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**Feature Sharing v. Feature Checking:
An Analysis of Persian Pre- and Post-verbal CPs**

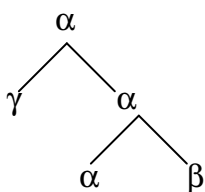
Abstract. I show that a sharing analysis of Persian pre-/post-verbal CPs is superior to a checking analysis of the phenomena for both conceptual and empirical reasons. There is no need anymore to make a distinction between such pairs as strong/weak or interpretable/uninterpretable features. The analysis also dispenses with covert Case checking at LF. Both Spec-head and head-Compl configurations are exploited in order for feature sharing to take place. However, the model doesn't overgenerate because case- and Θ -marking are still maintained as independently motivated requirements.

Keywords: complementiser, feature checking, feature sharing, interpretability, Persian, probe-goal model

1. INTRODUCTION

Chomsky (1995) offers three options for constructing the label of a phrase marker from the two constituents α and β : (a) the intersection of α and β , (b) the union of α and β , and (c) one or the other of α , β . For Chomsky, (a) is irrelevant to output conditions as it is often null, and (b) is not only irrelevant but also contradictory if the constituents differ in value for some feature (Chomsky, 1995: 244). Chomsky concludes that (c) is the only option left open to Merge: α and β merge, and only one of them—the head—is to project. The constituents β and γ are the

complement and the specifier respectively depending upon the locality of the structural relationship between the head and the constituent it merges with:



In the fulfillment of Full Interpretation principle (FI), all uninterpretable features are eliminated once they are in a checking relationship, i.e. local non-complement structures, with the head either overtly or covertly. It is either via Merge or Move that such checking relationships are established. In either case, head-adjoined structures and projections with a specifier are where checking takes place.

[E]lements of the internal domain are typically internal arguments of α , while the checking domain (that is, the minimal residue of α including the Spec and anything adjoined) is typically involved in checking inflectional features (Chomsky, 1995: 178).

This article is a critical analysis of checking theory as formulated in Chomsky (1993, 1995, 2000, 2001). It adopts an alternative model—feature sharing (Lotfi 2002, 2003a, 2003b)—that is more compatible with some empirical data concerning pre- and postverbal CPs in Modern Persian. The article is organized as follows: in Section 2, we present a critique of checking theory as practiced in mainstream minimalist syntax. In Section 3, we present feature sharing as a still minimalist alternative to feature checking. In Section 4, we examine empirical data concerning Persian CPs and the problems they raise for checking theory. Section 5 outlines an alternative analysis of Persian CPs in terms of feature sharing. Section 6 concludes the article.

2. FEATURE CHECKING

In Chapter Four of "The Minimalist Program", 'Categories and Transformations' (1995), Chomsky advances several claims with the aim of establishing a relation between certain morphological requirements of a language and the operation Move. According to Chomsky, "the operation Move is driven by morphological considerations: the requirement that some feature F must be checked" (Chomsky, 1995:262). Then F (a feature) raises to target β (a full-fledged category) in $K = \{\gamma, \{\alpha, \beta\}\}$ to form $K = \{\gamma, \{F, \beta\}\}$, or it raises to target K to form $\{\gamma \{F, K\}\}$. However, due to the economy condition, "F carries along just enough material for convergence. [...] Whatever 'extra baggage' is required for convergence involves a kind of 'generalized pied-piping'. [...] For the most part--perhaps completely — it is properties of the phonological component that require such pied-piping" (p.262). Chomsky (1995) argues that a principle of economy (Procrastinate) requires that this movement be covert unless PF convergence forces overt raising (p. 264-265).

This formulation of Chomsky's thesis of movement, however, crucially relies on how the terms checking and the PF convergence condition are defined. Otherwise, one cannot explain why α (whether F or K) moves at all or why covert raising is preferred to overt raising. Although checking is such a central concept to Chomsky's thesis, an explicit definition of the term is still missing. Apparently, feature checking is a process of deleting uninterpretable features, although this is not the whole story: "A checked feature is deleted when possible. [...] [D]eletion is 'impossible' if it violates principles of UG. Specifically, a checked feature cannot be deleted if that operation would contradict the overriding principle of recoverability of deletion [...]. Interpretable features cannot be deleted even if checked" (p. 280). "[Interpretable] features [...]"

must be inaccessible after checking. [...] Erasure of such features never creates an illegitimate object, so checking is deletion, and is followed by erasure without exception" (p. 281).

