

Composition and definiteness without articles: A case study in Tagalog*

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1. Introduction

Cross-linguistically, definiteness is signalled in a variety of ways besides articles. For example, definiteness may be signalled by the syntactic position, grammatical role, and/or the case marking of the NP. Characterizing the link between these morphosyntactic factors and the definiteness of an NP has been a persistent issue for both syntacticians and semanticists. Using Tagalog as a case study, I provide a compositional account of how the definiteness of an NP is linked to its syntactic context.

Following previous authors (e.g., Guilfoyle et al. 1992, Aldridge 2004, etc.), I take the case of an NP in Tagalog to be determined in part by its syntactic position. I argue that the NP's syntactic position determines the manner in which the NP composes with the rest of the sentence semantically. In particular positions, NPs must type-shift in order for semantic composition to be successful. These type-shifts can induce a definite interpretation of the NP. In other positions, the NP can be existentially quantified by the verb itself (*à la* Van Geenhoven 1998), deriving an indefinite reading. Therefore, the choice between definite and indefinite interpretations of an NP amounts to a choice between structural positions and compositional procedures rather than a choice between articles.

This paper also bears on some extant debates about the interpretation of case marked NPs in Tagalog. I show that bare NPs are interpreted as *presuppositional definites* if they are transitive patients marked with nominative case. With certain quantificational determiners, nominative patients may be interpreted as quantificational indefinites. In this respect, I concur with the proposal of Paul et al. 2016 that the Tagalog nominative case marker *ang* does not itself encode for either definiteness or indefiniteness (contra, e.g., Himmelmann 1998, 2005b). I also argue that bare NPs are *narrow scope indefinites* if they are transi-

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tive patients marked with genitive case. Genitive patients obligatorily scope beneath other scope-taking operators such as negation and intensional transitive verbs. However, in the absence of other operators, they may be interpreted as referential indefinites in the sense of Fodor & Sag 1982.

2. The definiteness effect of voice and case

Tagalog’s system of voice affixation and case marking is largely typical of western Austronesian languages (see e.g., Himmelmann 2005a). Foley (2008) makes the case that western Austronesian voice systems do not reduce to more familiar voice systems crosslinguistically, such as those employing passives and antipassives, but constitute their own class, termed “symmetrical voice systems”. This is the approach I assume here.

Tagalog voice affixes serve to promote one NP to subjecthood. Arguments that the promoted NP is a subject are found in De Wolf 1988, Kroeger 1993:§2. Unlike familiar voice systems, there is no morphologically unmarked voice (corresponding to e.g., the English active voice). In (1), the transitive root *tago* (‘hide’) may take either a patient-voice (PV) (1a) or an actor-voice (AV) (1b) affix, promoting the thematic patient or actor to subjecthood respectively. In both cases, the voice is morphologically marked. In Tagalog, subjecthood is marked by the nominative case marker *ang* on common nouns (1a), or by the nominative series of pronouns (e.g., the NOM.1SG pronoun *ako* in (1b)).¹

- (1) a. t(**in**)ago ko ang kompyuter
 ⟨PV⟩.PERF-hide GEN.1SG NOM computer
 I hid the computer.
- b. **nag**-tago ako ng kompyuter
 AV.PERF-hide NOM.1SG GEN computer
 I hid a computer.

In both cases, the subcategorized argument of the affixed verb which is not a subject is marked with genitive case, signalled by the marker *ng* on a common noun (1b), or by the genitive series of pronouns (e.g., the GEN.1SG pronoun *ko* in (1a)). Unlike more familiar voice systems such as passives and antipassives, the non-subject, subcategorized argument of the affixed verb is not demoted to an oblique status (Kroeger 1993:47–48, Foley 2008).

Of central import to this paper is the semantic distinction between the patient NPs in (1). The data in this section provides evidence that the distinguishing property is definiteness. Previous accounts (Rackowski 2002, Aldridge 2004, Rackowski & Richards 2005) characterize Tagalog nominative patients as specific. I argue that this characterization is not sufficiently precise. I instead adopt the generalizations in (2), taking the interpretation of nominative patients to be sensitive to whether the nominative NP is bare or contains quantificational material.

