutujil and in closely related Sacapultec, described by DuBois (1981), the word order VSO is essentially ungrammatical and the order VOS is unquestionably the basic order because it is the use of the order VOS which helps to distinguish subject nouns from object nouns in clauses where no other device exists in these languages to make this distinction. In this way, these two Mayan languages, and probably other Mayan languages, are like Twana in the Northwest in using word order as a device for distinguishing subjects from objects. In Twana, Tzutujil, and Sacapultec it is the order VOS which does this, while the most closely contrasting order, VSO is disallowed. A similar, but mirror image situation exists in Sliamon

and a number of other Salishan languages where VSO is unquestionably the basic word order because it is used as a device for distinguishing subjects from objects, while the closely contrasting order VOS is disallowed. In two Mayan languages, Chuj and Cakchiquel, some dialects have VOS as basic while other dialects have VSO as basic. In Huastec and the Tenejapa dialect of Tzeltal, both VOS and VSO are basic orders, depending on how agent and patient rank on an animacy hierarchy. VSO is the basic order when agent and patient are equal on the animacy hierarchy, while VOS is basic when the agent is superior to the patient in terms of this same hierarchy.

The following is my own listing of languages reported to have VOS, OVS, or OSV as a most common or numerically dominant word order, or specifically as a basic word order. For my purposes, the distinction between numerically dominant word order, and basic word order is crucial, although it is generally assumed, for example, by Greenberg (1966), by Hawkins (1983), and by other word order typologists that the numerically dominant order will generally be the basic word order of the language. The following list only serves to beg the question of how often this is true. For the Northwest languages on the list, the pattern is that for a language to have VOS as a common or as the most common arrangement of subject, object, and verb is no guarantee that the language even has a basic word order at all. On the other hand, statistics on the text frequency of particular word orders are by no means irrelevant, since the non-occurrence of certain word orders in a given language can be taken as a sure sign that another, closely contrasting word order is the basic word order of the language. For example, the fact that the order VSO is disallowed in Twana is a sure sign that the order VOS is basic in Twana. Apparently, the order SVO, in Twana, occurs only at the level of the sentence and not at the level of the clause, and other arrangements of subject, object, and verb either do not occur at the level of the clause or are too rare to be considered as possible basic word orders for the language. For a number of the languages which have been reported to have VOS as a numerically dominant word order, not all of the relevant statistics on the occurrence or nonoccurrence of other word orders are immediately available. As a result, the following list is really a list of languages which either have no basic word order or which have one of the object-before-subject word orders as basic. Derbyshire and Pullum (1981) deal with a number of relevant statistical facts about

word order in the languages which they discuss, but there are still other facts which need to be brought out about these languages before interested scholars can be sure that all of the languages which they identify as having object-initial basic word orders actually have such basic orders or even have basic word orders at all. Carson (1985) suggests that the case for Hixkaryana as a language with a basic word order of OVS is not successfully made by Derbyshire and Pullum (1981) because of confusion over the matter of counting pronominal affixes as independent words and because of the nature of some of the text materials used to determine that OVS is the numerically dominant order of the language. It is possible that Derbyshire and Pullum have stated their case correctly for OVS as the basic word order of Hixkaryana, but that they have not stated it convincingly enough for Carson who sees Hixkaryana from the perspective of Macuxi, which is a related language and a language which Carson can demonstrate does not have a basic word order of OVS, as suggested by Derbyshire and Pullum (1981).

## LANGUAGES WITH VOS AS A BASIC OR NUMERICALLY DOMINANT ORDER

## Algonquian Family

1. Ojibwa. Pullum (1981), following Tomlin and Rhodes (1979). Hawkins (1983) lists Ojibwa as SVO. Bloomfield (1956 = 1957) describes Ojibwa word order as 'decidedly flexible'.

## Alsea, Siuslaw, and Coos (neighboring language families of the Oregon Coast)

2. Alsea. Kinkade (1976).
3. Siuslaw. Kinkade (1976).
4. Hanis Coos. Kinkade (1976), Greenberg (1966).
5. Miluk Coos. Similar to Hanis Coos in the matter of word order.

## Arawakan Family

6. Baure. Keenen (1978), following Baptista and Wallin (1967).

## Austronesian Family

7. Malagasy. Keenen (1978).
8. Toba Batak. Keenen (1978).
9. Belauan (Palauan). Georgopolous (1984).
10. Gilbertese. Keenen (1978).
11. Fijian. Keenen (1978).
12. Tsou (a language of Taiwan). Keenen (1978).

#### Chumash Family

13. Ineseño Chumash. Keenen (1978), following Applegate (1972).

#### Kootenay

Kootenay can be included on this list on the basis of the fact that in the shorter texts which appear in Boas (1918), VOS is the most commonly occurring arrangement of subject, object, and verb when both nominal subject and nominal object occur together in the same clauses. VOS is also a common order in Kootenay sentences elicited as translations from English, perhaps being the preferred order for translating simple declarative sentences which have the order SVO in English.

