

RESEARCH

Pseudo-incorporation and its movement patterns

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While movement of pseudo-incorporated arguments seems to be restricted generally, there is considerable variation across languages to what extent dislocation can take place. Whereas Turkish, German, and Hindi have been shown to allow for certain movement operations, pseudo-incorporated objects in Tamil for example are argued to require surface adjacency with the verb. This paper provides new evidence against surface adjacency in Tamil. More importantly, the study points out a striking parallel between movement of pseudo-incorporated objects and the respective VP-movement patterns within Tamil, Mongolian, Turkish, and German. Pseudo-incorporated objects are argued to constitute partially verbal categories, which explains the movement patterns, along with two other trademark properties of pseudo-incorporation – lack of case marking and scope inertness.

Keywords: pseudo-incorporation; surface adjacency; VP-movement; DP/NP accounts

1 Introduction

Languages with pseudo-noun incorporation (PNI) show a robust correlation between the absence of case-marking on objects and a restriction to interpret these objects with obligatory low scope. An example from Turkish is given in (1). If the object is marked with accusative case, the indefinite can take scope above or below the universally quantified subject. If case is not marked, only the distributive reading is an option, that is the sentence can only mean that each student read a different book.

- (1) *Turkish* (Kelepir 2001: 59)
Her öğrenci bir kitap^{∇E,*E∇} / bir kitab-ı^{∇E,*E∇} oku-du.
every student a book / a book-ACC read-PST
'Every student read a book.'

Parallel examples are provided from Tamil and Mongolian in (2) and (3), two other languages which have recently been identified to show PNI, see Baker (2014) for Tamil and Guntsetseg (2016) for Mongolian.¹

- (2) *Tamil*
Ella students-um pustagam^{∇E,*E∇} / pustagath-ai^{∇E,*E∇} padi-c-aanga.
all students.NOM-ADD book / book-ACC read-PST-3PL
'All students read a book.'

¹ If not indicated otherwise, data comes from my own elicitation with four speakers of Tamil (India, Tamil Nadu), at least four speakers of Khalka-Mongolian (Mongolia, Ulaanbaatar), and two Turkish consultants. Elicitation took place in person, via *skype*, and with questionnaires created with *google forms*.

(3) *Mongolian*

Ojuutan бүр neg professor^{ᠪᠦᠷ,ᠨᠢᠭ} / neg professor-yg^{ᠨᠢᠭ,ᠶᠢᠭ} шүүмžле-не.
 student each a professor / a professor-ACC criticize-FUT
 ‘Each student will criticize a professor.’

Together with the observation that PNI is often limited to bare nouns and indefinites, both the case and the scope property are usually traced back to the size of the argument. PNI-ed arguments are claimed to be NPs, denoting properties of type $\langle e,t \rangle$, which do not require case and cannot take scope (van Geenhoven 1998; Massam 2001; Dayal 2011). Recently, this size restriction has also been argued to be the cause for lack of specificity/animacy interpretations (Kalin 2014; van Urk 2019b; Levin 2019).

Rarely addressed within PNI studies are the movement patterns PNI-ed arguments exhibit. A common cross-linguistic observation is that they seem to be restricted, if not completely immobile. Less nominal structure has been tied to lack of phase status (López 2012), no need to move into a case position (Massam 2001) or the requirement for case-licensing under adjacency with V (Levin 2015) – strategies aiming to derive complete immobility or even linear adjacency. This paper provides a cross-linguistic study on movement patterns of PNI-ed arguments in Turkish, Tamil, Mongolian, and German, contributing two important empirical observations: (i) movement patterns of PNI-ed arguments are not uniform, nor is surface adjacency with the verb necessarily required, and (ii) movement properties of PNI-ed arguments pattern with VP-movement in the respective languages. The second observation has already been made for Turkish bare nouns by Gračanin-Yüksek & İşsever (2011), albeit with a different generalization. While they claim that clause-internal scrambling is an option for PNI-ed objects and VPs, but long scrambling is only an option for VPs, this study shows that caseless bare nouns as well as VPs can scramble even across clause boundaries. German stands out in that PNI does not interact with case marking. Frey (2015) argues that German bare plurals and non-specific indefinites can be pseudo-incorporated, based on the observation that they do not occur in derived positions and receive obligatory low scope. Frey demonstrates that scrambling of PNI-ed objects is prohibited, which he ties to a general compactness constraint that results from complex predicate formation of object and verb. German PNI-ed objects can, however, undergo topicalization – a fact that remains unexplained in Frey’s work but serves as crucial evidence in the current study for the parallelism between VP-movement and movement of PNI-ed arguments. Finally, Tamil and Mongolian prohibit short, intermediate, and long scrambling of PNI-ed objects, mirrored by the respective VP-movement patterns, as a detailed investigation in this study reveals. This movement pattern cannot be extended to a surface adjacency requirement between PNI-ed objects and verbs, contrary to what has been shown for Tamil in the recent past by Baker (2014) and Levin (2015). The cross-linguistic variation found with movement patterns of PNI-ed objects is problematic for DP/NP theories as well as head movement accounts, as they can only derive complete lack of mobility by the reduced syntactic structure within the nominal domain (Massam 2001; Kornfilt 2003; Dobrovie-Sorin et al. 2006; López 2012; Baker 2014; Levin 2015; Barrie & Li 2015). This paper offers an account that covers cross-linguistic variation, while also providing an explanation as to why PNI-ed objects are generally more restricted in their movement behaviour, compared to the respective case-marked counterparts.²

² The theory that will be put forward in this paper allows for objects as well as subjects to pseudo-incorporate. This is a desired result in light of the evidence that has come to light in the recent years. The possibility of subject PNI is prominently discussed for Turkish (Kornfilt 2008; Öztürk 2009; Jo & Palaz 2018), often based on subjects of embedded clauses, which are overtly marked for genitive case. Further languages for which subject PNI has been reported are Korean, where nominative case is marked overtly (Lee 2008;

Section 2 will present the main ideas that have been proposed concerning the movement properties of pseudo-incorporated arguments. In section 3, I point out empirical problems previous accounts face. Section 4 contributes the main observation, which will be capitalized on in section 5 where the proposal for the movement patterns of PNI-ed arguments is introduced. Section 6 concludes.

2 Previous accounts

Previous PNI accounts that focus on distribution and syntactic mobility predict a general ban on dislocating PNI-ed objects from their base positions due to the reduced nominal status – be it because case marking and movement is intrinsically linked to the presence of a DP (Massam 2001; Gračanin-Yüksek & İşsever 2011) or due to the absence of a phase status (López 2012) or the fact that they undergo complex predicate formation (Frey 2015). For some PNI languages, one of them being Tamil, pseudo-incorporation has been claimed to lead to strict surface adjacency with the verb, either as a consequence of head movement (Baker 2014; Kornfilt 2003) or as a result of a post-syntactic filter (Levin 2015) that relies on local dislocation (Embick & Noyer 2001) of object and verb to license case. Both types of approaches thus postulate a compactness requirement between PNI-ed object and verb.

2.1 Immobility

DP/NP approaches operate under the assumption that arguments are free to enter the derivation as DPs or NPs, while the latter will only be licensed in a PNI scenario, that is in a context where the verb and the object denote a conventionalized or at least frequently occurring event. The size of the noun phrase correlates with meaning, mobility, and case. Case marking is often tied to a [D]-feature (Dayal 2011; Barrie & Li 2015), while the lack of a DP shell reduces arguments to semantic objects of type $\langle e, t \rangle$. This creates the need either for incorporation verb denotations (van Geenhoven 1998; Dayal 2011) or a new compositional mode (Chung & Ladusaw 2004) to combine properties and verb denotations.

Important for the present study is the connection between a reduced nominal domain and apparent immobility. Frey (2015: 243) for example argues that PNI-ed objects in German constitute NPs and denote properties, thereby requiring complex predicate formation with PNI verbs to ensure semantic composition, which in turn leads to a general compactness requirement.³ A very different account is provided by Massam (2001) for Niuean, an Oceanic language with obligatory verb-initial word order. Consider the minimal pair in (5), where (5b) constitutes the PNI scenario. Both verb and object have to be adjacent, while the object is stripped off its number and case marking.

- (5) *Niuean* (Massam 2001: 157)
- a. Takafaga tūmau nī e ia e tau ika.
 hunt always EMPH ERG he ABS PL fish
 ‘He is always fishing.’

Kwon & Zribi-Hertz 2008), and Adyghe, an ergative language with overt ergative as well as overt absolutive case marking (Testelefs & Arkadiev 2014; Arkadiev & Testelefs 2019). Since the languages of this study show a nominative-accusative case alignment system where nominative is unmarked, detecting subject PNI becomes very difficult, as unmarked nominative subjects and caseless subjects cannot be easily distinguished. For these reasons as well as limitations of space, I focus on object PNI in this paper.

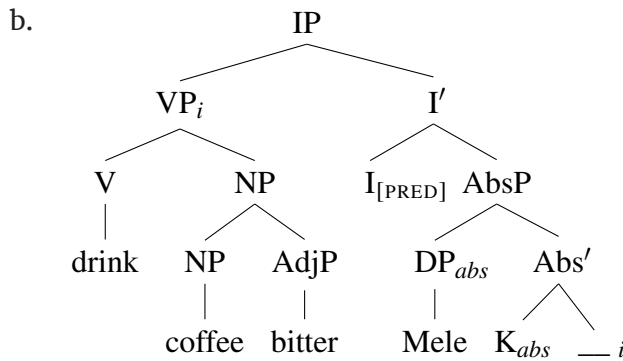
³ Frey (2015) presumably refers to the incorporation semantics van Geenhoven (1998) proposed for noun incorporation in Greenlandic where incorporation verbs come with a build-in existential quantifier which closes off the variable, imported by the NP property denotation.

- (4) van Geenhoven (1998)
- a. $[[\text{seek}_{inc}]] = \lambda P \lambda x \exists y [\text{SEEK}(x, y) \wedge P(y)]$
- b. $[[\text{seek}]] = \lambda y \lambda x [\text{SEEK}(x, y)]$

- b. Takafaga ika tūmau nī a ia.
 hunt fish always EMPH ABS he
 ‘He is always fishing.’

Massam (2001) proposes that pseudo-incorporated arguments are NPs and therefore do not require case. Hence, they do not move into a case position, which is projected in a dedicated functional layer outside of the verbal domain. The analysis is demonstrated in (6b), based on the PNI context in (6a). Since the object does not move for case, the subject moves to the specifier of AbsP, where it is assigned absolutive case. VP-fronting is triggered by the feature [PRED] on I. PNI-ed objects are obligatorily interpreted as non-specific indefinites, which Massam takes to be a consequence of the NP status.

- (6) *Niuean* (Massam 2001: 158)
 a. Ne inu kofe kono a Mele.
 PST drink coffee bitter ABS Mele
 ‘Mele drank bitter coffee.’



López (2012) attributes movement restrictions for Spanish low-scope indefinites and bare plurals to the assumption that they form syntactic phrases which do not constitute phases. He analyzes accusative case as the spell-out of a K head which, if present, introduce a choice function (Reinhart 1997) that enables flexible scope. K heads project KPs which constitute phases and thus are able to undergo scrambling. Any nominal argument smaller than a KP, i.e. DPs, NumPs, and NPs denote properties, must remain in their base positions and can only be interpreted via the compositional rule *Restrict* (Chung & Ladusaw 2004), a semantic operation tailor-made for PNI contexts which combines properties with verb denotations that apply to individual type arguments.

2.2 Adjacency

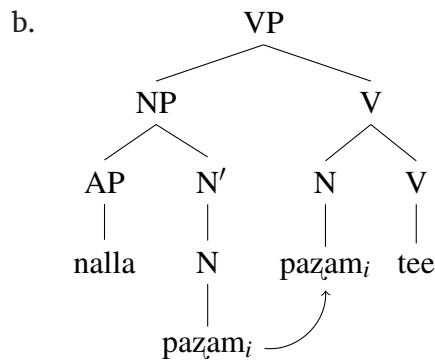
While head movement accounts were predominantly proposed for noun incorporation (Sadock 1980; Baker 1988; 1995; 2009; Chung & Ladusaw 2004; Baker et al. 2005),⁴ Baker (2014) extends this analysis to pseudo-incorporation, taking Sakha and Tamil as case studies. According to Baker, pseudo-incorporation is different from noun incorporation in that it has to be string vacuous, i.e. noun and verb have to be linearly adjacent. Crucial for Baker’s analysis is that head movement is not enforced by feature checking, thereby making its application completely optional. PNI semantics, however, can only be generated if N and V form a complex head, that is N denotes a property only if it is dominated by a V node (Baker 2014: 20–21). Baker adopts the copy theory of movement and follows Nunes (2004) in that lower copies are deleted due to the presence of uninterpretable features. Since the

⁴ But see Kornfilt (2003) for a head-movement account of pseudo-incorporation in Turkish.

type of head movement shown in (7b) is not feature driven, either one of the copies can be spelled-out, leading to potential linearization issues if movement is not string vacuous. Thus, Baker derives surface adjacency between N and V through the avoidance of ordering paradoxes at PF. In order to explain the case loss, Baker follows Baker et al. (2005) by making use of a parameterized deletion rule which removes Φ -features on traces of head movement. Along with Φ -features, Baker assumes case information can also be lost.

(7) *Tamil* (Baker 2014: 9)

- a. Naan nalla pazam tee-r-een.
I good fruit seek-PRS-1SG.SBJ
'I am looking for (some/a) good fruit(s).'