¹Abbreviations: AV actor voice, CAUS causative, COMP complementizer, FUT future, GEN genitive, INF infinitive, LK linker, NEG negation, NOM nominative, OBL oblique, PERF perfect, PL plural, PURP purposive clause, PV patient voice, SG singular, TOP topic marker

Composition and definiteness without articles: A case study in Tagalog

- (2) a. Bare nominative patients (without additional quantificational material) are pre-suppositional definites.
b. Nominative patients with indefinite quantificational determiners may be interpreted as indefinites.

In section 2.1, I focus on generalization (a). I show that the characterization of bare nominative patients as specific is too weak, potentially allowing for indefinite readings of bare nominative patients. I contrast bare nominative patients with bare genitive patients, which I argue are interpreted as indefinites.

2.1 Bare nominative and genitive patients

The data in (3) indicate that bare nominative patients, but not bare genitive patients, impose on the discourse context a felicity condition that the descriptive content of the NP must be instantiated by at least one individual. The utterance of the nominative patient *ang wizard* in (3a) is unacceptable as the mutual beliefs of the conversational participants do not determine whether or not a wizard exists. If the nominative patient in (3a) were able to be interpreted as a specific indefinite, (3a) should be felicitous. The genitive patient *ng wizard* in the same context is acceptable (3b), implying that the same condition is not imposed.

- (3) a. Context: *Juan and Maria approach a closed, sound proof room. Maria walks in, then re-emerges and says:*
#Na-kilala ko ang wizard
PERF.PV-meet GEN.1SG NOM wizard
I met the wizard. (*Comment: confusing, which wizard does she mean?*)
- b. Naka-kilala ako ng wizard
PERF.AV-meet NOM.1SG GEN wizard
I met a wizard. (*Comment: fine*)

Further, bare nominative patients, but not bare genitive patients, enforce a requirement that the referent be unique or highly salient among individuals who instantiate the NP's descriptive content. In (4), the use of the nominative patient *ang lawnmower ni Maria* is only acceptable if the discourse context entails the existence of only one salient lawnmower. In Context B, which does not support uniqueness, the usage is only acceptable if one lawnmower is understood as being more contextually salient than the others.

- (4) Context A: *The speaker knows that Maria only has one lawnmower and wants to borrow it.*
Context B: *#?The speaker knows that Maria has more than one lawnmower.*
Hi-hiram-in ko [ang lawnmower ni Maria]
FUT-borrow-PV GEN.1SG NOM lawnmower GEN Maria

(lit.) I will borrow the lawnmower of Maria.

Accepted in Context A,

Degraded in Context B (without prior mention of a particular lawnmower)

A similar point can be made with the data in (5), adapting a diagnostic from Matthewson 1998:106). In (5a), nominative patients with the same descriptive content are understood as being coreferential, despite the implausible interpretation. This is expected if nominative patients impose a constraint that the descriptive content is instantiated by unique (or most salient) individuals. In (5b), no such constraint is imposed and the two genitive patients are able to refer to distinct individuals.

- (5) a. **Na-huli ni Maria ang mamamatay tao** noong Miyerkules at **na-huli**
PV-catch GEN Maria NOM murderer on Wednesday and PV-catch
ni **Carlos ang mamamatay tao** noong Huwebes Maria caught the mur-
GEN Carlos NOM murderer on Thursday
derer on Wednesday and Carlos caught the murderer on Thursday. (*Comment:*
Sounds like Maria let him go.)
- b. **Naka-huli si Maria ng mamamatay tao** noong Miyerkules at **naka-huli**
AV.catch NOM Maria GEN murderer on Wednesday and AV.catch
si **Carlos ng mamamatay tao** noong Huwebes Maria caught a murderer
NOM Carlos GEN murderer on Thursday
on Wednesday and Carlos caught a murderer on Thursday.’ (*Comment:* Fine,
different murderers.)

