

Why All Languages Aren't SOV or VOS, or How Competing  
Motivations Lead to Natural Inconsistency

Author(s): Jon Dayley

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Why All Languages Aren't SOV or VOS, or  
How Competing Motivations Lead to Natural Inconsistency  
Jon P. Dayley  
Boise State University

1. The Background: Consistency, Inconsistency, & Change. Since Greenberg's seminal article (1963) on grammatical universals a great deal of work has been done on word order correlates and cross-language generalizations (see references and bibliographies in Comrie 1981 and Mallison & Blake 1981).

Lehmann and Vennemann have concentrated on defining the so-called consistent types of languages, which are consistent in that they either position modifying elements before governing elements (e.g. consistent 'OV' languages like Hindi, Japanese, and Turkish), or they position modifying elements after governing elements (e.g. consistent 'VO' languages like Arabic, Gaelic, and Spanish). Lehmann sees consistency resulting from a fundamental organizing principle in language having to do with the positioning of the (direct) object in relation to the verb such that nominal modifiers are positioned on the side of the object noun opposite the verb and its modifiers. Thus, in a consistent OV language noun modifiers should precede head nouns and verb modifiers should follow verbs; in a consistent VO language noun modifiers should follow head nouns and verb modifiers should precede verbs (Lehmann 1972:983 & 1973:48). Positioning nominal and verbal modifiers on opposite sides of each other has the value of keeping them from being confused.

Vennemann sees consistency stemming from the 'principle of natural serialization' whereby 'operators either all follow or all precede operands, in the natural case' (1974a:347). Semantically, operators are specifying (modifying) elements and operands are specified (governing) elements. Syntactically, operands govern the constituent category of operator-operand constructions (Vennemann 1974a:347 & 1973:49ff). Thus, objects are operators on verbs and adpositions (as operands), so, if objects precede them, noun modifiers should precede head nouns, and if objects follow them, noun modifiers should follow head nouns. Vennemann explains natural serialization as a result of analogical processing of operands and operators in noun phrases, adpositional phrases, and predicate constructions (Vennemann 1974b).

Even though they differ somewhat in approach, both Lehmann and Vennemann view word order consistency to be the most fundamental and natural state in language and inconsistency to be somewhat deviant. They see languages changing in cyclic patterns from one consistent type through a period of inconsistency to another consistent type with inconsistent languages always drifting towards consistency.

As Mallinson and Blake (1981:406) state, 'the consistent type is a real phenomenon.' It is a linguistic reality that needs to be explained. Natural serialization may be due to human psychological processing based on generalizing -- treating like elements

alike. But, it is not clear how (nonlinguist) speakers make rather abstract analogical deductions across major linguistic categories such that they recognize in a similar way objects as operators on verbs, nouns as operators on adpositions, and noun modifiers as operators on head nouns. That speakers may recognize abstract operator-operand relations on some psychological level is of course possible, but we do not understand the process yet. Apart from analogy, it is clear that consistency is also a result of 'recurrent diachronic developments' (see Mallinson & Blake 1981:383-94 for discussion; for specific examples see Andersen 1979:35, Craig 1977:117, Givón 1975:78, 86 & 100, and Vennemann 1973:31ff). Thus, for example, nouns and verbs may develop (or 'grammaticalize') into adpositions from genitive constructions and from deverbal participial and nominal constructions (e.g. in a VO language: N + gen > prep + N and V + O > prep + N; in an OV language: gen + N > N + postp and O + V > N + postp). In any event, no matter what the ultimate causes of natural serialization, typological consistency is a very important aspect of language.

Despite the fact that many of the world's languages display typological consistency, typological inconsistency is also very much a linguistic phenomenon. As Hawkins (1979:198) has pointed out, a majority of the world's languages are, in fact, inconsistent to one degree or another (e.g. Aztec, English, Finnish, Persian), and many of them have been inconsistent for centuries.<sup>1</sup> Since inconsistent languages are at least as normal as consistent languages, they can hardly be viewed as deviant or any less natural than consistent languages -- anyway, all languages are 'natural'.

