Sentential Subjects as Complex NPs: New Reasons for an Old Account of Subjacency

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1 Introduction

In this paper we propose, for non-NP subjects, a novel analysis which recognizes their essentially nominal nature. This analysis leads to a reformulation of the principles governing subjacency, one which returns to a more configurational approach than that taken since Chomsky's (1986a) Barriers.

2 Nominal characteristics of non-NP subjects

It has largely gone unrecognized in the literature that non-NP subjects possess nominal properties. Consider the CP, PP, and AP subjects in (1):

(1) a. [$_{CP}$ That Shelby lost it] is true.
b. [$_{PP}$ Under the bed] is a good place to hide.
c. [$_{AP}$ Very tall] is just how he likes his bodyguards.

There are a number of properties that clearly show these subjects to be NP-like, and the behavior of CPs, PPs, and APs in subject position contrasts markedly with their behavior in complement positions.

2.1 Raising

First, all three types of non-NP subjects undergo raising, as illustrated in (2).

(2) a. [$_{CP}$ That Shelby lost it]$_1$ appears [t_1 to be true]
b. [$_{PP}$ Under the bed]$_1$ appears [t_1 to be a good place to hide]
c. [$_{AP}$ Very tall]$_1$ appears [t_1 to be just how he likes his bodyguards]

2.2 Pronominalization

Second, non-NP subjects (like NP subjects) can be replaced with the deictic pronoun *that*, and can form tag questions in which they antecede the pronoun it. In (3a-5a), the deictic subject pronoun in the second sentence is coreferent to a non-NP constituent in the preceding sentence.

(3) a. I think that Shelby lost it. That is possible. (*that* = that Shelby lost it)
b. [That Shelby lost it]$_1$ is possible, isn't it$_1$?

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(4) a. I found the cat under the bed. That is a good place to hide.
(that = under the bed)
b. [Under the bed]$_1$ is a good place to hide, isn't it$_1$?
(= Bresnan 1994: (104b))

(5) a. Terry is very tall. That is how the boss likes her bodyguards.
(that = very tall)
b. [Very tall]$_1$ is how the boss likes her bodyguards, isn't it$_1$?

Although many CP complements can be replaced by the deictic pronoun that (I think that, that = that Shelby lost it), nonsubject PPs and APs largely cannot as shown in (6) and (7).

(6) I found the cat *that/there.
(7) He likes his bodyguards *that/just so.

These data indicate that CPs, PPs, and APs display properties characteristic of NPs, but predominantly only when used as subjects.

2.3 The distribution of emphatic reflexives

A third NP characteristic of non-NP subjects is their ability to license an emphatic reflexive. Definite NPs in any position can occur with an emphatic reflexive, as (8-10) illustrate.'

(8) The professor herself offered the student sage advice.
(9) The zookeeper forced the monkey itself to clean up the cage.
(10) I gave my x-rays to the doctor herself.

Like NPs, CP and PP subjects can also license emphatic reflexives as in (11) and (12).

(11) a. That Leslie arrived *drunk* itself put Kelly in a foul mood.
b. That there were 25 miles to go was itself enough to discourage Edwin.

(12) a. You don't have to get the ball into the net. Right between the two red markers is itself sufficient to score.
b. Under the bed and in the closet are themselves reasonable places to stash the cash.

However, as (13) and (14) show, nonsubject CPs and PPs cannot license emphatic reflexives.

(13) a. Kelly was angry that Leslie arrived drunk (*itself).
b. Edwin hoped that there were less than 2 miles to go (*itself).

(14) a. Sandy wants to retire in the mountains (*itself).
b. We stashed the cash under the bed and in the closet ("themselves).

Together with the pronominal facts, these data show that CPs and PPs can exhibit NP-like behavior, but crucially only when they are in subject position.

24 Verb agreement

Like NP subjects, CP, PP, and AP subjects can all trigger agreement on a tensed verb. In (la-c), the non-NP subjects trigger singular agreement on the tensed verb is. However, as pointed out in Levine 1989 with respect to PPs and in McCloskey 1991 with respect to CPs, conjoined non-NPs can (under certain circumstances) trigger plural agreement. (15)-(17) illustrate this.

(15) a. [$_{CP}$ [$_{CP}$ That the march should go ahead] and [$_{CP}$ that it should be cancelled]] have been argued by the same people at different times. (McCloskey 1991:564)
b. [$_{CP}$ [$_{CP}$ Whether or not Lou wins the 5k] and [$_{CP}$ whether or not Sam wins the pole vault]] make absolutely no difference to me.

