'Having' and 'Being' *ma-*: Athematic Licensing and the Balinese Middle Voice[⋆]

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Tamisha L. Tan (Harvard University, Nanyang Technological University)
tamishaltan@g.harvard.edu

1 Overview

- The Balinese voice system has been extensively studied with respect to Actor and Object voice (Arka, 2003; Udayana, 2013; Legate, 2014; Levin, 2014; Erlewine et al., 2017, 2020, a.o.)
- However, the apparent 'Middle Voice' in *ma-* /mə/ remains largely unaddressed.
- Particularly puzzling is *ma-*'s diverse uses: marking intransitivity, possession, stativity, reciprocity, and reflexivity / self-benefactivity, rendering a cohesive structural account elusive.
- The core divide is that *ma-* produces an **inalienable possession** reading when attached to nominal stems (1a), but a **mediopassive** reading when attached to verbal stems (1b):[1]

(1) a. Siap-é ma-batis barak dua.
chicken-DEF MA-leg red two
'The chicken has two red legs.'

b. Jukut ma-adép.
vegetables MA-sell
'Vegetables (were) sold.

- This talk proposes a unified account of these two functions by arguing that *ma-* heads an **athematic raising applicative** projection beneath a non-agentive VoiceP in both contexts (Georgala, 2012)
  - *ma-* licenses arguments in the absence of certain functional heads (i.e. Poss or v/Voice$_{+ag}$), but neither introduces arguments nor assigns thematic roles.
- The difference between (1a) and (1b) derives from:
  - Whether the applicativised verb is a null copula or an overt lexical verb, and by extension
  - Whether the DP which raises into Spec, ApplP bears a POSSESSOR or PATIENT θ-role

This work:

- Parallels and supports raising analyses of external possession in which thematic role assignment is distinct from case assignment and/or argument licensing (Deal, 2013; Nie, 2019)
- Underscores the ability of real Noun Incorporation into a null copula to license nominals
- Highlights structural uniformity underlying middle-voice morphology cross-linguistically (Grestenberger, 2014)
- Derives a potential typology of Balinese Voices along two parameters: i) movement across the Voice head and ii) the first-merge of an Agent in Spec, VoiceP.

1.1 Voice

- Balinese has a symmetrical Austronesian voice system, distinguishing between Actor and Object voice.
- One argument (the 'PIVOT') is privileged for subsequent operations such as A'-extraction: *wh*-fronting, relativisation, topicalisation, etc.
- In Balinese, this argument appears preverbally; its θ-role is cross-referenced by verbal morphology:
  - **Actor Voice:** *ng-* with place assimilation
  - **Object Voice:** ∅

(2) a. Tiang **m**angun umah.
1SG AV.build house
'I build a house.'

b. Umah bangun tiang.
house OV.build 1SG
'A house was built by me.'

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[1]Abbreviations: ABS - absolutive; APPL - applicative; ART - article; AV - Actor Voice; DAT - dative; DEF - definite; DEM - demonstrative; DIST - distal; ERF - ergative; IMP - imperfect; LOC - locative; NEG - negation; NFUT - non-future; NMLZ - nominaliser; OBJ - object; OV - Object Voice; PFV - perfective; POSS - possessive; PST - past; RL - realis; RED - reduplication; REL = relativiser; SG - singular; VAI - Verb Animate Intransitive

2 'Having' *ma-* + N

- Essentially, *ma-* attaches to nouns, adjectives, and verbs to produce intransitive verbs.
- Combined with certain nouns, it results in the semantics 'have x, wear x.' The set of nouns available to enter this construction are oft cross-linguistically classified as inalienable and are in a part-whole relationship:
  - Body parts, clothing, kinship terms, names, buildings and their component parts, e.g.

- (3) a. Tiang ma-**dasi**
  1SG MA-tie
  'I am wearing a tie.'
  b. Wayan suba ma-**rabi**
  Wayan PFV MA-wife
  'Wayan already has a wife.'
  c. Raka-n Madé ma-**wasta** sira?
  sibling-POSS Made MA-name who
  'What is Made's older sibling's name?'
  d. Umah-é ento ma-**témbok** don nyuh
  house-DEF DEM.DIST MA-wall leaf coconut
  'That house has a wall made of coconut leaves.'

- As can be seen in (1a), (3c), and (3d), it is possible for certain post-nominal elements to occur after the *ma-* + N.

2.1 Modification and Definiteness

- In a typical Actor Voice lexical possessive construction, a noun may be modified by adjectives, numerals, possessors, determiners, and demonstratives (NUM N ADJ POSS DET DEM)

(4) a. Siap-é ngelah dua batis barak
chicken-DEF AV.have two leg red
'The chicken has two red legs.'
b. Nyoman ng-anggo capil ia-né/ento
Nyoman AV-wear hat 3SG-DEF/DEM.DIST
'Nyoman wears his/that hat.'

- While *ma-* + N constructions can take adjectival or numeral modification, there is obligatory inversion to 'head final' N-Num rather than canonical Num-N order; i.e. **strict adjacency** must obtain between *ma-* and the noun:

(5) a. Siap-é ma-batis barak **dua**.
chicken-DEF MA-leg red two
'The chicken has two red legs.'
b. *Siap-é ma-**dua** batis barak (*NUM N ADJ)
c. *Siap-é ma-batis **dua** barak (*N NUM ADJ)

- Furthermore, possessors and/or any definite or demonstrative marking are entirely ungrammatical with *ma-*:

(6) a. Nyoman ma-capil barak
Nyoman MA-hat red
'Nyoman wears a red hat.'
b. *Nyoman ma-capil **bapa/ia-né**
Nyoman MA-hat father/3SG-DEF
Intended: 'Nyoman wears father's/his hat.'
c. *Nyoman ma-capil barak-**(n)-é**
Nyoman MA-hat red-(POSS)-DEF
Intended: 'Nyoman wears the/his red hat.'
d. *Nyoman ma-capil barak **ento**
Nyoman MA-hat red DEM.DIST
Intended: 'Nyoman wears that (red) hat.'

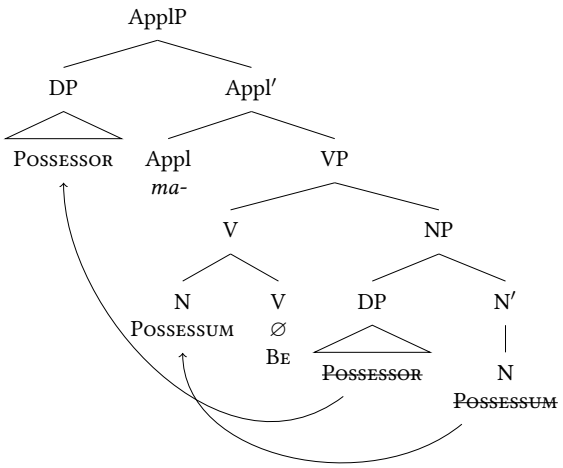
- In sum: the structure of the extended nominal projection that combines with *ma-* must be delimited at NumP, to exclude PossP/DP/DemP.