Hawkins (1979 & 1980) attempts to deal with the discrepancy between inconsistent and consistent languages. First, he notes that the position of modifying adjectives before or after head nouns is rather unstable and not as reliable as other factors (such as the position of genitives, adpositions, and direct objects); therefore, adjective position should not be viewed as crucial in defining the types. If adjective position is not taken as diagnostic of the types, then many more languages display typological consistency. Hawkins also questions Lehmann and Vennemann's lumping SVO languages with VSO languages into a VO supertype. He points out that although many SVO languages (e.g. Spanish) have word order correlates like VSO languages, many other SVO languages (e.g. Finnish) have correlates like (S)OV languages, while still others are a typological mixture (e.g. Aztec & English). SVO languages, taken as a group, then, are not a consistent type with unique correlates of their own, nor do they fit well with other types. As a group they are ambivalent. Since SVO languages are generally ambivalent, Hawkins concludes that the position of the subject is influential in determining typology and should not be ignored as Lehmann and Vennemann have done.

To account for inconsistent languages, Hawkins proposes the 'principle of cross-category harmony' (CCH), which basically says

that languages do not have to be consistent across the board, only that there is a preference for generalizing operator-operand positions, and that languages only need to maintain a balance in position of operands relative to operators across operand categories. By implication, CCH predicts that the less consistent, i.e. the more out of balance, a language is, the less frequent its type will be among the world's languages. CCH is basically a modified version of natural serialization, and it, like the latter, rests on the assumption of analogy as a motivating force. CCH makes inconsistent languages seem plausible, but it does not account for how languages become inconsistent or why most languages are inconsistent even if in some sort of balance, nor does it account for minority consistent languages like most VSO, VOS, and OSV languages.

Languages are always in a state of transition, and, as in other areas, they change their syntactic patterns through time, whether consistent or inconsistent. A number of factors effecting word order changes have been discussed in the literature:

Contact -- A language may change type under the prolonged influence from a language of another type (see Givón 1979:276ff, Hyman 1975:115, Lehmann 1972:989ff & 1973:201ff, Mallinson & Blake 1981:398ff).

Ambiguity Avoidance -- An SOV language dependent on case marking for distinguishing agent and patient may change to SVO if its case markers are worn away by sound change or phonological reduction (see Givón 1975:70ff, Vennemann 1973:25ff & 1974a).

Grammaticalization -- A language may grammaticalize verbs making adpositions of them and thus effecting word order; for example an SVO language with a serial verb construction of the form S+V+O+V may become S + acc. prep. + O + V, i.e. SOV (see Givón 1975, Hyman 1975:118ff, 124, Li & Thompson 1974).

Afterthought -- Additional information expressed after the main proposition may effect rigid verb-final languages by setting up a pattern for postverbal constituents, eventually leading to SVO order by analogy (see below and Hyman 1975:124ff).

Drift -- Languages may drift towards consistency from inconsistent states due to pull from natural serialization (see Vennemann 1974b).

2. Relative Frequency of Basic Word Orders & Their General Degree of Consistency.<sup>2</sup> Despite all the work that has been done on word order (correlates, consistency, and change), there has been little discussion on the relative frequency of basic word orders found among the world's languages, on minor word order types (e.g. VOS, OVS, OSV), or on inconsistent types.<sup>3</sup> In this section I make some brief but interesting observations with regard to these things.

