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Introduction

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Until quite recently, the study of basic word order and correlates of 'basic' word order was limited to typological studies of language. The issue was either ignored by generative grammar or assumed to have no theoretical basis. Recent work in the minimalist approaches to principles and parameter syntax, however, has opened up the study of word orders, their derivations, and the correlates of those orders. Influential papers by Pollock (1989) and Chomsky (1991) provided a framework in which to develop a constrained view of phrase structure and predicate-argument placement. Kayne's (1994) antisymmetric approach to phrase structure further constrains the possible word orders of language. In his view, the only underlying word order is subject-verb-object; all other word orders are derived from this order by one means or another. In this volume, we consider one subset of word orders—those that are verb initial; whether these orders are derived or not; whether there is a uniform derivation of the word orders; and whether there are any putative universal correlates of these orders.

Languages that have as their "basic" or "default" word order an order that puts the verb first in the sentence (verb-subject-object, VSO, and verb-object-subject, VOS) make up about 10% of the world's languages, yet they are relatively untreated in the generative grammar literature.[1] These languages bring their own special problems to the discipline. As will be seen in section 1, the basic derivation of one of these word orders (VSO) is itself highly problematic and a matter of great debate. With the advent of restrictive theories of phrase structure, such as Kayne (1994), even the simpler VOS order is also problematic. Despite the fact they come from a variety of language families and from a great variety of geographical locales, all verb initial languages seem to have certain properties in common, such as preverbal particles and special types of locative constructions. Questions as to the nature of the derivation of verb initial order and its correlates are the focus of this volume. We have compiled here a collection of essays by a variety of authors about a number of verb initial languages. Even though many of these essays are about diverse and unrelated languages, the results show a remarkable uniformity in a number of domains.

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Below, we consider some of the major themes that emerge throughout these articles. We start by considering the derivations of verb initial order, looking first at VSO and then at VOS. Then we turn to the question of word order correlations.

1. The Problem of VSO Languages

Verb-subject-object order has long been problematic for theories of grammar that assume a universal VP constituent containing both the verbal predicate and its complements. Take, for example, the typical sentence in (1) from Modern Irish:

(1)   **Irish**
       Leanann   an   t-ainmní an briathar i nGaeilge.
       follow.PRES the subject the verb   in Irish
       'The subject follows the verb in Irish.'

In this sentence, the verb *leanann* is separated from the object *an briathar* and other complements by the subject *an t-ainmní*. A contiguous constituent of the verb and its complements is clearly impossible, at least on the surface.

A number of theories of VSO structure have been proposed to account for this apparent anomaly. The earliest researchers on VSO languages proposed simply that these languages lacked a VP constituent (Schwartz 1972, Anderson 1984, Awbery 1976, Tallerman 1990, Stenson 1981, McCloskey 1979, 1980, Chung 1983). These theorists lacked VP phrase structure rules (2), in an approach we refer to as *flat structure* (3):

(2) S → V NP NP

(3)   S
       ⟋—⟍—⟍
       V   NP NP

This theory, while appealingly simple, runs into many problems cross-linguistically. Such a structure makes very clear predictions about the behavior of the subject and object arguments which are not borne out by the data. As noted by Berman (1974), it predicts that subject and object NPs, since they are both postverbal, should not be distinguishable in contexts where only one NP argument appears. In other words, verb-object sequences and verb-subject sequences should behave identically with respect to various syntactic processes. Anderson and Chung (1977) argue that this is not true for many languages that are clearly VSO. Samoan and Tongan show demonstrable differences between VO and VS sequences in the interaction of Equi-NP Deletion and Subject to Object Raising—two rules of the Extended Standard Theory that make reference to subjects and not to objects. If the VO and VS sequences are structurally

indistinguishable, then verbs that allow both Equi and Subject to Object Raising to apply should allow Subject to Object Raising to apply to objects, provided Equi has applied to delete the subject in an embedded context. This prediction is false.