2.2 What's *ma-*?

- I propose *ma-* is the head of a high Applicative Phrase (Pylkkänen, 2008).
- Crucially, this is an **athematic raising applicative**, which does not introduce new objects in its specifier or assign them θ-roles, but can **license** them (Georgala et al., 2008; Georgala, 2012)
  - All nominals must be licensed via local checking of their uninterpretable ϕ-features (Chomsky 2000, 2001)
  - Only licensed nominals may be assigned Case (Nie, 2019, 2020)

- In 'having' constructions, this specifier is filled by a raised inalienable possessor, while the head takes a silent copula as its verbal complement which the possessum incorporates into:

(7)



2.3 External Possession

- Consider the following minimal pair showing the ban on additional possession of the noun:[2]

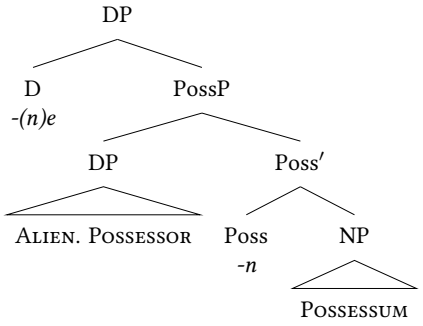
(8) a. Tiang nganggo dasi-n bapa=né
1sg av.wear tie-poss father=def
'I wear father's tie.'

b. *Tiang ma-dasi-n bapa=né
1sg ma-tie-poss father=def
Intended: 'I wear father's tie.'

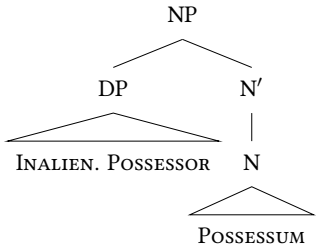
- I propose that the ungrammaticality of (8-b) arises precisely because the construction already has a first-merged Possessor – i.e., the apparent subject/pivot of the clause. Additional possession is thus impossible.

- What differentiates *ma-* + N constructions from regular possession is inalienability of the possessum. Following Alexiadou (2003) and Ritter & Rosen (2011), I take alienability distinctions to derive from a structural difference:[3]

(9) a.



b.



- (Cross-linguistically, alienable possession is often more morphologically complex)

- The absence of both DP and PossP accounts for why the possessor cannot raise with definite marking, and for the lack of possessive linking *-n*, in *ma-* + N constructions:

(10) a. Tiang nganggo dasi-n tiang=é.
1sg av.wear tie-poss 1sg-def
'I wear my tie.'

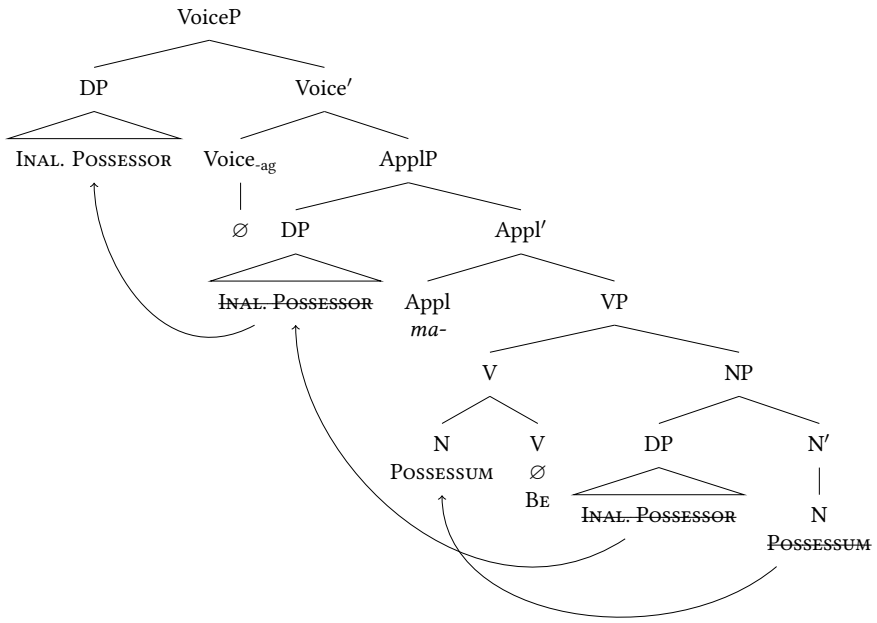
b. *Tiang=(é) ma-dasi-n
1sg-(def) ma-tie-poss
Intended: 'I wear my tie.'

[2]Care must be taken to distinguish the *-né* allomorph of the definite suffix *-e* which occurs after vowel-final nouns, from the combination of the possessive suffix *-n* with the selfsame definite suffix. These can be teased apart in attributively possessed phrases, in which the definite marker optionally occurs on the phrase-final element; I thus gloss such suspended affixation as a clitic.

[3]Note that the latter may also be represented as an nP, headed by category-defining *n* and taking a root as its complement. Alternatively, the possessum may take the inalienable possessor as its complement (as has been proposed on semantic grounds.) Any of these possibilities are viable under the current analysis. I abstract away from head-finality here for clarity in presentation.

- This also plainly captures the inability of the possessum to be definite or take demonstratives, as well as its incompatibility with definite quantifiers like *onya/makejang* 'all.'[4]
- I propose that these inalienable possessors cannot be licensed in situ, unlike their alienable counterparts (which are licensed by a Poss spelled-out as *-n*.)
- Thus, the inalienable possessor must raise into an **athematic** Spec, ApplP for licensing and then to canonical subject position – becoming the construction's pivot.
- The fact that VoiceP is non-agentive means that its specifier also fails to assign an additional Agent role

(11)



- The proposed 'non-agentive' VoiceP, similar to Kastner's (2017) $\text{Voice}_{[\text{-D}]}$, lacks any external argument introducing ability but is able to host a raised DP in its Spec (Spathas et al., 2015).
- This is distinct from Legate's (2014) analysis of passive VoiceP, with an existentially-closed initiator introduced by the Voice head, or Object VoiceP, which first-merges a DP in Spec, VoiceP
- This means that *ma-* + N constructions are a type of **external possession**, with the possessor appearing as a syntactic dependent of the verb.
- Cross-linguistically, external possession is often limited to a subset of nouns in part-whole/inalienable relationships. Typical examples from French and German are as follows:

(12) a. Je **lui** ai coupé les cheveux
I 3sg.dat have cut the hair
'I cut his hair' (Guéron, 1985)

b. Er schneidet **mir** die Haare
he cuts 1sg.dat the hair
'He cuts my hair.'

- One argument levied against a raising analysis of external possession is the '**affectedness**' requirement, where the possessor seems to receive a second θ-role as a Beneficiary or Maleficiary.
  - This has led some to propose a Control analysis whereby the external possessor and a co-referring PRO first-merged in Spec, DP receive independent θ-roles.
- However, Deal (2013) shows that external possession in Nez Perce does not require a second θ-role on the noun
- Similarly, Nie (2019) demonstrates the absence of an animacy/affectedness requirement in Tagalog.

[4]Also unavailable is quantification with *maka*, which occurs with numerals to produce 'exactly x' readings (e.g. 'both two', 'all three'. Interestingly, however, the Balinese words *meriki* 'be here' and *merika* 'be there' may be decomposable into *ma-* + *riki* 'here' and *rika* 'there'; this would suggest that deictic pronouns are or were at some point available for incorporation as well.

- The same is true for Balinese, in which possessors may be inanimate:

(13) a. Umah tiang-é ma-bataran batu
house 1SG-DEF MA-floor stone
'My house has stone floors.'

b. Kursi ma-batis bawak.
chair MA-leg short
'The chair has short legs.'

