Voice and extraction in Malayic

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Abstract In many Malayic languages (western Austronesian), subjects can undergo A'-movement without any special qualification, whereas non-subject nominals can only A'-move if the verb appears without a voice prefix. We propose a novel account for the syntax of voice alternations in Malayic languages, synthesizing insights in the prior proposals of Aldridge 2008b and Nomoto 2015, 2021. Furthermore, adopting the view that phase impenetrability effects reflect word order determination at each phase level (Fox and Pesetsky 2005), our proposal derives both the general subject-only A'-extraction restriction and its limited exception and associated morphological restrictions. The proposal is motivated by our original data on voice and extraction in Suak Mansi Desa, a previously undescribed Malayic language of western Borneo, which we then successfully extend to Standard Indonesian and Standard Malay as well as various other dialects and languages of the region.

Keywords Malayic, Suak Mansi Desa, Borneo, voice, subjecthood, A'-movement, *meN*-deletion, verbal phase, Cyclic Linearization

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1   Introduction

Many western Austronesian languages of Malaysia and Indonesia are frequently described as exhibiting an active/passive voice alternation. In Standard Indonesian (SI) and Standard Malay (SM), active verbs bear a *meN-* prefix, where *N* is a homorganic nasal, and passive verbs bear the prefix *di-*.[1]

(1)   **Active/passive alternation in SI/SM:**

    a.   Fera **men**-ulis buku ini.   (*meN-tulis* > *menulis*)
        Fera ACT-write book DEM

        'Fera wrote this book.'

    b.   Buku ini **di**-tulis   (oleh Fera).
        book DEM PASS-write by   Fera

        'This book was written by Fera.'

A wrinkle in this picture of a "two-way" voice alternation is the fact that transitive verbs also appear in some contexts without any voice prefix. One such context is a construction variously described in the literature as "passive type 2" (Dardjowidjojo 1978; Sneddon 1996, a.o.), "bare passive" (Voskuil 1996, 2000; Cole et al. 1999b; Nomoto 2021, a.o.), or "object(ive) voice" (Arka and Manning 1998; Cole, Hermon, and Yanti 2008; Legate 2012a, 2014; Jeoung 2018b), among other terms (see Nomoto 2006). In such clauses, which we refer to as *bare passives*, the subject is an internal argument and the agent is immediately preverbal.

(2)   **Bare passive in SI/SM:**

    Surat itu   saya tulis.
    letter DEM 1sg write

    'I wrote that letter.'   (SI; Sneddon 1996: xxiii)

Verbs without voice prefixes are also observed in the context of non-subject nominal A'-movement.[2] This phenomenon has received substantial attention in prior theoretical work on SI and SM, largely informed by the description of such examples by Chung (1976a: 74) and Cole and Hermon (1998, 2000) as extraction of an object from an active clause such as (1a) but with the *meN-* active prefix undergoing "deletion" as a response to A'-movement across it. See also Saddy 1991, Soh 1998, Aldridge 2008b, and Sato 2012 among others for prior discussion of this effect.

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(3) **Object relativization requires verb without *meN*- active prefix in SI/SM:**

Buku [RC yang Wati { *__men__-ulis / tulis } ___] ada di atas meja itu.
book   C   Wati   ACT-write   write   exist on top table that
'The book that Wati wrote is on the table.'   (SI; Cole and Hermon 2005: 67)

There is much discussion in the literature surrounding the bare passive (2), the nature of so-called "*meN*-deletion" as in (3), as well as the relation between them, and what they tell us about the nature of voice and A'-movement in SI/SM. At the same time, there is substantial variation in the form and behavior of these voices across the many regional, colloquial Malay varieties and other Malayic languages (Gil 2002; Adelaar 2005c; Donohue 2008; Nomoto 2020; a.o.) but — with a few notable exceptions such as Cole, Hermon, and Tjung 2006 and Cole, Hermon, and Yanti 2008 — the consequences of this variation for the theoretical analysis of these voice forms have not been substantially explored.

In this paper, we introduce and analyze the voice alternation in (Suak Mansi) Desa, a previously undescribed Malayic language of West Kalimantan, Indonesia.[3] Active voice forms in Desa are notable for having two variants: a short nasal prefix of *N*- alone and a full, long *meN*- prefix. While these two forms are generally in free variation, object A'-movement is only possible across active verbs with the short prefix:

(4) **Desa non-subject A'-movement allows short *N*- but not long *meN*- active prefix:**

Opai yang inya { __m__-ewa' / *__mem__-ewa' } ___?   (*N-bewa'* > *mewa'*)
what C   3sg   N-bring   MEN-bring
'What did s/he bring?'

Desa also has a bare passive with immediately preverbal agent, parallel to the SI/SM example (3). The verb in Desa bare passives as in (5) has no voice prefix, disallowing both the short (*N*-) and long (*meN*-) active prefixes.