Evidence for his proposal comes from the ban on scrambling of caseless objects in Tamil and Sakha, which is in line with our observations for Tamil in section 4.1. Baker, furthermore, claims that low manner adverbs cannot intervene between the verb and the object, shown in (8).

(8) *Tamil* (Baker 2014: 8–9)

- Maala (veegamaa) pustagam (*veegamaa) paḍi-cc-aa.
Mala quickly book quickly read-PST-3.F.SBJ
'Mala read a book/books quickly.'

Resultative structures provide further evidence for surface adjacency. He uses the word order contrast between (9a) and (9b) to illustrate that surface adjacency can be achieved within the course of a derivation by moving the resultative PP out of the intervening position. Baker suggests a similar analysis for (9c), although in case of adverbial resultatives an additional movement step as in (9b) is disallowed for independent reasons.

(9) *Tamil* (Baker 2014: 13)

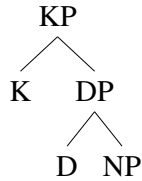
- a. Balaa pustagatt-e/*pustagam [_{pp} mesai-kku kii] va-kkir-aan.
Baala book-ACC/book table-DAT under put-PRS-3SG.M
'Balaa puts book (s) under the table.'
- b. Balaa [_{pp} peṭṭi-kku u[[e]_i pazam _i] va-kkir-avan.
Baala box-DAT in fruit put-PRS-3SG.M
'Bala is the one who puts fruit(s) in (the) box(es).'
- c. Adu pazatt-e/*pazam [_{AdvP} peris-aa] aakkar-idu.
it fruit-ACC/fruit big-ADV make.PRS-3.N.SBJ
'It makes (the) fruit big.'

The second type of adjacency approach I want to take a closer look at is the head-to-head requirement between verbs and PNI-ed arguments proposed by Levin (2014; 2015) to

account for PNI in Tamil, among other languages. The main empirical observation Levin wants to capture is that the highest nominal projection within these arguments seems to require surface adjacency with the lexical verb. Levin redefines the case filter as a restriction on size rather than a restriction on feature valuation. All categories must be part of a complete extended projection which in case of noun phrases is a KP.

(10) *Levin’s case filter* (Levin 2015: 46)
 Noun phrases must be KPs.

(11) *Levin’s structure of the noun phrase:*



If noun phrases are merged as anything less than a KP, say a DP or an NP, the head of the highest nominal projection must be licensed by forming a complex head with the lexical verb via adjunction as part of post-syntactic local dislocation (Embick & Noyer 2001). The analysis is schematically shown in (12) for Tamil, where • encodes immediate precedence. Since V and N are linearly adjacent, N adjoins to V at PF.

(12) *Local dislocation of caseless bare nouns in Tamil* (Levin 2015: 103)
 $[_{NP} N^o] \bullet V^o \rightarrow [_{V^o} N + V]$

Crucially, local dislocation obviates the case filter since the nominal becomes part of the verbal projection. Since it is the K head that carries the case feature, non-KPs are not case licensed, enforcing non-KPs to stay linearly adjacent to V, as this is the only configuration where local dislocation is permitted. The ban on displacement as well as the intervention of adverbs (8) and resultative PPs (9) follow directly from the linear adjacency requirement.

To sum up, both adjacency and immobility accounts predict that PNI-ed arguments and verbs behave like a unit, preventing the PNI-ed object to dislocate from its base position. As the next section will show, both kinds of approaches turn out to be empirically inadequate, once a larger data set is taken into account.

3 PNI compactness is subject to variation

This section is dedicated to counter-evidence against the compactness constraint, argued for in the previous section by various accounts to pseudo-noun incorporation. Section 3.1 provides counter-evidence against the surface adjacency requirement in Tamil, while section 3.2 and 3.3 exemplify the cross-linguistic diversity found with movement patterns of PNI-ed arguments. An interim summary will be given in section 3.4.

3.1 No surface adjacency in Tamil

As was presented in section 2.2, caseless objects in Tamil are argued by Baker (2014) and Levin (2015) to only be licensed in positions linearly adjacent to the verb. Baker (2014) uses low manner adverbs and resultative constructions to illustrate the compactness constraint. Counter-evidence against surface adjacency comes from focus adverbs/particles which occur to the right of the nominals they scope over, and thus potentially in between PNI-ed objects and verbs. As it turns out, PNI scenarios do not block the occurrence of

such focus operators. Both *maṭṭum* in (13) and *kuuṭa* in (14) intervene between a caseless object and the verb, contrary to what Baker (2014) and Levin (2015) predict. Even if the focus adverbs were to be analyzed as part of the nominal domain, *pustagam* would not be able to undergo string vacuous head movement to V in Baker's sense. Likewise, *pustagam* constitutes the highest nominal projection but is not adjacent to V, thereby violating Levin's head-to-head adjacency constraint.

- (13) *Tamil* (Lehmann 1993: 112)
 Kumaar oru iṭli maṭṭum caappiṭ-ṭ-aan.
 Kumar.NOM a Idli only eat-PST-3SG.M
 'Kumar ate one Idli only.'

- (14) *Tamil*
 Maala pustagam-kuuṭa paḍi-cc-aa.
 Mala.NOM book-MIR read-PST-3SG.F
 'Mala even read a book/books.'

Moreover, the study was not able to verify Baker's surface intervention effects with low manner adverbs, recall (8). All four Tamil speakers agreed on the acceptability of *veegamaa* placed between a caseless bare noun and a verb.⁵ The speakers do, however, agree with the judgements of the resultative structures discussed in section 2.2. In light of the data above, we cannot attribute the unacceptability of such examples to violations of surface adjacency. One alternative explanation can be given in terms of different base orders. Under the assumption that locative PPs in (9a) and (9b) are introduced by a high applicative head (Marantz 1993), the surface order of such structures would have to come about by scrambling the PNI-ed object across the PP – an illicit movement step according to Baker (2014) as well as the current approach. The underlying structure for (9a) is sketched in (15), where the movement step is assumed to target an inner specifier of *vP*. Consequently, resultatives like (9b) in which the PP precedes the direct object are acceptable since they constitute the base order where the PNI-ed object still occupies its base position.

- (15) *Structure for (9a)*

$$[_{vP} \text{Balaa } [_{v'} \text{---} [_{v'} [_{AppIP} [_{PP} \text{mesai-kku kii}] [_{VP} \text{pustagam V}] \text{Appl}] v]]]$$

The unacceptability of the adverbial resultative in (9c) is quite likely due to the fact that resultatives necessarily include a control structure, as it is often discussed for adverbial small clauses co-occurring with transitive predicates (von Stechow 1995; Beck & Johnson 2004). Since the subject of the small clause is also an object of the matrix predicate, syntactic requirements enforce a control relation between the PNI-ed object and silent PRO, shown in (16).

- (16) *LF Structure for (9c)*

$$[\text{paṣam } [1 [_{vP} \text{adu } [_{vP} \text{---}_1 [_{v'} [[_{SC} \text{PRO}_1 \text{perisaa}] \text{BECOME}] \text{aakkaridu}] v]]]]]$$

⁵ Baker points out in a footnote that his consultant for Tamil speaks a Singaporean dialect, whereas the speakers of this study originate from the Tamil Nadu region in India.

Crucially, PNI-ed objects in Tamil are banned from acting as controllers generally, as (18) demonstrates. Whatever prevents PNI-ed objects from acting as controllers will also serve as an explanation for illicit PNI in adverbial resultatives.⁶

- (18) *Tamil*
 Raja naai*(-ye)₁ [PRO₁ kutikk-a] kattaya-paduthi-n-aan.
 Raja.NOM dog-ACC drink-INF compel-make-PST-3SG.M
 ‘Raja forced a dog to drink.’

Summing up, the incompatibility of resultative structures with PNI-ed objects in Tamil can be accounted for on independent grounds without the need for a surface adjacency requirement. Together with the insight that focus adverbs as well as manner adverbs can intervene between caseless bare objects and verbs, PNI compactness based on surface adjacency becomes highly unlikely.

While PNI-ed objects do not obey a surface restriction, they do in fact seem to be severely restricted in their movement capacity, as the examples in (19) show. Only the base position in (19a) is acceptable, whereas short scrambling and movement across the subject is not licensed. Neither is long scrambling an option, as (19b) shows.

- (19) *Tamil*
 a. (*pustagam) naan (*pustagam) anda ponnu-kiṭṭe (pustagam)
 book 1SG.NOM book DEM girl-LOC book
 kuḍu-tt-ēen.
 give-PST-1SG
 ‘I gave a book to this girl.’
 b. *Pustagam_i Mani [Banu –_i padi-ch-aal-nnu] so-n-aan.
 book Mani.NOM Banu.NOM read-PST-3SG.F-COMP say-PST-3SG.M
 ‘Mani said that Banu read a book.’

⁶ López (2012) points out a fairly robust requirement of obligatory case marking on objects acting as controllers in control clauses on the one hand, and acting as subjects in adjectival small clauses on the other. This observation holds across DOM/PNI languages, as Spanish, Italian, Persian, Romanian, and Hindi pattern the same way.

- (17) *Spanish* (López 2012: 23, 53–58)
 a. El profesor consideró [_{sc}*(a) un estudiante inteligente].
 the professor considered DOM a student intelligent
 ‘The professor considered a student intelligent.’
 b. Juan forzó [* (a) un niño]₁ [PRO₁ a hacer los deberes].
 Juan forced DOM a boy to do.INF the homework
 ‘Juan forced a boy to do his homework.’

López analyzes case markers as spelling out the head of a KP shell, projected above DP, which enables objects to move into a designated case position. In the absence of a KP, objects must find an alternative case licensing mechanism. He proposes that in such cases D must head-move via V to *v*, the case assigning head. This movement is blocked for objects in object control clauses, as they are first merged in spec,VP and thus higher than V. The subject position of small clauses also bans this movement, presumably because subjects block extraction. Since non-KPs are argued to be immobile, recall section 2.1, this analysis provides an attractive alternative explanation for the Tamil facts. There is, however, reason to doubt the existence of a correlating movement restriction. Turkish for example has been reported to require case marking on bare controllers of control clauses (Öztürk 2005; 2009), yet Turkish bare nouns can scramble freely within clauses and across clause boundaries, even if they do not show case morphology, as section 3.2 will show. Hindi provides another counter-example to the correlation of immobility with licensing as controllers and as subjects in small clauses. The fact that objects have to be case marked in such positions does not prevent them from scrambling across the subject without case marking, as Dayal (2011) has shown.

To sum up, PNI-ed objects in Tamil are not able to undergo scrambling, yet they do not have to be surface adjacent to the verb.⁷

3.2 Scrambling in Turkish

While Turkish displays short, intermediate, and long scrambling properties (Kornfilt 1997; Termüçü 2005; Öztürk 2005; İşsever 2007; İşsever 2008; Akan 2009; Jiménez-Fernández & İşsever 2012), caseless bare nouns are traditionally assumed to be restricted to occur in their base positions (Erguvanlı 1984; Dede 1986; Enç 1991; Kornfilt 2003; Aygen 2007). Recent studies, however, provide data which question this generalization. Kornfilt (2003: 152) mentions in a footnote that caseless bare nouns can be non-adjacent to V in colloquial speech. Moreover, İşsever (2003) shows that caseless nouns can extrapose, while Öztürk (2009) and Gračanin-Yüksek & İşsever (2011) provide examples of clause-internal scrambling, for example as is shown in (20) for intermediate scrambling. In (21), we see that caseless bare nouns are acceptable preceding and following the indirect object.

- (20) *Turkish* (Öztürk 2009: 339)
 Çay_i ben _{-i} iç-me-di-m.
 tea I drink-NEG-PST-1SG
 ‘I did not do tea-drinking.’

- (21) *Turkish*
 Öğretmen (ödev) öğrenci-ler-e (ödev) ver-di-Ø.
 teacher.NOM homework student-PL-DAT homework give-PFV-3
 ‘The teacher gave homework to the students.’

The availability of long scrambling is controversially discussed in the literature. Gračanin-Yüksek & İşsever (2011) claim that long scrambling is blocked for caseless bare nouns, based on the data in (22). Jo & Palaz (2018), on the other hand, provide data where long scrambling is clearly acceptable, see (23). Note that the authors make use of different matrix verbs. The speakers of this study agree with the judgements in (23) and (22a), but they disagree on the acceptability of (22b).

- (22) *Turkish* (Gračanin-Yüksek & İşsever 2011: 10)
 a. *Kitap_i Ali [Ayşe-nin _{-i} oku-duğ-un]-u biliyor.
 book Ali.NOM Ayşe-GEN read-NMLZ-3SG-ACC know.PRS.3SG
 ‘Ali knows that Ayşe does book-reading.’
 b. *Kitap_i Ali [Ayşe-nin _{-i} oku-mas-ın]-ı istedi.
 book Ali.NOM Ayşe-GEN read-NMLZ-3SG-ACC want.PST.3SG
 ‘Ali wants Ayşe to do book-reading.’
- (23) *Turkish* (Jo & Palaz 2018)
 Kitap_i ben [Ali-nin _{-i} oku-duğ-un]-u düşün-mü-yor-um.
 book I Ali-GEN read-NMLZ-3SG-ACC think-NEG-PRS-1SG
 ‘I don’t think that Ali does book-reading.’