- In combination with the non-agentive VoiceP, this means that the pivot of *ma-* + N constructions gets one and only one θ-role, consistent with the salient semantic interpretation: that of (inalienable) POSSESSOR.

2.4 BE + APPL

- There exists a long tradition of research on predicative possession and the potentially derivational relationship between BE and HAVE (Freeze, 1992; Den Dikken, 1995)
- Recent work by Myler (2016, 2018) on Cochabamba Quechua has outlined that one possible source of predicative possession, precisely with inalienable nouns, is the applicativisation of a copula:

(14) a. Juan-pata pana tiya-**pu**-∅-n
Juan-GEN sister be-APPL-3OBJ-3SUB
'Juan has a sister.'

b. Noqa-qta uj ñawi tiya-**pu**-wa-n
1SG-GEN one eye be-APPL-1OBJ-3SUB
'I have one eye.' (Myler 2016: 184-5, ex. 24, 28)

- His proposal for these BE-APPL structures has the possessor introduced in the Spec of a semantically null ApplP, which serves only to license this DP. Balinese differs only in that the possessor is not first-merged into Spec, ApplP and must instead **raise** there.
- Myler's reasons for positing that *-pu* is semantically null comes from its 'too-many-meanings' function: beyond being benefactive, it can also introduce 'away'/ablative, restitutive, and 'enduring result' interpretations.

(15) a. Noqa ri-**pu**-rqa-ni
1SG go-APPL-PST-1SUB
'I went away/for him or her.'

b. Noqa kay libru-ta Ana-man haywa-**pu**-rqa-ni
1SG this book-ACC Ana-DAT hand-APPL-PST-1SUB
'I handed the book back to Ana.'

c. Wijch'u-**pu**-n
throw.away-APPL-3SUB
'He throws something away for good.' (Myler 2016: 203-8, ex. 71, 75, 80)

- He derives this by suggesting that *-pu* can take different phrases in its specifier – i.e. a first-merged KP beneficiary, or a AWAY/BACK/FOR-GOOD PP which has raised for licensing.
- In essence, Appl does not itself assign a thematic role (cf. Kalin 2014 on Hindi DOM)
- This is similar to *ma-*, which co-occurs with DPs taking both POSSESSOR and THEME/PATIENT interpretations. While *ma-* is semantically null, it serves a syntactic purpose in licensing the inalienable possessor.
- That the Balinese copula is silent makes this applicativisation appear to occur on the noun, rather than the verb.

(16) a. Siap-é putih.
chicken-DEF white
'The chicken is white.'

b. Siap-é ma-warna putih.
chicken-DEF MA-colour white.
'The chicken is white in colour.'

- Prediction: *ma-* should attach to overt verbs as well, which is precisely what happens in its 'stative' function.
- Question: do *ma-* and the noun happen to be phonologically/linearly adjacent, forming a single prosodic word, or do they instantiate a complex head in the syntax? I argue for the latter, even though the copula is null.

2.5 Noun Incorporation

- Recall the strict adjacency required between *ma-* and the noun in the case of pre-nominal numerals. There are four possible ways to account for this. The *ma-* + N could involve:
  a. An indivisible/non-decomposable lexical compound
  b. Pseudo-incorporation of a N(um)P
  c. ☞ Real incorporation of N into the copula, stranding its Adj/Num modifiers
- Evidence shows only the N head properly incorporates into a silent copula, and is syntactically active before that.

2.5.1 N is Syntactically Active

- There is good evidence the incorporated element starts out as a referentially active noun. For one, the noun can launch float of canonically post-nominal quantifiers like *liu* 'many.'[5]

(17) a. Umah-né ma-kabang **liu**
house-DEF MA-spiderweb many
'The house has many spiderwebs'
b. Guru-né ma-dasi **liu**
teacher-DEF MA-tie many
'The teacher is wearing many ties'

(18) a. Umah-né **liu** ma-kabang
house-DEF many MA-spiderweb
'The house has many spiderwebs'
NOT 'Many of the houses have spiderwebs.'
b. Guru-né **liu** ma-dasi
teacher-DEF many MA-tie
'The teacher is wearing many ties'
OR 'Many of the teachers are wearing ties.'

- Even when left-displaced, the quantifier continues to modify the *ma-* prefixed noun; this interpretation is either obligatory (18a) or default (18b). Note that this also shows *liu* is not necessarily incorporated alongside the noun.
- The noun is also referentially active, given that it can be the basis of D-linked questions:

(19) Nyoman ma-capil ané **(en)cén?**
Nyoman MA-hat REL which
'Which hat is Nyoman wearing?'

- In addition, the noun may head full relative clauses in a range of voices (unlike PNI!)

(20) a. Wayan ma-[capil sané sing ma-warna barak]
Wayan MA-hat REL NEG MA-colour red
'Wayan is wearing a hat that is not red.' ('Middle Voice' RC)
b. Tiang ma-[baju sané jahit-é ajak I mémé]
1SG MA-shirt REL OV.sew-3SG by ART mother
'I wear a shirt that was sewn by mother' (Object Voice RC)
c. Tiang ma-[celana sané setata ngae-nang tiang labuh]
1SG MA-pants REL always AV.make-APPL 1SG trip
'I am wearing pants that always make me trip.' (Active Voice RC)

- Crucially, the incorporated noun must start out as the **pivot** of the RC, since it is subject to the expected voice-sensitive movement restrictions:[6]

(21) a. Tiang ma-baju sané jahit tiang
1SG MA-shirt REL OV.sew 1SG
'I wear a shirt that I sewed' (Object Voice RC)
b. Tiang ma-baju sané tiang jahit
1SG MA-shirt REL 1SG OV.sew
'I wear a shirt that I sewed' (Multiple Fronting in Object Voice RC)
c. *Tiang ma-baju sané tiang nyahit
1SG MA-shirt REL 1SG AV.sew
Intended: 'I wear a shirt that I sewed.' (Active Voice RC)
d. #Tiang ma-baju sané nyahit tiang
1SG MA-shirt REL AV.sew 1SG
'I wear a shirt that sewed me.' (Active Voice RC)

- A RC-internal AGENT may only extract with actor voice morphology, while an RC-internal THEME may only extract with object voice morphology.

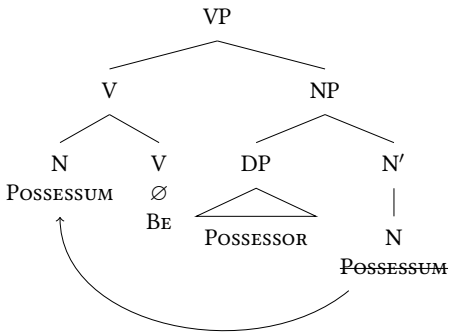
[5]Definite quantifiers *onya* 'all' and *makejang* 'all' cannot modify the incorporated noun, as expected given (6). This may be why *ma-* cannot occur with *maka*, which modifies numerals to produce 'exactly x' readings (e.g. 'both two', 'all three'.) Indefinite quantifiers like *liu* 'many' can occur with definite DPs to produce partitive readings (Udayana, 2013). Thus, the unavailability of possessor modification in (18-a) is not from this mismatch.

