

Against the *Little-v* Hypothesis

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0. Introduction

It has become standard practice in current syntactic theory to assume that the external θ -role originates in a functional projection dominating the lexical verbal projection. This new functional projection is designated by a variety of names in the literature, such as ν P (Chomsky 1995), VoiceP (Kratzer 1996) TrP (Collins 1997) or PredP (Bowers 1993), reflecting a degree of uncertainty and variation in relation to its precise motivation and the underlying substance attributed to it. In the present paper we abstract away from the specifics of the implementation as we believe that there are good reasons to reject the fundamental premise shared by all the versions, regardless of the specific details. We will be using the cover term ‘the little- ν hypothesis’. The structure it advances is given in (1).

- (1) $[_{\nu P}$ External argument ν $[_{VP}$ V... $]]$

As the postulation of any new, additional functional category, the little- ν hypothesis, too has the obvious consequence of introducing further hierarchical positions into clause structure; this in turn is commonly found convenient for descriptive purposes such as reconciliation of the linear order of constituents with the hierarchical relations holding among them. But the addition of a functional head to the theory, in particular under assumptions of the Minimalist Program (Chomsky 1995), should not be motivated by such considerations. The substantive claim fundamental to all versions of the little- ν hypothesis is that the proposed functional head is the assigner of the external θ -role. Given that this is the defining core property claimed for little- ν , just like Finiteness is for T, or Referentiality for D, the question whether or not the postulation of little- ν is justified - rather than a mere descriptive convenience - depends on the validity of this claim. Consequently, we will reassess the postulation of little- ν based on examining and arguing against its alleged role as a θ -assigner.

It is worth noting first that the little- ν hypothesis introduces into the theory a unique, conceptually curious kind of head that is functional and yet a θ -assigner. More significantly, the claim that the external θ -role is assigned by a separate head - little- ν - distinct from the lexical verb assigning the internal role(s) has some significant challenging consequences:

- (i) lexical operations on predicates cannot have access to the external θ -role;
- (ii) for any given verbal concept, no interdependency is expected between what external θ -role it occurs with via little- ν and what internal θ -role(s) it maps from the lexicon;
- (iii) whether a single particular θ -role will be mapped as an external or as an internal argument for a particular set of verbal concepts could not be dependent on crucially lexical properties of the verb (such as whether or not it has a two-place alternate).

In the following sections we show that the arguments provided in favor of the little-*v* hypothesis are inadequate (sections 1 and 2), and furthermore that there are good reasons to believe that the external θ -role in fact must be available in the lexicon (section 3). We also entertain the idea that the structural predecessor of little *v*P, namely the VP-shell (Larson 1988) could be discarded (section 4).

1. The Thematic Motivation

1.1 Asymmetry A: The scarcity of subject idioms

One of the arguments for severing the external argument from the verb is the difference between the occurrence of internal versus external arguments in the fixed part of idioms. Marantz (1984) notes that while English has many idioms involving an internal argument, it does not have external argument idioms, which are not full phrasal idioms. The idea, then, is that whatever one's theory of idiom formation would be, the asymmetry can be derived if the external argument is not an argument of the verb, unlike its internal counterpart.

The observation, however, is simply not correct. Nunberg, Sag, and Wasow (1994) have already shown that Marantz' generalization is not conclusive. Verbs do form idioms with the external argument, excluding the internal ones. (2)-(4) include idioms in three unrelated languages, where the external argument appears in the fixed part of the idiom, while the object is free.

- (2)a. A little bird told me...
 b. Lady Luck smiled on him.
- (3)a. ha-goral he'ir lo panim. (Hebrew)
 the-fate lit up to+him face
 'He had good luck'
 b. ha-ru'ax nasa oto. (Hebrew)
 the-wind carried him
 'He disappeared'
 c. bal'a oto ha-adama. (Hebrew)
 swallow him the-earth
 'He disappeared'
- (4)a. elkapta pro a gépszij (Hungarian)
 caught-3p.def.DO him the driving-belt
 'He got roped in'
 b. rájár a rúd (Hungarian)
 onto-him-goes the shaft
 'He's having a series of misfortunes'

Marantz' generalization, then, is not a basic restriction. It is, however, a statistical tendency: Idioms involving a fixed external argument are notably less common than object idioms. Why is it so?