⁷ One might wonder at this point how low manner adverbs are able to intervene between the PNI-ed object and the verb, while the paradigm in (19) suggests that PNI-ed objects are not able to dislocate from their base positions. Two possibilities come to mind: (i) PNI-ed objects can move after all, albeit only short distance, e.g. adjoining to VP, or (ii) PNI-ed objects are immobile but low manner adverbs can also adjoin to V. The first solution encounters an *Anti-locality* problem (Abels 2012), which can potentially be circumvented by adopting a more elaborate verbal domain where the internal argument can move out of VP into spec,vP and the external argument is introduced in spec,voiceP, as it was recently proposed by Tollan (2018) for the PNI language Samoan. This type of extremely short scrambling would be available in Tamil assuming that low manner adverbs adjoin to VP, so that PNI-ed objects are able to precede them, yet obligatorily follow indirect objects and subjects.

Turkish long scrambling seems to be sensitive to whether the matrix verb qualifies as a *bridging verb*. Verbs of saying often allow long distance extraction more readily than e.g. low frequency factives like *regret*, while some languages also block highly frequent factives like *know* (Kluender 1992; Hawkins 1999). The acceptability of long scrambling with a typical bridging verb like *söye* ‘say’ in (24) confirms this hypothesis. Cross-linguistic observations concerning long distance extraction ascribe *söye* and *düşün* a better chance for enabling long scrambling since they qualify as prototypical bridging verbs. Hence, it can be concluded that the unacceptability of the structures in (22) is not tied to pseudo-incorporation.

- (24) *Turkish*
 Kitap_i Ayşe [Ali-nin _i oku-duğ-un]-u söyle-m-iyor-Ø.
 book Ayşe.NOM Ali-GEN read-NMLZ-3SG-ACC say-NEG-IPFV-3
 ‘Ayşe doesn’t say that Ali does book-reading.’

In contrast to Tamil, Turkish bare objects are entirely free to scramble short, intermediate, and out of a finite clause, whether they are case-marked or not. This cross-linguistic diversity does not fall out from DP/NP accounts which adhere movement restrictions to the reduced NP status. The next section will introduce yet a different movement pattern for PNI-ed objects, found in German.

3.3 Topicalization in German

So far, we have limited our investigation to PNI languages showing a correlation between case loss and scope inertness. German has been argued by Frey (2015) to exhibit PNI effects for bare plurals and non-specific indefinites, albeit without an effect in case marking. Frey’s diagnostics consist of scope inertness of certain noun types in combination with certain positional restrictions. He observes that there is only a small class of arguments, made up of non-specific indefinites and bare plurals, that can follow manner adverbs and negation, shown for the adverb *wunderbar* in (25) and (26). The indefinite in (25a) occurs next to the verb and can only be non-specific, proven by the infelicity of adding *bestimmt* ‘certain’ in (25b). If the indefinite scrambles out of the verb phrase, it receives a specific reading, see (26a), where the underlying structure is given in (26b).

- (25) *German* (Frey 2015: 237–238)
 a. Otto hat heute wunderbar eine charmante Mozart-Sonate gespielt.
 Otto has today beautifully a charming Mozart sonata played
 ‘Today Otto played a charming Mozart sonata beautifully.’
 b. ??Otto hat heute wunderbar eine bestimmte Mozart-Sonate gespielt.
 Otto has today beautifully a certain Mozart sonata played
 ‘Today Otto played a certain Mozart sonata beautifully.’

- (26) *German* (Frey 2015: 239) SPECIFIC!
 a. Gespielt hat Otto heute eine charmante Mozart-Sonate wunderbar.
 played has Otto today a charming Mozart sonata beautifully
 ‘Today Otto played a charming Mozart sonata beautifully.’
 b. [_{CP} [_{VP} _i gespielt] [_C hat Otto ... [eine... Sonate]_i wunderbar _{VP}]]

Moreover, non-specific indefinite objects are unable to scope above a universally quantified subject if they follow a low manner adverb, shown in (27).

- (27) *German* (Frey 2015: 238) $\forall\exists, *\exists\forall$
 Jeder hat heute wunderbar eine charmante Mozart-Sonate gespielt.
 everyone has today beautifully a charming Mozart sonata played
 ‘Today everybody played a charming Mozart sonata beautifully.’

The contrast in (28) provides a similar observation for bare plurals, see (28b) with the sketched structure in (28c). Like non-specific indefinites, bare plurals are licensed in V-adjacent position (28a) but not in a derived position (28b).

- (28) *German* (Frey 2015: 228)
- a. Max wird heute Karten spielen.
 Max will today cards play
 ‘Max will play cards today.’
 - b. *Spielen wird Max heute Karten.
 play will Max today cards
 ‘Max will play cards today.’
 - c. $[_{CP} [_{VP} -_i \text{spielen}]] [_C \text{wird Max heute [Karten]}_i -_{VP}]$

The underlying structures in (26b) and (28c) suggest that non-finite verbs on their own can only occur sentence initially as part of remnant VPs, where objects vacate VPs prior to VP-topicalization. This first step is the cause for the unacceptability of (28b) and the specific reading of the object in (26a), as PNI-ed objects are required to undergo scrambling so that they can be left stranded by the VP.

Frey (2015) provides a different analysis. He proposes that bare plurals and non-specific indefinites can form a complex predicate with the verb in PNI contexts. The unacceptability of (28b) and the specific reading of the object in (26a) under his account are simply violations of the PNI compactness constraint since they would require excorporation of the verb. Unpredicted by his analysis, however, is the fact that PNI-ed objects can topicalize, shown in (29a) with the structure given in (29b).

- (29) *German* (Frey 2015: 228)
- a. Karten wird Max heute spielen.
 cards will Max today
 ‘Max will play cards today.’
 - b. $[_{CP} [\text{Karten}]_i [_C \text{wird Max heute } [_{VP} -_i \text{spielen}]]]$

The contrast between (29a) and (28b) forces Frey to an ad hoc stipulation. While V cannot excorporate out of a complex PNI predicate, objects are able to do so. The current proposal, on the other hand, takes the contrast between (29a) and (28b) to be indicative of different types of movement operations PNI-ed objects can undergo. The discussion in this section suggests that PNI-ed objects are prevented from scrambling but are free to undergo topicalization. In this sense, movement of PNI-ed objects in German is not as restricted as the movement pattern in Tamil, yet also not as unrestricted as the Turkish pattern.

3.4 Problems with cross-linguistic variation

A cross-linguistic comparison between Tamil, Turkish, and German provides evidence against the compactness constraint argued for in section 2. The observations create an insurmountable problem for DP/NP accounts which explicitly argue for the NP status based on observations of complete immobility and/or surface adjacency of PNI-ed objects

with the verb (Massam 2001; Dobrovie-Sorin et al. 2006; López 2012; Levin 2015; Barrie & Li 2015). Surface adjacency is also predicted by head-movement accounts to PNI (Baker 2014; Kornfilt 2003)⁸ as well as complex predicate formation (Aydemir 2004; Frey 2015). In contrast, DP/NP accounts that do not make reference to movement restrictions of PNI-ed objects in the first place (Öztürk 2005; 2009; Dayal 2011) cannot explain why PNI generally leads to mobility restrictions, in comparison to non-PNI scenarios. The current account is able to overcome these issues by drawing a parallel to VP-movement patterns which are commonly known to vary from language to language.

4 PNI-ed objects move like VPs

Key to understanding the distributional patterns of PNI-ed objects is a parallelism to VP-movement patterns within the respective PNI languages under investigation. Section 4.1 argues that there is no positive evidence for VP-movement in Tamil, in line with the observations made for PNI-ed objects in section 3.1. The empirical picture is, furthermore, extended to Mongolian, another PNI language that bans PNI-ed objects and VPs from leaving their base positions. Section 4.2 provides positive evidence for VP-scrambling in Turkish and VP-topicalization in German, in line with the observations made for PNI-ed objects in sections 3.2 and 3.3, respectively.

4.1 Tamil & Mongolian

Section 3.1 established that PNI-ed objects do not undergo short, intermediate, or long scrambling in Tamil. PNI-ed objects in Mongolian exhibit identical movement restrictions. Whereas case-marked indefinite objects scramble freely (Janhunen 2012; Guntsetseg 2016; Fong 2019),⁹ caseless indefinite objects cannot scramble across an indirect object (31b), nor are they able to precede the subject (32b) or undergo long scrambling (33b).

(31) *Mongolian* (Guntsetseg 2016: 107)

- a. Tujaa Dorži-d neg nom(-yg) ög-sön.
Tujaa.NOM Dorz-DAT a book-ACC give-PST
'Tujaa gave Dorz a book.'
- b. Tujaa [neg nom*(-yg)]_i Dorži-d _{-i} ög-sön.
Tujaa.NOM a book-ACC Dorz-DAT give-PST
'Tujaa gave Dorz a book.'

(32) *Mongolian* (Guntsetseg 2016: 106)

- a. Zaxiral [neg ojuutn-yg] / [neg ojuutan] šalga-san.
director.NOM a student-ACC / a student examine-PST
'The director examined a student.'

⁸ Baker (2014: 37–38) suggests that V-to-T movement can circumvent the PNI surface adjacency requirement. He provides data from Tamil indicating that V stays in situ. In contrast, V raises in Hindi, he argues, so that caseless bare objects can undergo intermediate scrambling (Dayal 2011: 137). As was shown in section 3.1, there is no surface adjacency requirement in Tamil, contrary to Baker's prediction.

⁹ There is some disagreement about the general possibility of long scrambling in Mongolian. Fong (2019) argues against movement across finite clause boundaries with data like the one shown below. The speakers of this study disagree on the acceptability of long scrambling structures. The general availability of long scrambling, thus, remains an open question and needs to be investigated further in future research.

(30) Long scrambling in Mongolian (Fong 2019: 23)

- a. Bat [Dorj Dulmaa-d nom-oo ög-sön gej] chang-aar khel-sen.
Bat.NOM Dorj.NOM Dulmaa-DAT book-REFL.POSS give-PST COMP loud-INSTR say-PST
'Bat said loudly that Dorj gave his book to Dulmaa.'
- b. *Dulmaa-d_i Bat [Dorj _{-i} nom-oo ög-sön gej] chang-aar khel-sen.
Dulmaa-DAT Bat.NOM Dorj.NOM book-REFL.POSS give-PST COMP loud-INSTR say-PST
'Bat said loudly that Dorj gave his book to Dulmaa.'

- b. [Neg ojuutn-yg]_i / *[neg ojuutan]_i zaxiral _{-i} šalga-san.
 a student-ACC / a student director.NOM examine-PST
 ‘The director examined a student.’

(33) *Mongolian* (Guntsetseg 2016: 155)

- a. Tujaa Bat neg noxoj(-g) surga-san gež med-sen.
 Tujaa.NOM Bat.NOM a dog-ACC train-PST that know-PST
 ‘Tujaa knew that Bat trained a dog.’
- b. [Neg noxoj*(-g)]_i Tujaa [Bat _{-i} surga-san gež] med-sen.
 a dog-ACC Tujaa.NOM Bat.NOM train-PST that know-PST
 ‘Tujaa knew that Bat trained a dog.’

The task of this section will now be to demonstrate that neither Tamil nor Mongolian allow for VP-scrambling. In order to investigate the possibility of VP-movement in Mongolian, we test for the acceptability of postverbal constituents. The Mongolian speakers of this study rejected any type of postverbal constituent, ranging from adverbials over indirect objects to subjects, shown in (34).

(34) *Mongolian*

- a. *Bi [ene nom-yg unsh-san] öchigdör. S[OV]Adv
 1SG.NOM DEM book-ACC read-PST today
 ‘I read this book today.’
- b. *Tujaa [ene nom-yg ög-sön] Dorži-d. S[OV]IO
 Tujaa.NOM DEM book-ACC give-PST Dorz-DAT
 ‘Tujaa gave Dorz this book.’
- c. *[Ene ojuutn-yg šalga-san] zaxiral. [OV]S
 DEM student-ACC examine-PST director.NOM
 ‘The director examined this student.’

As the reader might have noticed, we are faced with the problem of isolating the VP-constituent from the affixed tense morphology in the scrambling data above. Thus, a likely explanation for the fact that we do not find evidence for VP-movement might be that obligatory V-to-T movement bleeds any dislocation of overtly headed VPs from their base positions. There is, however, positive evidence for an alternative analysis that requires post-verbal constituents to have a specific information structural profile, which is not present in (34). Guntsetseg (2016: 25) reports that postverbal elements are generally disallowed, except when they are separated by a pause and denote “additional information”, see also Poppe (1951: 112) and Binnick (1979: 122). Consequently, the pragmatic function of these structures have been described as an *afterthought* by Janhunen (2012: 228) and Öztürk (2013: 192). The following contrast in (35) highlights the information structural aspect of the construction where | signals a pause.

(35) *Mongolian* (Guntsetseg 2016: 25)

- a. *Murat öchigdör ir-sen Ankarag-aas.
 Murat today come-PST Ankara-ABL
 ‘Murat returned from Ankara yesterday.’
- b. Tujaa öchigdör ir-sen | German-aas.
 Tujaa today come-PST Germany-ABL
 ‘Yesterday, Tujaa came – from Germany.’

Öztürk (2013) offers a bi-clausal analysis in which postverbal constituents in Mongolian are part of a separate clause, adjoined to the preceding one. The second clause is partially deleted under phonological identity with the antecedent clause. Within the first clause, the

counterpart of the post-verbal constituent is realized as *pro*. Similar analyses have been carried out for Japanese (Tanaka 2001), as well as Dutch and German (Ott & de Vries 2016).

- (36) *Mongolian* (Öztürk 2013: 190)
- a. [TP [TP *pro*_i ... O ... V] [TP S_i ... Θ ... V]] → structure for [OV]S
 - b. [TP [TP S ... *pro*_i ... V] [TP O_i ... S ... _i ... V]] → structure for [SV]O

Apart from the intonational break and the afterthought profile, Öztürk (2013) provides a variety of syntactic tests that argue against a mono-clausal movement analysis. Postverbal constituents are for example incompatible with idiom formation. In (37b), only the literal reading is available.