SOV is the most common basic order in the world; roughly 40-45% of the world's languages are SOV. And, the vast majority of them are consistent typologically, forming the basis for the classical OV type. Basic SVO order is the second most common among the world's languages (ca. 35%). But, SVO languages are a mixed bunch typolo-

gically, many having VO characteristics, others having OV correlates, and still others displaying inconsistency or a mixture of VO and OV characteristics. Languages with basic VSO order comprise about 10-15% of the world's languages, running a distant third behind SOV and SVO languages, despite the fact that they are generally quite consistent. The vast majority of VSO languages have the word order correlates on which the classical VO type is based. Languages with basic VOS order form a small minority comprising perhaps 3-5% of the world's languages. Many of them come from the Malayo-Polynesian family, and over half of the 30 Mayan languages are VOS; others are scattered in various other families. VOS languages are consistently of the classical VO type, and most come from families where other languages are VSO (see Keenan 1978a:285-6).<sup>4</sup> It is noteworthy that VOS languages are usually the exact mirror-image of SOV languages displaying one-for-one obverse word order correlates. Languages with basic OVS and OSV order have only recently become known (see references to Derbyshire and Pullum). Only ten OVS and five OSV languages have been documented; this makes them the rarest in the world. Pullum, assuming 4400 languages in the world, figures OVS languages comprise 0.227% and OSV 0.113% of all the world's languages (see Mallinson & Blake 1981:181 ft.6). All OVS and OSV languages are found in the Amazon Basin in South America. From examples in the literature, they all seem to have consistent OV correlates, and they all apparently come from language families like Carib and Arawakan in which other languages are SOV. Finally, a small percentage (ca. 4%) of languages do not seem to have any basic order, i.e. they are Free Order languages, although there are preferential orders, and different orders may have different pragmatic functions (e.g. Latin, Old English, Wiyot, Sahaptin).

3. The Problem. From the short discussion above, it seems clear that typological consistency alone is absolutely not correlatable with a high frequency of occurrence among the world's languages. Some languages which are generally quite consistent have a high frequency (e.g. SOV), while others have a low frequency (e.g. VSO, VOS, OVS, OSV), while some languages generally displaying a good deal of inconsistency are quite common (e.g. SVO). The conclusion from this is that natural serialization (whatever its ultimate causes) is not the only factor, or even the most important factor, making a language type highly favored. If natural serialization were the only factor involved, we would expect the world's languages to be divided evenly between the most consistent types, SOV and VOS, which are the exact mirror-image of each other.

Thus, a number of questions come to mind that have not been adequately addressed in the literature:

- (1) Why are SOV languages the most common type?
- (2) Why are VOS languages among the most uncommon types even though they are as consistent as SOV languages and the mirror-image of them?
- (3) Why are SVO languages nearly as common as SOV languages

even though as a group they are relatively inconsistent and rather heterogeneous in typological characteristics.

(4) Why are VSO languages rather uncommon (i.e. much less common than SOV and SVO languages), and why are they more common than VOS languages?

(5) Why are OVS and OSV the rarest of all languages even though OSV languages are as consistent as SOV languages, and OVS languages are generally more consistent than SVO languages?

(6) Why are Free Order languages also uncommon?

4. Competing Motivations: The Principles. The main thesis of this paper is that there are a number of powerful forces that are always at work in (any) language. These forces have a number of different sources or motivations: pragmatic, semantic, syntactic, and phonological. So, even though they often work together, they also often conflict and compete with each other. And, since, taken together, their ultimate motivation is communication, the end result is not necessarily consistency in terms of word order typology. One end result is, I believe, the diversity of language types found in the world as well as their relative frequency of occurrence. The forces, or competing motivations, are stated informally below as basic language principles.<sup>5</sup>

- I. The Pragmatic Principle of Forward Themmatization
- II. The Syntactic Principle of Natural Serialization
- III. The Semantic Principle of Ambiguity Avoidance
- IV. The Phonological Principle of Reduction
- V. The Pragmatic Principle of Afterthought
- VI. The Pragmatic Principle of Focus Fronting