Chomsky's formulation of PF convergence as the condition on the "extra-baggage" accompanying F in its movement is even less clear than his checking theory in that he seems to associate it with the strength of features in question. Accordingly, a strong feature, i.e. a feature of a nonsubstantive category checked by a categorial feature (232), is one that triggers movement (whereby both phonetic and formal features are moved together). Chomsky asserts that "if F is strong, then F is a feature of a nonsubstantive category and F is checked by a categorial feature. If so, nouns and main verbs do not have strong features, and a strong feature always calls for a certain category in its checking domain [...]. It follows that overt movement of β targeting α , forming [Spec, α] or [α β α], is possible only when α is nonsubstantive and a categorial feature of β is involved in the operation" (1995:232).

In Chapter Four of his "Minimalist Program", Chomsky drops the stipulation underlying his formulation of strength because, as he puts it, "formulation of strength in terms of PF convergence is a restatement of the basic property, not a true explanation" (233). Since he cannot think of any better formulation of strength either--"[i]n fact, there seems to be no way to improve upon the bare statement of the properties of strength" (p.233)--we have to conclude that a strong feature is one that "triggers a rule that eliminates it: [strength] is associated with a pair of operations, one that introduces it into the derivation (actually, a combination of Select and Merge), a second that (quickly) eliminates it" (p. 233).

This reduces Chomsky's thesis of overt movement to a triviality: (a) If F is strong then α moves overtly, (b) F is strong, whenever α moves overtly. The thesis is problematic with regard to the PF convergence condition on movement, Procrastinate, and feature strength, too.

Procrastinate, a natural economy condition, minimizes to zero the PF "extra-baggage" F carries with itself as it is raising to a new position to be checked. For LF movement is "cheaper" than overt movement. Then the strength of a feature (as the PF convergence condition on triggering overt movement) necessitating the overt movement and LF movement (as a requirement by Procrastinate) are always in complementary distribution. This is a violation of the independence assumption according to which PF and LF are two independent interface levels.

The thesis does not meet the condition of falsifiability either. If an element moves overtly, then the theory explains the movement in reference to some strong feature of the element. If asked to offer some existence proof for such strong features, it resorts to the overt movement of the element as the syntactic evidence. If confronted with some disconfirming cross-linguistic evidence, the theory replies by saying that the feature must be weak in that language. Even if the confirming and disconfirming pieces of evidence happen to come from one and the same language, one may resort to strong/weak, delete/erase, checking relation/checking configuration, or any other vaguely defined artificiality in order to save the theory.

Finally, Chomsky's checking theory does not explain why [-Interpretable] features should exist after all; if (a) they have no interpretation at all, (b) they must always be checked, deleted, and erased without exception (p.281) in order for the derivation to converge, and (c) it is not uninterpretable but strength that triggers overt movement. Perhaps Chomsky needed such formal features in order to support his hypothesis of covert movement--the remainder of his thesis of movement. It is not so clear, however, why the language faculty should need them.

Apart from some terminological innovations, Chomsky's 'Minimalist Inquiries: the Framework' (2000) (henceforth, MI) is not significantly different from his MP analysis of movement Chomsky (2000) assumes movement--or "dislocation", the term Chomsky prefers in

his MI--to be an apparent "imperfection of language" or a "design flaw" which makes the strong minimalist thesis untenable (p. 32). Chomsky assumes "two striking examples" of such imperfections to be:

(I) Uninterpretable features of lexical items

(II) The "dislocation" property

"Under (I), we find features that receive no interpretation at LF and need receive none at PF, hence violating any reasonable version of the interpretability condition [...]" (p.33). "The dislocation property (II) is another apparent imperfection (as [...]) the surface phonetic relations are dislocated from the semantic ones" (p.35). Since "such phenomena are pervasive, [...] (t)hey have to be accommodated by some device in any adequate theory of language, whether it is called 'transformational' or something else" (p.35).