[6]This multiple extraction is most obvious in questions (Erlewine et al., 2015), in which a non-pivot argument can only move in front of the verb if the pivot argument remains leftmost in the clause. It is unclear what semantic or pragmatic environments condition this fronting.

2.5.2 What we know about N

- In sum, we know that the N in *ma-* + N constructions:
  - Strands its modifiers (numeral + adjective)
  - Is syntactically and referentially active (quantifier float, D-linking, voice restrictions in RCs)
  - Cannot be coordinated, but can be doubled by a hyponym (disfavouring a PNI analysis, see Appendix 1)
- This all suggests real Noun Incorporation of just the N head:[7]

(23)



(24)

Diagnostic	Pseudo-NI	NI	*ma-*
Relative clauses	✗	✓	✓
Coordination	✓	✗	✗
Doubling	✗	✓	✓
(Plural)	Some	✗	✗

- The Possessum does not need to be additionally licensed as its ϕ-features are checked via incorporation into V; cf. Levin (2014) where PNI allows for licensing under adjacency of non-pivot Agents in Balinese Object Voice.

2.6 Interim Summary

- 'Having' *ma-* + N constructions involve an applicativised null copula, as in Quechua (Myler, 2016)
- What looks like *ma-* prefixation on a noun actually involves real N head incorporation of the possessum
- The *ma-* itself heads an athematic ApplP which does not introduce new arguments or assign additional θ-roles but may license existing arguments which have moved into its specifier (Georgala, 2012; Deal, 2013; Nie, 2019)
- Inalienable possessors cannot be licensed *in situ* and must raise; *ma-* + N is hence a type of external possession construction. This also accounts for the unavailability of DP elements and additional possession.

3 'Being' *ma-* + V

- If *ma-* takes a silent copula in 'having' constructions, one would also expect it to occur with overt lexical verbs; this is what happens in stative *ma-* + V constructions, which are essentially applicativised intransitive verbs.
- Consider the types of meanings introduced by *ma-* verbs, categorised by Udayana (2013: §3.4.1.) into the following main types:

(25)
a. **Grooming/body care**: *masuah* 'comb self', *mapayas* 'get dressed', *mabaséh* 'wash one's limbs'
b. **Exchange**: *mabeli* 'be bought', *maadép* 'be sold'
c. **Reciprocity**: *masiat* 'fight each other', *madiman* 'kiss each other'
d. **Translational motion** (i.e. manner of motion): *majalan* 'walk', *malaib* 'run', *makeber* 'fly'
e. **Part-of-body motion**: *makituk* 'shake head in disapproval'
f. **Change of body posture**: *majujuk* 'stand', *makakeb* 'lie on stomach', *matimpuh* 'sit on folded legs'
g. **Emotive speech**: *masuryak* 'shout in happiness', *makaik* 'scream in fright'

- In essence, the argument introduced by *ma-* is in some way not a prototypical Agent; this intuition will be confirmed with syntactic evidence below.

[7] Baker (2014: 23, fn 16) observes that a key difference between PNI and 'real' incorporation is that plural nouns can take part in the former in some languages, but never the latter. If we assume reduplication to be a marker of plurality in Balinese, this fact also holds (a, b). However, reduplication for pluractionality is fine with *ma-* + V constructions even if they are built off nominal bases (c):

(22)
a. Tiang ma-bok-(*bok)
1sg ma-hair-(*red)
'I have (*a lot of) hair.'

b. Meja ma-batis-(*batis)
Table ma-leg-(*red)
'The table has (*several) legs.'

c. Tiang ma-jalan-jalan
1sg ma-walk-red
'I walk around.'

- The basic characterisation of a *ma-* + V construction is that it is strictly intransitive, allowing for only one argument. Furthermore, this argument cannot be an AGENT or RECIPIENT:

(26) a. *I mémé ma-adép bé
ART mother MA-sell fish
Intended: 'Mother sells fish'

b. Baju ento ma-adép (*Wayan)
shirt DEM.DIST MA-sell (*Wayan)
'The shirt was sold (*for/by Wayan).'

- This is true even when the verb has clearly self-directed meaning, banning even reflexive anaphors:[8]

(27) a. Ayu ma-payas (*awak-n-e)
Ayu MA-adorn (*self-POSS-DEF)
'Ayu dressed (*herself) up.'

b. Tiang ma-kipek (*awak)
1SG MA-turn.head (*self)
'I turned (*my own) head.'

- The sole argument that occurs must be a THEME.

3.1 Absent Agent

- Although translated with passive-like or Object Voice meaning, *ma-* + V constructions crucially differ from actual Object Voice (28-b) and *ka-* passives (28-c) in disallowing reintroduction of the agent via an oblique phrase

(28) a. Baju ento ma-adép (*tékén Wayan)
shirt DEM.DIST MA-sell (by Wayan)
'The shirt sold (*by Wayan)'

b. Baju ento adép-a (tékén Wayan)
shirt DEM.DIST OV.sell-3SG (by Wayan)
'The shirt was sold by Wayan' (Udayana 2013: 91, ex. 75)

c. Bawi-né ka-adol antuk ida
pig-DEF PASS-sell by 3SG
'The pig was sold by him/her' (Arka 2003: 118, ex. 5b)

- This difference falls out from the fact that *ma-* constructions lack a VoiceP capable of introducing external arguments, contra passive and Object VoiceP. Thus, there is no implicit agent or possibility of licensing a by-phrase.

- Udayana (2013) presents more evidence against the presence of an implicit agent in *ma-* + V constructions. This comes from the contrast in ability to introduce purposive clauses, as compared to Object Voice:

(29) a. Montor ento adép-a paang maan komisi 10%
car DEM.DIST OV.sell-3SG in.order.to AV.collect commission 10%
'The car was sold to receive a 10% commission'

b. *Montor ento ma-adép paang maan komisi 10%
car DEM.DIST MA-sell in.order.to AV.collect commission 10%
Intended: 'The car sold to receive a 10% commission' (Udayana 2013: 91, ex. 76)

- The only way to add an AGENT is with an additional applicative suffix *-ang*, which can introduce CAUSERS or BENEFICIARIES:

(30) a. Anak muani-né ma-adép-ang jukut
person male-DEF MA-sell-APPL vegetables
'The man sells vegetables.'

b. Tiang ma-ubét-ang jelanan
1SG MA-close-APPL door
'I close the door.'

- Note that it is the applicative argument which gets obligatorily promoted to pivot position – in fact, raising the THEME is ungrammatical:[9]

(31) a. Padi ma-tegen.
rice MA-carry.on.shoulder
'Rice was carried on the shoulder.'

[8] There are complicated factors governing the distribution of simplex anaphor *awak* vs. complex anaphor *awakne* – refer to Satik & Bryant (2020) for details. Crucial for our purposes is that both types are banned with *ma-*.

[9] In contrast, raising either the THEME or applicative BENEFICIARY is possible in Object Voice constructions. In the absence of a clear account of why this is possible, what is nevertheless important is that whatever renders those two arguments equidistant/equally-viable for raising in Object Voice is not available in *ma-* + V constructions.