- (37) *Mongolian* (Öztürk 2013: 188)
- a. Bulgan narma-ig nee-sen. S[OV]
 Bulgan nose-ACC burst-PST
 Literal meaning: ‘Bulgan burst a nose.’
 Idiomatic meaning: ‘Bulgan beat someone.’
 - b. [Bulgan nee-sen] narma-ig. [SV]O
 Bulgan burst-PST nose-ACC
 Literal meaning: ‘Bulgan burst a nose.’
 Idiomatic meaning: ‘Bulgan beat someone.’

Moreover, corresponding gaps of the postverbal phrases in the antecedent clause can be pronominalized (38a), in clear contrast to leftward scrambling in Mongolian for which this strategy is not available (38b).

- (38) *Mongolian* (Öztürk 2013: 185)
- a. [Bulgan *pro*_i / ter-ig_i unsh-san] nom-ig_i. [SV]O
 Bulgan / DEM-ACC read-PST book-ACC
 ‘Bulgan read this, the book.’
 - b. Nom-ig_i Bulgan _i / *ter-ig_i unsh-san. O[SV]
 book-ACC Bulgan / DEM-ACC read-PST
 ‘Bulgan read the book.’

Given the discussion above, it can be concluded that postverbal constituents do not result from VP-movement. Rather, postverbal constituents are derived from a complex bi-clausal structure with subsequent deletion of all clausal material in the second clause except for the postverbal constituent.

As predicted, VPs do not undergo long scrambling either, see (39b).

- (39) *Mongolian*
- a. Tujaa [Bat neg noxoj-g surga-san gež] med-sen.
 Tujaa.NOM Bat.NOM a dog-ACC train-PST that know-PST
 ‘Tujaa knew that Bat trained a dog.’
 - b. *_[VP] [neg noxoj-g surga-san] Tujaa [Bat _{VP} gež] med-sen.
 a dog-ACC train-PST Tujaa.NOM Bat.NOM that know-PST
 ‘Tujaa knew that Bat trained a dog.’

Again, we are faced with the question of V-to-T movement. Fortunately, there is a class of adverbs in Mongolian with which we can test remnant VP-movement. Low manner adverbs like *dandaa* ‘always’ (Guntsetseg 2016: 25) and *xurdan* ‘quickly’ (Fong 2019: 16)

cannot occur before the subject, see (40) for *xurдан*. Adverb movement is apparently not an option in Mongolian.

- (40) Fong (2019: 16)
 Dorj [(**khurдан*) Nara (*khurдан*) baishin (*khurдан*) bari-san geǰ] khel-sen.
 Dorj quickly Nara quickly house quickly build-PST COMP say-PST
 ‘Dorj said that Nara built a house quickly.’

Such adverbs showing positional restriction can be used to test remnant VP-scrambling. Let us assume for now that V raises to T, thus vacating the VP, and low manner adverbs adjoin to VP. By dislocating the adverb together with the direct object, we can probe for VP-movement. The unacceptability of (41) provides evidence that VPs do not scramble across a subject. The adverb cannot precede the subject, not even if it is contained within VP.

- (41) *Mongolian*
 *_[_{VP} xurдан neg ojuutn-yg] zaxiral _{—_{VP} šalga-san.}
 quickly a student-ACC director.NOM examine-PST
 ‘The director quickly examined a student.’

The same pattern emerges in ditransitive scenarios, where (42a) and (42b) show that short as well as intermediate scrambling is not an option for remnant VPs.

- (42) *Mongolian*
 a. *Tujaa _[_{VP} xurдан neg nom-yg] Dorži-d _{—_{VP} butsaaj}
 Tujaa.NOM quickly a book-ACC Dorz-DAT give.back-CV.IPFV
 ög-sön.
 give-PST
 ‘Tujaa quickly gave Dorz a book back.’
 b. *_[_{VP} xurдан neg nom-yg] Tujaa.NOM Dorži-d _{—_{VP} butsaaj}
 quickly a book-ACC Tujaa Dorz-DAT give.back-CV.IPFV
 ög-sön.
 give-PST
 ‘Tujaa quickly gave Dorz a book back.’

Neither is long scrambling permitted with remnant VPs, exemplified with the paradigm in (43). The adverb *sain* ‘well’ is another low manner adverb which cannot precede the subject, shown in (43a). Scrambling the remnant VP across a sentence boundary is banned, (43b) is not acceptable.

- (43) *Mongolian*
 a. Tujaa [(**sain*) Bat (sain) neg noxoj-g (sain) surga-san geǰ]
 Tujaa.NOM well Bat.NOM well a dog-ACC well train-PST that
 med-sen.
 know-PST
 ‘Tujaa knew that Bat trained a dog well.’
 b. *_{[_{VP} (sain) neg noxoj-g (sain)]_i} Tujaa [Bat _{—_i surga-san geǰ]}
 well a dog-ACC well Tujaa.NOM Bat.NOM train-PST that
 med-sen.
 know-PST
 ‘Tujaa knew that Bat trained a dog well.’

Let us now turn to Tamil. Long scrambling of VPs seems to be unacceptable, judging by the contrasts in (44). Note, again, that tense and agreement morphology is affixed to the verb, suggesting potential V-to-T movement which would provide an alternative explanation for

the unacceptability of (44b). VPs that contain inflected verbs would not be able to occur in dislocated position since head movement potentially bleeds VP-movement. In contrast to Mongolian, Tamil does not provide viable tests for VP-remnant movement.¹⁰ Hence, the VP-fronting facts are not entirely conclusive.

(44) *Tamil*

- a. Mani [Banu book-ai padi-ch-aal enru] so-n-aan.
 Mani.NOM Banu.NOM book-ACC read-PST-3SG.F that say-PST-3SG.M
 ‘Mani said that Banu read a book.’
- b. *[Book-ai padi-ch-aal]_i Mani [Banu _{-i} enru] so-n-aan.
 book-ACC read-PST-3SG.F Mani.NOM Banu.NOM that say-PST-3SG.M
 ‘Mani said that Banu read a book.’

In order to test for VP-movement within clauses, we again consider the possibility of post-verbal constituents. As is shown in (45), subjects and indirect objects are principally able to occur in such positions. The translations, however, already signal a marked information structure with such word orders. They are often translated as clefts or pseudo-clefts in which the post-verbal phrase constitutes the pivot. Alternatively, they have been analyzed as mono-clausal structures with narrow focus on the post-verbal phrase.

(45) *Tamil*

- a. Naan [book-ai kuḍu-tt-ēen] anda ponnu-kiṭṭe.
 1SG.NOM book-ACC give-PST-1SG DEM girl-LOC
 ‘The one who I gave a book to is that girl.’
- b. [Book-ai padi-ch-aal] Banu.
 book-ACC read-PST-3SG.F Banu.NOM
 ‘The one who read a book is Banu.’

Postverbal constituents in Dravidian and Tibeto-Burman languages are overwhelming classified as pivots for underlying clefts, not only because of their characteristic information structure but also due to the presence of an overtly spelled-out copula, often co-occurring to the right of the cleft clause (Annamalai & Steever 1998; Lehmann 1998; Krishnamurti 1998; 2003; Bhattacharya & Devi 2004). Comparable structures in Malayalam and Meiteilon are given in (46) and (47). Consequently, bi-clausal analyses are prevalent (Madhavan 1987; Jayaseelan 2001; Bhattacharya & Devi 2004; Jayaseelan & Amritavalli 2005; 2017; Selvanathan 2017).

(46) *Malayalam* (Jayaseelan 2001: 64)

- Ñaan innale kaND-atə Mary-(y)e aaNə.
 I yesterday saw-NMLZ Mary-ACC is
 ‘It is Mary that I saw yesterday.’

(47) *Meiteilon* (Bhattacharya & Devi 2004: 5)

- Hui-nə cakhi-bə (pət) ədu sem-ni.
 dog-NOM ate-NMLZ/INF thing DET apple-COP
 ‘It is an apple that the dog ate.’

Tamil, however, often does not spell-out the copula, thereby making it more difficult to diagnose a cleft. The examples in (48) prove that neither a predicative nor an identificational copula sentence requires an overt copula.

¹⁰ The placement of manner adverbs in Tamil seems to be very liberal. Baselines such as (40) or (43a) could not be established. The Tamil consultants for this study disagreed on the acceptability of remnant VP-movement.

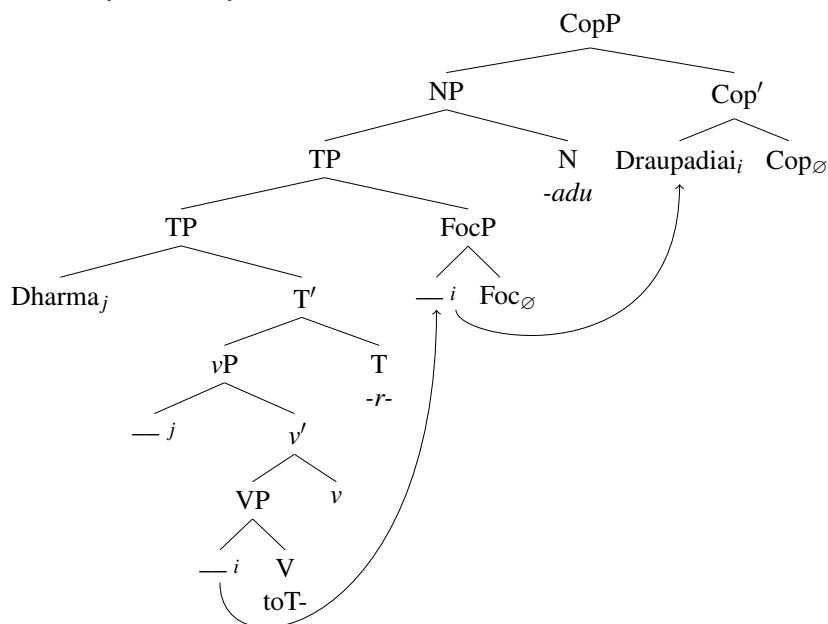
- (48) *Tamil*
- a. Dharmaa suudaaTakkaaran. (Sarma 1999: 90)
 Dharma.NOM gambler.NOM
 ‘Dharma is a gambler.’
- b. Inta suudaaTakkaaran Dharmaa. Jegan Murugesan, p.c.
 DEM gambler.NOM Dharma.NOM
 ‘This gambler is Dharma.’

Sarma (1999; 2003) discusses two variants of Tamil post-verbal constituent structures, one in which the verb shows full agreement, see (49a) and (49b), and one with default agreement – or alternatively analyzed as a nominalizer (the two are homophonous in Tamil). The second variant is shown in (49c).

- (49) *Tamil* (Sarma 1999: 95,60,90)
- a. Dharma toT-r-aan bhiimaav-ai.
 Dharma.NOM lose-PST-3SG.M Bhima-ACC
 ‘Dharma lost BHIMA.’
- b. Shakuni dharmaa-kku kodu-tt-aan daayatt-ai.
 Shakuni.NOM Dharma-DAT give-PST-3SG.M dice-ACC
 ‘It is the dice that Shakuni gave to Dharrna.’
- c. Dharma toT-r-adu draupadi-ai.
 Dharma.NOM lose-PST-NMLZ/3SG.N Draupadi-ACC
 ‘It was Draupadi that Dharma lost to.’

Let us first consider the default agreement/nominalizer version. These structures have received a bi-clausal treatment by Sarma (1999; 2003), and more recently Selvanathan (2017), in which the clefted phrase originates in the cleft clause but moves to a designated focus position. The accounts are presented in (50) and (51), applied to (49c). Sarma takes *-adu* to be the spell-out of N, a nominal layer above the cleft clause, shown in (50).¹¹

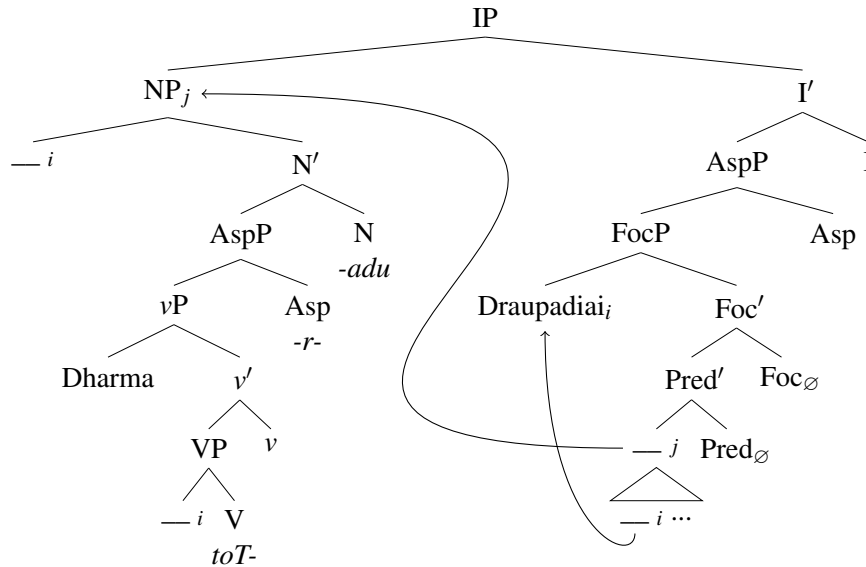
- (50) Sarma (1999: 89)



¹¹ Note that Sarma’s analysis requires *sideward movement* (Nunes 2001; Hornstein & Nunes 2002), an operation which forms a copy and re-merges this copy with an unconnected phrase marker, assembled independently in the workspace. Sideward movement is different from ordinary movement, in that (i) there is no c-commanding trigger and (ii) the moved phrase is merged in a tree from which it was not taken.

