Pseudo-noun incorporation: A DP/VP approach
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Introduction. Maori exhibits two types of indefinites, he with restriction to low scope and tētahi with flexible scope, see (1). Chung & Ladusaw (2004), henceforth Ch & L, tie the spell-outs to different semantic composition rules, tētahi signals the presence of a choice function which can be existentially closed above or below negation, whereas he is the morpho-syntactic reflex of Restrict, an operation that interprets tangata as a restrictive modifier without saturating the argument slot of the verb, thus necessitating existential closure at the vP-level which is, by assumption, below negation.

(1) Maori
Kāore he¬∃,¬3¬3/tētahi¬∃,¬3¬3 tangata i waiata mai.
T.not a / a person T sing to.here
‘No one at all sang. / A person didn’t sing.’ (Chung & Ladusaw 2004: 40-41)

A very similar interaction is found with pseudo-noun incorporation (PNI), which shows a robust cross-linguistic correlation between lack of case-marking and restriction to low scope, shown here for Korean, Tamil, and Mongolian. Data was elicited with > 5 Korean, 4-6 Mongolian, and 4 Tamil speakers.

(2) a. Korean
Pesu¬∃,¬3¬3/ pesu-ka¬∃,¬3¬3 an tany-e.
b. Mongolian
Bold alim¬∃,¬3¬3/ alim-yg¬∃,¬3¬3 idee-güj.
c. Tamil
Naan pustagam¬∃,¬3¬3/ pustagath-ai¬∃,¬3¬3 vanga-lle.

The current proposal follows Ch & L in spirit by treating both case-marked and caseless arguments in (2) as DPs, albeit with silent D heads. This is not surprising since Korean, Tamil, and Mongolian are bare argument languages where definite determiners are also not overtly spelled out (though they trigger case-marking). Contra Ch & L, we will derive the scopal behaviour directly from the syntactic decomposition and lexical denotation of the determiners without making reference to Restrict. This will enable us to account for more PNI properties such as lack of binding and control and restricted movement capabilities.

Main idea. PNI-ed arguments transform from nouns into verbs during the course of the derivation. D-heads that result in loss of case-marking on arguments are different from proper D-heads in that they encode a verbal category feature, in addition to a nominal one. Under the assumption that features are not bundled but stacked (Müller 2009, 2010, Georgie 2014), we predict the D-feature to be active early upon Merge (for c-selection and θ-roles), while the V-feature is active later in the derivation where it is responsible for the verbal behaviour in terms of binding, control, movement, and case-marking.

(3) a. D-heads of proper arguments: [∃, D], [ι, D], ...
   Vocabulary items
b. D-heads of PNI-ed arguments: [∃, D > V]

Since verbs are not marked for case morphology cross-linguistically (Nichols 1986, Blake 2004, Moravcsik 2012), PNI-ed arguments will not be marked either. There is good reason to assume that lack of case-marking is post-syntactic, as it does not e.g. trigger detransitivization (Lee 2006) or lack of honorific agreement in Korean (not shown here). Compare also Turkish where Φ-agreement is independent of subject case drop (Kornfilt 2003). Ways in which this insight can be modeled are e.g. an impoverishment rule that deletes case in the context of a V-feature or by placing hybrid D-heads on the low end of a definiteness scale, see Keine & Müller (2015) for a post-syntactic version of Aissen (2003).

The lack of wide scope also reflects the verbal nature of PNI-ed arguments. Lexical verb movement never seems to change scopal relations which has led Chomsky (2000) to postpone head movement entirely to the PF component, while others have argued for syntactic head movement with obligatory reconstruction (Matushansky 2006, Keine & Bhatt 2016). We take the latter type of approach by assigning PNI-ed DPs the type ⟨⟨e, ⟨v, t⟩⟩, ⟨v, t⟩⟩ – a requirement to combine with functions from individuals to predicates of events. The D-head in (3b) has the denotation of an existential quantifier (4), restricting its
interpretable occurrences to the event domain, which is marked by existential closure of the event variable at the vP-level (Diesing 1992, Kratzer 1995). VP and v combine via Event Identification (Kratzer 1996).

\[ \text{PNI-D} = \lambda P_{e,t} \lambda Q_{e,v(t)} \lambda z [P(z) \land Q(z)(e)] \]

Generalized quantifiers, being of type \( \langle (e, t), t \rangle \), are forced to move outside of the event domain, in order to get interpreted (Landman 2000). Thus PNI-ed arguments will always scope below any other quantifier present in the clause. The scope facts in (2) follow from the commonly shared assumption that negation applies not lower than existential closure (Zeijlstra 2004, Penka 2010, Swart 2016), see (5). While the negation seems to be fixed to an immediate position above vP in Tamil and Mongolian, the adverbial nature of negation in Korean allows for scope above or below case-marked indefinites.

Further predictions. Öztürk (2009) reports for Turkish that PNI-ed subjects lose the ability to bind or control, see also Spanish (López 2012). We can extend this observation to Korean and Tamil (and Mongolian), shown in (6) for binding (control data are not shown). Since binding constitutes a relation between nominals in A-positions (Chomsky 1981) and PNI-ed arguments are of category V after they are merged in their base positions, the ban on binding naturally follows. We use Büring’s (2004:25) binder rule, which is explicitly restricted to nominals, to enable binding for case-marked existential quantifiers and definite DPs. The insertion of a binder prefix is blocked for verbal categories. The lack of control follows under the assumption that control requires binding (Chomsky 1981, Landau 2015, 2017).

The hybrid nature of (3b) makes PNI-ed arguments move like VPs and not like DPs. This prediction is in fact borne out. While e.g. in Korean caseless arguments can freely scramble within a clause, but cannot undergo long scrambling (not shown), Mongolian caseless objects are completely immobile (Guntsetseg 2016). Our study of remnant VP-movement patterns shows that VPs mimic these movement patterns in each languages, respectively. We illustrate with intermediate scrambling in Mongolian and Korean.

Against DP/NP approaches. PNI-ed arguments are often claimed to be NPs, denoting properties \( \langle e, t \rangle \), which do not require case and cannot take scope (van Geenhoven 1998, Massam 2001, Dayal 2011). These approaches do not cover the inability to bind/control or account for cross-linguistic variation wrt. movement restrictions. The current proposal, furthermore, does not have to permit flexible c-selection, nor does it postulate separate lexical entries for each verb that allows for incorporation or does it rely on an additional compositional mode like Restrict, ensuring that verbs can compose with arguments of type \( \langle e, t \rangle \). Rather, all properties can be derived by the hybrid determiner.