Nunberg, Sag and Wasow (1994) account for this tendency relying on two independently motivated cognitive principles that govern the formation of metaphors and idioms. First, abstract situations (e.g. exerting influence, making one's opinion known) are described in terms of concrete ones (e.g. pulling strings, showing a flag) and not vice versa. Thus, we would not expect a language to have an idiom of the form 'divulge the information' meaning 'spill the soup'. Second, animate noun phrases tend to preserve their animacy in metaphoric and idiomatic meanings. Given that, as animates refer to concrete entities, they can hardly be used to describe abstract situations. Since the external argument (the Agent, The Experiencer) is predominantly animate – actually human - it rarely appears in the fixed part of idioms. It seems to us even harder to use humans to describe abstract situations.

Several additional observations support this account. First, Nunberg, Sag and Wasow report a parallel discrepancy with regard to the animacy of objects. For example, in ordinary discourse out of 100 tokens of nonidiomatic transitive *hit*, 47 involved an animate Theme. By contrast, out of 20 idioms of the form *hit* + noun phrase, not even a single object denotes an animate. Some idioms with *hit* are given in (5).

- (5) Idioms based on *hit*+NP: hit the ceiling (get very angry), hit rock bottom (reach the lowest point/worst situation), hit the bottle (drink excessively), hit the bull's-eye (get something exactly right), hit the deck (take cover), hit the hay (go to sleep), hit the headlines (become public in media), hit the jackpot (win), hit the mark (get something right), hit the nail on the head (guess right, express the precise truth), hit the spot (something, such as food or drink, being enjoyable) hit the road (get going).

Moreover, in ordinary discourse, the overwhelming majority of the objects of the verb *kiss* are naturally animates. But the seven *kiss* idioms English has all involve an inanimate object:

- (6) Idioms based on *kiss*+NP: kiss the canvas (in boxing: fall down), kiss the dust (fall down due to being shot/hit, be slain), kiss NP's ass (flatter somebody), (Imp form: curse), kiss the cup (drink), kiss the ground (admire, be grateful), kiss the rod (accept chastisement submissively), kiss something goodbye ((will) lose it).

Finally, not only external arguments rarely appear in idioms but also Goals (Kiparsky 1987) and Possessors (Marantz 1984). As the latter are also characteristically animate (or human), their nonoccurrence in the fixed part of idioms is predicted. Under an account deriving the scarcity of subject idioms by severing the external argument from the lexical verb, the rareness of Goal and Possessor idioms is not expected.

1.2 Asymmetry B: the effect on the predicate

Following observations by Marantz (1984), Kratzer (1996) mentions an additional asymmetry between external and internal arguments, which according to her, leads to the conclusion that the former is not an argument of the verb. Whereas internal arguments can affect the meaning of the verb and hence the semantic role assigned to the subject, as is illustrated in (7), the external argument cannot really do that.

- (7)a. throw a baseball
 b. throw a party
 c. throw a fit

Why is the external argument not able to affect the meaning of the verb the way its internal counterpart does? Reminding the reader that semantics allows arguments of the same predicate to combine in any order, Kratzer draws the conclusion that the external argument must be an argument of an independent head and therefore cannot affect the meaning of the lexical verb.

Although it is indeed true that from the purely technical semantic point of view, there is no reason to expect any order to be imposed on the composition of the different arguments of the predicate, semantic theory does assume strict compositionality based on the structural hierarchy. As has often been noted before (see Bresnan 1982, Marantz 1984 among others), since the external argument is higher in syntactic structure than the internal arguments even without little-*v*, strict compositionality can derive the asymmetry of composition in any case. For that, there is no need to stipulate that the external argument is an argument of a different head.

2. The Morphosyntactic Motivation

An obvious issue arising in relation to the postulated head is whether there is any overt morphosyntactic manifestation of the category *v* attested across languages. A language that has in fact been claimed in the literature to provide a good case of such morphosyntactic evidence is English.

Specifically, Stroik (2001) has addressed the question of morphosyntactic motivation for little-*v* with respect to English, answering it in the affirmative. His evidence for overt morphosyntactic realization of little-*v* is based on the *do so* ellipsis construction. According to his analysis, the nonauxiliary helping verb *do* in the *do so* construction is an instantiation of little-*v* - supposedly serving to check a [Vform] feature of *v*, given the absence of a lexical V - while *so* is the proform for the lexical VP (see (8b)). The position of floated quantifiers, such as *all* shown in (8b), is taken to indicate that the base position of the external argument is Spec v P:

- (8) a. John has left already and the children have all done so too.
 b. Stroik's analysis: ...[$_{IP}$ the children have [$_{vP}$ all done [$_{VP}$ so]]]...

The particular analysis that the above evidence is based on faces however a number of serious empirical problems.