Chomsky seems to dispense with the concept strength altogether saying,

The concept strength, introduced to force violation of Procrastinate, appears to have no place. It remains to determine whether the effects can be fully captured in minimalist terms or remain as true imperfections (p.49).

What he offers instead of strength, however, is not significantly different than that. He coins a new term--EPP-features--which is functionally similar (at least as far as movement is concerned) to strength as formulated in MP, and a new operation--Agree--in order to explain the mechanisms underlying movement:

(The) operation [...] Move, combining Merge and Agree (,) [...]

establishes agreement between α and F and merges P(F) (generalized 'pied piping') to α P, where P(F) is a phrase determined by F [...] and α P is a projection headed by α . P(F) becomes SPEC-a. [...] All CFCs (core functional categories)

may have phi-features (obligatory for T, v). These are uninterpretable, constituting the core of the systems of (structural) Case-assignment and "dislocation" (Move). [...] Each CFC also allows an extra SPEC beyond its s-selection: for C, a raised Wh-phrase; for T, the surface subject; for v, the phrase raised by Object Shift (OS). For T, the property is the Extended Projection Principle (EPP). By analogy, we can call the corresponding properties of C and v EPP-features, determining positions not forced by the Projection Principle. EPP-features are uninterpretable [...] though the configuration they establish has effects for interpretation. (Chomsky, 2000)

He then formulates the configuration (22) below for CFCs "with XP the extra SPEC determined by the EPP-features of the attracting head H:

$$(22) \alpha = [XP \ [(EA) \ H \ YP]]$$

Typical examples of (22) are raising to subject (yielding (23A)), Object Shift (OS, yielding (B), with XP= DO and t its trace), and overt A'-movement (yielding (C), with H = C and XP a Wh-phrase [...]:

- (23) (A) XP - [T YP]
 (B) XP - [SU [v [V t]]]
 (C) XP - [C YP]

The EPP-features of T might be universal. For the phase heads v/C, it varies parametrically among languages and if available is optional. [...] [T]he EPP-feature can be satisfied by Merge of an expletive EXPL in (A), but not in (B) / (C) (Chomsky, 2000).

The arguments against Chomsky's MP thesis of movement presented earlier seem to be relevant here, too. Chomsky's thesis is still a tautology in that it does not provide any useful information about the phenomenon. The thesis merely states that things move simply because some mysterious EPP-features up there make them move (as strong features did in his MP account of the thesis). And by EPP-features he means those features we understand must be there because of the raising of an element to the new position. Since "[c]hoice of Move over Agree follows from presence of EPP-features" (p.19), and since such features are uninterpretable presumably doomed to deletion in the course of the derivation, we are once more left with the question of why they should be there after all, and with the other questions discussed earlier.

Chomsky's allusion to "certain semantic properties" involving dislocated structures seems to have something to do with such functionalist theories as parsing or theme-rheme structure in explaining the why of movement. Chomsky has set himself on the exploration of the mechanisms involved in movement. Then one may wonder how the nature could anticipate (if it did) our future need to such (then useless) uninterpretable features as that part of the computational mechanism we will happen to employ later when we want to move things for meaning's sake. One possibility is that such features evolved later to take care of our already existing needs to communicate meaning. The other possibility, which is more in line with the ideas expressed in Gould (1991) and Uriagereka (1998), is to consider uninterpretability an exaptation--a property of the language faculty that was NOT adapted for its present function, i.e. affording movement so that certain semantic effects are achieved, but later co-opted for that purpose. Uninterpretability as an adaptation must not be particularly attractive to Chomsky as it implies that uninterpretable features, which are illegible to the C-I system, are still semantically

motivated in origin. Uninterpretability as an exaptation, on the other hand, makes the proposal less falsifiable than ever.