In this volume, Minkoff discusses a well-known "argument" or "animacy" hierarchy pattern in Mam. The argument, which is interpreted as a "subject" in Mam, must be more animate than the object argument. This pattern emerges in an environment much like the one described above. He shows that this phenomenon occurs as a result of the complex interaction of parsing/processing principles and the fact that the language is both *pro*-drop and verb initial.

A great body of empirical evidence has surfaced showing that many VSO languages have VP-like constituents which consist of a non-finite verb and object but exclude the subject. In many VSO languages, sequences of untensed verbs or participles and objects appear that function as syntactic constituents, reminiscent of verb phrases. McCloskey (1983) shows that participles and objects obey several standard tests for constituency. For instance, a participle plus object sequence functions as a constituent with respect to such tests as clefting. Similar facts are found in Breton (Anderson and Chung 1977) and in Welsh (Sproat 1985). This lends strong support to the idea that VSO order is derived from an underlying structure that has a VP constituent. These facts are discussed in detail by Hendrick in this volume.

Similarly, there is evidence concerning the relative prominence of subjects and objects in VSO languages. In flat structure, subjects and objects are sisters to one another. Given this, we expect that there will be no structure dependent subject/object asymmetries in VSO languages. Once again, this prediction is proven false (Speas 1990). For example, in Niuean, as discussed by Woolford (1991), the subject is not c-commanded by the object; thus the following sentence is not a violation of Principle B:

(4) **Niuean** (Seiter 1980:78)
　　Fana n-e　　　ia　a　ia　ni　neafi.
　　shoot EMPH-ERG he　ABS him REFL yesterday
　　'He shot himself yesterday.'

Fassi Fehri (1993) and Choe (1987) discuss similar data in Arabic and Berber, respectively. Related evidence from parasitic gaps in Welsh (Sproat 1985), violations of the ECP in Chamorro (Chung 1983), superiority effects in Welsh and Breton (Hendrick 1988), and relativization in Kwakwala (or Kwakiutl) (Anderson 1984) show similar subject-object asymmetries in other VSO languages.
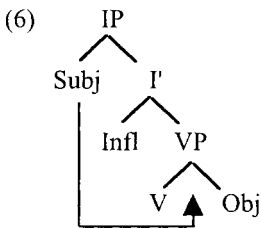
Woolford (1991) discusses a set of facts from Jakaltek, originally presented by Craig (1977), which seem to go against this analysis. She notes that R-expressions embedded in the subject NP cannot be co-referent with an object pronoun:

(5)   **Jakaltek**
       Xil [smam_i   naj   pel]   Ø_{j/*i}
       Saw POSS.father   CL   Peter   him
       'Peter_i's father saw him_j'
       *'Peter_i's father saw him_i'

She interprets this as a condition C effect (Chomsky 1981) where the object c-commands the R-expression in the subject NP. She claims this is only possible with a flat structure approach. While not looking directly at the facts discussed by Woolford, Aissen in this volume takes a careful look at the distribution of binding in Jakaltek. She claims that the relevant criteria for binding of pronouns in Jakaltek is not c-command, but rather a prosodic domain. By extension, then, Woolford's arguments for flat structure disappear.

A number of different derivational approaches have also been proposed for VSO languages. One early theory is that of *subject lowering* proposed in Choe (1987) for Berber, Chung (1990) for Chamorro, and Shlonsky (1987) for Arabic. Choe (1987) argues that a language like Berber derives VSO when the subject NP lowers for Case reasons from its base position in the specifier of IP to a position adjoined to the verb:

(6)   IP
           /   \
        Subj   I'
          | / \
          | Infl   VP
          | / \
          | V ▲ Obj
          |_____|

For Choe, Case assignment in VSO languages may only apply to the right, so in order for Case to be assigned, the subject must lower to a position immediately following the verb. Chung (1990) also argues for a subject lowering approach to VSO order for Chamorro. Her evidence comes from the fact that the subject can appear after any projection of V. Chung also notes that Chamorro requires that coordinated elements be identical constituents. Interestingly, it appears that the subject of two coordinated VPs can appear between the verb and the object of the second conjunct:

(7)   **Chamorro**
       [Tumohgi]   ya   [ni-rekuknisa   si **Maria** ni gubietnu].
       INFL.stand   and.then   INFL.PASS.recognize   Maria   OBL governor
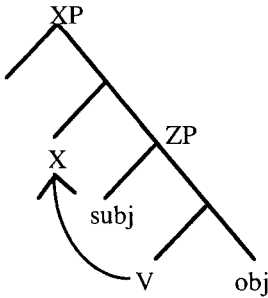   'Maria stood and was recognized by the governor.'

Chungs claims that such sentences can follow only from an analysis according to which the subject starts in the specifier of IP, where it discharges its function as "subject" of both of the conjoined VPs, then lowers and adjoins to the V2.

Another analysis of VSO that makes use of argument movement is the *object postposing approach*, proposed by England (1991) to account for the

diachronic shift from VOS to VSO languages in the Mayan family. She claims that the ancestor of most Mayan languages was VOS. Many of the languages are now VSO or VOS/VSO alternating. On this basis, she argues that VSO order was derived by shifting the object to the right from an underlying VOS order. Based on evidence from non-verbal predicates in Maori, which show predicate complement subject order, Chung (1996) claims that Maori is underlyingly VOS, and has an object postposing derivation for VSO order.

A more common class of analyses of VSO involves the *raising of verbal predicates* from the VP around the subject argument to some inflectional head (8). Among the authors who have proposed such analyses in various forms are Emonds (1980), Sproat (1983, 1985), Sadler (1988), Mohammed (1988), Ouhalla (1994), Duffield (1991, 1995), Guilfoyle (1993), Noonan (1994), McCloskey (1991, 1996a, 1996b, 1997), Chung and McCloskey (1987), Kaplan (1991), Fassi Fehri (1993), and Carnie (1995).

(8)

Authors in this volume who take this approach include Hendrick, Doron, Carnie, Pyatt and Harley, and Guilfoyle.
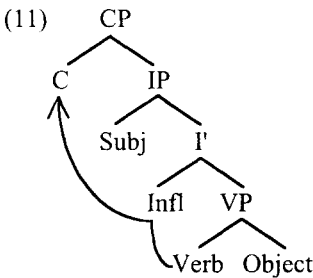
McCloskey (1991) provides strong evidence in favor of a general verb-raising approach to VSO order for Modern Irish. McCloskey notes that in a structure like (8), once the verb has raised, there exists a constituent which consists of the subject, the trace of the verb, and the object (represented by ZP in (8)). Again, this is true independently of the surface location of the verb and its arguments, as long as the verb has raised around the subject. The claim here is that if such a grouping passes tests for constituency separate from the verb, then we have evidence for the verb raising analysis. McCloskey's prediction is borne out. Irish has a process of VP ellipsis which parallels English VP ellipsis in many ways. It differs from English VP ellipsis, however, in what is deleted. In English, the subject obligatorily remains, but the verb and the object (and any other VP-internal material) are elided and replaced with *did (too).* In Irish, on the other hand, the verb is the one element that is not elided; rather, it is the ZP constituent that is elided:

(9) English: S V O and S V̶O̶
     Irish: V S O and V S̶O̶

(10)   Duirt mé go gceannódh sí é agus cheannaigh ~~subj object~~.
        said I that would.buy she it and bought
        'I said that she would buy it and she did.'

As McCloskey notes "the almost unanimous view in the literature is that the
elided material in VP ellipsis forms a syntactic constituent." The raising
analysis, with a ZP constituent, provides us with an elegant account of these
facts. The verb has raised outside of the domain of the ellipsis process, whereas
the subject and object remain within the ZP constituent, which is elided.