Let us consider first the status of *do so* ellipsis itself. If *so* were the VP-proform complement of *do*, then it would be expected to possess some syntactic independence manifested in passing constituency tests as other known phrasal categories. But in fact it does not, as is demonstrated in examples (9), (10) and (11) below.

Notice first the impossibility of Right Node Raising in (9a), in contrast to (9b) and (9c).

Right Node Raising

- (9) a. *John wouldn't try to do, or even want to do so.
 b. John wouldn't try (to), or even want to do so.
 c. John wouldn't try to do, or even want to do it/that/such a thing.

If *so* were a proform for the lexical VP, there would be no reason for it not to be able to undergo Right Node Raising (9a).

Similarly, under the VP-proform hypothesis for *so* there would be no reason for the impossibility of *so* preposing in the *do so* construction as in (10b) versus (10a), given the preposability of other *so* proforms shown in (10c-d).

Preposing:

- (10)a. Bill promised that he would finish the job by Monday, and he will do so.
 b. *Bill promised that he would finish the job by Monday and so he will do.
 c. The store opens at 10 o'clock on Sunday, or at least I think so.
 d. The store opens at 10 o'clock on Sunday, or at least so I thought.

A further case of interest is provided by pseudogapping, a VP-ellipsis process analyzed in a series of papers by Lasnik (e.g. 1995, 1999a,b). In these studies, Lasnik adopts the little-*v* hypothesis, and argues that (a) pseudogapping is crucially the deletion of a verb phrase, not of the head V, and (b) the phrase that gets deleted under pseudogapping is the lexical VP rather than the whole *v*P. But if this is true, then we would expect under Stroik's proposed structure (8b) that *do* will be able to fill the little-*v* position in pseudogapping cases, since the little-*v* is retained in the structure while there is no main verb to raise into it for checking its alleged [Vform] feature. Yet in fact *do* cannot occur in cases of pseudogapping, as shown by (11a) versus (11b).

- (11)a. *We won't give the children candy, but we will do some fruit.
 b. We won't give the children candy, but we will some fruit.

The ungrammaticality of sentences like (11a), given Lasnik's argument that pseudogapping (as in (11b)) involves the lexical VP, provides clear evidence against *do* being in the little-*v* position.

Based on the above sets of evidence we can conclude that contrary to Stroik's analysis (8b), *so* does not behave as a VP-proform, and *do* does not seem to instantiate little-*v*.

In an attempt to substantiate the base position of the external argument, Stroik claims that the position of floated quantifiers indicates that it is the Spec of little-*v* (shown in structure (8b)). He takes the fact that a floated quantifier of the external argument can

immediately precede *do* but cannot intervene between *do* and *so* (see (12b)) as evidence that the external argument does not originate in the lexical VP.

- (12)a. The teacher told the children to leave the classroom, and they will all *do so*.
 b. *The teacher told the children to leave the classroom, and they will *do* all *so*.

Note however that in fact nothing can intervene between *do* and *so*; that is, the generalization relevant here is broader and completely independent of the nature of the intervener. This is exemplified by the distribution of the adverbial element *ever* in (13a,b) below.

- (13) a. Has he ever hit someone, and has he ever done so deliberately?
 b. *Has he ever hit someone, and has he done ever so deliberately?

Thus Stroik's observation about floated quantifiers in (12a,b) is part of a wider generalization requiring strict adjacency between *do* and *so*, and as a result, the conclusion drawn from the Q-float data regarding the base position of the external argument no longer follows. We must conclude then that Q-float provides no evidence for the external argument originating outside of the lexical VP.

In view of the above evidence against structure (8b) for *do so* ellipsis, we would like to propose a plausible alternative view of the construction that accounts for the full pattern of data observed. (This proposal goes back essentially to the traditional analysis of Ross (1970).) According to this account, *do* and *so* are interdependent elements replacing the lexical VP as a lexical unit that does not allow intervention, just like other units such as the interrogative phrase *how come* which cannot be split.

This account correctly predicts first of all that *so* will not behave as an independent constituent with respect to undergoing syntactic operations, such as movement (see Right Node Raising and Preposing in examples (9a), (10b)). It also predicts, correctly, that the nonauxiliary helping verb *do* will not be attested without *so* being present (see example (11a)). Furthermore, the observed strict adjacency requirement between *do* and *so* (see (12b), (13b)) also gets derived automatically under the proposed account.

In sum, what we can conclude from the facts discussed in the above sections is that actually there appears to be neither thematic nor morphosyntactic evidence in favor of merging the external argument as a specifier of a head above the lexical VP. Next we will argue that the little-*v* hypothesis is more than just unmotivated, it is actually empirically inadequate.