3. FEATURE SHARING

Assuming the lexicon to be a network of concepts and categories with some phonetic labels and certain formal features characterizing grammatical limitations on their use, one can hypothesize that the lexicon is economical in its internal organization and retrieval process both. This does not seem to contradict a Chomskyan understanding of the lexicon. While he still endorses de Saussure's view that the lexicon is "a list of 'exceptions', whatever does not follow from general principles", he further assumes that "the lexicon provides an 'optimal coding' of such idiosyncrasies" (Chomsky, 1995:235).

If we are concerned with the cognitive system of the language faculty, and if "for each particular language, the cognitive system [...] consists of a computational system CS and a lexicon" (Chomsky, 1995:6), then it is quite natural to assume as THE NULL HYPOTHESIS that the system is economical in all respects--organization and retrieval of LIs, selection from the lexicon for the numeration, and derivation of structural SDs included--unless proved otherwise. Based on this, it may be hypothesised that those formal features that happen to be common between two LIs (selected for the same derivation) are copied from the lexicon onto the lexical array only once so that such LIs will share these features among themselves in order to satisfy the requirements of the principles of economy of derivation and representation such as simplicity, nonredundancy, and the like. Naturally, ALL identical features cannot be ALWAYS shared as such pooling of identical features requires the adjacency of the relevant lexical items: a very strong version of this "sharing condition" may necessitate syntactically impossible constellations, e.g. one in which some LIs, say A through E, are arranged as pairs A-B, B-C, C-

D, and D-E (with some features shared for each) but no such union as A-D (although A and D can have some features in common) because this will inevitably nullify some other unions. A weaker version, advocated here, merely requires all lexical items in the structure to have SOME feature in common with a neighbour. The hypothesis formulated as such is termed here the Pooled Features Hypothesis.

The postulation of such a sharing mechanism has theoretical consequences for generative syntax; hence, more distanced from mainstream accounts of movement. Firstly, the Pooled Features Hypothesis reduces the phrase structure to a bare phrase structure in which tree diagrams are labelled with shared formal features rather than category labels. The assumption is that the phrase structure is NOT computed by the computational system: it is universally available in its barest form as a means to present an array of lexical items. However, as lexical items are plugged into the structure, certain and not other local relations are imposed on their hierarchical organization, mainly (but not exclusively) due to the featural composition of each lexical item and the formal features it happens to share with some others. In other words, due to certain economical considerations, lexical items with common formal features enter into the most local relations possible (between two LIs or their projections) so that the common formal features can be pooled. Feature sharing, in a sense, is a necessary (though not sufficient) condition on the locality of structural relations.

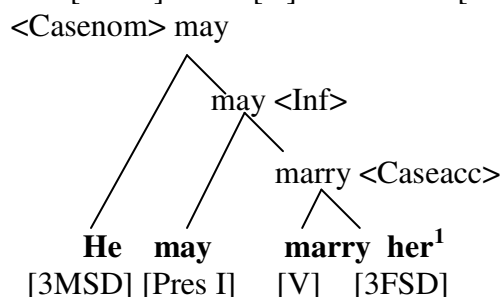
Secondly, no distinction is made between such pairs as strong/weak or interpretable/uninterpretable features. Then it is not a question of un/interpretability when a difference is detected between two features. It is rather a question of how and/or where, i.e. at which stage of the derivation, the features are supposed to be interpreted. If a formal feature is shared, by two LIs, the feature is structurally interpreted in the sense that it has made these two LIs assume the

most local structural relation in a bare phrase structure with potential consequences for the semantic interpretations to be made.