In contrast, Selvanathan analyzes *-adu* as the result of *anti-agreement* (Ouhalla 1993; Schneider-Zioga 2007) between an N-layer and the clefted phrase: ϕ -agreement is disrupted because the clefted phrase is involved in another A'-dependency, here the Foc head.

(51) Selanvathan (2017: 12,18):



The motivation for such analyses comes from case-connectivity and reflexive binding of the clefted phrase by an antecedent in the cleft clause, shown in (52). These observations were first made by Sarma (1999) and then later on also discussed by Selvanathan (2017).

(52) *Tamil* (Sarma 1999: 87)
 Dharma_i daayatt-il toT-r-adu tan_i manaivi-ai.
 Dharma.NOM dice-LOC lose-PST-NMLZ REFL wife-ACC
 ‘It was his₁ wife that Dharma₁ lost to in the game of dice.’

Sarma (1999: 95) also provides an analysis for the full agreement versions in (49a) and (49b) which is identical to the structure in (50), minus the nominal layer and the copula phrase. Case connectivity also holds for full agreement structures, while (53) additionally shows reconstruction for reflexive binding.

(53) *Tamil* (Jegan Murugesan, p.c.)
 Dharma_i daayatt-il toT-r-aan tan_i manaivi-ai.
 Dharma.NOM dice-LOC lose-PST-3SG.M REFL wife-ACC
 ‘It was his₁ wife that Dharma₁ lost to in the game of dice.’

Movement of the clefted phrase triggers weak crossover effects, shown by Sarma for the full agreement versions, see (54). Again, we can make a parallel observation for the default agreement/nominalizer versions, shown in (55).

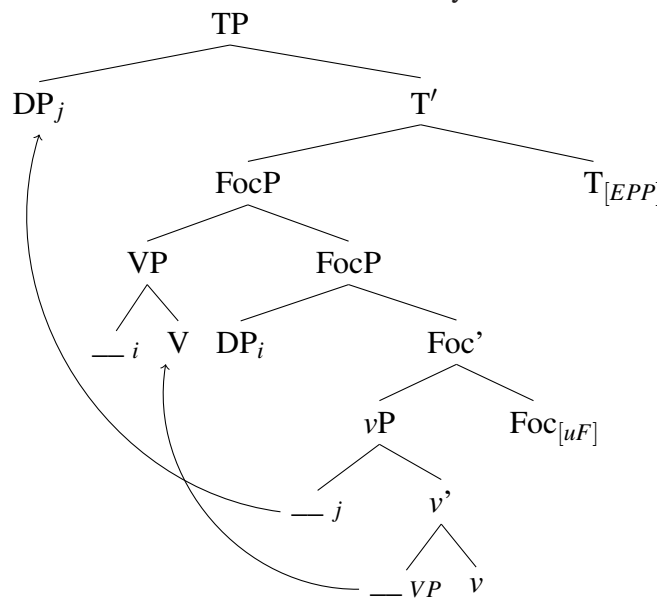
(54) *Tamil* (Sarma 2003: 244)
 *Avan-uDaia_i aNNaa daayatt-il toT-r-aan ellaar-ai-um_i.
 3SG-GEN brother.NOM dice-LOC lose-PST-3SG.M everyone-ACC
 ‘His₁ brother lost to everyone₁ in the game of dice.’

- (55) *Tamil* (Jegan Murugesan, p.c.)
 *Avan-uDaia_i aNNaa daayatt-il toT-r-atu ellaar-ai-um_i.
 3SG-GEN brother.NOM dice-LOC lose-PST-3SG.N everyone-ACC
 ‘His_i brother lost to everyone_i in the game of dice.’

While case-connectivity and reconstruction for Principle A serve as arguments that the clefted phrase undergoes movement out of the cleft clause, weak crossover effects indicate that it must be \bar{A} -movement, which fits well with the information structural nature that is proposed under those accounts.

Note that neither of the analyses makes use of VP-movement. The observations can, however, be made to follow from such an analysis. Let us assume for the moment the analysis in (57) where the focused phrase vacates the VP into a leftward branching focus position, with subsequent leftward VP-movement across the focused phrase. This type of analysis has in fact been proposed for equivalent post-verbal structures in Malayalam (Jayaseelan 2001; 2004). Case can be assigned to the object in first-merged position, the same position into which the object reconstructs for reflexive binding. Weak crossover is not ameliorated since object movement is triggered by a focus feature, arguably an \bar{A} -type movement. We can understand the analysis in (57) as the full agreement counterpart version of (51).¹²

- (57) An alternative VP-movement analysis?



¹² One might doubt the VP-movement analysis in (57) against the background of the *Müller-Takano Generalization* (Takano 1992; Müller 1996; 1998), which makes reference to the fact that extraction and remnant movement cannot involve the same type of movement. In German e.g. DP-scrambling out of infinitival clauses feeds topicalization but bleeds scrambling of remnant infinitives.

- (56) *German* (Müller 1996: 357–358)
 a. [t₁ zu lesen]₂ hat keiner [das Buch]₁ t₂ versucht.
 to read₂ has nobody the book₁ tried
 ‘No one has tried to read the book.’
 b. *dass [t₁ zu lesen]₂ keiner [das Buch]₁ t₂ versucht hat.
 that to read₂ nobody the book₁ tried has
 ‘that no one has tried to read the book’

The analysis in (57) makes both the focused phrase and the remnant VP target spec,FocP positions, presumably involving the same type of movement. This makes the acceptability of post-verbal constituents in Tamil stand in clear contrast with the observation made for German above.

There is, however, one piece of evidence suggesting that rightward movement for post-verbal constituents has to be at least an option. Tamil bans subextraction, that is extraction out of a phrase which has already been moved. This is shown with the set of examples in (59)–(61). An embedded CP can in principle move over the matrix subject, compare (59a) to (59b). In (60), we see that arguments can also dislocate to the right periphery across clause boundaries. Both movement operations, however, cannot co-occur, as the contrast in (61) exemplifies.¹³ Sarma attributes the unacceptability of (61b) to a *Freezing effect* (Ross 1967; Culicover & Wexler 1977). As in (59b), the embedded CP has been fronted. Crucially, further subextraction by rightward movement of the clefted phrase is not licensed.

(59) *Tamil* (Sarma 1999: 101)

- a. [_{TP} Dharma [_{CP} Shakuni daayatt-il jei-tt-aan enru]
Dharma.NOM Shakuni.NOM dice-LOC win-PST-3SG.M that
son-n-aan]]
say-PST-3SG.M
'Dharma said that Shakuni won in (the game of) dice.'
- b. [_{TP} [_{CP} Shakuni daayatt-il jei-tt-aan enru]-naa Dharma
Shakuni.NOM dice-LOC win-PST-3SG.M that-TOP Dharma.NOM
—_{CP} son-n-aan]
say-PST-3SG.M
'That Shakuni won (in the game of) dice, Dharma said.'

(60) *Tamil* (Sarma 1999: 86)

- [_{TP} Shakuni [_{CP} Dharma —_i toT-r-aan enru] ninai-tt-adu
Shakuni.NOM Dharma.NOM lose-PST-3SG.M that say-PST-NMLZ
draupadi-ai]
Draupadi-ACC
'It was Draupadi that Shakuni thought that Dharma lost to.'

(61) *Tamil* (Sarma 1999: 81)

- a. [_{TP} Shakuni [_{CP} Dharma daayatt-il raajyatt-ai izha-pp-aan
Shakuni.NOM Dharma.NOM dice-LOC kingdom-ACC lose-FUT-3SG.M
enru] son-n-aan]
that say-PST-3SG.M
'Shakuni said that Dharma will lose (his) kingdom in (the game of) dice.'
- b. ??[_{TP} [_{CP} Dharmaa daayatt-il —_i izha-pp-aan enru]-naa Shakuni
Dharma.NOM dice-LOC lose-FUT-3SG.M that-TOP Shakuni.NOM
—_{CP} son-n-aan] raajyatt-ai]
say-PST-3SG.M kingdom-ACC
'Shakuni said that Dharma will lose (his) kingdom in (the game of) dice.'

¹³ The unacceptability of (61b) cannot be attributed to information structure. As the following example shows, both leftward and rightward movement can occur simultaneously. This excludes an alternative analysis of (61b) under which unacceptability would simply reflect an impossible information structure. I thank a reviewer for bringing this potential caveat to my attention.

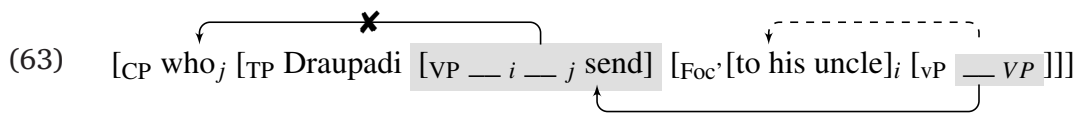
(58) *Tamil* (Sarma 1999: 104)

- [_{TP} Shakuni Kauravar-ukku [_{CP} daayatt-ila_i Dharma —_i—_j top-p-aan raajyatt-ai]
Shakuni.NOM Kauravar-DAT dice-LOC Dharma.NOM lose-FUT-3SG.M kingdom-ACC
enru] son-n-aan]
that say-PST-3SG.M
'Shakuni told the Kauravas that in dice, it will be the kingdom that Dharma will lose.'

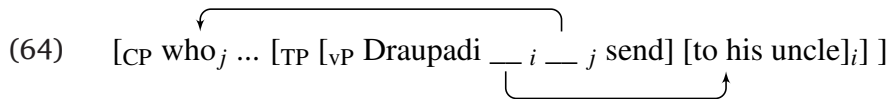
If Tamil exhibits freezing effects, we should be able to create similar configurations in mono-clausal structures. In light of the discussion above and under the assumptions in (57), the missing contrast in (62) is unexpected. If postverbal constituents were to come about via remnant VP-movement, it should not be possible to subextract the *wh*-phrase from the VP in its derived position in (62b), nevertheless this seems possible.

- (62) Sarma (1999: 66)
- a. Draupadi avan-uDaia maamaa-kku yaar-ai anupp-in-aaL?
 Draupadi.NOM 3SG-GEN uncle-DAT who-ACC send-PST-3SG.F
 ‘Who did Draupadi send to his uncle?’
 - b. Yaar-ai Draupadi anupp-in-aaL avan-uDaia maamaa-kku?
 who-ACC Draupadi.NOM send-PST-3SG.F 3SG-GEN uncle-DAT
 ‘Who did Draupadi send to his uncle?’

The derivation of (62b) under the theory in (57) is sketched in (63).



An analysis that derives postverbal constituents directly via rightward movement makes the right prediction for (62) since the arguments undergo movement to the right and to the left periphery independent of each other. The derivation is given in (64).



This argument, of course, does not exclude the possibility of VP-movement altogether, but it does make it unlikely that VP-movement is responsible for post-verbal constituent structures in Tamil.

This concludes our presentation of Mongolian and Tamil – two PNI languages that maximally restrict the movement capabilities of PNI-ed objects. This section investigated the potential of VP-movement in the respective languages and found no evidence. Rather, post-verbal constituent structures most likely receive a bi-clausal analysis in Mongolian and Tamil, the former with subsequent deletion under identity, the latter in the form of a (pseudo-)cleft. The observations made in this section lend support to the idea that PNI-ed objects and VPs should be treated on par, in that both types of phrases are severely restricted in their movement capacities.

4.2 German & Turkish

German permits PNI-ed objects to undergo topicalization, i.e. movement to spec,CP, but not scrambling, a generalization that was established in section 3.3. As it turns out, VPs exhibit exactly the same movement restrictions as PNI-ed arguments. In contrast to Tamil and Mongolian, German does not necessarily fuse tense/agreement morphology with V. Hence, VP-movement can be diagnosed in a straightforward manner. It is widely acknowledged that German VPs can undergo topicalization, but not scrambling (Grewendorf & Sternefeld 1990; Grewendorf 1995; Müller 1998). A minimal pair is given in (65) with the underlying structures in (66) and (67).

- (65) *German* (Grewendorf 1995: 1306)
- a. Das Buch gegeben hat Peter dem Jungen.
the book given has Peter the boy
'Peter gave the book to the boy.'
 - b. *weil das Buch gegeben Peter dem Jungen hat
because the book given Peter the boy has
'because Peter gave the book to the boy'

(66) Syntactic structure for (64a)

[*CP* [*VP* das Buch gegeben] [*C'* hat Peter dem Jungen *VP*]]

(67) Syntactic structure for (65b)

[*CP* [*C* weil] [*TP* [*VP* das Buch gegeben] [*TP* Peter dem Jungen *VP* hat]]]

The parallelism between movement of PNI-ed arguments and VP-movement provides an explanation for Frey’s puzzle in section 3.3. Recall that Frey (2015) assumes PNI to be complex predicate formation where fronting of the verbal part leads to unacceptability, but fronting of the nominal part does not. The minimal pair is repeated in (68).

- (68) *German* (Frey 2015: 228)
- a. Karten wird Max heute spielen.
cards will Max today play
'Max will play cards today.'
 - b. *Spielen wird Max heute Karten.
play will Max today cards
'Max will play cards today.'