3. The Lexicon-Syntax Interface

3.1 Mapping: Experiencers & Theme-Unergatives

The little-*v* hypothesis may seem to take care of the mapping problem, namely, what determines external versus internal mapping of arguments. Putting aside the question of what determines the hierarchical order among the internal arguments, the little-*v* projection would set apart the external argument and ensure its structural prominence.

The picture, however, is not so neat. The literature assuming little-*v* is not uniform as to whether little-*v* introduces only the Agent or any external role. If it introduces only the Agent, the mapping is not resolved. Assume, then, little-*v* is responsible for any external role. Still, some procedure would be required to determine whether θ -roles that can be projected either externally or internally depending on the verbal context, are part of the θ -grid of the lexical verb or are inserted by little-*v*.

Consider Experiencers first. While in (14a) the Experiencer is undoubtedly an internal argument, in (14b) it is the external argument; it fails diagnostics of internal arguments. Thus, in Hebrew it cannot appear post-verbally in the so-called simple inversion construction (not triggered by a clause initial constituent) (15a); this construction is possible only when the subject is an internal argument. Likewise, it does not allow a (noninalienable) possessive dative (15b), which also diagnoses internal arguments (see Borer and Grodzinsky 1986).

- (14)a. ha-ma'amar hirgiz et dina.
the-article irritated Dina
b. dina hitragza.
Dina got+irritated.

- (15)a. *hitragez mišehu.
got+irritated someone
b. *ha-kelev hitragez le-dina.
the-dog got+irritated to-Dina

The verbs in (14) are two different realizations of the same concept (*irritate*), and the null hypothesis is that they are related through a derivational operation. Under the little-*v* approach, the Experiencer role is part of the lexical information of the concept in one instance (14a), and inserted by *v*P in the other (14b). It is hard to see what could capture that in a natural fashion.

Second, consider the group of emission verbs (see Levin and Rappaport 1995), such as *bahak* ('shined'), *nacac* ('glimmered'), or *hidhed* ('echoed') in Hebrew. Their sole argument is a Theme, just like the subject of unaccusatives. Nonetheless, unlike the subject of unaccusatives (16), their subject fails both tests detecting internal arguments (17); they are unergative entries.

- (16)a. naflu štey tmunot.
fell two pictures
b. ha-kise hitnadned le-dina.
the-chair swung to-Dina
c. le-mi hitkamta ha-simla?
to-who wrinkled the dress

- (17)a. *bahaku štey mexoniyot.
shined two car
b. *ha-ramkol hidhed le-dina.
the-loud-speaker echoed to-Dina

- c. *le-mi naceca ha-mexonit?
to-whom glimmered the-car

Again, we do not see any natural way in which the different mapping of the Theme role can be captured under the little- ν hypothesis.

Moreover, what discriminates between unaccusatives and Theme-unergatives is the fact that the latter do not have a corresponding transitive alternate while the former do (if a certain unaccusative does not have a transitive alternate in one language, it would have it in another language). Reinhart (2000) convincingly shows that the set of unaccusatives can neither be defined in aspectual terms (Van Valin 1990, Borer 1994) - as the set contains both eventives and statives - nor on the basis of the notion of 'external causation' (see Levin and Rappaport 1995). It follows that the set of unaccusatives and that of Theme-unergatives can be distinguished neither by aspect nor by the type of causation the eventuality involves. If the only difference between the two sets is the existence versus absence of a transitive alternate, how can the little- ν hypothesis account for this difference?

Crucially, assuming that the external role is part of the θ -grid of the lexical verb as argued here, Reinhart (2003) suggests mapping principles that derive the different mapping of the Experiencer in (14) and the Theme in (16)-(17) among other phenomena. In a very simplified version, her proposal is as follows. The Experiencer is mapped externally if there is no Agent or Cause argument; in (14a), but not in (14b), there is a Cause argument; hence the Experiencer is internal in the former, but not in the latter. The distinct mapping of the Theme in unaccusatives and Theme-unergatives follows from the fact that the verbs in (16) (unaccusatives) are actually derived from the corresponding transitive alternate by a lexical operation reducing the external θ -role, while the verbs in (17) are primitive unergatives. (see Reinhart for details).

3.2 Reflexive verbs

Both French (Romance) (18a) and Hebrew (Russian or Hungarian) (18b) have reflexive verbs, which are unergative entries that are derived from their transitive alternates by the same kind of reflexivization operation, which bundles (identifies) a role from the internal domain with an external role (Reinhart and Siloni in press, 2003).