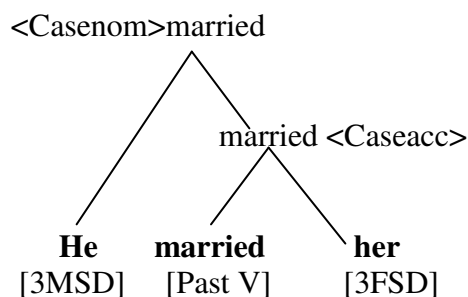
Examples below are intended to clarify how feature sharing works:

(1)

- a. He <Casenom> may <Inf> marry <Caseacc> her.
 [3MSD] [Pres I] [V] [3FSD]



- b. He <Casenom> married <Caseacc> her.
 [3MSD] [Past V] [3FSD]



Unpooled features, however, cannot have such a structural interpretation. As a result, they have to wait in line until interpreted at the relevant interface level. Pooled features, as specified here, happen to be roughly the same as those Chomsky refers to as uninterpretable ones. The inventory of unpooled features, on the other hand, corresponds to Chomsky's set of interpretable features. Although the Pooled Features Hypothesis does not hold the distinction between interpretable and uninterpretable features, the distributional similarities between (un)interpretable and (un)pooled features minimize our theoretical and empirical losses. For Chomsky, such formal features are checked and deleted. For me, (when pooled) they shape the structure.

¹ Terminal nodes appear in bold type.

(2) represents a definition of Feature Sharing.

(2) F is shared by α and β iff F is a common formal feature that labels a node immediately dominating both α and β or their projections. The shared feature will label the node that is on the shortest path between α and β or their projections.

Feature sharing is compatible with Chomsky's first option for constructing the label of a phrase marker from two constituents, namely the intersection of α and β . Chomsky immediately excludes this as often being null, and as a result, irrelevant to output conditions (1995: 244).

What seems to make Chomsky rather pessimistic about the chances of intersecting features for α and β seems to be the (unnecessarily strong) requirement that an intersection between two constituents is necessarily a categorial feature. This requirement is relaxed here so that any formal feature—categorial or non-categorial—can serve as an intersection between α and β . At the same time, feature sharing as formulated here still maintains some version of Chomsky's last option, namely one or the other of α , β as the *categorial* (rather than *structural*) label for a phrase marker constructed from α and β : As long as the category of the merged phrase is concerned, the syntactic object produced is still either α or β . That's how *he* and *may* share the feature <Case_{nom}> in 1.a above. In this specific case, it is a projection of *may* (X^2) that *he* shares a feature with rather than X^0 itself. What distinguishes categorial and structural labels in this analysis is the classical distinction made between paradigmatic and syntagmatic relations. While structural labels mark the relation between two elements simultaneously present in a single structure, categorial labels mark one between an element and the category to which it belongs.

As a condition on structure building/Merge, feature sharing dispenses with covert Case checking at LF: Chomsky (1995) maintains that Case is exclusively checked in a Spec-head configuration. Since head-Compl configuration cannot afford Case checking anymore (contra

accusative Case checking under government in GB), Chomsky speculates that for such cases as accusative, Case checking is still done in a Spec-head configuration but this time at LF. This adds to the complexity of the theory. For we have to introduce more structure (e.g. the vP) into the theory so that nominals with an accusative case exploit a Spec-head configuration in order for checking to take place at LF. It is also in contrast with Vergnaud's (1982) original proposal where the Case module interfaces with PF, i.e. the Case Filter. Feature sharing, on the other hand, only requires adjacent constituents to share some formal feature like Case in order for Merge to apply. As such, both Spec-head and head-Compl configurations satisfy the sharing condition on structure building, which is speculated here to always be overt.

The Pooled Features Hypothesis is also compatible with Brody's (1995, 1997) radical interpretability that requires ALL features to have semantic interpretation. They are even similar in that Brody's bare checking theory assumes that "multiple instances of what is in fact one feature are not tolerated at the interface" (Brody, 1997:159). But feature sharing and bare checking cease to be similar at this point as for Brody, checking does take place, i.e. a feature is deleted after all, because "the multiple copies of F are interpretively redundant and would violate the principle of full interpretation" (Brody, 1997:158). Feature sharing, on the other hand, assumes that an LI in the lexicon is a set of codes each pointing to some feature from one of the inventories of features--there are three of these inventories: those of phonological, semantic, and formal features respectively. When LIs are selected, their features are copied from the lexicon onto a temporary buffer so that features common between two LIs are copied only once in the fulfillment of the principles of natural economy. Note that such sharing of features can work ONLY FOR FORMAL FEATURES as FF(LI) is different from other subcomplexes, namely PF(LI) and SF(LI), in that formal features are grammatical in nature, thus INTERLEXICAL.