Thus, it appears that the use of nominative patients implies that the descriptive content of the NP has a unique salient referent in the context, a prototypical implication of presuppositional definites.

Moving to genitive patients of actor voice-affixed verbs, previous authors (e.g., Rackowski 2002, Aldridge 2004, Rackowski & Richards 2005) have argued that genitive patients are interpreted as nonspecific indefinites. Just as the characterization of bare NP nominative patients as specific is too weak, the characterization of genitive patients as nonspecific is too strong. In the absence of higher scoping material, genitive patients may be used referentially, and thus particular uses can be characterized as specific. In (6a), the genitive patient *ng estudyante* can be further elaborated by naming a referent. In (6b), the indefinite *ng babae* antecedes a pronominal anaphora *siya*, and further, the indefinite is fully identified as a particular individual.

- (6) a. *t(um)ukso si Carlos ng estudyante. Juan ang pangalan niya*
(AV.PERF).tease NOM Carlos GEN student. Juan NOM name GEN.3SG
Carlos teased a student. Juan was his name.
- b. *nakilala ako ng babae, at saka, siya ay si Jennifer*
AV.meet INOM.SG GEN woman, and also, NOM.3SG TOP NOM Jennifer
I’ve met a woman, and what’s more, it’s Jennifer.

Sabbagh (2016) provides several more examples of genitive patients used referentially. Examples like (6) and Sabbagh's are unexpected under a characterization of genitive patients as necessarily nonspecific.

I instead propose that bare genitive patients are better characterized as narrow-scope indefinites: indefinites which necessarily scope beneath clausemate scope-taking operators if such operators are present. Their obligatory narrow-scope is evidenced by examples like (7). Here, the existential meaning component introduced by the genitive patient must scope beneath negation. Similar results obtain for conditionals, modals, and intensional transitive verbs. Thus, the referential uses in (6) require the absence of any higher scoping operators that cancel the existential commitment of the genitive patient.

(7) Context A: *There are two interesting films, but Juan had an appointment so couldn't see either.*

Context B: **There are two interesting films, but Juan only saw one of them.*

Hindi nakapanood si Juan ng interesanteng pelikula ngayon araw
NEG AV.watch NOM Juan GEN interesting.LK film today

Juan didn't watch an interesting film today (*true in context A, false in context B*)

The data provided in this section support the view that bare nominative patients are presuppositional definites, while bare genitive patients are narrow-scope indefinites.

2.2 Quantified nominative patients

The previous subsection dealt with bare nominative patients. This subsection expands the picture to include quantified nominative patients. I show that the addition of indefinite determiners may create a quantificational indefinite. The nominative case marker *ang* may appear on both bare nominative patients and quantified nominative patients, and thus, on either indefinite or definite NPs. Based on this observation, I conclude that *ang* does not encode for (in)definiteness, reaching the same conclusion as Paul et al 2016, contra Foley 1998, Himmelmann 1998, 2005b who analyze *ang* as an article.

The primary evidence against the analysis of *ang* as a definite article comes from indefinite uses of *ang* marked phrases. When *ang* is coupled with certain quantificational expressions such as *isang* 'one', the resulting NP can have an indefinite interpretation. This effect is mentioned in Kroeger 1993:15 and discussed in more detail in Adams & Manaster-Ramer 1988 and Paul et al. 2016 (see also Bell 1978 on Cebuano). In (8), the bolded NPs with *ang isang* introduces novel discourse referents. Unlike NPs with just *ang*, there is no felicity condition that the existence of an individual instantiating the NP content is a common ground belief.

(8) a. I-s<in>alaysay ni Jesus **ang isang talinhaga** upang ituro sa kanila
PV.<PERF>.recount GEN Jesus NOM one parable PURP teach OBL them
na dapat silang laging manalangin
LK must NOM.3SG.LK always.LK INF.AV.CAUS.pray

Jesus recounted **a parable** in order to teach them that they must always pray... (Lukas 18:1).