(16) a. Sandy talks a lot about her beach house and the family's Appalachian camping trips. As a result, [$_{PP}$ [$_{PP}$ along the coast] and [$_{PP}$ in the mountains]] remind me of Sandy's retirement fantasies.
b. [$_{PP}$ [$_{PP}$ Under the bed] and [$_{PP}$ in the fireplace]] are not the best (combination of) places to leave your toys. (Levine 1989:1015)

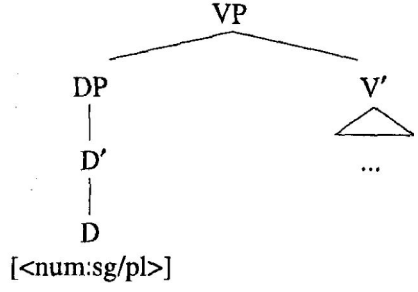
(17) [$_{AP}$ [$_{AP}$ Very brawny] and [$_{AP}$ very studious]] are what Cindy aspires to be.

The possibility of plural agreement in (15-17) provides evidence that the conjoined CPs, PPs, and APs are indeed subjects here.

2.5 The DP structure of non-NP subjects

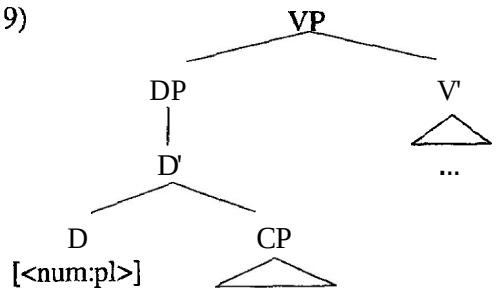
In our recent LSA paper (Davies and Dubinsky 1998) we argue on the basis of data such as these that the subject position (which we take to be [Spec,VP]) minimally contains the structure shown in (18).

(18)



In (18), we see that the spec of VP must contain a DP whose head includes at least the feature [number]. The value of this feature will correspond to the singular or plural interpretation associated with the complement of D. Thus, both the NP ***boys*** and the conjoined CP ***whether or not Lou wins the 5k and whether or not Sam wins the pole vault*** will be complements of a D^0 whose number feature is plural. The DP subject of (15b) thus has the structure in (19).

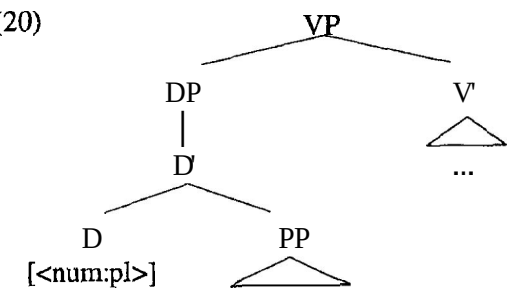
(19)



whether or not Lou wins the 5k and
whether or not Sam wins the pole vault

The structure of the conjoined PP subject of (16b), given in (20), is similar.

(20)



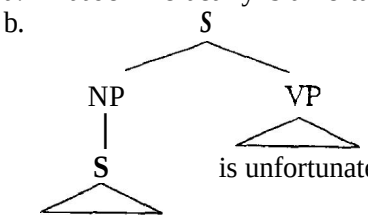
under the bed and in the fireplace

Given this representation, it is no surprise that conjoined CP-subjects,' PP-subjects, and AP-subjects can trigger plural verb agreement. Looking back at (11) and (12), this analysis explains both the ability of non-NP subjects to trigger emphatic reflexives, as well as the fact that the reflexive pronouns agree with them in number. (12a) and (12b) show this dramatically, in that the reflexive pronoun in each case cannot be construed as agreeing with the prepositional object. Finally, the analysis also accounts straightforwardly for the pronominalization and tag question facts, since these are also DP properties.

Reflecting on the analysis that we have settled on, one immediately notices its similarity to those proposed in earlier transformational frameworks. Lees (1960) proposed an exocentric analysis of sentential subjects and objects in which a headless

NP node immediately dominates an S, as in (21).