(5) **Desa bare passive verb allows neither active prefix:**

Kayu inya { bewa' / *__m__-ewa' / *__mem__-ewa' }.
wood 3sg   bring   N-bring   MEN-bring
'S/he is bringing wood.'

We argue that these facts from Desa offer several important hints for the analysis of Malayic voice, including the nature of the *meN*-deletion interaction in the standard languages. Desa teaches us that, in a Malayic language with greater flexibility in the form of active voice verbs, object extraction still restricts the form of the verb as in SI and SM, but that it is specifically the initial syllabic *me*- whose occurrence is restricted in object extraction, as the short nasal prefix of *N*- alone remains, as in (4). At the same time,

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[3] There is no standardized orthography for Desa, so we utilize a modified SI/SM orthography. Following SI/SM orthography, nasals are represented by <ng> [ŋ] and <ny> [ɲ]. We use <'> for [ʔ].

the availability of *N*- in object extractions such as (4) shows that such clauses cannot be straightforwardly analyzed as underlyingly bare passive clauses like (5).

The core insight of our proposal is that the *forms* of verbal morphology — in particular, between overt and null allomorphs — play an important role in explaining restrictions on A'-extraction in these languages. We first put forward a general theory for the basic clausal syntax of Malayic languages, largely based on the previous accounts in Aldridge 2008b and Nomoto 2015, 2021. Then, adopting a theory of derivational cyclicity that ties the availability of movement to matters of linearization (Fox and Pesetsky 2005 and subsequent work), we show how we are able to derive the almost exceptionless subject-only restriction on nominal A'-extraction, as well as its one "*meN*-deletion" exception. This contrasts from previous accounts for "*meN*-deletion" which do not offer any deeper explanation for the relationship between the extraction restriction and the morphological form of the verb. We further support this new and more explanatory understanding of the relationship between verbal voice morphology and A'-extraction possibilities with a number of case studies of their variation across different Malayic languages and beyond, including in Desa, Kendayan, and Madurese.

The paper is structured as follows. First, in section 2, we offer a description of voice alternations, A'-extraction, and their interaction in (Suak Mansi) Desa, a previously undescribed Malayic language of western Borneo. There we also introduce the parallel facts in Standard Indonesian and Standard Malay, which have been well described and theorized in prior work, highlighting the few but important differences between them and Desa. Next, in section 3, we present our novel proposal for Malayic clausal syntax and how it accounts for the interaction of A'-extraction and voice morphology in Desa. Then, in section 4, we extend our analysis to the standard languages, deriving the "*meN*-deletion" interaction from the properties of linearization in a phase-based syntax. We discuss some details of verbal morphosyntax and its variation across Malayic varieties and beyond in section 5, which offers further support for our account. We conclude in section 6.

2 Voice and extraction in Desa

2.1 Language background

Desa is a Malayic language spoken in West Kalimantan, Indonesia, in western Borneo.[4] The variety discussed here is predominantly spoken in a village called Suak Mansi, which is located south of the Kapuas River in the Sanggau Regency. The approximate location of Suak Mansi is given below in Figure 1. Speakers of this language refer to it as *bahasa Desa* ('Desa language') and occasionally colloquially as *Opai* (the Desa word for 'what').

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[4] Desa belongs to the West Bornean Malayic subbranch within the Smith 2017 classification of Malayic, and therefore not a variety of Malay proper. We caution that there is another, distinct language that is also called Desa and spoken further upriver
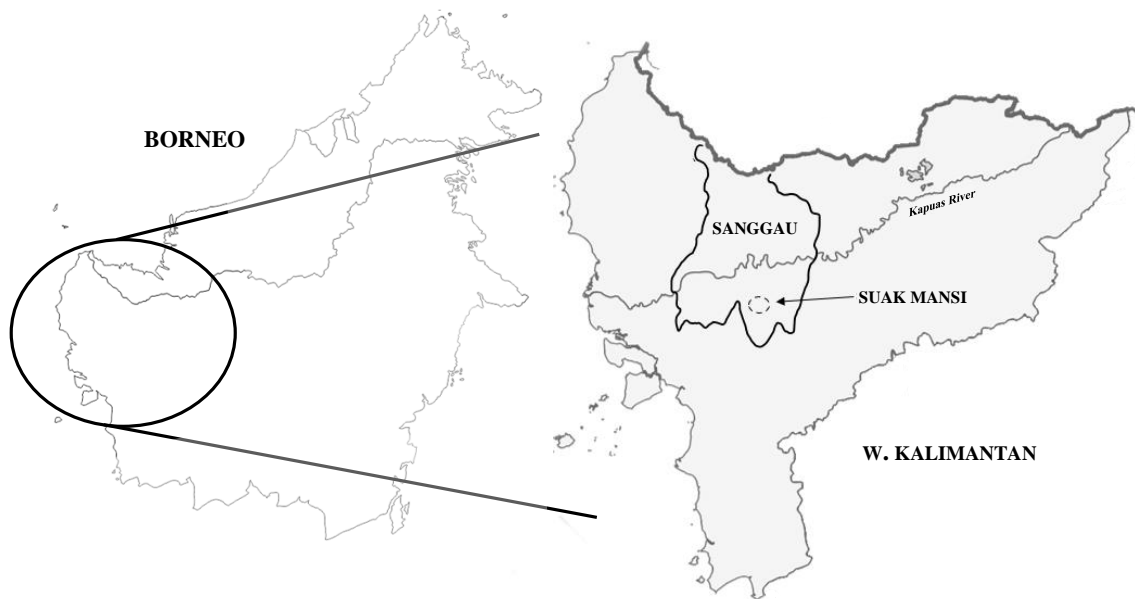
Figure 1: Approximate location of Suak Mansi in West Kalimantan