In section 3.3, the unacceptability of (68b) was analyzed as a consequence of a ban on scrambling the PNI-ed object *Karten* out of the VP, so that remnant VP-fronting can take place. In (68a), the PNI-ed object topicalizes, thereby leaving the VP behind. We now see a clear parallel between licit topicalization in (68a) and (65a) and illicit scrambling in (68b) and (65b), providing further evidence for the parallelism between movement of PNI-ed arguments and VP-movement.

Considering the line of argumentation so far and the movement patterns presented in section 3.2, we expect VP-movement in Turkish to be freely available. This prediction seems to be borne out. The paradigm given in (69) shows that post-verbal constituents are acceptable in Turkish. Note, however, that these structures might as well be created via rightward movement into postverbal position, which has been shown to exist independently in Turkish (Kural 1997; Termüçü 2005; Kornfilt 2005). As in Tamil and Mongolian, verbs are inflected for tense/aspect, suggestive of V-to-T movement. The size of the scrambled constituents in (70) might be even larger, considering the morphology signaling a nominalizer and case.

- (69) *Turkish*
- a. Öğretmen öğrenci-ler-e ödev ver-di-Ø.
teacher student-PL-DAT homework give-PFV-3
'The teacher did homework-giving to the students.'

- b. Öğretmen [ödev ver-di-Ø]_i öğrenci-ler-e _{-i}
 teacher homework give-PFV-3 student-PL-DAT
 ‘What the teacher did to the students was homework-giving.’
- c. [Ödev ver-di-Ø]_i öğretmen öğrenci-ler-e _{-i}
 homework give-PFV-3 teacher student-PL-DAT
 ‘What the teacher did to the students was homework-giving.’

(70) *Turkish*

- a. [Kitap oku-duğ-un]-u_i ben [Ali-nin _{-i}] düşün-mü-yor-um.
 book read-NMLZ-3SG-ACC 1SG.NOM Ali-GEN think-NEG-IPFV-1SG
 ‘I don’t think that Ali does book-reading.’
- b. [Kitap oku-duğ-u]-nu_i ben [Ali-nin _{-i}] söyle-m-iyor-um.
 book read-NMLZ-3SG-ACC 1SG.NOM Ali-GEN say-NEG-IPFV-1SG
 ‘I don’t say that Ali does book-reading.’

Since the VP-status of the moved phrases in (69) and (70) is not entirely conclusive,¹⁴ we test for remnant VP-movement, that is movement of the direct object together with a low manner adverb. The examples in (71) and (72) are in line with the previous observations, VPs are allowed to undergo long scrambling in Turkish.

(71) *Turkish*

- [_{VP} Hızlıca kitab-ı _{-j}] ben [Ali-nin _{-VP} oku-duğ-u]-nu
 quickly book-ACC 1SG.NOM Ali-GEN read-NMLZ-3SG-ACC
 düşün-m-üyor-um.
 think-NEG-IPFV-1SG
 ‘I don’t think that Ali read (s) the book rapidly.’

(72) *Context:*

There was a bad anonymous review in the papers which influenced the book sale. Ali is one of 3 potential reviewers.

- [_{VP} Acımasızca kitab-I _{-j}] ben [Ali-nin _{-VP} eleştir-diğ-i]-ni
 ruthlessly book-ACC 1SG.NOM Ali-GEN criticize-NMLZ-3SG-ACC
 düşün-m-üyor-um.
 think-NEG-IPFV-1SG
 ‘I don’t think that Ali criticized the book ruthlessly.’

Finally, let us look at an argument suggesting the independent need for VP-movement in Turkish. This argument is based on an observation coming from discontinuous possessor phrases. Turkish can extract possessors to the left and to the right periphery, shown in (73), but see also Bošković & Şener (2014).

(73) *Turkish*

- a. **Ali-nin** ben [anne-si-nin dün kitap
 Ali-GEN 1SG.NOM mother-POSS.3SG-GEN yesterday book
 oku-duğ-u]-nu duy-du-m.
 read-NMLZ-3SG-ACC hear-PFV-3SG
 ‘I have heard that Ali’s mother read books yesterday.’

¹⁴ Although see Gračanin-Yüksek & İşsever (2011) who take examples like (70) as evidence for long scrambling of VPs.

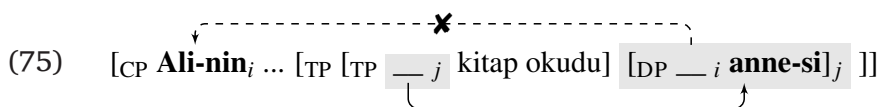
- b. **Anne-si** dün kitap oku-du-Ø **Ali-nin.**
 mother-POSS.3SG yesterday book read-PFV-3 Ali-GEN
 ‘Ali’s mother read books yesterday.’

Displacement of the possessum, however, seems to be restricted, in that the possessum can only show up right peripherally, shown in (74).

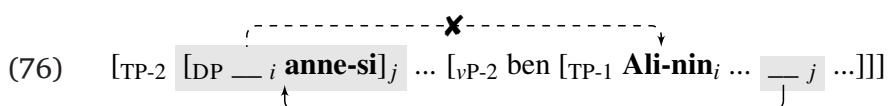
(74) *Turkish*

- a. **Ali-nin** dün kitap oku-du-Ø **anne-si.**
 Ali-GEN yesterday book read-PFV-3 mother-POSS.3SG
 ‘Ali’s mother read books yesterday.’
- b. ***Anne-si-nin** ben [**Ali-nin** dün kitap
 mother-POSS.3SG-GEN 1SG.NOM Ali-GEN yesterday book
 oku-duğ-u]-nu duy-du-m.
 read-NMLZ-3SG-ACC hear-PFV-3SG
 ‘I have heard that Ali’s mother read books yesterday.’

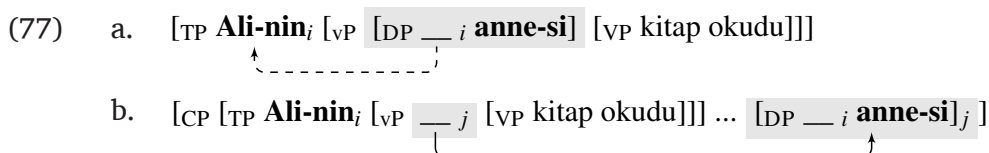
Let us assume for now that the possessor is merged in the specifier position of a nominal projection that takes the possessum as a complement. We predict that the possessum can only move as a remnant DP, after the possessor has moved out. The structures in (74), thus, require two movement operations, one creating the remnant constituent (possessor extraction) and one which constitutes the remnant movement operation. If (74a) were derived via (i) rightward movement of the entire possessor phrase and (ii) subsequent subextraction of the possessor, sketched in (75), a freezing effect should be triggered, contrary to fact.



We would, however, make the right prediction for (74b) since possessor extraction targets a position not accessible anymore, after the possessor phrase has undergone long scrambling. This derivation is shown in (76).



A successful way to derive the acceptability of (74a), is to reverse the order of operations, i.e. (i) leftward extraction of the possessor and (ii) rightward remnant movement, possibly as adjunction to CP. This derivation is shown in (77).



The explanation for (74a), however, does not extend to (74b), which would be minimally different from (77) in that remnant movement occurs to the left, see (78), leaving us with no explanation for its unacceptability.¹⁵

¹⁵ It is unclear whether subsequent leftward long scrambling following clause-internal leftward scrambling falls under the *Miller-Takano Generalization*, recall footnote 12. If it does, it could serve as an explanation for the unacceptability of (74b).

- (78) a. [TP-1 **Ali-nin**_i ... [DP ___i anne-sin] ...]
- ↑
-----↓
- b. [TP-2 [DP ___i **anne-si**]_j ... [vP-2 ben [TP-1 **Ali-nin**_i ... ___j ...]]]
- ↑
-----↓

We have, thus, arrived at an impasse. No possible order of operations is able to derive the contrast in (74). There is one option, however, we have not considered so far. Let us propose a general restriction on remnant possessor phrase movement in Turkish. This restriction accounts for the unacceptability of (74b). The displacement of the possessum in (74a) must now be a consequence of VP-movement, with the derivation sketched in (79). Hence, in order to derive the acceptability of (74a), we crucially need VP-movement to be an option in Turkish.¹⁶

- (79) [TP **Ali-nin**_i [vP kitap okudu] [vP [DP ___i **anne-si**] ___{vP}]]
- ↑
-----↓
- ←-----→

This section presented positive evidence for the parallelism between movement of PNI-ed arguments and VPs with respect to topicalization in German as well as scrambling in Turkish. Together with the previous section, we can come up with the cross-linguistic picture in Table 1.

The next section will lay out the analysis which essentially ties the parallelism observed in this section to the verbal nature of PNI-ed arguments.

5 PNI-ed objects are hybrid categories

Pseudo-incorporated arguments constitute hybrid categories, they are part nominal part verbal. The two core properties of pseudo-noun incorporation – lack of case marking and restriction to low scope – as well as the additional observations with respect to movement can be traced back to its verbal nature. The properties PNI-ed arguments share with proper arguments reflect the nominal status, that is they check a c-selectional feature of the verb, they are assigned a θ -role. They can also appear with adjectival modification, which is one of the key characteristics that separates pseudo-noun incorporation from

Table 1: Movement restrictions of PNI-ed nouns and VPs.

	IN SITU	SHORT SCR	INTERMED SCR	TOP	LONG SCR
<i>Mongolian</i>	✓	×	×	–	×
<i>Tamil</i>	✓	×	×	–	×
<i>Turkish</i>	✓	✓	✓	–	✓
<i>German</i>	✓	×	×	✓	–

¹⁶ A reviewer suggests an alternative account of the 3/4 puzzle with possessor phrases. The contrast between (73) and (74) could also be explained by assuming that base-generation of a possessor in sentential-initial/final position is allowed, but that of a possessum is not. Although both theories rely on ad hoc assumptions in one way or another, the current account nevertheless has an advantage. Whereas the VP-movement account only relies on the assumption that remnant possessor phrase movement is not an option, the alternative approach assumes that leftward dislocation from base position on the one hand can result from base generation and on the other is excluded for possessums. Since there is independent evidence based on binding and scope for leftward dislocation to instantiate leftward movement (Termüci 2005), the alternative account runs into additional complications.

proper noun incorporation (Massam 2001). Whereas the nominal properties are uncontroversial, the verbal properties have so far been overlooked in the literature.¹⁷

The nominal traits seem to be relevant early in the derivation – c-selection and θ -role assignment as well as noun phrase internal modification are operations which apply before or at the point the argument is first merged with the verb. The verbal properties, however, impact operations that are dependent on other arguments and functional heads in the clause. This observation will be implemented by employing a derivational framework which is capable of turning a nominal category into a verbal category in the course of the derivation. In doing so, the analysis will be able to predict PNI-ed arguments to move like verbal categories, i.e. like VPs. The details are laid out in section 5.1. In section 5.2, the rationale is extended to the two other core properties of PNI, case drop and scope inertness.

5.1 Movement properties

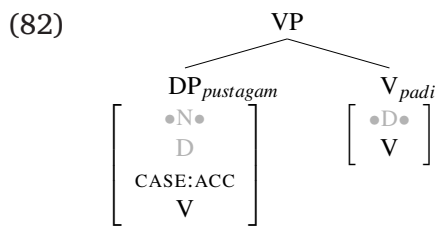
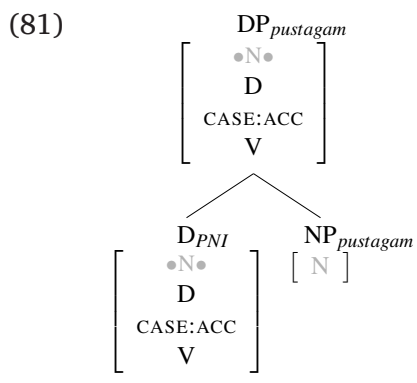
The proposal is worked out in a minimalist framework (Chomsky 1995) – a derivational model of grammar in which the basic operations *Merge* and *Agree* apply in sequential order. Syntactic structures are built bottom-up by sequential application of Merge and Agree from a set of lexical items, taken from the numeration. Syntactic operations are driven by two types of features: (i) structure-building features [\bullet F \bullet] triggering Merge, where movement is defined as internal Merge, and (ii) probe features [\ast F \ast] triggering Agree. [\bullet F \bullet] and [\ast F \ast] must be targeted and discharged during the derivation, thereby restricting the possible outcome of syntactic derivations. If a head comes with more than one structure-building or probe feature, where for each feature the context to apply is met, the *Earliness Principle* (Pesetsky 1989) demands that the syntactic operations the features trigger apply either simultaneously or in a certain order. Recent analyses have made use of the latter option, deriving feeding and bleeding interactions between Merge and Agree, either implicitly (Anand & Nevins 2006; Asarina 2011) or explicitly by making reference to a *feature list* or *feature stack* (Stabler 1997; Müller 2009; 2010; 2011; Georgi 2014; Assmann et al. 2015; Heck & Himmelreich 2017). Following Müller (2011: 168), I assume that the features of a head constitute a list and will be discharged one after another, beginning with the first feature in the list. There are no syntactic operations which are not feature-triggered and every probe and structure-building feature can only be targeted once. They will be discharged, after they have undergone an operation, in order to make room for the next feature on the stack. Features become *inactive* after they have taken part in a structure-building or Agree relation, see also the discussion in Müller (2009: 288), Müller (2010: 40), and Georgi (2014: 109).¹⁸ Note that goal features do not have to be discharged for the derivation to converge. They will, however, nevertheless be discharged after they have taken part in an operation. Structural case is assigned by the functional heads T and v (Chomsky 1995; 2000) where a *checking* account of case assignment is adopted, in which both probe and goal enter the derivation with valued case features but Agree requires *matching* of features (Müller 2009; 2011).