#### Mayan Family

14. Huastec, VOS/VSO. Dayley (1981b).
15. Yucatec. Dayley (1981b).
16. Mopán. Dayley (1981b).
17. Lacondón. Dayley (1981b).
18. Chol. Dayley (1981b).
19. Tzeltal. Dayley (1981b). One variety has VOS/VSO.
20. Tzotzil. Dayley (1981b).
21. Chuj, (some varieties). Dayley (1981b).
22. Tojolabal. Dayley (1981b).
23. Quiché. Dayley (1981b).
24. Cakchiquel, (some varieties). Dayley (1981b).

25. Tzutujil, (VSO order described as essentially ungrammatical).

Dayley (1981a, 1981b).

26. Sacapultec, (VSO order described as essentially ungrammatical).

DuBois (1981).

27. Pocomam. Dayley (1981b).

28. Pocomchí. Dayley (1981b).

29. Kekchí. Dayley (1981b).

#### Otomanguean Family

30. Mezquital Otomi. Keenen (1978), following H. H. Hess (1968).

31. Highland Otomi. Echegoyen (1979).

#### Salishan Family

32. Coeur d'Alene. Kinkade (1976); Greenberg (1966); Hawkins (1983), following Greenberg (1966); Pullum (1981), following Reichard (1933 = 1938).
33. Twana, (VSO order described as essentially ungrammatical). Nile Thompson (1984, and personal communication).

LANGUAGES WITH OVS AS A BASIC OR NUMERICALLY DOMINANT ORDER:

Following Pullum (1981), and Derbyshire and Pullum (1981)

Arawakan Family

1. Barasano, (southern dialect).

Carib Family

2. Apalaí.
3. Bacairí, (?). Question mark supplied by Pullum (1981).
4. Hianacoto.
5. Hixkaryana.
6. Macuxi (Macushi), (?). Question mark supplied by Pullum (1981).
7. Panare.

Tupian Family

8. Asuriní.

LANGUAGES WITH OSV AS A BASIC OR NUMERICALLY DOMINANT ORDER:

Following Pullum (1981), and Derbyshire and Pullum (1981)

Gê Family

1. Xavante, (?). Question mark supplied by Pullum (1981).

Tupian Family

2. Urubú.

Uncertain Affiliation

3. Nadëb, (cited as Macuan within Puinavean).

One of the practical consequences of measuring how languages order syntactic heads in relation to syntactic dependents as a part of word order typology is that certain matters of syntactic analysis become crucial for word order typology, even though these matters have not been held as crucial by most word order typologists to date. One such matter is the question of the universality of adjectives as a syntactic word class. For example, Hawkins (1983) lists Squamish as having the word order trait AN (= Adjective-Noun), even though Kuipers (1967) does not describe Squamish as having adjectives as a distinct word class. This is done in spite of the fact that Hawkins is relying on Kuipers (1967) as his source of information on Squamish. What this means is that Hawkins is using universal semantic criteria to identify certain Squamish words as adjectives, and then observing how these words are ordered in relation to nouns in Squamish. For Hawkins this is an acceptable and even necessary procedure, because Hawkins is figuring generalizations about word order cross-linguistically in terms of heads and modifiers. In the kind of word order typology which I outline in this paper, generalizations about word order are made cross-linguistically on the basis of the ordering of heads and dependents. This involves dependency analysis as outlined by Johanna Nichols (1983, 1984), who makes reference to works on dependency analysis by Lucien Tesnière (1966) and others. In Squamish, words which translate into English as adjectives are actually intransitive verbs. What this means is that the trait AN which Hawkins lists as a word order trait of Squamish is really the same trait as the trait VS, which Hawkins also lists as a word order trait of Squamish, given the fact that he lists Squamish as a verb-initial language (i.e. as V--). The order VS represents

the order 'head-dependent' in terms of dependency analysis. On the other hand, the order AN represents the order 'dependent-head' in dependency analysis, as applied to languages which have adjectives as a distinct word class. In terms of dependency analysis then, it would be a significant mistake to say that the order AN is a word order trait of Squamish, since it would attribute to the language a dependent-first word order trait which is actually a head-first word order trait. This would obscure the predominantly head-first nature of this language. In point of fact, Hawkins gains nothing for his own generalizations about the word order traits of languages by attributing adjectives to languages which do not really have them. On the contrary, his own generalizations are weakened by doing this. Hawkins (1983) notes a tendency for languages to have most modifier-head constructions in the same order. In other words, there is a tendency for languages to consistently order modifiers before heads or to do the opposite and consistently order heads before modifiers. If we translate this generalization into the terms of dependency analysis and also take careful note of matters such as the non-universality of adjectives as a syntactic word class, there is significantly less inconsistency among the languages of Hawkins' survey of some 350 languages, than Hawkins claims there to be. This is particularly true for the North American Indian languages in Hawkins' survey. Most of these languages are consistently head-first or consistently dependent-first, given the facts about their word order traits reported by Hawkins, but only if one disregards the traits listed by Hawkins which involve adjectives.