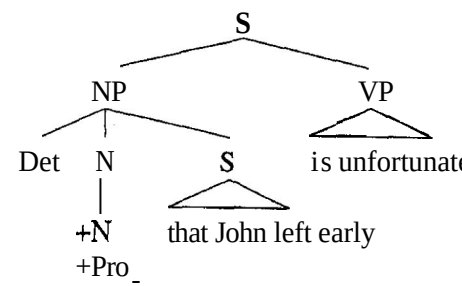
(21) a. That John left early is unfortunate.
b. (Lees 1960)



that John left early

Rosenbaum (1967) revised the exocentricity out of Lees' analysis, by including a pronominal head in the structure and treating the *S* as its complement. This is illustrated in (22).

(22) (Rosenbaum 1967)



Our analysis of non-NP subjects is clearly quite similar to Rosenbaum's proposal for sentential arguments, although the motivations are largely dissimilar. Of course, both Lees and Rosenbaum (incorrectly) applied their analyses to object complement clauses as well.

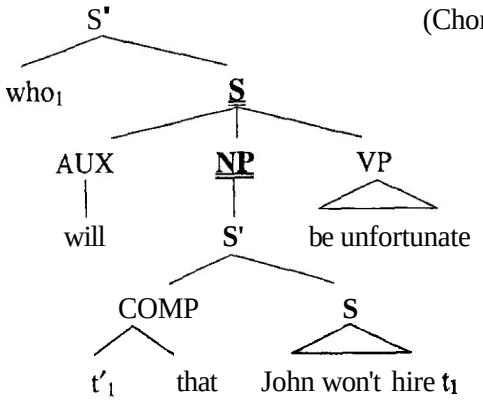
3 DP subjects and subjacency

Lees and Rosenbaum analyzed all sentential arguments as NPs, and the possibility that sentential subjects alone were NPs was not considered until Chomsky's (1973) attempt to provide a unified analysis for Ross' (1967) island effects. In this section, we will examine the motivations for the NP-over-S account of subject islands in a theory of bounding nodes, and consider why this analysis was abandoned in Barriers (Chomsky 1986a) and subsequently. We will then show how a DP-over-CP account of subject islands is preferrable to a barriers-based explanation.

Chomsky 1973 adopts (without comment or attribution) Lees' analysis, but only for clausal subjects. He distinguished in this way between clausal subjects and complements in order to provide a systematic account of subject islands through the invocation of bounding nodes (S and NP). That is, if only clausal subjects have an extra dominating NP node, then the fact that they are islands while clausal

complements are not can be explained as due to subjacency. Accordingly, (23a) is ruled out due to the movement of ***who*** past the two underscored bounding nodes in (23b).

(23) a.*Who$_1$ will [that John won't hire t_1] be unfortunate?
b. (Chomsky 1973)



In (23b), the relation between the wh-element *who* and its intermediate trace t'_1 violates subjacency. Chomsky never provided any further empirical motivation for this position (as we have done here), and with the publication of Chomsky 1986a, the exocentric analysis of sentential subjects was abandoned without comment.

In Chomsky 1986a, the islandhood of sentential subjects is taken to result from the failure of subjects to be L-marked (that is, "directly 0-marked by a lexical category"). This is because subjects are generated in [Spec,IP] (in the Barriers model). All phrases that are not L-marked are "blocking categories" and all blocking categories (except for IP) are "barriers". In this way, every subject becomes (definitionally) a barrier to any element inside of it.

(24) a.*What$_1$ do [$_{IP}$ you think [$_{CP}$ t'_1 that John lost t_1] is a tragedy] ?
b. What$_1$ do [$_{IP}$ you think Judy regrets [$_{CP}$ t'_1 that John lost t_1]] ?

(24a) is ungrammatical because the underscored CP and the IP dominating it are barriers for the intermediate trace, t'_1. In (24b) though, the underscored CP is not a barrier since it is directly θ-marked by the verb regret. Thus, in the Barriers model, sentential subjects are not islands for extraction due to any structural difference between them and sentential objects, but only due to differences in the way that they are • -marked.

Given what we have discovered about the special nature of non-NP subjects, there may be sufficient motivation to abandon some aspects of the Barriers account of subject islands, resurrecting an account that recognizes a structural difference between subjects and complements. The contrast in grammaticality in (24) would

then be analyzed as in (25).

(25) a.*What$_1$ do you think [$_{DP}$ [$_{CP}$ t'_1 that John lost t_1]] is a tragedy?
b. What$_1$ do you think Judy regrets [$_{CP}$ t'_1 that John lost t_1] ?

In (25a), the intermediate trace t'_1 is dominated by both a CP and a DP node. Note that this analysis is not exocentric, since the DP is headed by a D (minimally containing the feature number).