¹⁷ Within the literature on noun incorporation, categorial status plays a much more prominent role. Johns (2007) for example proposes that light verbs in Inuktitut can take verbal as well as nominal roots as complements where the latter results in noun incorporation. Although the syntactic behaviour is identical, nominal roots can nevertheless be fully referential. A slightly different picture can be found in Polynesian languages such as Tahitian (Paia & Vernaudoon 2004) and Samoan (Mosel 2004) where lexemes are generally underspecified for lexical category, yet object incorporation seems to have an effect on whether a lexeme is interpreted as an entity or a process. The research on noun incorporation provides interesting parallels to the current account, although there is one important difference that is worth pointing out. Whereas noun incorporation theories operate under the assumption that incorporated phrases are generally underspecified for lexical category, the current theory aims to model a transition from one category to another within the course of a derivation. Pseudo-noun incorporation languages call for the transitional analysis since they show both nominal as well as verbal properties.

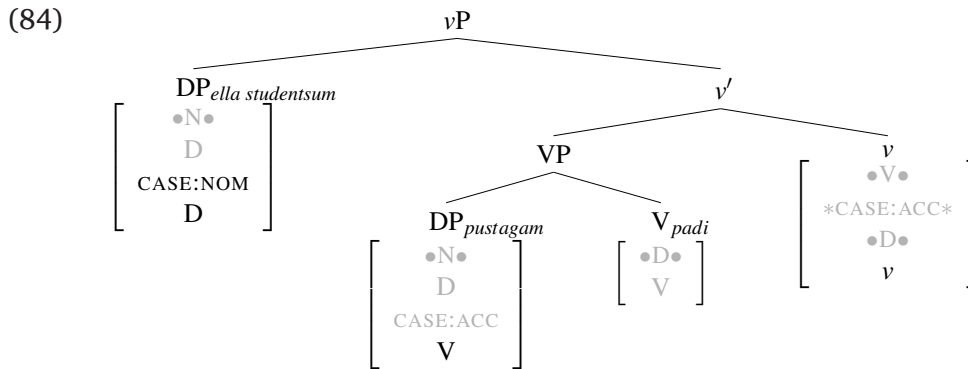
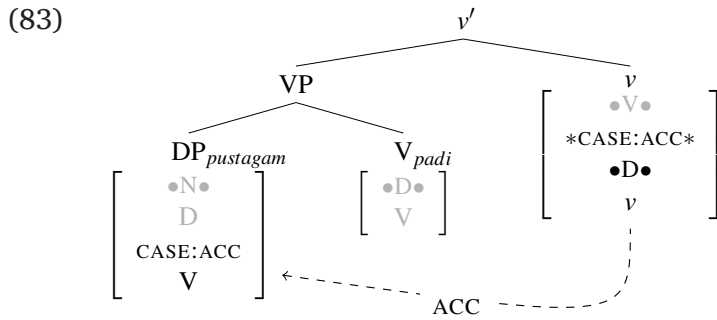
¹⁸ Deactivated features are marked in grey: [\bullet F \bullet], \ast F \ast , [F].

PNI-ed arguments are the result of a special D head, a feature list that contains a categorial [D] feature as well as a categorial [V] feature. The features are ordered so that [D] is relevant for processes early in the derivation, i.e. c-selection and θ -role assignment, while [V] is at work for later operations such as realization of case features, scope, and movement. A sample derivation is given in (81)–(84), exemplarily shown for the PNI scenario in (2), repeated here in (80). The tree in (81) presents the internal feature structure of a PNI-ed argument, while (82) shows how a PNI-ed argument is selected for by the verb. Since [D] is ordered higher on the feature stack than [V], the PNI-ed object is c-selected like a proper argument.¹⁹ If we compare the feature stack of the subject with the one of the object in (84), we see that external Merge of each argument is triggered by a structure-building feature [\bullet D \bullet].²⁰ As is shown in (83), syntactic case assignment is not blocked in PNI contexts. Consequently, no other syntactic operation potentially interacting with case assignment should be affected by PNI-related case drop – a desired result since no interaction with ϕ -agreement or valency reduction can be detected for the languages of this study.²¹ In section 5.2, a post-syntactic account of case drop is presented. PNI-ed arguments and proper arguments are of different categorial status once they are first-merged with their functional heads. This difference now accounts for the PNI effects investigated in this paper.

(80) *Tamil*
 Ella students-um pustagam^{VE,*EA} padi-c-aanga.
 All students.NOM-ADD book read-PST-3PL
 ‘All students read a book.’



¹⁹ The order of categorial features also predicts that PNI-ed arguments will never be c-selected as VPs, e.g. as complements of *v*. Before PNI-ed arguments can act as VPs, they have to be c-selected as DPs first.
²⁰ Note that the feature stack of the subject DP contains two [D] features, one for c-selection and one for movement, reminiscent of *minimalist grammars* (Stabler 1997; 2011). In principle, there is no limit with respect to the number of categorial goal features on a lexical item.
²¹ Both persistence of ϕ -agreement and lack of detransitivization can primarily be observed in Turkish subject PNI contexts. Similarly, Tamil does not show any effect for ϕ -agreement on DAT-NOM verbs with non-specific objects (Driemel 2020a; b). Further evidence comes from the double-case constraint which is active in Turkish and Monoglian but remains completely unaffected by case drop caused by PNI (Öztürk 2005; 2009; Guntsetseg 2016).



Having set-up the basic system, let us now turn to the movement patterns of PNI-ed arguments. Table 1 summarized the movement properties of PNI-ed objects within the languages investigated in this paper. All languages in this study allow for scrambling of nominal arguments. The overview signals that movement of PNI-ed arguments is generally restricted, yet not every language shows the same restrictions. An ideal way to account for the cross-linguistic variation is to adhere to individual properties of the languages under consideration. The present approach is able to do so in a straightforward manner. Since PNI-ed arguments constitute hybrid categories which start off as nominals but turn into verbal arguments, once they have been c-selected, we predict their movement patterns to parallel VP movement in the respective languages. Since VP-movement is often more restricted than DP-movement cross-linguistically, the movement patterns of PNI-ed arguments are not surprising.

Movement is driven by categorial features. While this is a commonly shared assumption for nominal arguments undergoing scrambling, EPP-movement, or object shift (Chomsky 1995; Kitahara 1997; Bailyn 2003 a.o.), category-driven movement triggers have also been proposed for VP/ ν P/PredP-movement (Massam & Smallwood 1997; Massam 2001; Mahajan 2003; Müller 2004; Collins 2017; van Urk 2019a).²² Hence, DP-movement is triggered by [\bullet D \bullet], whereas movement of VPs as well as PNI-ed arguments results from the presence of [\bullet V \bullet] on the respective functional heads in the clause, i.e. ν for short scrambling, T for intermediate scrambling and C for long scrambling and/or topicalization. With these assumptions in place, I provide the featural set-up for the PNI languages under discussion in Table 2. In line with the distribution in Table 1, each allowed movement operation will be licensed by the presence of [\bullet V \bullet]. Turkish shows maximal flexibility considering PNI- and VP-movement since ν and T can optionally come with the movement-inducing categorial feature [\bullet V \bullet]. By assumption, these options are not available to Mongolian and Tamil. Hence, PNI-ed arguments cannot leave their base

²² To my knowledge, no movement inducing feature has been introduced to specifically target NPs. This step would be necessary for proponents of DP/NP accounts in order to derive the cross-linguistic variation.

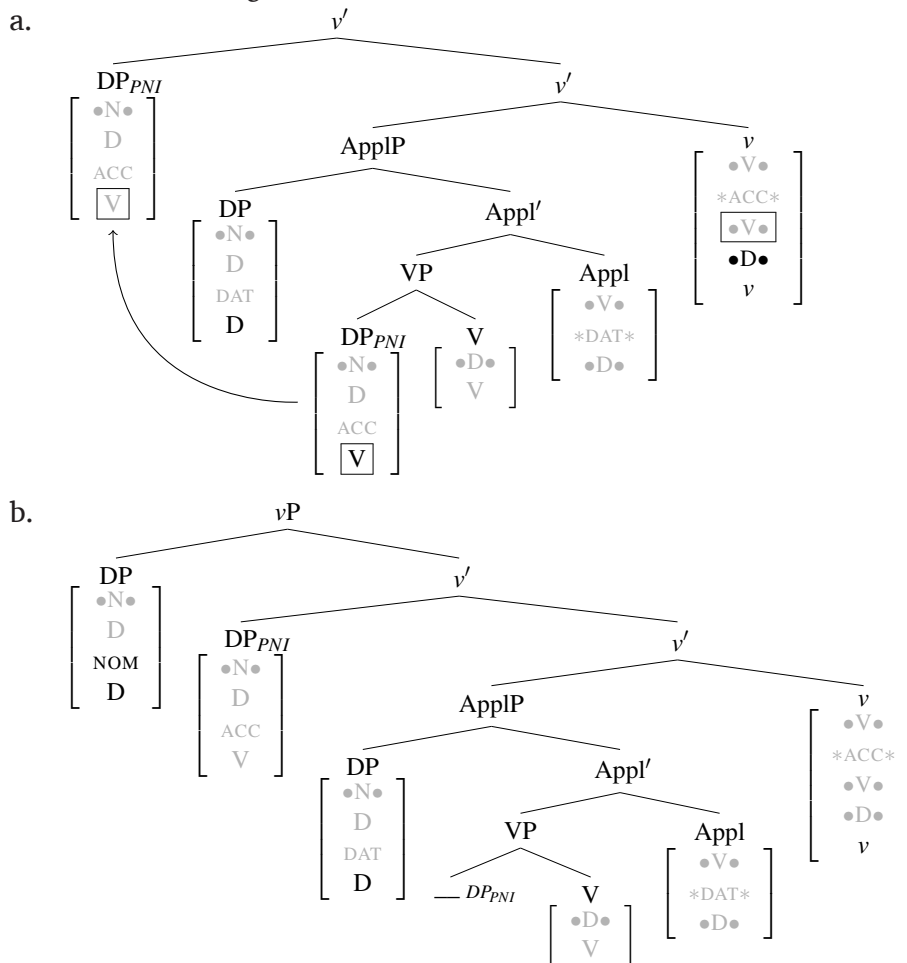
Table 2: Feature set-up for movement of PNI-ed arguments.

	SHORT SCR	INTERMED SCR	TOP	LONG SCR
<i>Mongolian</i>	-	-	-	-
<i>Tamil</i>	-	-	-	-
<i>Turkish</i>	$v_{[-v]}$	$T_{[-v]}$	-	$T_{[-v]}$
<i>German</i>	-	-	$C_{[-v]}$	-

positions. German allows for topicalization of PNI-ed arguments but blocks scrambling. Thus, only the C head can be equipped with [$\bullet V \bullet$].²³

How the movement patterns established in this study follow from the featural set-up in Table 2 will be demonstrated in the following, beginning with short scrambling. Indirect arguments are introduced by Appl which takes VP as a complement (Marantz 1993). Turkish PNI-ed objects undergo short scrambling if v comes with [$\bullet V \bullet$], thereby attracting the PNI-ed object to an inner specifier position, see (85a). The scrambling feature [$\bullet V \bullet$] is ordered before [$\bullet D \bullet$] which subsequently c-selects a proper DP, leading to external Merge of the subject as an outer specifier of vP , shown in (85b). The crucial features responsible for the indicated movement step are boxed.

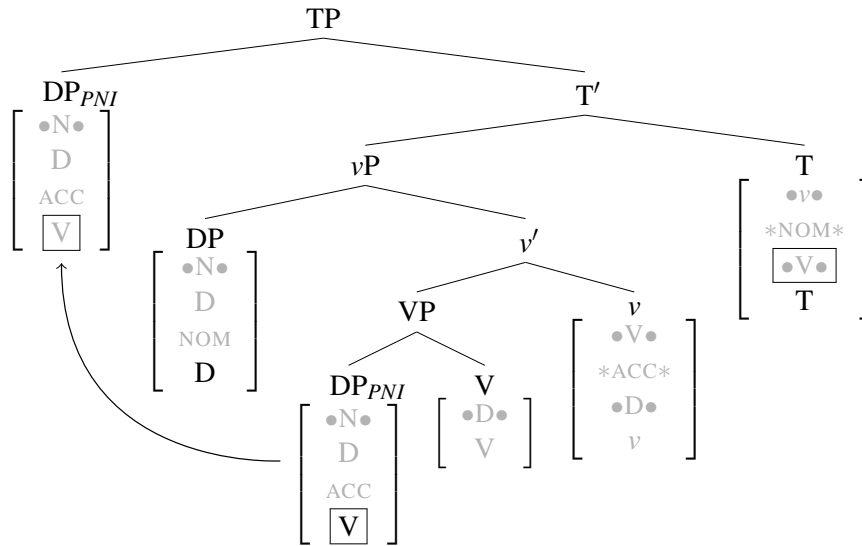
(85) ✓ Short scrambling in Turkish



²³ Since PNI-ed objects are properly contained inside VPs, one might wonder how movement-inducing heads can target the object across the VP. This is not a problem since VP's categorial feature [V] becomes inactive via c-selection by v . Hence, VP does not qualify as a goal by the time the movement-inducing head enters the derivation.