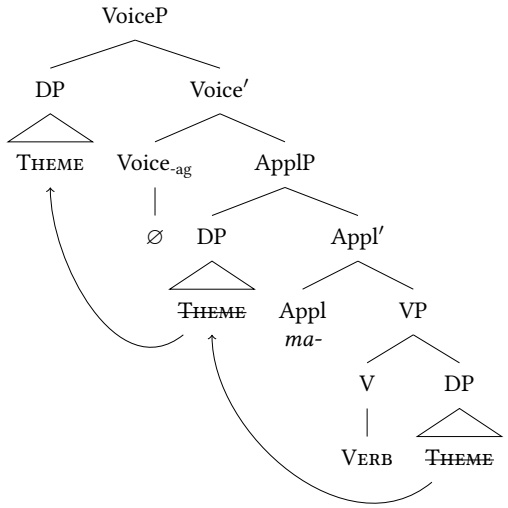
b. Ia ma-tegen-ang padi
3SG MA-carry.on.shoulder-APPL rice
'He was helped to carry rice on his shoulder'
c. *Padi ma-tegen-ang ia
rice MA-carry.on.shoulder-APPL 3SG
Intended: Rice was carried for him. (Udayana 2013: 93, ex. 79a-b)

- I take this as evidence that the thematic applicative headed by *-ang* occurs higher in the structure than the athematic raising applicative headed by *ma-* (and that *ma-* cannot itself be a Voice head)[10]

3.2 Proposed Structure

- In sum: *ma-* + V constructions are strictly monovalent whereby the sole licit argument is the THEME. These structures lack an implicit agent or the ability to introduce a by-phase.
- Let's first assume that *ma-* combines with a transitive or unaccusative verb – in the absence of a VoiceP capable of introducing external arguments, the THEME argument cannot be licensed in situ and must instead raise to Spec, ApplP, without receiving another θ-role, as with inalienable possessors:

(32)



3.3 Middle Meaning Cross-linguistically

- Note that this is exactly the same structure as that proposed by Grestenberger (2014, 2015) for deponents/middles in (Proto-)Indo-European, which appear in the following semantic contexts:

(33) a. Reflexives and reciprocals
b. Self-benefactives
c. Statives/anti-causatives
d. Experiencer/psych verbs
e. Some verbs of motion
f. Some deadjectival and denominal verbs
g. Some verbs of speech and communication

- Beyond Indo-European, this set of contexts is also common for Middle Voice in general (Kemmer, 1993)
- Grestenberger argues that the crucial distinction between middle and active voice verbs is that their surface subjects are not first-merged as AGENTS in Spec, VoiceP, but instead start out in the specifier of some lower functional projection like $\text{ApplP}_{\text{ben/exp}}$ or as the direct object complement of the verb.[11]

[10]This is distinct from what Nie (2019) shows for Tagalog, wherein the athematic raising applicative representing the Circumstantial Voice occurs higher than the thematic applicative instantiating introducing instrumentals. There is no immediately obvious reason why the ordering of athematic/thematic applicatives should be cross-linguistically universal, or even consistent within a language.

[11]Deponents, then, are those in which these BENEFICIARIES/APPLICATIVES are thematically reanalysed as AGENTS, but retain the same structure, merging below v/VoiceP – thus accounting for active semantics but non-active morphology/syntax. One diachronic possibility it that the opposite renanalysis occurred in Balinese, whereby the stative Voice head *ma-* was reanalysed as an Applicativve head beneath a null VoiceP.

- Again, this is akin to Balinese, except that the arguments are not first-merged into Spec, ApplP but raise from even lower (Spec, NP for inalienable possessors, complement of VP otherwise)
- Similarly, Spathas et al. (2015) and Kastner (2016, 2017) propose that Greek middles and Hebrew anticausatives respectively involve first-merged IAs raising to become the subject of an unaccusative.

4 Voice

- The final question is a non-trivial one about whether there are differences between a non-agentive VoiceP, incapable of introducing external arguments and the absence of a VoiceP layer altogether.[12]
  - I have gone down the former route for uniformity in clausal functional structure: TP cannot combine with an ApplP directly; Voice demarcates a cyclic phasal domain[13]
- Note that the possessor/theme must raise rather high in the structure, out of Spec, ApplP, and presumably to Spec, C/TP since it precedes aspectual markers, temporal adverbs and negation:

(34) a. Wayan **suba** ma-rabi
Wayan PFV MA-wife
'Wayan already has a wife.'

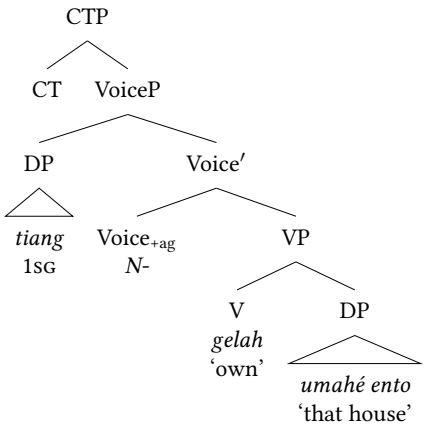
b. Tiang **wau pisan** ma-tuuh ném tiban
1SG just very MA-age six year
'I just recently turned six years old.'

c. Tiang **sing** ma-capil
1SG NEG MA-hat
'I am not wearing a hat.'

- Another benefit of assuming a VoiceP layer is that it allows us to derive a typology of voices in Balinese.
- I follow Legate (2014); Erlewine et al. (2017, 2020) in assuming that Actor Voice and Object Voice both involve agentive VoicePs which first-merge DPs in their specifier which are assigned AGENT theta-roles.
- In Object Voice, the AGENT is immobile, potentially due to Pseudo Noun Incorporation (Levin, 2014). Thus, the THEME raises across the agent into a higher specifier of Voice, producing the attested linear surface order.

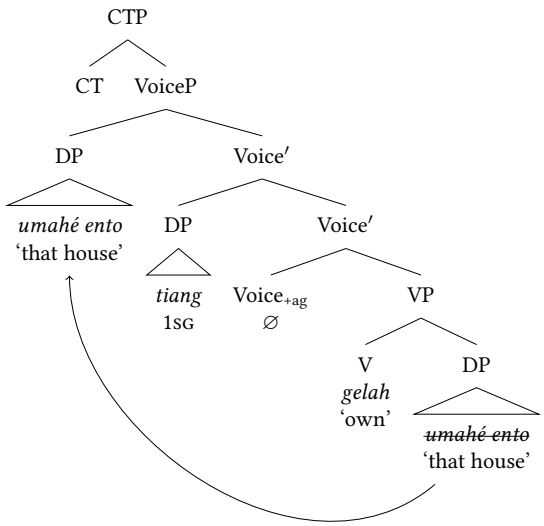
(35) Actor Voice

a. Tiang ngelah umah-é ento
1SG AV.own house-DEF DEM.DIST
'I own that house.'



Object Voice

b. Umahé ento gelah tiang
house-DEF DEM.DIST OV.own 1SG
'That house is owned by me.'



- The ±agentive feature on Voice has nothing to do with its eventual overt Spell-Out and only affects its theta-role assignment capabilities.
- Following a long tradition work on non-subject extraction patterns in Indonesian, Malay, Javanese, and Madurese (Saddy, 1991; Cole & Hermon, 2005; Aldridge, 2008; Davies, 2010; Jeoung, 2018b,a), I take the nasal ∼ zero prefix alternation to reflect extraction marking – the Voice head is obligatorily null as soon as any DP crosses it.

[12] Recall that an argument against assuming *ma-* is the instantiation of this non-agentive VoiceP itself comes from the fact that it merges lower than other applicatives, like those headed by *-ang* and *-in*.