- b. Sa kanilang pamamalagi sa bahay ni Tazuna ay nakilala nila
OBL they.LK stay OBL house GEN Tazuna TOP PV.PERF.meet GEN.3PL
ang isang bata na si Inari, apo ni Tazuna.
NOM one child COMP NOM Inari, grandson GEN Tazuna
During their stay at Tazuna's house, they met **a boy** who was named Inari,
grandson of Tazuna.²

Furthermore, the uniqueness requirement of nominative patients is suspended with the addition of *isang*. In a variation on example (5a), two NPs with the same descriptive content in parallel clauses with *ang isang* are *not* necessarily understood to be coreferential (9). In fact, consultants preferred the non-coreferential interpretation of (9).

- (9) h<in>uli ni Maria **ang isang magnanakaw** noong Miyerkoles, samantala
<PV.PERF>.catch GEN Maria NOM one thief on Wednesday, while
h<in>uli ni Juan **ang isang magnanakaw** noong Huwebes
<PV.PERF>.catch GEN Juan NOM one thief on Thursday
Maria caught a thief on Wednesday, while Juan caught a thief on Thursday.' (*Comment*: two different thieves.)

Evidence that NPs with *ang isang* are truly quantificational indefinites comes from conditional sentences. In (10a), the existence implication of the bare nominative patient scopes out of the conditional antecedent, expected under an account where bare nominative patients are presuppositional definites. In (10b) and (10c), the introduction of *isang* into the nominative NP cancels this effect, the existential quantification scoping within the conditional antecedent.

- (10) a. Maiinis si Mary kung ipapatugtog ni John **ang rekord**
annoyed NOM Mary if PV.FUT.CAUS.play GEN John NOM record
Mary will be annoyed if John plays the record. (*Comment*: There's a specific record).
b. Maiinis si Mary kung ipapatugtog ni John **ang isang rekord**
annoyed NOM Mary if PV.FUT.CAUS.play GEN John NOM one record
Mary will be annoyed if John plays a record. (*Comment*: Any record in general.)

²tl.wikipedia.org/wiki/Naruto

Composition and definiteness without articles: A case study in Tagalog

- c. Ano ang dapat kong gawin kung nakaligtaan ko **ang**
what NOM must GEN.1SG.LK do.PV if PV.PERF.omit GEN.1SG NOM
isang dosis?
one dose
What do I do if I miss a dose?³

The data above suggests that the addition of *isang* in a nominative patient NP suspends the ordinary definite presuppositions (existence and uniqueness). If nominative patients may become indefinite merely by the addition of *isang*, we must conclude that the definite implications of bare nominative NPs are not due to the nominative case marker *ang*, which is present in both definite and indefinite nominative patients.

This effect can also be observed with universal quantifiers. In the following web example, consultants judge the author as not necessarily committed to the existence of jeeps which will stop on the curb.

- (11) Hulihin at pagmultahin [ang lahat ng jeep na hihimpil sa kanto para
catch.PV and fine.PIV NOM all GEN jeep COMP FUT.stop OBL curb for
maghintay ng pasahero]
AV.INF.pick-up GEN passenger
Catch and fine all jeeps that park on the curb in order to pick up passengers.⁴

Similarly the following sentence with a nominative universally quantified object is perfectly acceptable in a discourse context which does not entail the existence of individuals instantiating the descriptive content.

- (12) a. mumultahin ni John [ang lahat ng lalakad sa damo']
FUT.fine.PV GEN John NOM all GEN FUT.walk OBL grass
John will fine everyone who walks on the grass.
b. aarestohin ni John [ang lahat ng magnanakaw sa distrito niya]
FUT.arrest.PV GEN John NOM all GEN thief OBL district NOM.3SG
John will arrest every thief in his district. (*Comment*: It's like a general rule, doesn't mean there are thieves in his neighbourhood.)

The nominative case marker *ang* is able to mark both definite and indefinite NPs, depending on the presence or absence of quantificational material. Thus, *ang* cannot encode definiteness directly; rather, definiteness emerges in the course of semantic composition. In the next section, I provide an analysis of how the compositional semantics gives rise to definite interpretations of bare NPs.