- | | | |
|--------|--|----------|
| (18)a. | Jean s'est lavé.
Jean SE is washed
'Jean washed' | (French) |
| b. | dan hitraxec
Dan washed | (Hebrew) |

Note that SE is not the reflexive object of a transitive verb, but rather forms a reflexive predicate together with the verb, as shown, for instance, by the fact that the complex 'SE+verb' behaves on a par with intransitives and unlike transitives in French causative constructions (Kayne 1975).

Hebrew-type and French-type reflexive verbs differ, however, in several respects, for instance, in ECM contexts, where the reflexivization operation involves θ -roles of two distinct predicates (the internal role of *consider* and the sole role of *intelligent* in (19a)):

- (19)a. Jean se considère intelligent. (French)
 Jean SE considers intelligent
 b. *dan mitxašev intiligenti. (Hebrew)
 Dan self-considers intelligent

This distinction follows straightforwardly if in Hebrew-type languages the reflexivization operation applies in the lexicon and in French-type languages in the syntax, in accordance with the lex(icon)-syn(tax) parameter (20). In the lexicon, there is no relation whatsoever between distinct predicates, hence ECM reflexivization is impossible in Hebrew-type languages. Reflexivization in the lexicon is limited to the domain of the same θ -grid. Additional differences between Hebrew-type and French-type reflexives follow for the parameter (see cited references).

- (20) The Lex-Syn Parameter (Reinhart and Siloni 2003)
 UG allows thematic arity operations to apply in the lexicon or in syntax.

Now, importantly, when reflexivization takes place in the lexicon, it is limited to apply to a subset of the set of transitive agentive verbs. There is no way to define the set nor the operation, which identifies a role with the external role, if the θ -grid of lexical predicates does not include information with regard to the external θ -role. (A parallel argument can be made with regard to reciprocal verbs (see Siloni 2001)).

4. Beyond Little-*v*: the Larsonian Shell

In the preceding sections we have shown that the little-*v* hypothesis must be discarded. Recall now that little *v*P was also a replacement for the outer layer of the Larsonian VP-shell (Larson (1988)). Originally it was viewed as a way to give some substance to the empty V position assumed in the Larsonian VP-shell. Since we have demonstrated that this substance, namely assignment of the external theta-role, is untenable, we are again left with the basic Larsonian VP-shell proposal.

Let us recall what set of facts motivated the VP-shell structure in the first place. In the case of three-place predicates (such as *give*) the first one of the two internal arguments asymmetrically c-commands the second. The Larsonian shell provided room to accommodate the observed structural hierarchy between the internal arguments (θ_2 and θ_3) in (21b), given the VP internal subject hypothesis. The correct linear order, namely V preceding both internal arguments, was derived by the verb moving up to the empty V position of the outer layer of the VP-shell. This is schematized in (21b).

- (21)a. John gave the book to Mary.
 b. [XP θ_1 give_i [VP θ_2 t_i θ_3]]

At this point it is worthwhile to reevaluate the need for the VP-shell in light of recent developments in the theory. Note first that the fact that the head of the outer VP-shell is contentless may seem ad hoc and unrestrictive. However the projection of multiple heads

might in fact be the specific mechanism for the mapping of arguments onto syntactic structure. The systematic incorporation of such a proposal into the theory would mean that each argument is inserted into structure through a separate instantiation of the lexical head.

Nevertheless we would like to explore here an alternative to the VP-shell proposal. Under the multiple specifier hypothesis (Chomsky 1995), there is no need for a VP-shell in order to accommodate the arguments of a three-place predicate in the correct structural hierarchy; more than one specifier per head is available anyway.

(22) [VP [SPEC θ_1] [SPEC θ_2] V [COMPL θ_3]]

The remaining question is: do we need the additional head position provided by the VP-shell in order for V to precede both internal arguments?

If the position of the verb was due to syntactic movement, then we would indeed need such a head position, as the main verb in English does not raise to T. But given the possibility that linear order is not part of narrow syntax at all, but rather a PF phenomenon, we would like to explore here the idea that the linear position of V is due to PF linearization. If this turns out to be tenable, the VP-shell would be superfluous not only for introducing an additional specifier but also for providing the head position.

The linearization hypothesis would place the head of an XP at one of the two peripheries of XP, thus capturing the head parameter. The gist of the PF linearization proposal is given in (23):

(23) VP linearization in English:

Spell out V at the left boundary of the phonological phrase aligned with the left bracket of VP.

While it is clear how the positioning of the verb in (21a) gets derived by (23), one needs to examine the plausibility of the proposal in more complex configurations. Consider first the coordinate structures in (24).