All Desa data in this paper were collected through primary fieldwork by the second author over the course of three summers beginning in 2017. Elicitation sessions were conducted in the village of Sungai Galing, which is located just north of Suak Mansi, along the Kapuas River. All data from these sessions have been transcribed and tagged and are publicly available at [Anonymized data archive]. Unfortunately, due to their remote nature, access to both Sungai Galing and Suak Mansi is quite difficult. As a result, we are limited here to the data collected previously and reflected in the archive. The behavior that we report here reflects consistent contrasts across multiple sentences with different lexicalizations, over multiple sessions, which faithfully reflects the data in our entire corpus. In the few instances where there are conflicting judgments or insufficient evidence to address a question in our corpus, we explicitly note this.

2.2 Voices

Desa generally resembles well-studied Malayic languages in terms of its word order and voice marking. As described earlier, Standard Indonesian and Malay (SI/SM) have active and passive voices with corresponding verbal prefixes (*meN-* and *di-*), as well as a so-called "bare passive" where the verb appears without a voice prefix. Desa patterns closely with SI/SM in also having these three types of clauses. Here we describe these three clause types in Desa in turn, highlighting salient differences from the behavior of SI/SM. We concentrate here on the behavior of eventive bivalent predicates.

(Collins 2004; Herpanus 2014; Collins and Herpanus 2018), but based on the available data, it differs considerably from the language discussed here. Where it is necessary to clearly distinguish the two, we suggest referring to the language discussed here as Suak Mansi Desa. See Sommerlot 2020: 8–13 for discussion of Suak Mansi Desa in relation to the Desa described by Collins and Herpanus as well as its position within the Malayic family.

Active An active, transitive construction in Desa is subject-initial and its verb is prefixed with a nasal affix. Objects follow the verb, and neither the agent nor the theme are marked for case. The construction in (6) with the prefix *meN-* strongly resembles the Standard Indonesian example provided earlier in (1a). However, there is also another variant of this same sentence, identical in every way except that the nasal prefix has been "shortened" to only the homorganic nasal. Both forms of the nasal prefix occur frequently on a variety of verbs, and there is no distinction in meaning between the two variants.[5]

(6) **Desa active voice with *N-* and *meN-*:**

Inya { **ng**-ikat / **meng**-ikat } perau yetn.
3sg N-tie MEN-tie boat DEM
'S/he ties the boat.'

The two forms behave identically in their nasal realization: *N-*, alone as the short prefix and as part of the long prefix *meN-*, undergoes homorganic nasal substitution if the verb stem is consonant-initial, and otherwise appears as *ng-*.[6] We present a number of transitive verbs in their bare, *N-*-prefixed, and *meN-*-prefixed forms in (7), organized by the stems' onset type.

(7) **Some Desa transitive verbs with their *N-* and *meN-* active forms:**

pangkong	*mangkong*	*memangkong*	'hit'
bewa'	*mewa'*	*memewa'*	'bring'
boli	*moli*	*memoli*	'buy'
tanam	*nanam*	*menanam*	'plant'
tulis	*nulis*	*menulis*	'write'
kirim	*ngirim*	*mengirim*	'send'
sapah	*nyapah*	*menyapah*	'call'
cuci	*nyuci*	*menyuci*	'wash'
ikat	*ngikat*	*mengikat*	'tie'
ambe'	*ngambe'*	*mengambe'*	'take'

In active clauses with preverbal auxiliaries, the subject must precede the auxiliaries. This is shown

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[5] As a reviewer notes, Soh and Nomoto (2009, 2015) claim that there is a difference in Malay between *meN-*-prefixed active verbs and so-called "bare actives" (see note 19 below), in the range of predicates they take and their aspectual interpretation (cf Jeoung 2018a: 87). Kaswanti Purwo (1986) also reports related contrasts in Indonesian. Efforts were made to see if there are any such differences between *N-* and *meN-*-prefixed active forms in Desa, or any restrictions on their cooccurrence with different temporal and aspectual auxiliaries, but no such differences were found.