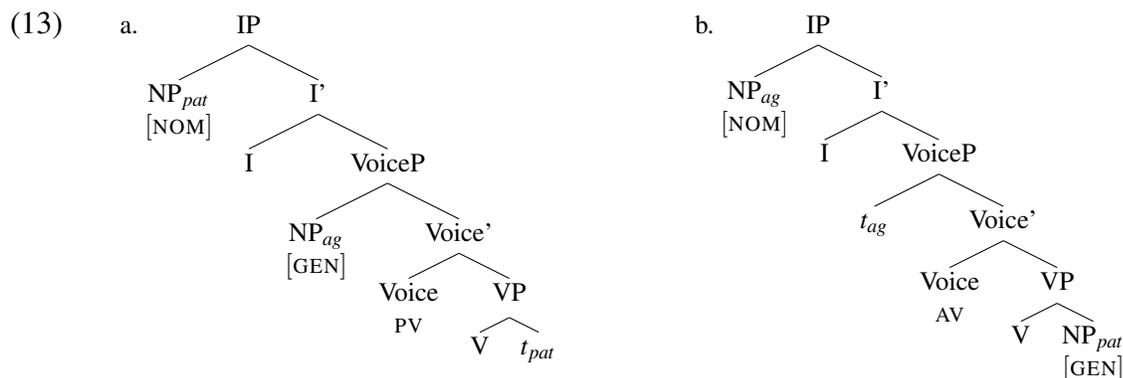
³http://www.bccdc.ca/NR/rdonlyres/8EE8C1E4-0227-4CEC-9A45-0C883C1D412E/0/Isoniazid_March2015_TagV04.pdf

⁴<http://www.autoindustriya.com/talkboard/shoulder-lane/6/survey-on-traffic/20147>

3. Patient voice and type-shifting

In this section I provide a compositional account of the observed facts, arguing that the interpretation of the NP as definite or indefinite should be derived from the composition of the NP with its surrounding syntactic context. I propose that definite interpretations of Tagalog NPs arise within the semantic composition via type-shifting operators, rather than via overt articles. Key to the analysis is the syntactic position of the NP. If the NP is syntactically local to the verb, it may be existentially quantified by the verb deriving an indefinite reading (this is discussed in §4). If the NP is syntactically displaced, it must type-shift, deriving a definite reading.

The syntactic implementation of this intuition follows much previous work on Tagalog, starting with Guilfoyle et al. (1992). I take the Tagalog voice system to involve a non-thematic subject position referred to as Spec,IP which houses the nominative case-marked NP. I also take the voice morpheme to be introduced by a functional head Voice which introduces the agentive NP in its specifier, following Kratzer (1996). (13a) sketches a clause structure with patient voice. The patient NP moves from its thematic position to the non-thematic Spec,IP position, binding a trace in Comp,VP. (13b) sketches an actor voice clause. Here, the patient NP remains internal to the VP.⁵ In both structures, the structurally highest NP receives nominative, and the non-highest argumental NPs receive genitive.⁶

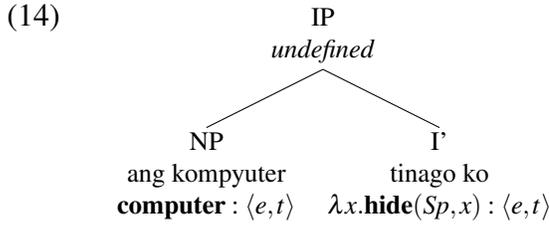


I take the interpretive constraints on bare nominative patients to be derived by the following principles: (a) bare nominative patients denote properties, and (b) the I'-constituent combines with individual-type expressions.