    Perhaps the earliest raising analysis of VSO order involves the raising of the
verb to the complementizer head, in a manner familiar from V2 languages and
from question formation in SVO languages like English:

(11)   CP
          / \
        C   IP
       /\   / \
     Subj   I'
            /   \
         Infl   VP
             \   / \
           Verb   Object

This approach, frequently called the *weak-V2 approach* to VSO order was first
proposed by Emonds (1980), who suggested that all verb fronting was motivated
by "attraction to the complementizer." This approach was also popular in the
early work in the Government and Binding framework (Stowell 1989, Déprez
and Hale 1986, Hale 1989). More recently it has been proposed to account for
the change from V2 in Middle Welsh to VSO in Modern Welsh by Clack (1994)
and Sáinz (1994), and for Pembrokeshire Welsh by Watanabe (1993). In this
volume, Carnie, Harley and Pyatt propose that this is exactly the derivation of
VSO in Old Irish. Arguments against the weak V2 approach for Modern Irish
are presented by McCloskey (1996a). McCloskey argues, on the basis of IP
adjoined adverbs, that verbs in Modern Irish are no higher than the left edge of
IP. Massam's article in this volume argues extensively against a raising to C
approach for Niuean.

    The class of analyses that hold that the verb in VSO languages is in the
highest inflectional projection can be called the *Left-Edge of IP* group.
Innumerable variations of this approach are found in the literature on VSO. The
first to present this view was Sproat (1985). With the advent of the VP-internal
subject hypothesis (Koopman and Sportiche 1991), a simple formulation of this
group was proposed (see, for example, McCloskey 1991): Verbs raise to Infl,
while subjects stay *in situ* in the specifier of VP. With minor variations, this is
the view adopted by, among many others, Guilfoyle (1990), Noonan (1994), and
McCloskey (1991) for Irish; Mohammed (1988) and Fassi Fehri (1989) for
Arabic; Sadler (1988) for Welsh; Schafer (1994, 1995) for Breton; Woolford

(1991) for Chamorro and Niuean; Guilfoyle, Hung, and Travis (1992) for Tagalog and Cebuano; Massam (1996) for Niuean; Kaplan (1991) for Welsh, Breton, Berber, and Biblical Hebrew; Koopman and Sportiche (1991) for Irish, Welsh, and postverbal subjects in Italian and Kilega; Borer (1995) for stylistic inversion structures in Modern Hebrew; and Chomsky (1991) for VSO languages in general.

With the advent of Pollock's (1989) split Infl hypothesis, the possibilities for what might constitute the left edge of Infl greatly expanded. The arguments no longer have to be VP-internal. Bobaljik and Carnie (1996), McCloskey (1996a), Fassi Fehri (1993), Aoun, Benmamoun, and Sportiche (1994), and Rouveret (1991) have all argued this to be true for various VSO languages. Other authors, such as Ouhalla (1994) and Carnie (1995), have argued that the relative order of inflectional heads differs in VSO languages, such that Tense dominates Agreement. In this volume, Hendrick attempts a characterization survey of such approaches to the Celtic literature.

Many of the articles in this volume attempt to motivate the postverbal positioning of subjects in verb initial languages from very different perspectives. Doron's article builds upon work by McCloskey (1996a) in deriving the postverbal nature of the subject from EPP properties of the language; she adduces evidence for this proposal from left conjunct agreement phenomena in Biblical Hebrew. Massam, by contrast, claims that the verb satisfies EPP features, thus explaining its initial position. Guilfoyle's article links this positioning to the semantics of tense and initiation point.

An interesting and exciting variation on the verb raising approach emerges for the first time in three articles in this volume. Quite independently, Lee, Massam, and Travis and Rackowski have proposed, for widely divergent languages (Malagasy, Niuean, Zapotec), that verb initial order does not arise from head movement of the verb to some initial position, but instead via fronting of the verb phrase (or predicate phrase) to some specifier position. We call this proposal the *VP raising approach*. The fact that variants on this analysis are presented by independent researchers and for a wide variety of languages is quite provocative. This new alternative is likely to arouse great controversy among researchers in verb initial languages.