[13] Following Erlewine et al. (2017, 2020), I here collapse CP and TP, where it is a typical property of Austronesian languages that movement into pivot position has a mix of A and A′ properties.

- For Balinese *ma-*, raising of a possessor, applied object, or unaccusative theme across Voice all result in ∅-prefixation on the verb.[14] Thus, *ma-* constructions are surface-similar to Object Voice in terms of this null prefixation, but actually involve a separate type of Voice head.

(36)

	v_{+ag}	v_{-ag}
Movement across Voice	Object Voice	'*ma-*' Voice
No Movement across Voice	Active Voice	NA

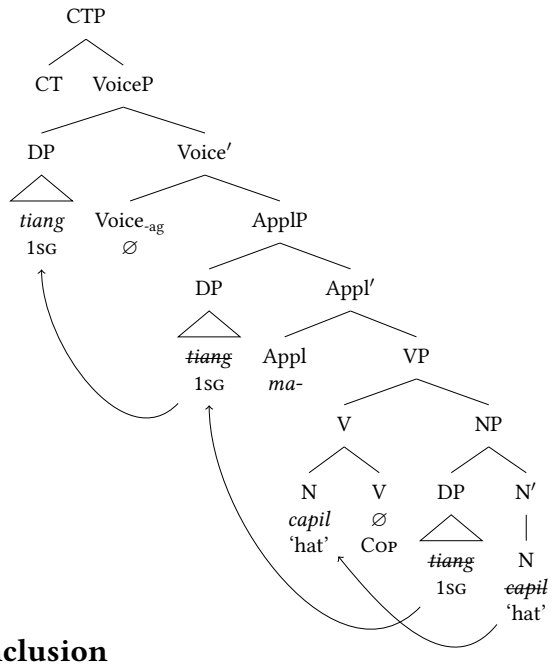
- The gap whereby a non-agentive Voice head is Spelled-Out as the nasal prefix is explained by the fact that C/T in Balinese needs to be a local relationship with some DP in order to delete its uninterpretable ϕ-feature

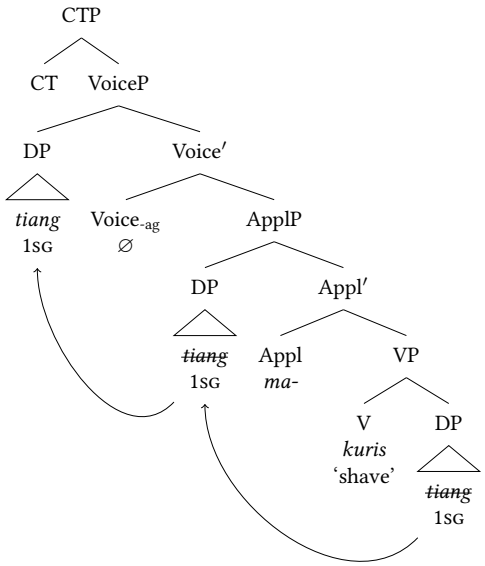
(37) *ma-* + N

a. Tiang ma-capil
1SG MA-hat
'I wear a hat.'

ma- + V

b. Tiang ma-kuris
1SG MA-shave
'I shave.'





5 Conclusion

- In sum, I have argued that 'nominal' and 'verbal' *ma-* constuctions can be united under a single analysis
- *ma-* heads an athematic raising applicative which does not itself introduce arguments or convey additional θ-roles, but licenses those which raise into its specifier that cannot otherwise be licensed.
  - In each case, the absence of a functional head (Poss for inalienable possessors and $v/Voice_{+ag}$ for direct objects) triggers raising into Spec, ApplP
  - 'Having' and 'being' *ma-* differ only in their VP complement: a null copula or overt lexical verb respectively
  - The former requires incorporation of the POSSESSUM and raising of an INALIENABLE POSSESSOR, while the latter is unaccusative-like in requiring the raising of a THEME
- The absence of an agentive VoiceP accounts for why these elements cannot be licensed *in situ*, and also helps us derive a potential typology of Balinese Voice based on extraction marking.
- Numerous cross-linguistic parallels both within Austronesian (cf. Nie 2019 on Tagalog) and beyond (cf. Myler 2016 on Quechua, Deal 2013 on Nez Perce, Grestenberger 2014 on Indo-European, Kalin 2014 on Hindi, Kastner 2017 on Hebrew)

[14] Indeed, simple unaccusative verbs like *ulung* 'fall' and *teka* 'arrive', *pesu* 'exit, leave' all lack nasal variants as well (Arka, 2003).

References

Aldridge, Edith. 2008. Phase-based account of extraction in Indonesian. *Lingua* 118(10). 1440–1469.

Alexiadou, Artemis. 2003. Some notes on the structure of alienable and inalienable possessors. In *From NP to DP: Volume 2: The expression of possession in noun phrases*, 167–188. John Benjamins.

Alexiadou, Artemis & Edit Doron. 2012. The syntactic construction of two non-active voices: passive and middle. *Journal of Linguistics* 1–34.

Arka, I Wayan. 2003. *Balinese morphosyntax: a lexical-functional approach*. Pacific Linguistics.

Asudeh, Ash & Line Hove Mikkelsen. 2000. Incorporation in Danish: Implications for interfaces. *Grammatical interfaces in HPSG* 1–15.

Baker, Mark C. 2014. Pseudo noun incorporation as covert noun incorporation: Linearization and crosslinguistic variation. *Language and Linguistics* 15(1). 5–46.

Barrie, Michael & Eric Mathieu. 2016. Noun incorporation and phrasal movement. *Natural Language & Linguistic Theory* 34(1). 1–51.

Bhatt, Rajesh. 2002. The raising analysis of relative clauses: Evidence from adjectival modification. *Natural Language Semantics* 10(1). 43–90.

Cinque, Guglielmo. 2019. *The Syntax of Relative Clauses: A Unified Analysis*. Cambridge: Cambridge University Press.

Cole, Peter & Gabriella Hermon. 2005. Subject and non-subject relativization in Indonesian. *Journal of East Asian Linguistics* 14(1). 59–88.

Davies, William D. 2010. *A grammar of Madurese*. Walter de Gruyter.

Dayal, Veneeta. 2011. Hindi pseudo-incorporation. *Natural Language & Linguistic Theory* 29(1). 123–167.

Deal, Amy Rose. 2013. Possessor raising. *Linguistic Inquiry* 44(3). 391–432.

Den Dikken, Marcel. 1995. *Particles: On the syntax of verb-particle, triadic, and causative constructions*. Oxford: Oxford University Press.

Doron, Edit. 2003. Agency and voice: The semantics of the semitic templates. *Natural language semantics* 11(1). 1–67.

Erlewine, Michael Yoshitaka, Theodore Levin & Coppe van Urk. 2020. The typology of nominal licensing in Austronesian voice system languages. *Proceedings of AFLA 26* .

Erlewine, Michael Yoshitaka, Theodore Levin & Coppe Van Urk. 2015. What makes a voice system? on the relationship between voice marking and case. In *AFLA 21: The proceedings of the 21st meeting of the Austronesian Formal Linguistics Association*, 51–68.

Erlewine, Michael Yoshitaka, Theodore Levin & Coppe Van Urk. 2017. Ergativity and Austronesian-type voice systems. *The Oxford handbook of Ergativity* 373–391.