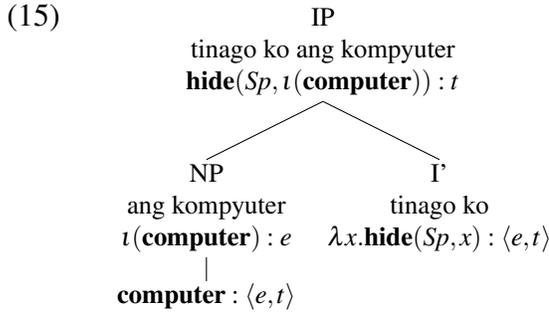
In order to illustrate, the analysis in (14) construes the subjectless I'-constituent *tinago ko* 'I hid ...' as a property of individuals ($\langle e, t \rangle$ -type) and the NP in Spec,IP, *ang kompyuter* as an $\langle e, t \rangle$ -type property, following the constraints outlined above. The structure contains a type-mismatch, leaving the IP node undefined. The internal composition of the I'-constituent is given in §4.

⁵(13b) assumes the nominative actor NP raises to Spec,IP, though this assumption is not crucial.

⁶I assume that verb-initiality is derived via (semantically vacuous) head movement of the verb to a position higher than Spec,IP (not sketched in (13)). See also Aldridge (2004) for a similar proposal.



I propose that this type-mismatch is resolved by lowering the bare NP *ang kompyuter* via Partee's (1987) *iota* operator. The *iota* operator is a partial function from properties to individuals, defined just in case the input property is instantiated by exactly one individual and where defined, returns that individual as its output. Therefore, the bare NP under the scope of *iota* is equivalent to a Strawsonian presuppositional definite. As the *iota*-shifted NP is an *e*-type expression, composition may proceed without a mismatch (15).



Alternatively, the NP may serve as the restrictor argument of an overt quantificational determiner like *isang* 'one' or *lahat* 'all'. In (16), the nominative patient is a generalized quantifier ($\langle et, t \rangle$ -type), and may combine with the sentence directly. (17) sketches a derivation showing how a nominative patient with *lahat* yields a quantificational interpretation.

(16) t(in)ago ko [ang lahat ng kompyuter]
 $\langle \text{PV.PERF} \rangle. \mathbf{hide}$ GEN.1SG NOM all GEN computer
 I hid every computer.

(17) *ang lahat ng kompyuter(tinago ko)*
 $\rightsquigarrow \lambda P. \forall z[\mathbf{computer}(z) \rightarrow P(z)] (\lambda x. \mathbf{hide}(Sp, x))$
 $= \forall z[\mathbf{computer}(z) \rightarrow \mathbf{hide}(Sp, z)]$

Returning to bare nominative patients in (14), a question arises as to why only *iota* is able to apply as opposed to any other type-shifter proposed by Partee (1987). For example, Partee proposes the type shifter *A* (18), which applies to a property *Q*, and returns a GQ which holds of any property that has a non-empty intersection with *Q*.

(18) $A \rightsquigarrow \lambda Q \lambda P. \exists x[Q(x) \wedge P(x)]$

In other words, *A* is a covert version of a standard quantificational analysis of an indefinite determiner. As *A* takes property-type arguments, why should it not apply to the nominative patient in (14), generating an unattested indefinite reading? Why is type-shifting by *iota* available, but not type-shifting by *A*?

Chierchia (1998:360) proposes the Blocking Principle in (19), which prevents covert application of type-shifters when the language supplies a morphologically overt version. As Tagalog does not lexicalize a definite article (i.e., an overt version of the *iota* type-shifter), covert application of *iota* is not blocked by (19).

(19) *Blocking Principle*: For any type shifting operation τ and any X : $*\tau(X)$ if there is a determiner D such that for any set X in its domain, $D(X) = \tau(X)$.

However the principle (19) does block application of covert type-shifting of nominative patients with *A* in (14). *A* is lexicalized in Tagalog by the quantificational determiner *isang*.

Patient NPs of PV-verbs may be overtly quantified by quantificational determiners including *isang*. With *isang* (as in (8)-(10)), the quantified nominative patient is interpreted as a generalized quantifier (20a). The meaning of the GQ is equivalent to the putative meaning of nominative patients type-shifted by *A* (20b). As Tagalog provides an overt means to generate the indefinite meaning (20a), the covert means of generating the same meaning (20b) is blocked by the principle (19).