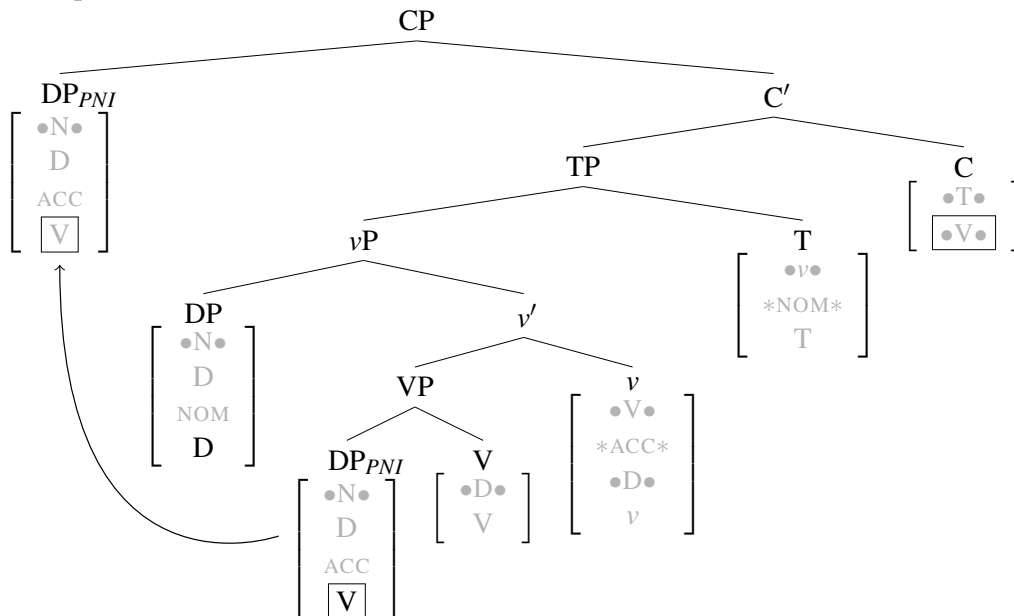
Mongolian, Tamil, and German do not exhibit short scrambling of PNI-ed objects because *v* does not come with [**•V•**]. Adding a nominal scrambling feature [**•D•**] does not help, as it would not target the right argument. Intermediate scrambling follows the same rationale, Turkish allows for PNI-ed objects to move across subjects since T comes with [**•V•**], shown in (86), whereas Mongolian, Tamil and German T do not have this option.

(86) ✓ Intermediate scrambling in Turkish



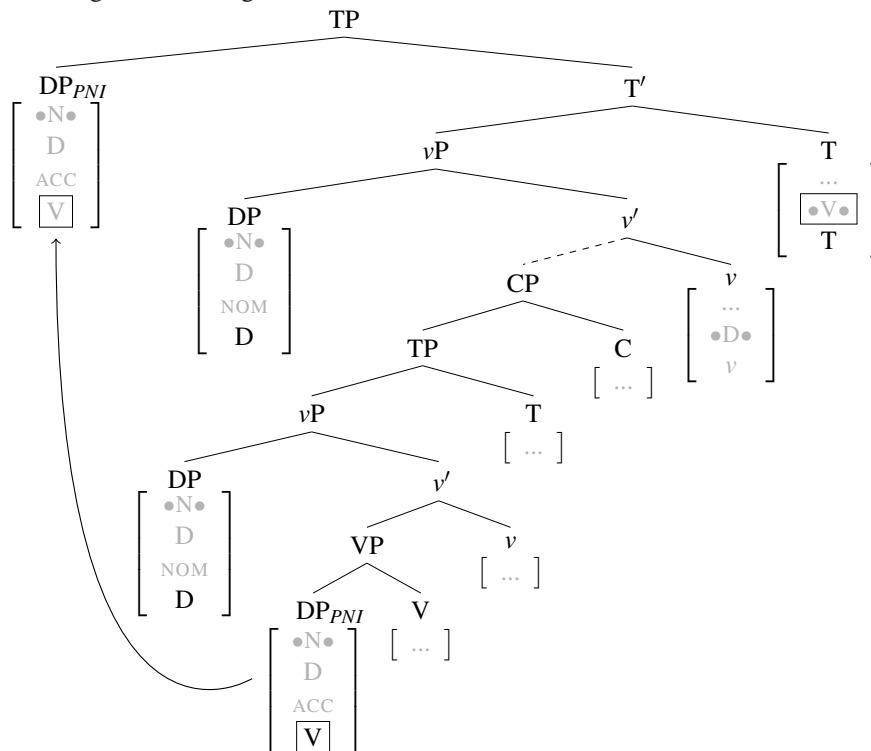
German permits topicalization of PNI-ed objects, enabled by a C head with a [**•V•**] feature, which is illustrated in (87).

(87) ✓ Topicalization in German



Finally, long scrambling in Turkish is triggered by the scrambling feature [**•V•**] on matrix T, shown in (88). Since Mongolian, Tamil, and German cannot assign the scrambling feature [**•V•**] to T generally, they do not allow for long scrambling.

(88) ✓ Long scrambling in Turkish



The analysis presented in this section can cover the cross-linguistic variation we find concerning movement restrictions of PNI-ed arguments. The parallelism with VP-movement is taken as evidence for the hybrid character of PNI-ed constituents. Since the current proposal ties movement restrictions to the verbal nature of PNI-ed arguments, a straightforward implementation suggests itself which makes reference to categorially triggered movement operations. The analysis is, in this sense, superior to traditional DP/NP approaches which essentially derive PNI properties from the lack of a DP/KP-shell, thus predicting complete immobility (Massam 2001; Dayal 2011; Barrie & Li 2015; López 2012; Frey 2015) or even surface adjacency (Baker 2014; Levin 2015). In the next section, the relevance of the partially verbal nature for two other core PNI properties will be motivated.

5.2 Extension to case and scope properties

Often implicitly assumed amongst many scholars is that case is uniformly expressed on nouns and not on verbs, see however Blake (2001/2004) and Moravcsik (2012) for explicit statements of such kind. This assumption finds empirical support in the work by Nichols (1986) who identifies case as the predominant morphological category for dependent marking strategies, whereas person, number, and gender morphology are most commonly expressed in head-marking patterns. An early implementation of this dichotomy can be found in the *Principles and Parameters* tradition of Generative Grammar. Lexical categories were distinguished by two binary distinctive features $[\pm N]$ and $[\pm V]$ where $[-N]$ categories assign case and $[+N]$ categories receive case (Chomsky 1981; Stowell 1981). The most recent installment of this assumption can be found within the theory of *Dependent Case* (Marantz 1991; Wunderlich 1997) where case marking expresses the licensing of one nominal in the local presence of another nominal. The lack of case-marking on PNI-ed arguments is thus a direct consequence of the non-nominal nature of PNI-ed arguments. To implement this idea in the current framework, I suggest a post-syntactic treatment of case drop, in line with many proposals for *Differential Object Marking* (Bossong 1991;

Aissen 2003). Post-syntactic DOM/PNI accounts often make use of special spell-out rules (López 2012; Lidz 2006; Nüger 2010) or impoverishment rules (Keine 2007; Keine & Müller 2011; 2015; Weisser 2018) to account for case loss. Impoverishment rules (Bonet 1991) reduce morpho-syntactic feature bundles/lists by deleting (sub)features, thereby blocking insertion which in turn requires retreating to the general case, which is often an elsewhere marker that is spelled out as $/\emptyset/$. Within the current system, impoverishment would be contextually triggered by [V] on PNI-ed arguments, deleting the case feature resulting in zero exponence. For theories that model case assignment in terms of Agree, this impoverishment rule must be in place regardless of PNI, as it explains why verbs rarely express case morphology. In contrast, non-incorporated arguments do not come with [V], which prevents them from undergoing case drop. An Optimality-based system such as the one proposed by Aissen (1999; 2003) can describe the case drop equally well by integrating PNI-ed arguments on the definiteness scale – one of the prominence scales assumed operative as primitives in grammar. Keine & Müller (2011; 2015) develop a post-syntactic version of Aissen’s OT-approach. Situating case loss in the post-syntactic component also accounts for PNI languages in which case marking is not affected. Languages such as German (Frey 2015) and Hungarian (Farkas & de Swart 2003) exemplify how PNI is not necessarily always characterized by a correlation between lack of case marking and scope inertness. This is entirely predicted by post-syntactic accounts to case loss. Impoverishment rules are motivated by markedness considerations but do not have to apply across the board. An OT-system can capture cross-linguistic variation in an equally adequate fashion by re-ranking the markedness constraint that leads to case drop.

Finally, let us address the low scope restriction. One of the main reasons why the syntactic status of head movement is so fiercely debated in the recent past comes from the observation that verb movement never seems to change scopal relations. This has led many scholars, most prominently Chomsky (1995; 2000; 2001) with many following him (Boeckx & Stjepanović 2001; Merchant 2002; Harley 2004), to place head movement in general in the post-syntactic component. Others have argued for verb movement specifically to take place in syntax but with obligatory semantic reconstruction (Goldberg 2005; Matushansky 2006; Keine & Bhatt 2016). The scopal properties of PNI-ed arguments thus parallel those of verbs, in that they cannot take scope over another operator in the sentence. Under the assumption that syntactic categories are related to semantic types in a meaningful way (von Stechow 2012), I assume that [V]-features are intrinsically linked to events, whereas e.g. nominals are linked to individuals, CPs are linked to worlds etc. A promising way to restrict the scope of PNI-ed arguments is to enable interpretation only in the event domain. With Kratzer (1995) and Chung & Ladusaw (2004), I assume that verbs introduce an event variable $\langle v \rangle$ which is accessible within the verbal domain but not outside of it, as it is closed off immediately above the verbal domain (vP). The PNI determiner is an existential quantifier of type $\langle\langle e,t \rangle, \langle e, \langle v,t \rangle \rangle\rangle$, thus it can be interpreted only in the verbal domain. Generalized quantifiers such as the universal quantifiers in (1)–(3) are of type $\langle\langle e,t \rangle, t \rangle$ and have to be interpreted outside of the event domain (Landman 2000), thereby deriving the scope effects in (1)–(3). An elaborate discussion on the case and scope properties can be found in Driemel (2020a; b).

6 Conclusion

This paper ties prominent PNI effects to the verbal nature of PNI-ed arguments. Verbs often do not present hosts for case morphology across languages, nor do verbs shift scope. Detailed case studies of four PNI languages show how movement patterns of PNI-ed arguments are mirrored by VP-movement patterns in each language, respectively. The account developed on the basis of the empirical findings presents a literal take on the parallelism

with VP-movement. Pseudo-incorporation is proposed to result from noun phrases that are made up of a nominal and a verbal category feature. The categorial PNI account is superior to traditional DP/NP approaches, as they are not equipped to account for the cross-linguistic variation in movement patterns of PNI-ed arguments. By shifting the attention from a DP/NP contrast to an opposition between nominal and verbal properties of PNI-ed arguments, the theory paves the way for future cross-linguistic PNI studies that focus on the typology of movement possibilities and its potential to mimick movement patterns of other syntactic categories.

Another important take away from this study is that case loss as well as immobility are not sufficient on their own to diagnose PNI. This view is a direct consequence of a theory that ties PNI properties to verbal categories. While scope inertness is robustly attested for lexical verbs, absence of case morphology can at most be observed as a strong tendency. Similarly, VPs are known to move less freely than DPs but there is variation from language to language. Finally, the inability to act as controllers and as subjects of small clauses – two properties that were only marginally discussed – deserve more attention in future research, as these properties equally point to verbal status in a striking fashion.

Abbreviations

1,2,3 = 1st, 2nd, 3rd person, ABL = ablative, ABS = absolutive, ACC = accusative, ADD = additive, ADV = adverbial suffix, COMP = complementizer, COP = copula, CV = converb, DAT = dative, DEM = demonstrative, DET = determiner, EMPH = emphatic particle, ERG = ergative, F = feminine, FUT = future, GEN = genitive, INF = infinitive, INSTR = instrumental, IPFV = imperfective, LOC = locative, M = masculine, MIR = mirative, N = neuter, NEG = negation, NMLZ = nominalizer, NOM = nominative, PFV = perfective, PL = plural, PRS = present, POSS = possessive, PST = past, REFL = reflexive, SBJ = subject, SG = singular, TOP = topic

Acknowledgements

I would like to thank Jegan Murugesan, Sandhya Sundaresan, Rajamathangi Shanmugam, and Aravindhan Sukumar for their insights and judgements on the Tamil data. I am also grateful to Fatoş & Bilal Özdemir for their input on Turkish as well as Dolgor Guntsetseg, Sukhbat Baatar, Erdenekhisig Eldev-Ochir, Adiyasuren Jamiyandagva, Ganzaya Sengee, and Gombosuren Tsermed wrt. to the Mongolian data. For helpful comments and discussion, I would like to thank Gereon Müller, Martin Salzmann, Philipp Weisser, the audience of the *DGfS* Workshop “New horizons in the study of nominal phrases” in Bremen (2019) as well as the editors and three insightful reviewers at *Glossa*.

Funding Information

This research was supported by the DFG-funded graduate program *Interactions of Grammatical Building Blocks* (IGRA) and the *Maria Weber Grant* from the *Hans Böckler Stiftung*.

Competing Interests

The author has no competing interests to declare.

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How to cite this article: Driemel, Imke. 2020. Pseudo-incorporation and its movement patterns. *Glossa: a journal of general linguistics* 5(1): 106.1–40. DOI: <https://doi.org/10.5334/gjgl.1120>

Submitted: 01 October 2019 **Accepted:** 02 September 2020 **Published:** 05 November 2020

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 *Glossa: a journal of general linguistics* is a peer-reviewed open access journal published by Ubiquity Press.

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