This model is even more economical than Brody's bare checking theory which seems to introduce a feature onto LA first and then check and delete all of its copies except one in order to fulfill the principle of full interpretation.

4. PERSIAN CPs AND FEATURE CHECKING

In Persian, an SOV language with its CPs regularly appearing in a post-verbal position, a transitive verb requires its (preverbal) object position to be obligatorily filled in by a nominal category. If the object of the predicate is left empty—with an object *pro* assumed here to hold the position—the verb will be inflected for inclusion of a clitic object (e.g. the third person singular clitic object **-esh** in *Man **pro_{obj}** didam-esh* instead of *Man **oon-o** didam* “I saw him/her” with the normal non-clitic third person singular pronoun **oon**). Once a complement clause is semantically feasible, a CP headed by the CMP **ke** can also be inserted in the post-verbal position with the object *pro* still assumed to hold the object position. The CP may then be raised to a pre-verbal position, provided that a (correlative) D is already inserted in the object position:

(3)

a. Man *pro_{obj}* midoonam ke zamin gerd-e.

I know-1S-pres that the earth round-is

“I know that the earth is round.”

b. Man in-o midoonam ke zamin gerd-e.

I this-DO know-1S-pres that the earth round-is

c. Man in ke zamin gerd-e ro midoonam.

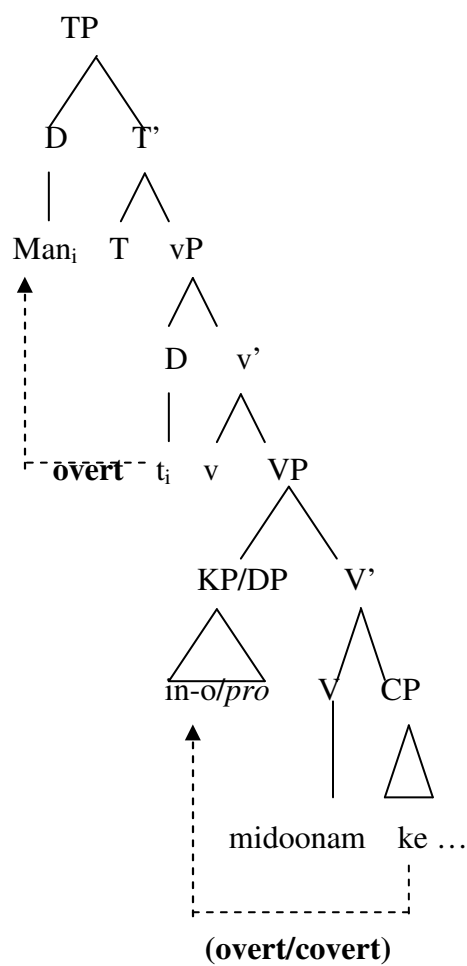
I this that the earth round-is DO know-1S-pres

* d. Man ke zamin gerd-e ro midoonam.

In (3a), *pro_{obj}* satisfies the Theta Criterion given the fact that the post-verbal CP is not in a theta position. As the Case Filter is not satisfied, the object remains phonetically null. In (3b), on the contrary, the correlative *in* is case-marked by the direct object particle *ro/-o*, hence a KaseP inserted in the preverbal object position of the sentence. The correlative also satisfies the Theta Criterion for the verb. But how can we account for the raising of the CP to a preverbal position in (3c)? What follows is an (unsuccessful) attempt to analyse such a movement in terms of standard Chomsky's (2000, 2001) "probe-goal" model.

In (3c), the CP is overtly attracted into the DP headed by the correlative *in* in order to satisfy the morphological requirements of its *probe*.