Having argued against a Barriers-style account of subject islands, in favor of one more in the tradition of Chornsky 1973, we must now defend this position against the charge of having lost a generalized account of the behavior of subjects and adjuncts. One of Chornsky's (1986a) reasons for claiming subject islandhood to be derivable from a lack of L-marking is that this position unifies the subjacency account of these with that of adjunct islands. Consider (26).

(26) a.*What$_1$ did [$_{IP}$ [$_{CP}$ t'_1 that John bought t_1] upset Jack] ?.
(subject island)
b.*What$_1$ did [$_{IP}$ Julia leave the party after [$_{CP}$ t'_1 Jack said t_1]] ?
(adjunct island)
c. What$_1$ did [$_{IP}$ Julia think [$_{CP}$ t'_1 that Jack said t_1]] ?

In (26a) and (26b), extraction out of a CP in either subject or adjunct position creates a subjacency violation. These contrast with (26c), in which wh-movement is out of a CP complement of the verb ***think.*** According to Chomsky (1986a), neither the subject CP nor the adjunct CP are L-marked. Both are therefore barriers. The IP that immediately dominates them is also a barrier (by inheritance). Thus, movement from t'_1 to ***what,*** crosses two barriers, violating subjacency. In contrast, a CP object is L-marked and not a barrier; extraction is therefore possible in (26c).

On the face of it, then, it appears that abandoning the Barriers analysis of subject islands leaves us unable to account for adjunct islands. However, a closer look at the data shows that subjects and adjuncts are not quite as similar as Chomsky (and others) have supposed. It turns out that adjuncts, unlike subjects, are **not** always islands for extraction. (27) illustrates three varieties of adjuncts, while (28) illustrates the same phrases as subjects.

(27) a.*Who$_1$ did [she go to Harvard [because she wanted to work with t_1]] ?
b. Who$_1$ did [she go to Harvard [in order to work with t_1]] ?
(Culicover 1997:253)
c.?What$_1$ did [he finish his thesis [without checking t_1]] ?

(28) a.*What$_1$ is [[that she wanted to learn t_1] unfortunate] ?
b.*What$_1$ is [[to learn t_1] very hard] ?
c.*What$_1$ is [[checking t_1] absolutely necessary before you turn in your thesis] ?

In (27b) and (27c), extraction is possible out of an infinitival purpose clause and marginally out of a gerundive prepositional complement (in contrast with the tensed because adjunct in (27a)). These same phrases, when in subject position, uniformly disallow wh-extraction. A Barriers account of subjacency wrongly predicts that (27b) and (27c) should be as ungrammatical as (27a), since neither is L-marked.

There is some interesting support in Cinque 1990 for our position that the structure of sentential (and other non-NP) subjects is analogous to that of complex NPs. In a crosslinguistic study of subjacency effects, Cinque (1990) identifies two classes of islands, strong and weak, based on the the extractability of argument DPs.[2] He observes that *wh*-island complements of verbs are weak and CP complements of nouns (i.e. CNPC islands) are strong, as can be seen in the contrast in (29).

(29) a.?Which book$_1$ did you wonder [$_{CP}$ when [they might ship t_1]] ?
(wh-island)
b.*Which book$_1$ do you believe [$_{NP}$ the claim [$_{CP}$ that [they won't send t_1]]]?
(CNPC island)

As he (1990:31) notes, preverbal subjects also fall into this class of strong islands. For Cinque, this fact is anomalous and he is forced to adopt extra stipulations in order to fit them into his account. Under our analysis, however, non-NP subjects are predicted to resist extraction in the manner of complex NPs precisely because their structure is crucially similar to complex NPs. The data in (28) support this. Adjuncts, in contrast, are not necessarily endowed with DP-like properties. Their islandhood could thus be due to other factors and be expected to vary, as we have found.

4 DP subjects vs. DP complements: Structural vs. lexical licensing

We will now turn to further corroboration of our analysis provided by the behavior of apparent non-NP complements that sometimes, under special circumstances, have the structure of non-NP subjects. That is to say that they are covertly DPs. The syntax of these anomalous non-NP complements will supply further motivation for abandoning the Barriers account of subjacency.