The Pragmatic Principle of Forward Themmatization says that topical material has a strong tendency to come at the beginning of a sentence. As Hockett (1958:201) stated, 'the speaker announces a topic and then says something about it'. Since subjects are usually topics or themes, they usually come first (see Givón 1979:303, Greenberg 1963: Universal 1, Keenan 1976 & 1978:188ff, Lyons 1977:501ff, Vennemann 1974a:340 & 1975:288; Vennemann attributes the principle to 'Berhaghel's Second Law'). The motivating force behind the principle probably has to do with psychological processing: other things being equal, it is easier to present a topic and then comment on it than to present a comment, holding it in mind, and then present the topic of the comment ('ease' here is probably more hearer ease than speaker ease). As Mallinson & Blake (1981:148) note, 85% of the languages in their sample have subject before object (i.e. SOV, SVO, VSO). And more importantly, since SOV and SVO languages account for over 75% of the world's languages, there is clearly a strong motivation for making subjects (= topics) precede all other constituents in the sentence. Even in those languages which are not basically subject-initial, sentences with initial subjects are almost always alternative orders (see Greenberg 1963: Universal 6, Keenan 1978a:

generalization G-3). Very often subject-initial order is used in these languages when the subject is the general discourse topic. For example, all 30 Mayan languages (except Chortí) have basic VOS or VSO orders (or both), but they all tend to have SVO order when the subject is discourse topic. Chortí is basically SVO and seems to have grammaticalized this tendency, perhaps under the influence of Spanish.

The Syntactic Principle of Natural Serialization, as discussed above, says that there is a strong tendency for operator-operand constituents to serialize unidirectionally with modifying elements or operators either all before or all after governing elements or operands (see Vennemann 1973:41ff & 1974:347). There is controversy about the ultimate motivating force behind this principle, namely, whether it is due to psychological propensities to generalize i.e. analogy, or recurrent historical developments, or both (see Mallinson & Blake 1981:385ff). But no matter what its ultimate causes, the fact remains that nearly half of the world's languages are consistent in operator-operand positioning, and many others are nearly consistent.

The position of the subject has generally been ignored in discussions of consistency, especially by Lehmann and Vennemann (e.g. see Vennemann 1973:41 ft. 22). This is because they want to collapse VSO and SVO languages into one VO supertype, and because the subject has a strong tendency to be sentence-initial under the force of Forward Thematization. But, as Hawkins (1979 & 1981) has argued, the position of the subject does have an effect on consistency as is seen with SVO languages, which tend to be not very consistent, generally. Hawkins says this is due to the subject pulling in one direction and the object in the other. However, following Hawkins' reasoning, we would expect OVS languages to be as inconsistent (or consistent) as SVO languages. But this does not seem to be the case. From what little evidence there is, OVS language like Hixkaryana seem to be consistently of the OV type, which indicates that the subject has little or no effect on serialization.

That the subject is problematic may have to do with the criteria defining operator-operand relations (as discussed by Vennemann). The subject can be interpreted in two different ways depending on how it is viewed. From a semantic-pragmatic point of view, the subject could be taken as an operand: since subjects are usually topics, they are governors with comments specifying something about them. On the other hand, syntactically, they are operators specifying arguments of verbs as predicates in predications. It may be that, if Natural Serialization actually exists as a psychological phenomenon, speakers are ambivalent about how to interpret subjects.

The Semantic Principle of Ambiguity Avoidance says that languages must distinguish between agent and patient (as well as other arguments) for communication to take place, and so languages will not tolerate systematic ambiguity (see Vennemann 1973:26ff). Agent and patient may be distinguished in a number of ways: directly by case marking with affixes, clitics, or adpositions, or indirectly by word

order, cross-referencing, or semantic factors (e.g. the animacy hierarchy, definiteness, specificity, etc.), or any combination of these. The implication is that languages which do not allow any ambiguity will be favored, and those which allow some ambiguity will be disfavored accordingly. And, if for some reason, the possibility of systematic ambiguity begins to develop, a language will make adjustments to disambiguate.