- (24)a. Bill will give a book to John and a scarf to Mary.
 b. Bill will give a book to John and give a scarf to Mary.

In (24b) we have linearization of V at each VP-boundary. In (24a), in contrast, only one instance of the verb appears, which is commonly attributed to Williams' Across-The-Board movement of V (Bowers 1993). This is not necessarily so however. The Across-The-Board (ATB) format easily lends itself to a PF linearization analysis. Under Williams' proposal (1978), the two conjuncts are superimposed in the syntax and get linearized in order to be pronounced. Given this, (24a) and (24b) are the two possible outcomes of the application of linearization to the ATB conjuncts and to V, as it is expected that the two linearization processes interact freely. If the former precedes the latter (rule 23), we get (24b). Under the opposite order, we derive (24a).

Consider next (25a) and its right-node-raised counterpart.

- (25)a. Smith loaned a valuable collection of manuscripts to the library and his wife later donated a valuable collection of manuscripts to the library.
- b. Smith loaned, and his wife later donated, a valuable collection of manuscripts to the library.

If (25b) is derived by rightward syntactic movement of the underlined string as argued by Postal (1974, 1998), it means that the verb must have raised out of the rightward moved constituent in the syntax, or else the moved string would not form a constituent. Wexler and Culicover (1980), Levine (1985), McCloskey (1986), Kayne (1995), among others, argue, however, against the movement analysis of the construction. Instead they propose a PF deletion account, which deletes the first occurrence of the relevant string under identity. Given the PF linearization proposal (rule (23)), the relevant phonological phrase can be deleted leaving the verb behind. The PF linearization proposal, then, makes the right predictions even in complex configurations. We believe it is an interesting alternative to the VP-shell approach.

5. Conclusions and Consequences

We have shown first that there are neither thematic nor morphosyntactic reasons to assume that the external θ -role is inserted via little-*v*, and second that the external θ -role must be part of the verbal grid in the lexicon, as it plays a role in lexical operations and affects the mapping of other roles of the verb. Discussing the mapping of three place predicates, we have entertained the idea that a PF linearization process together with the availability of multiple specifiers can derive the positioning of a three place verb (such as *give*) with regard to its internal arguments, thus allowing the elimination not only of *vP* but also of the Larsonian VP-shell.

Chomsky (1995) and Kratzer (1996) have suggested that the little-*v* projection is not only responsible for the insertion of the external θ -role but also for the assignment of structural accusative Case, thereby structurally reflecting Burzio's generalization regarding the interdependence between the ability of a verb to assign structural accusative and its being associated with an external role. Evidently, if there were reasons to assume the little-*v* projection and evidence that structural accusative were checked in the specifier position of this projection, it would be possible to reduce Burzio's generalization to the existence of little-*vP*. Given that the projection is unwarranted and has negative effects as just summarized, Burzio's generalization becomes irrelevant to the issue at hand.

Finally, the claim advocated in the paper has an important consequence with regard to phrase structure, in particular, with regard to the soundness of the basic distinction between specifiers and complements. We believe the distinction cannot be eliminated. The rejection of the little-*v* projection makes this transparent.

When a transitive verb maps its θ -roles onto structure, the distinction between the mapping of the external and internal roles can be captured by the order of merging: the internal role is merged first. But in order to capture the fact that the subject of unergatives is mapped externally, namely into a specifier position, and the subject of unaccusatives is mapped internally, that is, into a complement position, it seems that we must assume that

specifiers and complements are inherently different from each other, as in both types of intransitives the subject is the only merged argument.

This conclusion is at odds with Bare Phrase Structure (Chomsky 1995), which suggests eliminating the primitive distinction between complement and specifier positions. In the minimalist spirit, the bare phrase structure theory builds structure on the basis of properties of lexical items; it suggests that except for the distinction between the operation merging arguments and merging adjuncts, no additional stipulation is needed. The distinction between the mapping of the subject of unaccusatives and unergatives is reduced to little-*v*: the subject of unergatives is merged as Spec ν P, while the subject of unaccusatives is the complement of V. With the elimination of little-*v*, this is no more possible.

Note first that assuming little-*v* only for the purpose of discriminating between the mapping of unaccusatives and unergatives would clearly be a wrong move. We have evidence that they map their respective subjects to different positions (positions that behave differently with regard to various tests), so the simplest hypothesis is that the positions are different and not that there is some additional nonmotivated structure (little- ν P) that would derive the distinction.