(20) a. *ang isang kompyuter* $\rightsquigarrow \lambda P.\exists x[\mathbf{computer}(x) \wedge P(x)]$
 b. *A(kompyuter)* $\rightsquigarrow \lambda P.\exists x[\mathbf{computer}(x) \wedge P(x)]$

The GQ combines with the transitive verb via quantifying in/QR, generating an indefinite reading of the patient NP.

(21) *ang isang kompyuter(tinago ko)* $\rightsquigarrow \lambda P.\exists z[\mathbf{computer}(z) \wedge P(z)] \left(\lambda x.\mathbf{hide}(Sp, x) \right)$
 $= \exists z[\mathbf{computer}(z) \wedge \mathbf{hide}(Sp, z)]$

Under this analysis, a PV-verb composes with GQ arguments, including indefinites, without type-shifting, but forces property-denoting bare NPs to lower via *iota*. As Tagalog does not lexicalize a definite article, covert *iota*-application is not blocked and definite readings of bare NPs may arise. According to this view, definite interpretations of bare nominative patients are introduced within the semantic composition via covert application of type-shifters, and not from the lexical semantics of overt functional material.

4. Actor voice and the type of roots

While bare nominative patients are definite, bare genitive patients of actor voice verbs are indefinite. Furthermore, they must scope below operators such as negation (22).

Composition and definiteness without articles: A case study in Tagalog

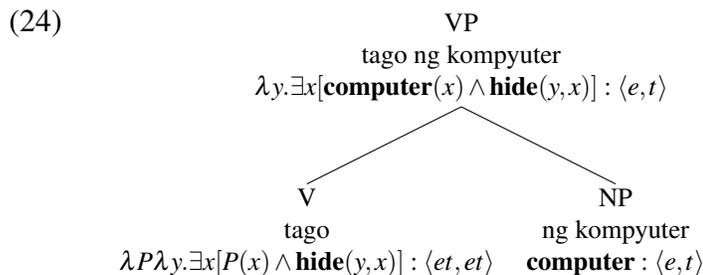
- (22) Hindi nakapanood si Juan **ng interesanteng pelikula** ngayon araw
 NEG AV.watch NOM Juan GEN interesting.LK film today
 Juan didn't watch any interesting film today.

A hypothesis that the indefinite semantics of the patient NP in (22) is introduced by the case marker *ng* is easily discounted. Genitive NPs which are not the patient argument of actor voice verbs may be interpreted as definites. For example, in (23), the bolded genitive refers to a discourse old individual.

- (23) Noong unang panahon, mayroon lalaki na nakatira sa gubat. Binisita **ng**
 at previous age, exist man COMP AV.live OBL forest. PV.visit GEN
lalaki ang babae.
 man NOM woman
 Once upon a time, there was a man who lived in the forest. The man visited the woman.

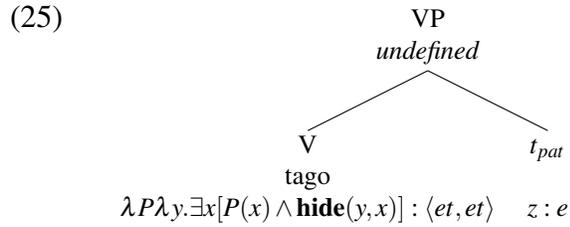
I will explore the hypothesis that, like nominative bare NP patients, genitive bare NP patients are $\langle e, t \rangle$ -type properties. However, unlike nominatives, genitives are *not* coerced into an e -type expression via type-shifting. Previous work on narrow scope indefinite transitive patients (Van Geenhoven 1998 on West Greenlandic, Chung & Ladusaw 2004 on Māori and Chamorro, Collins to appear on Samoan) provide compositional analyses of transitive verbs combining directly with property-denoting bare NPs, existentially quantifying over the NP's descriptive content, generating narrow scope, indefinite interpretations of the NP.