The Phonological Principle of Reduction says that sound changes in general are largely reductive, 'words become shorter by phonological change, not longer' (Vennemann 1974a:389). The principle is a consequence of what the Neogrammarians said was the primary motivating force behind sound change, namely, making articulation easier. Speakers generally minimize effort in production. Thus, phonological change tends to grind off unstressed affixes and clitics (among other things). Phonological reductions will have an effect especially on SOV languages, particularly those which have alternative OSV order (as most SOV languages do; see Steele 1978:601), and which distinguish agent and patient with case marking suffixes or enclitics (as most SOV languages do; see Greenberg 1963: Universals 27 & 41). If case marking is lost in these languages, then in order to avoid ambiguity (as in 4.3.), adjustments will have to be made such as shifting to SVO (Vennemann 1974a), developing new case markers (Givón 1975:71), or developing a more rigid word order (without alternative OSV).

The Pragmatic Principle of Afterthought says that speakers often have to add material after the basic proposition in a sentence has been uttered. There is often a strong pragmatic need for speakers to give additional information to clarify in order to help hearers understand, or to say something that was forgotten (see Hyman 1975:119-21 & 124ff). Usually, the material tacked on after the main proposition is new information: adverbs, adverbial phrases and clauses, adpositional phrases, oblique cases, relative clauses, and conjunct noun phrases. But, sometimes afterthought material is old or given information tacked on to avoid ambiguity (e.g. 'she chased me...Mary that is/I mean').

This principle is compatible with all language types except for rigid verb-final SOV languages. In other words, afterthoughts may be readily added in over half the world's languages. Although rigid verb-final languages have problems with afterthought, as Hyman (1975: 124) points out, even they must allow for violations of verb-final syntax so that afterthought material can be tacked on after the verb. Hyman argues that afterthought has been an important factor contributing to the change from SOV to SVO in many West African languages: SOV + afterthought > SOV + everything else > SVO + everything else.

Afterthought may also be the seed for the development of basic OVS order in languages like Hixkaryana, which otherwise have SOV characteristics. For example, Panamint Shoshone is a consistent SOV language, but OVS order is not uncommon. At the beginning of a discourse, the normal order is SOV. But, after the first sentence, if the same subject remains topic, the subject is either pronomi-

nalized or omitted giving sequences like: SOV, (pronoun) OV... However, if the discourse contains a number of different nominal references or complex embeddings, then very often an atonic subject is attached after the verb: OVS. This OVS order, with old topic subject attached at the end appears to be obligatory in some cases.

The Pragmatic Principle of Focus Fronting says that emphatic or contrastive material (i.e. material in focus) tends to be fronted to sentence-initial position, for much the same reasons that topics usually occur initially. Very often what goes under the guise of 'topicalization' in the literature is in fact fronting of emphatic or contrastive material (see Chafe 1976:49ff). Languages may also indicate contrast by emphatic particles or stress, but most, if not all, allow fronting (see Mallinson & Blake 1981:152). Focus Fronting may have been the main impetus for the development of basic OSV order in those few South American languages that have it. That is, the order for objects in focus (i.e. OSV) may have been grammaticalized, probably from earlier SOV since these languages have OV characteristics and are in families where the other languages are SOV.

It should be noted that there are potential conflicts between Focus Fronting of objects and Forward Thematization of subjects since the force of both of them is for two different NPs to occur towards the beginning of the sentence. For example, most SOV languages have alternative OSV order when objects are in focus. But, if case marking has been worn away by Phonological Reduction, then the resulting string, NP(=O)+NP(=S)+V, is potentially ambiguous. Potential conflicts can also arise in verb-initial languages. Most VSO and VOS languages have alternative SVO order when subjects are discourse topics under the force of Forward Thematization. However, many of them also allow objects (as well as subjects) to be fronted when in focus. In either case, the resulting string, NP+V+NP, is potentially ambiguous, especially since verb-initial languages rarely have direct case marking.

5. Speculations on the Causes of the Relative Frequency of Basic Word Orders. Most of the competing motivations discussed in the previous section are well-known to linguists. But, how they work together and in competition to favor some basic word order types and disfavor others has not really been discussed. In the next few paragraphs I make some speculations in this regard.