The distinct nature of specifier versus complement positions, attested most strikingly, in the functional domain and in relation to movement options, is not controversial. But the specific question that the above simplest (ν P-free) theory still needs to address is whether and in what way the merge operation itself inserting the sole argument (subject) of unaccusatives and unergatives can distinguish between these two distinct types of positions under the minimalist assumption of bare phrase structure.

One possible way that may suggest itself is a proposal that has in fact been adopted even in work that assumes the little-*v* hypothesis, and that is based on some empirical phenomena showing parallelism between unergatives and transitives. The idea is that unergatives are underlying transitives with an incorporated cognate object (proposed originally by Hale and Keyser (1993) and adopted also in Chomsky (1995)). If unergatives indeed could be shown systematically to be hidden transitives, then the issue of the distinct mapping of unergative versus unaccusative subjects raised above would obviously disappear.

Some empirical facts suggesting that (at least some) unergatives are indeed transitives in the sense that they map a complement position in addition to their sole argument involve: (a) the distribution of overt cognate objects, namely the fact that unergatives pattern with optional transitives, and (b) unergatives and agreement phenomena in languages like Basque. As for (a), it is well known that in many languages (English, French etc.), only optional transitives and unergatives are able to take cognate objects. Furthermore, in languages where cognate objects can occur with almost any type of predicate (Hebrew, for instance) (Mittwoch 1998), they behave on a par with arguments when occurring with optional transitives (objectless transitives) and unergatives. With other kinds of predicates (unaccusatives, passives, adjectives), cognate objects are clearly adverbial (Pereltsvaig 2002). As for (b), the relevant observation is that in Basque unergatives pattern with transitives in the following respects (Ortiz de Urbina (1986), Hale and Keyser (1993)): (i) their subject bears ergative Case like subjects of transitives, (ii) they select the transitive auxiliary *ukan* ('have') with ergative and absolutive agreement-marking on it, on a par with transitives and unlike unaccusatives. (absolutive

being the Case of direct objects), and (iii) most unergatives are realized as complexes of the form [Noun *egin*], where *egin* is the light verb 'do', and the noun is an absolutive-marked indefinite nominal.

In spite of these suggestive parallels observed between unergatives and transitives, in order to regard this direction as a true resolution of the distinct mapping issue with respect to unergatives versus unaccusatives, there would have to be evidence that the existence of an invisible cognate object (or a *pro* complement) is systematically forced for unergatives. Notice that if the merger of a (possibly empty) complement is only an option, rather than a uniform requirement, for unergatives, then the problem of distinct mapping still remains for these residual cases of unergatives. Since we see no sufficient evidence that the merger of a complement for unergatives is in fact a uniform requirement, we would like to turn to an alternative potentially more promising approach to the issue under discussion.

Recall that within the framework of bare phrase structure, Chomsky (2001) incorporates a distinction between two different types of merger operations: one 'simple' (symmetric) merger between two items referred to as Set-merge, and one crucially distinct from this, for creating adjunction structures, which involves an ordered pair of items where one item gets adjoined to the other by an asymmetric merger operation, referred to as Pair-merge. Now given these two distinct types of merger, and furthermore the fact that Kayne's (1995) antisymmetry theory proposes (for independent reasons) to eliminate the distinction between specifier and adjunct positions, one may consider to pursue the hypothesis that while a complement is inserted into structure by the simple merger operation, as normally assumed, namely by set-merge, specifiers are different precisely in having to be inserted via the asymmetric (adjunction) operation pair-merge.

The investigation of this far-reaching proposal is obviously beyond the scope of the present paper and will be taken up in further work. But it should be noted here that beyond simply providing a direct way to map the sole argument of an unergative V in external, i.e., in specifier rather than in complement, position crucially without returning to stipulated X-bar theory and without little-*v*, one can already detect a desirable consequence of the idea of specifiers being considered structural parallels of adjuncts. Such a hypothesis would seem to immediately predict the often-noted parallel between specifiers and adjuncts (Huang 1982, Kayne 1984) in relation to islandhood, and the clear contrast between these and the complement position, namely extraction being possible from within the latter, but not from within the former domains.