Under my analysis, I propose that in Tagalog, it is the transitive root itself which introduces the existential quantifier. In (24), the root *tago* existentially quantifies over the $\langle e, t \rangle$ -type bare NP patient. As the existential quantifier is introduced within VP layer, it necessarily scopes beneath operators external to the VP such as negation, conditionals, and modals, deriving the narrow scope behaviour of bare genitive patients.



Given the $\langle et, et \rangle$ -type lexical entry for verbal roots, how does the semantic composition proceed in cases where the syntactic sister of V is not property-denoting? For example, in (13a), V's sister is the trace bound by the extracted patient argument. Throughout the remainder of the paper, I adopt a semantics for movement based on Heim & Kratzer (1998). Traces bound by moved nominal constituents denote an e -type variable. In (25), this anal-

ysis predicts a type-mismatch as no rule of composition allows the $\langle et, et \rangle$ -type verb to compose with the e -type trace of the moved patient.

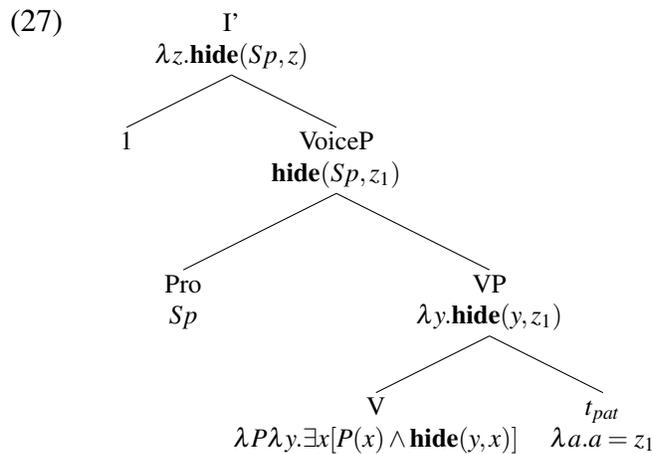


Again, I appeal to the theory of type-shifting in Partee (1987). Recall that *iota* maps $\langle e, t \rangle$ -type properties to their sole instantiators. Partee also defines *ident*, the inverse of *iota*: a function mapping individuals to their characterizing function. For any individual d , *ident*(d) is the singleton set containing d , or $\lambda x. x = d$.

ident can be applied to the e -type variable introduced by the patient NP's trace. This allows composition to proceed without a mismatch, as in (26). (26) also demonstrates how the application of *ident* to the patient NP's trace has the effect of cancelling the existential quantifier introduced by the verb.

(26) $\text{tago}(\text{ident}(t_{pat})) \quad \rightsquigarrow \lambda P \lambda y. \exists x [P(x) \wedge \mathbf{hide}(y, x)] (\lambda a. a = z)$
 $= \lambda y. \exists x [x = z \wedge \mathbf{hide}(y, x)]$
 $= \lambda y. \mathbf{hide}(y, z)$

(27) shows the full composition of an entire I'-constituent, including the movement of the patient NP and the effect the movement has on the compositional semantics. Following Heim and Kratzer's semantics for moved constituents, the variable denoted by the patient's trace is bound by a co-indexed operator (see Heim and Kratzer (1998:184–188) for details). Thus, the I'-constituent denotes a function which combines with individual arguments. The composition of the I'-constituent with the *ang*-marked patient proceeds as discussed in §3.



5. Conclusion

In Tagalog, the definite or indefinite interpretation of NPs is signalled by a combination of the NP's case, the presence or absence of quantificational material, and the voice marking of its selecting verb. I show here how this pattern can be understood by adopting a theory of type-shifting which assumes that type-mismatches within the semantic composition may be resolved by constrained application of covert type-shifters. Here, I have proposed a small set of type-shifting operations, which in combination with carefully selected lexical semantics for verbal roots and their arguments, derive the correct set of definite and indefinite interpretations of NPs in Tagalog. Although Tagalog lacks definite articles, it is still able to express semantic notions associated with articles in English, albeit with very different morphosyntactic signalling. The proposal shows how definiteness may emerge within semantic composition, even when not encoded by the lexical semantics of any dedicated article.

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