[6] Our field notes unfortunately include very few liquid-initial transitive stems, with only *nge-*-prefixed active forms attested. For instance, one such stem is *liat* 'see,' with attested active form *ngeliat*. We suspect that *ngeliat* is a short form, but the predicted long form *mengeliat* was not tested.

for Desa in (8) with a range of preverbal auxiliaries, with both short (*N-*) and long (*meN-*) voice prefix verbs. This generalization is also true of SI/SM, as seen in (9). We analyze this word order as the effect of an obligatory, high structural position for subjects; i.e. an EPP requirement.

(8) **Agent subjects precede auxiliaries in Desa active voice:**

Aku { tongah / udah / nda' / mau' / tau' } { ny-apah / meny-apah } kawan-ku.
1sg PROG ASP NEG FUT MOD N-call MEN-call friend-1sg
'I {am calling / called / didn't call / will call / can call} my friend.' (*N-sapah > nyapah*)

(9) **Agent subjects precede auxiliaries in SI/SM active voice:**

{*Kami*} tidak akan {**kami*} mem-baca buku ini.
1pl.EXCL NEG FUT ACT-read book DEM
'We will not read this book.' (SI; Cole et al. 2008: 1512)

***Di-* passive** The *di-* passive in Desa is nearly identical to what has often been referred to as the 'canonical' passive in SI/SM: the verb bears a *di-* passive voice prefix and the agent can be specified with an optional prepositional phrase headed by *oleh* 'by.'

(10) **Desa canonical passive:**

Makanan mau' di-kirim (oleh uma'-ku) ke Meliau.
food FUT PASS-send by mother-1sg to Meliau
'Food will be sent to Meliau (by my mother).'

Bare passive Desa additionally has a "bare passive" clause type. This construction is characterized by a verb without any voice prefix, an internal argument as the clause-initial subject, and an immediately preverbal external argument (agent): see (11). We italicize these immediately preverbal agents throughout this section. This construction shares several features in common with the bare passive in SI/SM, as in (12).

(11) **Desa bare passive:**

Meja yetn *aku* teipel.
table DEM 1sg touch
'I touch the table.'

(12) **SI/SM bare passive:**

Mobil itu dapat *kita* perbaiki.
car DEM MOD 1pl.INCL repair
'We can repair the car.' (Chung 1976b: 60)

The bare passive in SI/SM is so called as its verb must appear without any voice prefix. The same is true of the bare passive in Desa: in particular, both short (*N-*) and long (*meN-*) form active prefixes are disallowed, as seen in (13). The *di-* prefix is also disallowed in the bare passive; see (14).

(13) **Desa bare passive verb allows neither active prefix:** =(5)

Kayu *inya* { bewa' / ***m**-ewa' / ***mem**-ewa' }.
wood 3sg   bring   N-bring   MEN-bring
'S/he is bringing wood.'

(14) **Desa bare passive verb disallows the *di-* prefix:**

Mano' *uma'-ku*   { buat / ***di**-buat   }.
chicken mother-1sg   make   PASS-make
'My mother makes chicken.'

Two notable properties of the agent in bare passives are also the same between SI/SM and Desa. First, the agent of a bare passive is obligatory, unlike the agent of a *di-* passive:

(15) **Agents are obligatory in Desa bare passives:**

a. Buku *(*ikau*) beca.   b. Buku yetn udah { **di**-tulis   / *tulis }.
    book   2sg   read   book DEM ASP   PASS-write   write
    'You read the/a book.'   'The book was written.'

(16) **Agents are obligatory in SI/SM bare passives:**

Mobil ini   akan *(*kita*)   perbaiki.
car   DEM FUT   1pl.INCL repair
'We will repair this car.'   (based on Chung 1976b: 85)

Second, in clauses with preverbal auxiliaries, the agent must be in immediately preverbal position, following the auxiliaries. This is shown with the progressive auxiliary in (17). The same holds of bare passive agents in SI/SM (see e.g. Dardjowidjojo 1978: 259), as in (18). This placement of bare passive agents is in striking contrast to the agentive subjects of active clauses, which must precede any auxiliaries; see examples (8–9) above.

(17) **Agents are low in Desa bare passives:**

Buku yetn {*lelaki yetn} tongah {*lelaki yetn*} tulis.
book DEM   PROG   male DEM write
'The man is writing the book.'