(4)



The [+N] feature of D seeks the matching [+N] feature of the CP as its local *goal* in order for checking and erasure to take place. The movement takes place either overtly (resulting in an **S CP V** sentence type) or covertly (hence **S V CP**). The ungrammaticality of (3d) should be due to the absence of a probe for attracting the CP to the preverbal position. Similar observations and stipulations may be made concerning the subject position in Persian. The EEP-feature of T requires [Spec TP] to be obligatorily filled in. As a prodrop language, Persian permits the subject position of its finite sentences to be filled in by a subject *pro*. With a correlative pronoun incorporated into [Spec TP], a complement clause may either occupy the post-verbal position at the end of the sentence, or be attracted into the subject DP at the beginning. D is still necessary to function as the probe for CP raising:

(5)

a. *pro* ba'es-e efterxar-e ke jalase inja bargozar mishe.

cause-of honour-is that the meeting here hold becomes

“It’s an honour that the meeting is held here.”

b. In ba'es-e efterxar-e ke jalase inja bargozar mishe.

It cause-of honour-is that the meeting here hold becomes

“It’s an honour that the meeting is held here.”

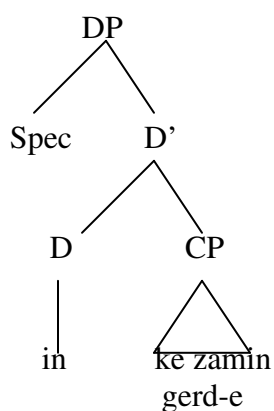
c. [_{TP} [_{DP} In [_{CP} ke [_{TP} jalase inja bargozar mishe]]] [_{VP} ba'es-e eftexar-e]].

“That the meeting is held here is an honour.”

Here again, D overtly attracts the CP in order for [+N] to be checked and erased against the [+N] feature of C. If raised covertly, the CP appears where it is generated, i.e., in the post-verbal position.

The analysis, however, runs into empirical problems: the probe-goal model requires the goal, i.e. the CP, to contain some (interpretable) feature F that agrees with the uninterpretable F feature of the probe D. In case of Persian CPs, then, the [+N] feature of D must be uninterpretable, which is not given the nominal nature of D and the status of [+N] as a categorial feature. More importantly, checking theory as formulated by Chomsky requires F to be exclusively checked in a Spec-head configuration. The condition cannot be held for pre-verbal Persian CPs, however, as they occupy the complement position of the D rather than landing onto the [Spec DP]:

(6)



F cannot be checked covertly in a Spec-head configuration either because the CP has already overtly moved from a post-verbal position to a pre-verbal one. This means F is strong. As such, the possibility of checking and erasing F at LF is out of question, too. The only possibility left open is building the structure with a complex of Select, Share, and Merge operations rather than Select, Move, and Check: the CP in S D-CP V is base-generated rather than raised.

5. AN ALTERNATIVE ANALYSIS

Persian features nominalised pre-verbal CPs (7c-e below). The complementiser takes the determiner *in*, and the phrase as a whole functions like any other nominal (subject, direct object, object of preposition):

(7)

a. Post-verbal (non-nominal)

Man fekr-mikonam [_{CP} *ke* farda baroon biad].

I think that tomorrow rain comes

“I think that it will rain tomorrow.”

b. Post-verbal (non-nominal)

Man [_{DP} *in*]-o too roozname xoondam [_{CP} *ke* farda baroon miad]]

I this -DO in newspaper read that tomorrow rain comes

“I read it in the newspaper that it will rain tomorrow.”

c. Direct object (nominal)

Man [_{DP} *in* [_{CP} *ke* farda baroon miad]]-o too roozname xoondam.

I this that tomorrow rain comes-DO in newspaper read

“I read it in the newspaper that it will rain tomorrow.”

d. Object of preposition (nominal)

Man [_{PP} *az* [_{DP} *in* [_{CP} *ke* farda baroon miad]]] xoshhalam.

I from this that tomorrow rain comes glad-be-1S

“I’m glad that it will rain tomorrow.”

e. Subject (nominal)

[_{DP} *In* [_{CP} *ke* farda baroon miad]] man-o xoshhal kard.