REFERENCES

- Borer, H. (1994) "The Projection of Arguments" in E. Benedicto and J. Runner (eds.) *Functional Projections*, 19-47, GLSA: Amherst, Mass.
- Borer, H. and Y. Grodzinsky (1986) "Syntactic vs. Lexical Cliticization: The Case of Hebrew Dative Clitics", in H. Borer (ed.) *The Syntax of Pronominal Clitics*, Academic Press, San Francisco.
- Bowers, J. (1993) "The Syntax of Predication", *Linguistic Inquiry* 24:4..
- Chomsky, N. (1995) *The Minimalist Program*, MIT Press.
- Chomsky, N. (2001) "Beyond Explanatory Adequacy", ms. MIT, Cambridge, Mass.
- Collins, C. (1997) *Local Economy*, MIT Press, Cambridge, Mass.
- Hale, K. and J. Keyser (1993) "On Argument Structure and the Lexical Expression of Syntactic Relations", in *The View from Building 20*, K. Hale and J. Keyser (eds.), MIT Press..
- Huang, J. (1982) *Logical Relations in Chinese and the Theory of Grammar*, Doctoral dissertation, MIT, Cambridge, Mass
- Kayne, R. (1975) *French syntax. The transformational cycle*, MIT Press, Cambridge, Mass.
- Kayne, R. (1984) *Connectedness and Binary Branching*, Foris, Dordrecht.
- Kayne, R. (1995) *The Antisymmetry of Syntax*, MIT Press, Cambridge, Mass.
- Kratzer, A. (1996) "Severing the External Argument from its Verb", in Johan Rooryck and Laurie Zaring (eds.) *Phrase Structure and the Lexicon*, Dordrecht: Kluwer, 109-137.
- Larson, R. (1988) "On the Double Object Construction", *Linguistic Inquiry* 19:3.
- Lasnik, H. (1995) "A Note on Pseudogapping", in MITWPL 27: *Papers on Minimalist Syntax*.
- Lasnik, H. (1999a) "On Feature Strength: Three Minimalist Approaches to Overt Movement", *Linguistic Inquiry* 30:2.
- Lasnik, H. (1999b) "Pseudogapping Puzzles", in E. Benmamoun and S. Lappin (eds.) *Fragments: Studies on Ellipsis and Gapping*, Oxford University Press, Oxford.
- Levin, B. and M. Rappaport Hovav (1995) *Unaccusativity: At the Syntax-Semantics Lexical Interface*, MIT Press, Cambridge, Mass.
- Levine, R. D. (1985) "Right Node (Non-)Raising", *Linguistic Inquiry* 16:3.
- Marantz, A. (1984) *On the Nature of Grammatical relations*, MIT Press, Cambridge, Mass.
- McCloskey, J. (1986) "Right Node Raising and Preposition Stranding", *Linguistic Inquiry* 17:1.
- Mittwoch, A. (1988) "Cognate Objects as Reflections of Davidsonian Event Arguments", in Rothstein Susan (ed.) *Event and Grammar*, pp 309-332. Dordrecht: Kluwer.
- Nunberg, J., I. Sag and T. Wasow (1994) "Idioms", *Language* 70:3.
- Ortiz de Urbina, J. (1986) *Some Parameters in The Grammar of Basque*, PhD Dissertation, University of Illinois.
- Pereltsvaig, A. (2002) "Cognate Objects in Hebrew", in J. Ouhalla & U. Shlonsky (eds.), *Themes and issues in the syntax of Arabic and Hebrew*, Dordrecht: Kluwer.
- Postal, P. (1974) *On Raising*, MIT Press, Cambridge, Mass.

- Postal, P. (1998) *Three Investigations of Extraction*, MIT Press.
- Reinhart, T. (2000) "The Theta System: Syntactic Realization of Verbal Concepts", *OTS Working Papers in Linguistics*, University of Utrecht.
- Reinhart, T. (2003) "The Theta System: an Overview", to appear in *Theoretical Linguistics*.
- Reinhart, T. and T. Siloni (in press) "Against the Unaccusative Analysis of Reflexives", in A. Alexiadou, E. Anagnostopoulou, and M. Everaert (eds.) *The Unaccusativity Puzzle: Studies on the syntax-lexicon interface*, Oxford University Press.
- Reinhart, T. and T. Siloni (2003) "Thematic Arity Operations and Parametric Variations" ms. Tel-Aviv /Utrecht.
- Ross, J. R. (1970) "Act", in D. Davidson and G. Harmon (eds.) *Semantics of Natural Language*, Reidel, Dordrecht.
- Siloni, T. (2001) 'Reciprocal Verbs', in Y. Falk (ed.), *Proceedings of IATL 17*.
- Stroik (2001) "On the Light Verb Hypothesis", *Linguistic Inquiry* 32:2.
- Van Valin, R.D. (1990) "Semantic Parameters of Split Intransitives" *Language* 66 221-260.
- Wexler, K. and P.W. Culicover (1980) *Formal Principles of Language Acquisition*, MIT Press, Cambridge, Mass.
- Williams, E. (1978) "Across-the-Board Rule Application", *Linguistic Inquiry* 9:1.