(18) **Agents are low in SI/SM bare passives:**

Buku ini   {*kami} tidak {*kami} akan {*kami*}   baca.
book DEM   NEG   FUT   1pl.EXCL read
'We will not read this book.'   (SI; Cole and Hermon 2005: 62–63)

Bare passive clauses therefore cannot be simply described as active clauses with clause-initial object topics. These two types of constructions differ in their verb forms and in the position of their agents with respect to auxiliaries, in a correlated fashion, as seen in (19):

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(19) **Bare passive versus active clause with object topicalization in Desa:**

    a. Surat to   mau' *kame'*   { kirim / ***ng**-irim[7] } ke Ali.
        letter DEM FUT 1pl.EXCL send   N-send   to Ali
        'We will send the letter to Ali.'

    b. Surat to, kame'   mau' **ng**-irim ___ ke Ali.
        letter DEM 1pl.EXCL FUT N-send   to Ali
        'The letter, we will send to Ali.'

Additionally, if a bare passive agent is pronominal, it can be reduced and procliticize to the verb. For example, the first singular pronoun *aku* appears as *ku* in (20) and (21) below.

(20) **Pronominal agents can procliticize to the verb in Desa bare passives:**

    Yetn [ular   [RC yang ___ suwah *ku*-liet   ___] paling bosa].
    DEM snake   C   AUX 1sg-see   most big
    'That is [the biggest snake [that I've ever seen]].'

(21) **Pronominal agents can procliticize to the verb in SI/SM bare passives:**

    Engkau akan *ku*-beli-kan   piano.
    2sg   FUT 1sg-buy-APPL piano
    'I will buy you a piano.'   (SI; MacDonald and Darjowidjojo 1967: 243)

The one point where the bare passive in Desa diverges from that in SI is in the types of nominals that are allowed as its agent. Bare passive agents in SI are limited to pronouns like the first-plural *kita* in (12) above or various pronoun substitutes (Sneddon 1996: 248–249; Kaufman 2014; a.o.). Desa does not have this restriction, so agents in the bare passive can be full noun phrases (DPs), as seen in (17) above. However, Desa is far from unique within the Malayic branch in this flexibility of bare passive agent form. Nomoto (2021) shows that many languages of western Indonesia — including SM (in contrast to SI) as well as many non-standard, regional Malay varieties and related languages — allow non-pronominal agents in the bare passive. Against this broader typology, the restriction in SI is in fact the exceptional extreme.

2.3 A'-extraction constructions

Next we turn to patterns of A'-extraction (relativization, *wh*-fronting, focus-fronting (clefts), and topicalization) of nominal arguments in Desa as well as in SI and SM. We comment on non-nominal A'-extraction in section 3.2 below.

As noted in the introduction, the interaction of A'-extraction with the *meN-* active prefix in SI/SM has received much attention in prior theoretical work. Desa shows us a slightly different version of

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[7] We also predict the long form *mengirim* to be ungrammatical here, but this was not tested in this specific example.

such facts, which will motivate our analysis below. As background, we first present the well-known subject-only extraction restriction in SI/SM and its so-called "*meN*-deletion" exception. A'-extraction can target subjects of active clauses as in (22), as well as subjects of *di-* passives and bare passives (not shown here), with no change to verbal morphology. In contrast, the extraction of non-subject arguments is ungrammatical in the basic case. This has led reference works on SI and SM to describe nominal A'-extraction constructions (e.g. gapped relativization and *wh*-fronting) to be restricted to the subject; see e.g. Sneddon 1996: 285–287, 301–302.

(22) **Active subject extraction in SI/SM:**

Siapa-kah yang ___ telah **mem**-baca buku itu?
who-Q   C   ASP ACT-read   book this
'Who has read the book?'   (SM; Soh 1998: 297)

However, object extraction *is* possible in SI/SM, as long as the active voice prefix is absent, as in (23) below. As Soh (1998), Musgrave (2001), and Cole and Hermon (2005) discuss, some theme A'-extraction examples similar to (23) but without an auxiliary could be analyzed as involving extraction of a bare passive subject, rather than A'-extraction of an active object across the verb. However, examples such as (23) where the agent (*Ali*) precedes the auxiliary (*tidak*) show that object A'-extraction from an active clause — as diagnosed by the high, pre-auxiliary position of the agent — is indeed possible, as long as the active prefix is absent.

(23) **Object extraction is not possible with *meN*- but possible without, in SI/SM:**

baju-baju [RC yang Ali tidak { *mem**-basuh / basuh } ___]
shirt-RED   C Ali NEG   ACT-wash   wash
'clothes that Ali isn't washing'   (SM; Keenan 1972: 183–184)

This phenomenon of so-called "*meN*-deletion" has received substantial attention in the theoretical literature on SI and SM, for two reasons. First, it shows that the general subject-only restriction on nominal A'-extraction — a widespread typological trait that holds of many western Austronesian languages (see e.g. Himmelmann 2005: 161–163, Chung and Polinsky 2009: 665–666) — is not absolute in SI and SM. Second, it suggests that verbal voice morphology interacts with A'-extraction in non-trivial ways.