Freeze, Ray. 1992. Existentials and other locatives. *Language* 553–595.

Georgala, Efthymia. 2012. *Applicatives in their structural and thematic function: A minimalist account of multitransitivity*: Cornell University dissertation.

Georgala, Efthymia, Waltraud Paul & John Whitman. 2008. Expletive and thematic applicatives. In *Proceedings of WCCFL 26*, 181–189.

Grestenberger, Laura. 2014. Deponents and feature mismatch. *Talk at the 88th Annual Meeting of the Linguistic Society of America, Minneapolis, January 2–5, 2014* .

Grestenberger, Laura. 2015. Deponency as reanalysis: A diachronic account of voice mismatches. *Presentation at the 22nd International Conference on Historical Linguistics, Naples, 27–31 July, 2015* .

Guéron, Jacqueline. 1985. Inalienable possession, PRO-inclusion and lexical chains. *Grammatical representation* 86.

Jeoung, Helen. 2018a. *Optional elements in Indonesian morphosyntax*: University of Pennsylvania dissertation.

Jeoung, Helen. 2018b. Possessors move through the edge, too. *Glossa: a journal of general linguistics* 3(1).

Kalin, Laura Mennen. 2014. *Aspect and argument licensing in Neo-Aramaic*: UCLA dissertation.

Kastner, Itamar. 2016. *Form and meaning in the Hebrew verb*: New York University dissertation.

Kastner, Itamar. 2017. Reflexive verbs in Hebrew: Deep unaccusativity meets lexical semantics. *Glossa: a journal of general linguistics* 2(1). 1–33.

Kemmer, Suzanne. 1993. *The middle voice*, vol. 23. John Benjamins Publishing.

Legate, Julie Anne. 2014. *Voice and v: Lessons from Acehnese.* Cambridge, MA: MIT Press. doi:10.7551/mitpress/9780262028141.001.0001.

Levin, Theodore. 2014. Untangling the Balinese Bind: Binding and voice in Austronesian. In *Proceedings of the 31st West Coast Conference on Formal Linguistics*, Cascadilla Proceedings Project: Somerville, MA.

Massam, Diane. 2001. Pseudo noun incorporation in Niuean. *Natural Language & Linguistic Theory* 19(1). 153–197.

Myler, Neil. 2016. *Building and interpreting possession sentences.* Cambridge, MA: MIT press.

Myler, Neil. 2018. Variation in the syntax and semantics of predicative possession in Quechua. In *Proceedings of the Workshop on the Structure and Constituency of the Languages of the Americas*, vol. 21, .

Nie, Yining. 2019. Raising applicatives and possessors in Tagalog. *Glossa: a journal of general linguistics* 4(1).

Nie, Yining. 2020. Licensing arguments. *New York University dissertation* .

Pylkkänen, Liina. 2008. *Introducing Arguments.* Cambridge, MA: MIT press.

Ritter, Elizabeth & Sara Thomas Rosen. 2011. Possessors as arguments: Evidence from Blackfoot. In J. Randolph Valentine (ed.), *Proceedings of the 42nd Algonquian Conference*, .

Rosen, Sara Thomas. 1989. Two types of noun incorporation: A lexical analysis. *Language* 294–317.

Saddy, Douglas. 1991. Wh-scope mechanisms in Bahasa Indonesia. *MIT Working Papers in Linguistics* 15. 183–218.

Satik, Deniz & Shannon Bryant. 2020. Untangling Balinese Binding without Agreement. *Ms., lingbuzz/005336.*

Spathas, Giorgos, Artemis Alexiadou & Florian Schäfer. 2015. Middle voice and reflexive interpretations: *afto*-prefixation in Greek. *Natural Language & Linguistic Theory* 33(4). 1293–1350.

Udayana, I Nyoman. 2013. *Voice and reflexives in Balinese*: The University of Texas at Austin dissertation.

Wiltschko, Martina. 2012. What does it take to host a (restrictive) relative clause? *Working Papers of the Linguistics Circle* 21(2). 100–145.

Appendix 1: (It's not) Pseudo Noun Incorporation

- As per Massam's (2001) seminal account of Niuean, PNI requires strict linear adjacency between an NP and verb, while still allowing them to remain separate phonological words.
- The truncated structure explains why PNI disallows plurality (no NumP), relative clauses (no DP), determiners (no DP), and case marking (no KP), but allows adjectives (as an adjunct in NP):

(38) Ne inu [kofe kono] a Mele
PST drink coffee bitter ABS Mele
'Mary drank bitter coffee.' (Massam 2001: 158, ex. 6a)

- At first glance, this looks a lot like the Balinese *ma-* + N construction. However, there are three main facts which disfavour a PNI analysis: relativisation, conjunction, and doubling.
- Firstly, PNI in Niuean does not allow **relative clauses** to be stranded or pied-piped with the head noun:[15]

(39) a. *Ne inu [kofe] a Sione [~~kofe~~ ne taute e au]
PST drink coffee ABS Sione *t* NFUT made ERG I
b. *Ne inu [kofe ne taute e au] a Sione
PST drink coffee NFUT made ERG I ABS Sione
Intended: 'Sione drank coffee that I made.' (Massam 2001: 167, ex. 14a-b)

- The same facts obtain in Danish PNI, with or without extraposition:

(40) a. *Min nabo købte [hus] sidste år [som kostede ove en million]
my neighbour bought house last year which cost over one million
b. *Min nabo købte [hus som kostede ove en million] sidste år
my neighbour bought house which cost over one million last year
Intended: 'My neighbour bought a house which cost over one million last year.'
(Asudeh & Mikkelsen 2000: 3, ex. 4b-c.)

- In contrast, Balinese allows full relative clauses to be headed by the incorporated noun in a range of voices.

(41) a. Wayan ma-[capil sané sing ma-warna barak]
Wayan MA-hat REL NEG MA-colour red
'Wayan is wearing a hat that is not red.' ('Middle Voice' RC)
b. Tiang ma-[baju sané jahit-é ajak I mémé]
1SG MA-shirt REL OV.sew-3SG by ART mother
'I wear a shirt that was sewn by mother' (Object Voice RC)
c. Tiang ma-[celana sané setata ngae-nang tiang labuh]
1SG MA-pants REL always AV.make-APPL 1SG trip
'I am wearing pants that always make me trip.' (Active Voice RC)

- Crucially, the incorporated noun must start out as the **pivot** of the RC, since it is subject to the expected voice-sensitive movement restrictions:[16]

(42) a. Tiang ma-baju sané jahit tiang
1SG MA-shirt REL OV.sew 1SG
'I wear a shirt that I sewed' (Object Voice RC)
b. Tiang ma-baju sané tiang jahit
1SG MA-shirt REL 1SG OV.sew
'I wear a shirt that I sewed' (Multiple Fronting in Object Voice RC)
c. *Tiang ma-baju sané tiang nyahit
1SG MA-shirt REL 1SG AV.sew
Intended: 'I wear a shirt that I sewed.' (Active Voice RC)

[15] Note that Niuean 'existential' PNI with light verb fai 'have/be' can occur with stranded RCs; however, Massam assumes that RCs do not need to form a constituent with the modified noun at any point in their derivation and are instead like free adjuncts. I follow Bhatt (2002); Wiltschko (2012); Cinque (2019) and others in assuming that RCs are adjoined within and form proper constituents the NP/DP they are headed by.