SOV languages are the most common type because they are at once completely in harmony with both Forward Thematization and Natural Serialization. This is apparently why Vennemann (1973:28) claims that SOV order 'is the most natural serialization of S, O, and V', and why Givón (1979:303ff) claims that SOV languages are evolutionarily the most basic. However, rigid verb-final SOV languages are not compatible with Afterthought. And, some SOV languages may have problems with Ambiguity Avoidance because of Focus Fronting combined with the results of Phonological Reduction. I believe this indicates that there is always some potential and motivation for SOV languages to develop SVO order.

SVO languages are also highly favored because they are completely in harmony with all of the principles, except Natural Serialization. And, many SVO languages, whether displaying VO characteristics like Spanish or OV characteristics like Finnish, are largely compatible with Natural Serialization, even though they can never be completely compatible since S and O are on opposite sides of the verb. I believe these factors make SVO languages rather stable in general, even if somewhat inconsistent.

Another Factor which makes SVO languages common is that other language types tend to develop SVO order. VSO and VOS languages often develop SVO order because of pull from Forward Thematization (e.g. see Givón 1977). SOV languages often develop SVO order because SVO is more compatible with Afterthought, and because SVO order can never be ambiguous with respect to agent and patient marking.

VSO languages are only marginally favored because they are only partially in harmony with Forward Thematization in that S does not precede the entire comment, being sandwiched between V and O. They also have a potential problem with Ambiguity Avoidance because of the conflicting consequences of Forward Thematization and Focus Fronting. On the other hand, VSO languages are consistent in Serialization harmonious with Afterthought, and have no problem with Phonological Reduction.

VOS, OVS, and OSV languages are all disfavored because they are not harmonious with Forward Thematization. VOS (like VSO) languages also have potential problems with Focus Fronting and Ambiguity Avoidance. However, they are compatible with Natural Serialization, Phonological Reduction, and Afterthought.

OVS languages are disfavored because they are not only incompatible with Forward Thematization but they are also not completely compatible with Natural Serialization since S and O are on opposite sides of the verb. They are harmonious with the other principles.

OSV languages are disfavored because they are incompatible with Afterthought as well as Forward Thematization, and they have potential problems with Phonological Reduction, Ambiguity Avoidance, and Focus Fronting (like SOV languages). They are in harmony with Natural Serialization.

Free Order languages are harmonious with Forward Thematization, Afterthought, and Focus Fronting. But Free Order languages by definition are not harmonious with Natural Serialization since, if they are free, there is no basis on which to serialize. And, they need a good deal of morphological apparatus, case marking and cross-referencing, to maintain Ambiguity Avoidance. I believe the reason that they are so uncommon is that they are too fragile. If through Phonological Reduction morphological marking begins to break down, the whole system falls apart.

6. Relative Priority of the Competing Motivations. What is clear from the preceding discussion is that the six principles or competing motivations are not equally powerful in effecting word order types.

Forward Themmatization is by far the most powerful motivation since over 3/4 of the world's languages are subject-initial (i.e. SOV and SVO combined). Also, where other things are equal, languages with subjects more forward outnumber those with subjects more rearward (i.e. SOV > OSV, SVO > OVS, VSO > VOS).

Natural Serialization is also very powerful since about half the world's languages are typologically consistent (i.e. most SOV, VSO, VOS, and some SVO). However, it is not as powerful as Forward Themmatization since SVO languages, not necessarily consistent, far outnumber types like VSO and VOS, not harmonious with Forward Themmatization. Natural Serialization is apparently stronger than both Ambiguity Avoidance and Afterthought since SOV languages, potentially having problems with ambiguity and afterthought, outnumber SVO (or OVS) languages even though SVO (or OVS) is a completely unambiguous order and harmonious with Afterthought.