With this background on nominal A'-extraction in SI/SM in place, we now turn to the corresponding behaviors in Desa. Subject A'-extraction from both active and passive clauses are common and unrestricted; see (24–25). Notice that subjects of active clauses with both the short (*N-*) and long (*meN-*) active prefix can be extracted.

(24) **Desa active subject extraction:**

    a. Sopai yang ___ ng-ikat perau yetn?
       who   C   N-tie boat DEM
       'Who tied the boat?'

    b. Sopai yang ___ meng-ambe' ageng-ku?
       who   C   MEN-take   basket-1sg
       'Who took my basket?'

(25) **Desa *di-* passive subject extraction:**

    Opai yang ___ tau' di-tanam di taman?
    what C   MOD PASS-plant in field
    'What can be planted in the field?'

Next we turn to the A'-extraction of active objects in Desa, which exhibits a slight variation on the "*meN*-deletion" interaction of SI/SM summarized above. While the *meN-* active prefix is disallowed in object A'-extraction just as in SI/SM, no such restriction exists for the shorter *N-* prefix, as seen in the object focus-fronting construction in (26).

(26) **Object extraction allows *N-* but not *meN-* in Desa:**

    Buku to   yang opa'-ku { **m**-oli / ****mem**-oli } ___. (*N-boli > moli*)
    book DEM C   father-1sg N-buy   MEN-buy
    'It's this book that my father bought.'

Further, Desa differs from SI/SM in the word order of object extraction clauses such as (26). While the SI/SM object relative clause in (23) reflects the word order found in active clauses, in Desa object extraction, agents are always immediately preverbal, following any auxiliaries. Example (27) shows the ungrammaticality of the agent in pre-auxiliary position. The examples in (28) below are additional object extraction examples which illustrate the same word order with immediately preverbal agent, with a range of different auxiliaries. Examples (28b–d) also explicitly illustrate the grammaticality of *N*-prefixed verbs but ungrammaticality of *meN*-prefixed forms in these structures.[8]

(27) **Agents follow auxiliaries in Desa object extraction:**

    Opai yang {**inya*} nda' {*inya*} m-ilau   ___? (*N-pilau > milau*)
    what C   NEG 3sg   N-look.for
    'What isn't s/he looking for?'

(28)   a. Opai yang { tongah / udah / nda' / mau' / tau' / nda' tau' } *opa'-ku* m-oli ___?
       what C   PROG ASP NEG FUT MOD NEG MOD   father-1sg N-buy
       'What is my father buying?' / 'What {did / didn't / will / can / can't} my father buy?'

    b. Opai yang udah *inya* { ng-ikat / **meng-ikat*} ___?
       what C   ASP 3sg N-tie   MEN-tie
       'What did will s/he tie?'

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[8] One object extraction example with the agent preceding the auxiliary was accepted in a grammaticality judgment task, but this word order was later rejected as ungrammatical when checked in a later session. Such structures were never accepted otherwise or naturally produced.

c. Opai yang nda' *inya* { m-ewa' / *mem-ewa' } ___?　(*N-bewa' > mewa'*)
　　 what C　　NEG　3sg　N-bring　　MEN-bring
　　 'What didn't s/he bring?'

d. Opai yang tongah *inya* { n-anam / *men-anam } ___?　(*N-tanam > nanam*)
　　 what C　　PROG　3sg　N-plant　　MEN-plant
　　 'What is s/he planting?'

As we noted earlier, this "Aux ag V" order is found in bare passives, but not in active clauses. However, at the same time, recall that verbs in bare passives cannot be prefixed with either version of the active prefix; see (13). We conclude that object extraction clauses in Desa as in (26–28), with their "Aux ag V" order and *N-* prefixed verbs, are neither straightforward active clauses nor straightforward bare passive clauses. The analysis of this object extraction clause type in Desa, and its relation to the SI/SM *meN-*deletion pattern above, will thus feature prominently in our analysis below.

2.4　Summary

We conclude this section with a summary of the different clause types involving eventive bivalent verbs in Desa. We give a schematic illustration of each clause type and their morphological and word order characteristics in (29). Aux* indicates the position where any and all preverbal auxiliaries such as negation, modals, and tense/aspect markers appear.