## CONCLUSION

In this paper, I have attempted to outline, in a very general way, the kind of word order typology which is necessary in order to compare and contrast the word order characteristics of Northwest languages, including those Northwest languages which do not fit neatly or securely into any of the basic word order categories which figure so importantly in most current approaches to word order typology. The word order typology outlined in this paper measures languages in terms of three fundamental variables of word order. Languages vary in terms of what uses they make of word order, in terms of how they order syntactic heads in relation to syntactic dependents, and in terms of how they order grammatical subjects in relation to grammatical objects. These are three independent variables which require three separate scales of measure, but the three scales of measure intersect in a particular way so as to form a three-dimensional typological space within which can be found the familiar categories of basic word order, but within which can also be found other categories which have generally been outside of what has come to be the traditional kind of word order typology.

Measuring what uses languages make of word order is possible because languages generally use word order partly as an aid in identifying the constituents of syntactic constructions at or below the level of the sentence, and partly for discourse pragmatic purposes such as the distribution of given information versus new information in phrases, clauses, and sentences as units of discourse. The fact that most languages have sentential syntactic uses for word order at the same time that they have some discourse pragmatic uses for word order makes

the term 'basic word order' necessary in word order typology. On the other hand, the fact that some languages appear to use word order exclusively for discourse pragmatic purposes, in those of their word order constructions where there is any word order variation at all, keeps the term 'basic word order' from being applicable to all languages. While it is possible to say that there are languages without basic word orders, and while there may possibly be other languages which make little or no use of word order for discourse pragmatic purposes, it does appear that a scale which measures discourse pragmatic uses of word order as they exist in competition with constituent-identificational syntactic uses of word order in individual languages is a universally applicable scale of measure. Every language will take its place somewhere on the scale, even if that place is at one of the end points of the scale where one of the uses of word order reaches the vanishing point of its measurability. The actual design of such a scale of measure is beyond the scope of this paper, but no matter how the design of this scale of measure is worked out, languages can be described, compared, and contrasted on an informal basis, with such a scale of measure in mind. One can say that one language makes more use of word order for a particular purpose in a particular construction than another language does for the same purpose in an equivalent construction.

It is probably universally true of natural human languages that they can be analyzed in terms of syntactic heads and syntactic dependents. If this is so, then all such languages can be measured in terms of how they order syntactic heads in relation to syntactic dependents. Languages can vary from being entirely head-first to being entirely dependent-first, or languages can occupy intermediate positions on the scale. Languages may have different orders for different constructions, and languages may have what can be called 'split' orders for particular sets of constructions, such as in English where there is a dependent-first possessive construction along side a different, head-first possessive construction, and whole languages, like English, have a more or less evenly split ordering of heads and dependents, taking all constructions into account. One can make a further distinction and say that some languages, like the Coos languages, have a 'mixed' ordering of heads and dependents, governed entirely by discourse pragmatics in each word order construction.

When languages are measured in terms of how they order heads and dependents, dependency analysis becomes a necessary part of word order typology, and it becomes necessary for word order typology to avoid certain false universals of language, such as the assumption that all languages can be described as having adjectives, at least for the purposes of doing word order typology. It becomes necessary to take careful note of the fact that, for many languages, words which translate into English as adjectives are actually intransitive verbs. As intransitive verbs, such words may either count as syntactic heads when in construction with nouns adjacent to them, or they may be constituents of relative clauses which count as the dependents of main clause nouns which are either adjacent to their dependent relatives clauses or the main clause nouns are deleted, leaving

a coreferential noun in the dependent relative clause. It may be less than completely obvious to someone who is not a specialist on the language what the syntactic status of the semantically adjectival intransitive verb is in a given sentence. To say that the semantically adjectival intransitive verb is an adjective is to say that it is necessarily a dependent of a nearby or adjacent noun that it is in construction with. This is only one of a number of matters of syntactic analysis which cannot be dealt with in a casually universal manner by word order typologists if dependency analysis is to be taken as a necessary part of word order typology.

The word order typology which I have outlined in this paper is one which underscores the rarity of certain word orders as basic word orders. It appears that object-before-subject word orders are highly disfavored as basic word orders, which amounts to saying that they are highly disfavored as devices for distinguishing subjects from objects, although there clearly are some languages such as Twana, Tzutujil, and Sacapultec which do have VOS as a basic word order. A number of other languages which have VOS as a common, or as the most common arrangement of subject noun, object noun, and verb, turn out to be languages where word order appears to have no role at all in distinguishing subject nouns from object nouns. These languages include Kootenay, Coeur d'Alene, Alsea, Siuslaw, and the two Coos languages. A good case can be made for the idea that neither of the two Coos languages has a basic word order for the arrangement of subject, object, and verb, or has a basic order for any other word order construction where there is any word order variation at all in the language. The same case might possibly be made for Alsea and Siuslaw, but not for Kootenay, since Kootenay appears to preferentially order syntactic heads before syntactic dependents. In other words, Kootenay appears to have head-first word orders as the basic order for a number of constructions, while having no basic order for subjects in relation to objects. It appears that something very similar could be said about Coeur d'Alene word order, but I will leave it to specialists on Salishan languages to determine what should be said about Coeur d'Alene word order and what should be said about the word order characteristics of other Salishan languages, beyond what is already clear about Salishan word order from the published and otherwise available descriptive literature on the Salishan languages.

## FOOTNOTE

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