The position that we will adopt here is that non-NP containing DPs can indeed appear in nonsubject positions. The difference between subjects and nonsubjects in this regard is that non-NP subjects must be contained in a DP shell, while non-NP complements of a V or P are only licensed to appear in a DP shell if the V or P itself lexically selects DP complements. It is not difficult to find non-NP complements which exhibit DP-like behavior, especially those of the PP and CP

variety. Consider (30) and (31), in which PP and CP complements alternate with NP complements:

(30) a. They [$_{VP}$ discussed [$_{PP}$ after the holidays]]. (=Jaworska 1986: (16a))
b. They [$_{VP}$ discussed [$_{NP}$ last year's office party]].
(31) a. They [$_{VP}$ believe [$_{CP}$ that Grady quit the team]].
b. They [$_{VP}$ believe [$_{NP}$ the rumor that Grady quit]].

(30) and (31), with the verbs *discuss* and believe, contrast with cases in which only PPs or CPs (but not NPs) are allowed as complements.

(32) a. They all [$_{VP}$ sat [$_{PP}$ in one corner of the room]].
b.*They all [$_{VP}$ sat [$_{NP}$ one comer of the room]].
(33) a. They [$_{VP}$ hope [$_{CP}$ that Grady quit the team]].
b.*They [$_{VP}$ hope [$_{NP}$ the rumor that Grady quit]].

(32) and (33) show that the verbs sit and hope can take PP and CP complements, respectively, but not NPs.

Examples (6) and (7) showed that non-DP complements cannot, under normal conditions, be replaced by the deictic pronoun that. However, when occurring in positions normally filled by DPs, PP and AP complements can sometimes be replaced by that, as examples (34) and (35) show (the point and poignancy of these examples is made clearer by contextualization).

(34) We've been getting a lot of water damage lately. I'm particularly concerned with behind the garage. What do you think we should do about that/*there? (that = behind the garage)
(35) Cindy had the choice of playing her character as either very spacy or very studious. She selected very spacy. I would never have selected that/*so. (that = very spacy)

In (34) that refers to the PP behind the garage in the preceding sentence and is the complement of the preposition *about*, which canonically takes DP complements. In (35) we find that substituting for an AP in a DP position. Thus we find that when PPs and APs occur in DP positions, they can be replaced by that, but this is true only in those environments.

Emphatic reflexives reveal a similar pattern. While PP complements do not normally allow emphatic reflexives, it turns out that PPs occurring in positions canonically filled by DP complements can do so. Compare the data in (36-37).

(36) We've been getting a lot of water damage lately. Pat is worried about behind the garage, along the driveway, next to the shed, and in the basement. I'm worried about behind the garage and along the driveway themselves, but not so much the other places.

(37) We've been stockpiling all kinds of household equipment. Pat has been stashing garden tools behind the garage, along the driveway, next to the shed, and in the basement. I've been stashing some behind the garage and next to the shed ("themselves), but not in the other places.

The PPs in (36) occur as complements of the preposition *about*, which canonically takes DP complements while those in (37) are garden-variety locative PPs. As we might expect, only the PPs in the former can license an emphatic reflexive. Thus, PPs in positions canonically filled by DPs show DP-like behavior.

The same argument can be made for complement CPs, although the fact that they are in optional DP-positions, rather than canonical ones, seems to make the judgments less robust. Nevertheless, in the right context, we can contrast the complements of verbs like ***regret*** which do allow DP complements, with those of hope which do not.

(38) I didn't particularly regret that Ted went to the mountains itself, it's just that he took my favorite backpack with him.

(39) *I didn't particularly hope that Ted would die in the mountains itself, I just wanted him never to return.

While the emphatic reflexive is in general not as good with complement CPs as with subject CPs, **(38)** is still noticably more acceptable than **(39).** Thus, once more we find that non-DP complements exhibit DP-like behavior when occurring in potential DP-positions.

We explain this in the same way we explained the DP-like behavior of non-DP subjects: these special CP, PP, and AP complements occur in the same DP-shell structure that we have proposed for the DP subjects. Here we illustrate only with PP and AP complements in (40) and (41).

(40) I chose [$_{DP}$ [$_{PP}$ under the bed]].

(41) Cindy selected [$_{DP}$ [$_{AP}$ very spacy]].

These structures make a prediction that should be familiar from our discussion of non-DP subjects and subjacency: extraction should be impossible from non-DP complements that occur in canonical DP positions. Any movement out of these positions should cross two bounding nodes, the DP and the higher IP. As the contrast in (42) and (43) illustrates, this prediction is borne out for extraction from PPs.

(42) Dale looked under the couch. What did you look under?