Ambiguity Avoidance is also powerful since it seems to be the prime motivation for completely unambiguous orders like SVO and OVS even though these orders can never be completely harmonious with Natural Serialization. If the two basic semantic roles of NPs, agent and patient, are determined by their respective positions relative to the verb (and not each other), then other forces like Phonological Reduction, Afterthought, and Forward Focus cannot be disruptive.<sup>6</sup>

Afterthought and Focus Fronting, unlike the motivations just discussed, are not primary forces motivating basic word orders. They are mainly forces motivating word order variations within a particular language. However, Afterthought is one factor motivating basic SVO order from earlier SOV and perhaps also basic OVS from earlier SOV. Focus Fronting is probably the main motivation behind basic OSV order, i.e. SOV > OSV via the pattern set up by object fronting. And, it is a contributing factor in the development of SOV to SVO because of Phonological Reduction and Ambiguity Avoidance.

Phonological Reduction, of course, is not a direct motivation for any word order, but it combined with Ambiguity Avoidance can affect the word order change from SOV to SVO.

7. Conclusion. I have made some observations about several 'principles' which are at work in all languages and which seem to be fundamental in motivating different basic word orders and their relative frequencies among the world's languages. I would like to point out that, even though the principles conflict and compete with each other in terms of structural ordering, sometimes disrupting typological 'consistency', they all work together enhancing the main function of language, i.e. communication. We should remember that consistency is neither a goal nor a function of language, rather only a result of some language processes. Consistency may be nice for linguists and grammarians, and it may have value in terms of certain psychological processes at work in encoding and decoding. But, there are clearly other factors, pragmatic, semantic, and phonological, that are also very important in language.

## Notes

1. Of Greenberg's sample of 142 languages (1963: Appendix II), only 68 (47.89%) are consistent while 74 (52.11%) are inconsistent (Hawkins 1979:198).
2. The relative frequencies of the different basic word order types are based on samples found in Mallinson & Blake (1981:134-48), Steele (1978:590), and Greenberg (1963: Appendix II):

	<u>Mallinson &amp; Blake</u>	<u>Steele</u>	<u>Greenberg</u>
SOV	41	30 = 47%	64 = 45%
SVO	35	20 = 32%	52 = 37%
VSO	9 (- Quiché = 8)	10 = 16%	26 = 18%
VOS	2 (+ Quiché = 3)	3 = 5%	--
OVS	1	--	--
OSV	1	--	--
Free Order	4	--	--
other	7	--	--
Total entries	<u>100</u>	<u>63</u>	<u>142</u>

There is (at least) one mistake in Mallinson & Blake's figures: Quiché is listed as VSO when it is VOS (actually, VSO is the only alternative order that is always ungrammatical in Quiché). Greenberg's sample is not very reliable in terms of percentage frequencies because the entries are a mixture of individual languages, subgroups, families, and phylum (e.g. Type 1 contains among other things: 'Celtic languages; Hebrew,... Polynesian languages and probably other Austronesian languages;... Oto-Mangue languages'). There are also a number of errors, some of which Hawkins (1979:194-5) has pointed out; also Maya is listed as SVO in Type 10, when in fact it is VOS, SVO being a common alternative order; and a number of Polynesian languages are VOS, not VSO Type 1 (these errors have not been corrected in the table above). Despite the errors and different methods of sampling, the figures are close enough that I think they give us a rough estimate of relative frequencies of basic orders.

3. Notable exceptions are Hawkins (1979, 1980) on inconsistent languages and speculations on their likely frequencies of occurrence; Dayley (1983), Keenan (1978a), and Steele (1978) on VOS languages; and Derbyshire (1977), Derbyshire & Pullum (1981), and Pullum (1981) on OVS, OSV, and VOS languages.
4. Two Mayan languages, Huastec and Tenejapa Tzeltal, are both basically VSO and VOS with the order depending on the animacy hierarchy (see Dayley 1983).
5. Of course there certainly are other basic principles in language, but these seem to me to be the most important for understanding the motivations for word order consistency and inconsistency and the relative frequency of the types.
6. For example, in an SVO language, if the object is fronted under focus, then since it does not occur after the verb, it must be the NP in focus, not the subject. Likewise, if the subject occurs as an afterthought, since it does not occur before the verb, it must be the afterthought not the object. In languages with agent and patient

NPs on the same side of the verb in basic order, there is always potential ambiguity (i.e. if there is no direct case marking).

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