Another alternative within the verb-raising family is discussed by Jelinek in this volume. She argues that verb (or more precisely predicate) raising in Lummi, Straits Salish, is due to information structure effects. She claims that Lummi, a pronominal argument language, shows a strict mapping between topic-focus structure and the surface syntax. She links initial position to focus; for her, predicates are usually new information and thus move to this initial position.

2. The Problem of VOS Order

The question of the derivation of VOS order has been paid less attention in the generative literature (notable exceptions include Guilfoyle, Hung, and Travis

1991 and Pearson 1996). The question of whether VOS order is a base-generated or derived order is especially important in light of the recent proposals of Kayne (1994), who claims that specifier-head-complement order is the universal order. Under this conception, the origins of VOS order become mysterious, because the order does not lend itself as readily as VSO to verb raising analyses. This puzzle is relevant to the discussion here for two reasons. First, many languages, in particular Austronesian and Mayan languages, show alternations between VSO and VOS order. The nature of these alternations is of course important to understanding how both VSO and VOS order are derived. Second, from a typological perspective, there is the problem that many of the properties associated with VSO order (see below) are also found in VOS languages. Why this should be the case requires explanation. This question is dealt with most extensively in this volume by the articles by Travis and Rackowski, Massam, and Freeze and Georgopoulos. Massam and Travis and Rackowski claim that VSO and VOS order are tightly linked. The differences between the two lie only in the degree to which objects shift out of the VP before VP remnant movement. Freeze and Georgopoulos take a very different view. In looking at the locative paradigm, they observe that certain patterns emerge only if VOS and VSO are underlying or base orders. They argue against a Kaynean antisymmetic approach to underlying word order.

3. A Fundamental Tension

With these numerous ways of deriving verb initial order all present in the literature, the obvious question arises as to whether different verb initial languages derive the basic order in different ways (as is suggested by McCloskey 1996a), or whether one of these approaches to deriving the order is universal. Balanced against this question we have another issue: If the derivation of verb initial order is not homogenous, then why are there a number of syntactic phenomena common to many or most VSO languages?

Many VSO languages (although by no means all) share the following traits, all of which have been claimed to be correlates of VSO order. Some of these are Greenbergian (1963); others are correlates that have surfaced in other work.

1. Head initiality (Greenberg)
2. Prepositional (Greenberg)
3. Post-nominal adjectives (Greenberg)
4. Preverbal tense, mood/aspect, question, and negation particles
5. Inflected prepositions (Kayne 1994)
6. Left-conjunct agreement (Doron, this volume)
7. Lack of a verb "have" (Freeze and Georgopoulos, this volume)
8. Copular constructions without verbs (Carnie 1995)
9. "Verbal noun" infinitives (Myhill 1985)

Although not all verb initial languages have all these characteristics, a striking number of them have at least some subset of them; in contrast, SVO and SOV languages rarely show a large range of these phenomena. We thus pose the

question of why this should be the case if these languages have different derivations for their order. Is it a fact about Universal Grammar, about diachronic syntax (see, for example, Gensler 1991), or merely coincidence? All the papers in this volume make some attempt at explaining a few of these properties. Freeze and Georgopoulos link certain behaviors to the typological properties of verb initial languages. In particular, they consider the differences between a parametric approach to word order and one which assumes a universal base order. Hendrick attacks the question of how tightly linked these properties are to word order, by examining the differences among the Celtic languages. He argues against a unified approach to verb initial order and deals in particular with the question of whether synthetic agreement is a property of the word order type.

A number of chapters in this volume deal with the issue of preverbal particles, which seem prevalent in the syntax of verb initial languages. These include Hendrick, Carnie, Harley and Pyatt, Lee, Massam, and Rackowski and Travis.

Acknowledgments

Notes

1. A notable exception is the special edition of *Lingua* (volume 85), edited by James McCloskey (1991).

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