(43) Dale chose under the couch instead of behind the door. *What did you choose under? (* with intended meaning)

If the PPs in (42) and (43) had the same structure, the difference in grammaticality of the wh-movement structures would be difficult to explain. However, by recognizing that the PP in (43) is actually contained within a DP, we can explain the ungrammaticality of the extraction by appeal to subjacency. On our account, then, the two interrogatives in (42) and (43) would have, respectively, the structures in (44a) and (44b).

(44) a. What$_1$ did [$_{IP}$ you look [$_{PP}$ under t_1]] ?
b.*What$_1$ did [$_{IP}$ you choose [$_{DP}$ [$_{PP}$ under t_1]]] ?

It is the presence of the extra DP node in (44b) that induces the subjacency violation not present in (44a). Similarly, we find that PP complements of Ps can also block extraction in the manner of DPs, as (45) illustrates..

(45) We've been getting a lot of water damage lately. Pat is worried about behind the garage, the shed, and the retaining wall. *What are you worried about behind?

The ungrarnmaticality of the interrogative in (45) is predicted if we understand it to have the structure given in (46).

(46) *What$_1$ are [$_{IP}$ you worried [$_{PP}$ about [$_{DP}$ [$_{PP}$ behind t_1]]]] ?

Where island effects such as seen in (45) are unexplained in other bounding accounts, our analysis handles them quite readily.

5 Conclusion

We have presented several arguments against the ***Barriers*** approach to subjacency, showing that: (i) there is no motivation for treating subject and adjunct islands as unitary phenomena; (ii) there is motivation for assimilating subject islands to complex NP islands; and (iii) the ***Barriers*** model has no account for the islandhood of non-NP complements in canonical DP positions. Our solution, by reintroducing a nominal node dominating the sentential subject, provides a unified account for Cinque's observation that both subjects and complex NPs are "strong islands", thereby returning subject islands to their rightful place as a species of complex "NP".

Notes

[1] Nondefinite NPs cannot do so, as (i)-(iii) show:

(i) *A professor herself offered the student sage advice.
(ii) *The zookeeper forced a monkey itself to clean up the cage.
(iii) *I gave my x-rays to a doctor herself.

[2] According to Cinque's account, a weak island is one that is θ-marked by a [+V] head, and a strong island is not. While we offer a different explanation for the facts the he does, we agree with Cinque about the basic classification of the data.

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Auxiliary Placement and Interpretation in Vietnamese*

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1 Introduction

This paper concerns auxiliary placement and the analysis of SVO word order in Vietnamese, a language that has been relatively neglected of late by formal grammarians working in English or French. Indeed, until the publication of Nguyễn Đinh Hoà's (1997) monograph, no English reference work had appeared since Thompson (1965) [1987]'s grammar, the standardly cited source. Although several papers and dissertations have appeared since then—including periodic contributions to CLS, most recently by Thomas (1988)—it is fair to claim that the language has not received the attention it deserves.

The aim of this paper—and of the project from which it comes, see Note 1—is to present a relatively theory-neutral treatment of Vietnamese syntax. The orientation is 'minimalist' in a general sense (cf. Chomsky (1995)): what is the least that can be said, in terms of postulating abstract phrase-structure, that nevertheless manages to account for systematic constraints on word-order language-internally, and to capture crosslinguistic similarities and contrasts? At first glance, Vietnamese might appear to be the paradigm instance of a minimal grammar: it has no inflectional morphology, no obligatory marking of tense or mood distinctions, and relatively fixed word-order. Furthermore, as this paper will show, it is a minimalist language in another sense, in that it places severe restrictions on alternative word-orders: virtually every change in surface word-order results in a difference of interpretation.

Here, the claim will be that the 'least that can be said' regarding phrase-structure is that Vietnamese has four functional categories, all of them semantically motivated: TopP, TenseP; AssertionP; and a VP-internal phrasal category that I will term AspP, following Travis (1991, 1994). Although all of these phrasal categories will be claimed to be strictly head-initial, this paper focuses on several elements that seem to be heads, but which typically occur phrase-finally, often sentence-finally. The aim is to show that these elements are also initial in their phrases underlyingly; if this analysis proves correct, it follows that even this minimal grammar involves a certain degree of syntactic movement.

2 Basic word order

Before turning to these anomalies, let us briefly consider some other general properties of Vietnamese phrase-structure. The examples in (1)-(4) illustrate the predominantly head-initial character of Vietnamese. First, verbs invariably precede object complements, as shown in (1a) and (1b), unless these are fronted ('topicalised') to a sentence-initial position; see 1.1.2).

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