(29)　**Summary of Desa clause types:**

a.	Active:	subj/ag	Aux*	(*me*)N-	V	obj/th
b.	*Di-* passive:	subj/th	Aux*	*di-*	V	
c.	Bare passive:	subj/th	Aux* ag	{**meN-/*N-/*di-*}	V	
d.	Object extraction:		Aux* ag	(**me*)N-	V	___th

Recall that the subject from each of the clauses in (29a,b,c) can be A'-extracted, but no other nominal can. It is also possible to extract a theme across an agent without first passivizing, as in (29d), which we refer to as the "object extraction" clause type. (Only the gap left by object A'-extraction is indicated, not the moved object's landing site.) As noted above, object extraction shares with the bare passive the property of having an immediately preverbal agent, but differs in its use of the short active prefix *N-*. Object extraction also differs from the active clause type in the unavailability of the long active prefix *meN-* as well as its low agent position. In the following section, we present our analysis for these four clause types and the relationships between them.

We contrast these Desa clause types to the well-studied paradigm of clause types in SI and SM, summarized in (30).

(30) **Summary of SI/SM clause types:**

a.	Active:	subj/ag	Aux*		*meN-*	V	obj/th
b.	*Di-* passive:	subj/th	Aux*		*di-*	V	
c.	Bare passive:	subj/th	Aux*	ag	{**meN-/*di-*}	V	
d.	Object extraction:	subj/ag	Aux*		(**meN-*)	V	___th

Comparing the SI/SM paradigm in (30) to the Desa pattern in (29), we notice two salient differences. First is that the nasal prefix in SI/SM does not have a short form, and therefore either appears as the long *meN-* prefix in (30a) or is fully absent in (30d), in contrast to the corresponding patterns in Desa. Second is that in SI/SM, but not in Desa, a nominal always occupies the high subject position, modulo its later A'-extraction. As reviewed above, the shared property of a high agentive subject in both active clauses (30a) and object extraction (30d) has led authors to describe the object extraction clause type in SI/SM as a form of active clause but with "deletion" of the active voice prefix *meN-*. In our discussion below, inspired by the pattern observed in Desa, we pursue the idea that object extraction in SI/SM is best described as sharing some features with active clauses and bare passive clauses, but formally distinct from both.

3   Malayic clausal syntax and object extraction in Desa

We now turn to our proposal for Malayic clausal syntax with an emphasis on the interaction of verbal morphosyntax and A'-extraction, discussed above. We discuss the syntax of the verb phrase and the analysis of voice alternations in section 3.1, drawing especially on the previous proposals in Aldridge 2008b and Nomoto 2015, 2021. We then discuss how this proposal generally allows only subjects to be A'-extracted in section 3.2. Our analysis for this extraction restriction builds on the idea of the *verbal phase* in Minimalist syntax (Chomsky 2000, 2001, and much subsequent work). We then discuss the syntax of object extraction clauses in Desa in section 3.3. In section 4, we extend this proposal to SI, SM, and other related languages, offering a new understanding for the so-called "*meN-*deletion" pattern of object extraction clauses.

3.1   Malayic clausal syntax and voice alternations

We begin with our proposal for the basic clausal syntax of Malayic languages. Our proposal here synthesizes the key insights of previous proposals for SI and SM syntax, in particular closely following the proposals for the formal licensing of nominal arguments in Aldridge 2008b, the organization of the verb phrase in Nomoto 2015, 2021, and the idea that the verbal domain constitutes a phase. In this section, we will specifically illustrate its application to the verbal morphosyntax of Desa, being careful

to flag Desa-specific points and novel components of our account. We then discuss the application of this proposal to SI and SM and other related languages in section 4.

Many aspects of our proposal here reflect widely adopted ideas in contemporary Minimalist syntax, especially for the analysis of languages with dominant S(Aux)VO word order, which will be familiar to many readers and which we treat here as assumptions of our framework of analysis. We begin with three such ideas — on the base positions of arguments, the nature of the subject position, and the need of nominals to be licensed — and then move to the more Malayic specific components of our analysis, again building on prior proposals for SI and SM.

Thematic positions in VoiceP   We assume that all arguments in a clause are generated within the extended projection of the verb, in designated positions associated with their thematic roles (Baker 1988, a.o.), including agentive subjects (the so-called *predicate-internal subject hypothesis*; see Kitagawa 1986, Kuroda 1988, and Kratzer 1996, as well as Guilfoyle, Hung, and Travis 1992 for SI and SM). Themes are generated as complements of the lexical verb, V, and agents (or more generally, *external arguments*) are generated as specifiers of a functional head *v*, as in (31).