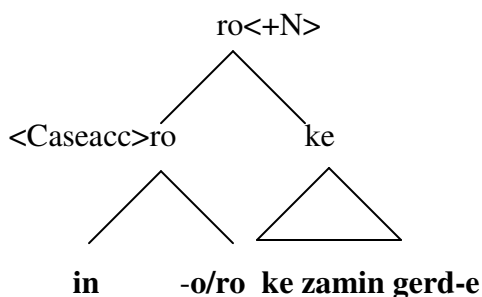
this that tomorrow rain comes me glad made

“It made me glad that it will rain tomorrow.”

In 7a-b, the CMP is non-nominal, i.e [-N]. Without [+N], the CP does not need to be assigned an abstract case either, and without an abstract case, it cannot be Θ -marked (in harmony Chomsky

Persian KPs are still nominal in category². This makes it possible to rearrange the constituents while lexical items are selected from the numeration and introduced in syntactic structures. Both 8 and 9 are equally grammatical and economical:

(9)

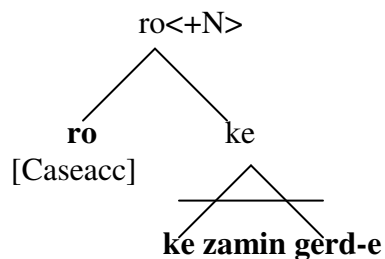


In (9), however, the CP occupies the Spec position of the KP with the DP still as its complement. Since K obligatorily c-selects a nominal phrase as its local argument, the complement position is necessarily filled in. This makes it impossible to grammaticalise a pre-verbal CP in the SpecKP position, even though the morphological requirements of CMP will be still satisfied then. The CP is not case-marked to be overtly realized either as K cannot share its case feature with another nominal:

(10) * man [_{KP} ro ke zamin gerde] midoonam.

I DO that earth round-is know-1-s

“I know that the earth is round.”



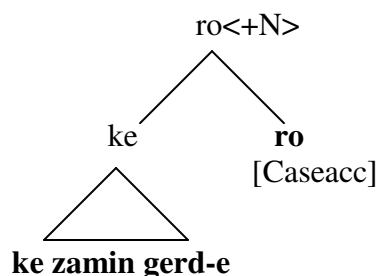
² As a matter of fact, KPs in transformational accounts of Persian dating back to the 70s and 80s were still labeled as NPs.

A CP in the complement position of the KP will not converge either:

(11) * man [_{KP} ke zamin gerde ro] midoonam.

I that earth round-is DO know-1-s

“I know that the earth is round.”



CPs do not contain a case feature to share with K, hence the [Caseacc] feature of K is left unpooled. As such, the CP cannot be overtly realized although it may still share [+N] with the head of the phrase.

6. SUMMARY AND CONCLUDING REMARKS

A sharing analysis of Persian pre-/post-verbal CPs is superior to a checking analysis of the phenomena for both conceptual and empirical reasons. In a sharing analysis of CPs, the phrase structure is reduced to a bare phrase structure in which tree diagrams are labelled with shared formal features rather than category labels. There is no need anymore to make a distinction between such pairs as strong/weak or interpretable/ uninterpretable features. We also dispense with covert Case checking at LF. A probe-goal analysis of pre-verbal CPs would require the goal, i.e. the CP, to contain some (interpretable) feature F that agrees with the uninterpretable F feature of the probe D. In case of Persian CPs, then, the [+N] feature of D must be uninterpretable, which is not given the nominal nature of D and the status of [+N] as a categorial feature. More importantly, the checking analysis would require F to be exclusively checked in a

Spec-head configuration. The condition cannot be held for pre-verbal Persian CPs as they occupy the complement position of the DP rather than [Spec DP]. F cannot be checked covertly in a Spec-head configuration either because the CP has already overtly moved from a post-verbal position to a pre-verbal one. This means F is strong. As such, the possibility of checking and erasing F at LF is out of question, too. In a sharing analysis of pre-verbal CPs, on the other hand, both Spec-head and head-Compl configurations are exploited in order for feature sharing to take place. Significantly, the model doesn't overgenerate in this respect because case- and Θ -marking are still maintained as independently motivated requirements.

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