[16] This multiple extraction is most obvious in questions (Erlewine et al., 2015), in which a non-pivot argument can only move in front of the verb if the pivot argument remains leftmost in the clause. It is unclear what semantic or pragmatic environments condition this fronting.

d. #Tiang ma-baju sané nyahit tiang
1SG MA-shirt REL AV.sew 1SG
'I wear a shirt that sewed me.' (Active Voice RC)

- Namely, a RC-internal AGENT may only extract with actor voice morphology, while an RC-internal THEME may only extract with object voice morphology.

- Secondly, PNI in Niuean, Hindi, and Danish all allow the pseudo-incorporated element to be a **conjoined phrase**:

(43) a. Ne kai [sipi mo e ika mitaki] a Sione
PST eat chip COM ABS fish good ABS Sione
'Sione ate good fish and chips' (Massam 2001: 160, ex. 7b)
b. Anu [kutta aur billi] paaltii hai
Anu dog and cat breed.IMP be.PRS
'Anu breeds cats and dogs.' (Dayal 2011: 137, ex. 27b)
c. Min nabo købte [hus og bil] sidste år
my neighbour bought house and car last year
'My neighbour bought a house and car last year.' (Asudeh & Mikkelsen 2000: 4, ex. 5b-c)

- This is impossible in Balinese, presumably due to some coordinate structure constraint on head-movement. Thus, while post-nominal modifiers may be phrasal, the incorporated element itself cannot be.

(44) *Tiang ma-[capil lan baju]
1SG MA-hat and shirt
Intended: I am wearing a hat and shirt.

- Finally, the ability to **double** the incorporated noun with a more specific hyponym is a distinct feature of real NI as opposed to PNI (Rosen, 1989; Massam, 2001; Barrie & Mathieu, 2016). This is very productive in Balinese:

(45) a. Wayan ma-capil kupluk
Wayan MA-hat beanie
'Wayan is wearing a beanie.'
b. Wayan ma-kupluk (*capil)
Wayan MA-beanie (hat)
'Wayan is wearing a beanie.'
c. Tiang ma-baju kebaya.
1SG MA-shirt traditional.female.blouse
'I am wearing a *kebaya*.'
d. Tiang ma-kebaya (*baju)
1SG MA-traditional.female.blouse (*shirt)
'I am wearing a *kebaya*.'

- Crucially, incorporating the more specific element and doubling a hypernym is ungrammatical.

Appendix 2: Verb Classes

Transitives

- *Ma-* constructions are valency reducing in the sense of truncating external arguments: transitive verbs become unaccusative, while unaccusative verbs remain the same. Both lack the ability to license the direct object. This plays out in that many of the *ma-* verbs can form simple nasal transitives:

(46)

Root	***ma*-form**		**N-form**	
adép	*ma-adép*	'be sold'	*ngadép*	'sell something'
beli	*ma-beli*	'be bought'	*meli*	'buy something'
diman	*ma-diman*	'kiss each other'	*niman*	'kiss someone'
kuris	*ma-kuris*	'shave oneself'	*nguris*	'shave someone'

- It is clear here that *ma-* does not **introduce** the THEME argument so much so as **license** the noun which originates as the complement of these (now) unaccusative verbs.

Problem: Unergatives?

- However, what happens when *ma-* combines with unergative verbs? We would expect these to become avalent or impersonal. Indeed, Udayana (2013: 84, fn. 12) notes that there exists another set of *ma-* verbs which lack simple nasal variants and must be applicativised:

(47)

Root	***ma*-form**		**N-form**	
-baseh	*ma-baseh*	'wash one's limbs'	*maseh-in*	'wash s.o.'
-siat	*ma-siat*	'fight each other'	*nyiat-in*	'fight s.o.'
-sugi	*ma-sugi*	'wash one's face'	*nyugi-hin*	'wash s.o. else's face'
-suryak	*ma-suryak*	'shout in joy'	*nyuryak-in*	'cheer s.o. on'

- These are clearly those roots which cannot take Theme complements, even in a straightforward Actor Voice constructions. This analysis is supported by the fact that applicativisation is also obligatory for all *ma-* + V constructions built off of (alienable) nominal/adjectival bases:

(48)

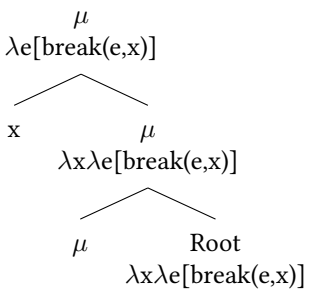
Root	***ma*-form**		**N-form**	
payas 'adornments'	*ma-payas*	'be adorned'	*mayas-in*	'adorn s.o.'
suah 'comb'	*ma-suah*	'comb oneself'	*nyuah-in*	'comb s.o.'
suluh 'mirror'	*ma-suluh*	'look at self in mirror'	*nyuluh-in*	'look at s.o. in mirror'
jalan 'street'	*ma-jalan*	'walk'	*nyalan-ang*	'make go, drive'
			nyalan-in	'proceed along'

- Despite resulting in monovalent verbs, *ma-* is not itself an intransitivising morpheme. Instead, it seems that in some contexts, *ma-* may possibly act like a thematic applicative in **introducing** arguments as well.

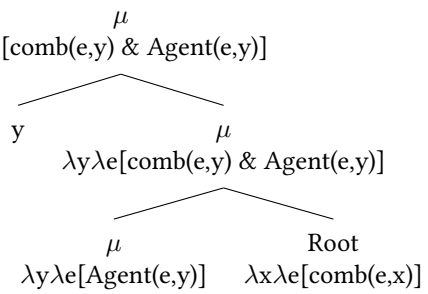
Appendix 3: Semantics?

- While Myler (2016) proposes the applicativiser *pu-* in Quechua is semantically null, this may not be true for *ma-*
- Existing proposals on the semantic denotation of middle voice markers suggests that they, like Legate's (2014) passive VoiceP, introduce an external argument that is then existentially bound (Spathas et al., 2015)
  - This results in an implicit external argument in e.g. Greek, which licenses by-phrases, controls the subject of a purposive clause, and allows agent-oriented adverbs like 'deliberately.'
  - However, this cannot be true for Balinese, which lacks implicit agents entirely.
- In the vein of Doron (2003) and Alexiadou & Doron (2012), it may be more promising to suggest that *ma-* 'modifies the root' [V] by voiding the licensing of an external argument – i.e. preventing merger of whatever functional head introduces external arguments. Examples for unaccusative 'x breaks' and reflexive 'x combs':[17]

(49) a.



b.



(Doron 2003: 59, ex. 112, 115)

- Their Middle Voice μ head optionally assigns an additional Agent role. It remains to be seen if we want this to be possible on syntactic grounds for Balinese.
- Crucially, this modification applies to the root alone, not in combination with its arguments – this parallels the fact that the DO must raise into Spec, ApplP for licensing there.[18]

[17] I follow Doron (2003) in leaving out assignation of a Theme role, such that 'break' could also be λxλe[break(e) & Theme(e,x]

[18] This analysis raises non-trivial questions regarding the status of traces/deleted copies. One could also take the trees in (49) to represent a thematic applicative in which Themes are directly merged into Spec, ApplP; however, this loses our ability to account for the fact that the raised element may also be a Possessor.