(31)   **The base positions of arguments in VoiceP:**
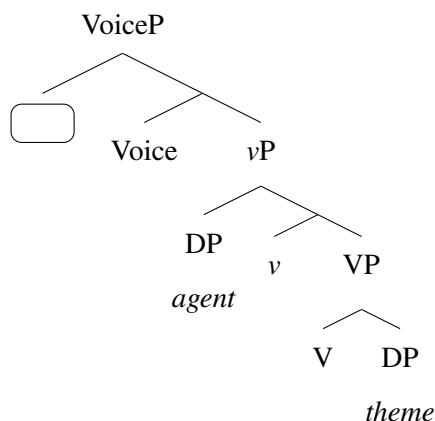
We follow Nomoto 2015, 2021 in the view that there is an additional functional head, *Voice*, which takes *v*P as its complement.[9] We will discuss Voice and its specifier position (boxed in (31)), which will play an important role in our analysis, below.

The subject position   We assume that all clauses project a head T above VoiceP (and other functional projections projecting auxiliaries, if any) which has an EPP requirement to attract a nominal to its specifier, Spec,TP. This results in the subject linearly preceding any and all auxiliaries.

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[9]   Such an organization is briefly suggested for SI in Cole, Hermon, and Yanti 2008: 1532–1533 and Kaufman 2014: 115–117. It is also assumed and illustrated in passing in Nomoto 2016: 187, 2020: 154. See also note 12 below.

Nominal licensing   We adopt the view that all noun phrases require *licensing* — also known as *abstract Case* (Vergnaud 1977/2008; Chomsky 1980, 1981; see also Sheehan 2018 and citations there) — and that the limited inventory of sources of licensing plays a key role in constraining the space of possible grammatical derivations.

We adopt the proposal for mechanisms of nominal licensing in Indonesian-type languages developed in Aldridge 2008b and as adapted by Nomoto (2015, 2021), where there are two varieties of the head v which differ in their licensing abilities: v_{ACT} licenses one nominal that it c-commands and v_{PASS} licenses the nominal in its specifier, if one is projected. We propose to treat v_{PASS} as optionally introducing an external argument as its specifier, which will result in bare passives (with an agent in Spec,vP) and *di*-passives (without one) as a matter of surface morphology, as we detail below.[10]   In addition, T licenses the nominal that it attracts to Spec,TP. In clauses with additional arguments such as ditransitives, we assume an additional functional head (e.g. Appl) serves to license an additional nominal.

Aldridge (2008b) refers to these three modes of nominal licensing — of the subject by T, of an internal argument by v_{ACT}, and of Spec,vP by v_{PASS} — as assigning "nominative," "accusative," and "ergative" case, respectively. Nomoto (2021: 64) follows this terminology. In other words, for Aldridge, active clauses exhibit accusative abstract Case alignment whereas bare passives exhibit ergative alignment. However, as nominals in these languages by and large do not express morphological case distinctions (although see note 17), we choose to describe this aspect of our proposal as reflecting a formal requirement of nominals to be "licensed," rather than a requirement for "case."

Considerations of nominal licensing govern the relationship between the choice of v head and the choice of subject, as we explicate below. The basic logic is as follows for a simple bivalent verb. If the derivation involves v_{ACT}, v will license the theme, but the agent has no source of licensing within VoiceP. The agent must therefore be moved to Spec,TP and licensed by T. If the derivation instead involves v_{PASS}, v will license the agent in Spec,vP if projected, but the theme will lack licensing, so it must be moved to Spec,TP and licensed by T. In this way, the choice of v head correlates indirectly with the choice of nominal that moves to Spec,TP to become the subject, due to the need for each noun phrase to be licensed. We present each of these grammatical and ungrammatical derivational possibilities in greater detail below.

Voice and v   We follow Nomoto 2015, 2021 quite closely in the nature of the difference between active and passive clauses, in which both functional heads Voice and v play important roles. (See the tree in

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[10] Our v_{PASS} corresponds to two different heads in Aldridge's (2008b) proposal: what she calls v_{Erg} which hosts and licenses an external argument as its specifier and v_{Pass} which does neither. Our unified approach here echoes an analytic intuition expressed by Nomoto (2021: 64), who views the lack of licensing for an internal argument within VoiceP to be the shared and defining property of *di*- passives and bare passives as both "passives." Agents of *di*- passives can be introduced as postverbal adjuncts.

(31) above.) As introduced above, active clauses involve v_{ACT}, whereas *di-* passives and bare passives involve v_{PASS}. In addition, Nomoto proposes the higher functional head Voice as the locus of voice morphology — for Nomoto, *meN-* or *di-/∅* — whose realization correlates with the choice of *v* head. Nomoto enforces the correlation between the choice of *v* head and the choice of voice prefix pronounced at Voice "by means of a selectional restriction" (Nomoto 2021: 64), but we will instead pursue the view that there is just one variety of Voice head in the syntax, whose realization varies as a matter of allomorphic variation.

Adopting Nomoto's proposal for the verbal extended projection with two functional heads, Voice and *v*, facilitates the analysis of voice prefixes in Desa and is in turn supported by it. Recall that in Desa, active verbs can be introduced by *meN-* or *N-*, and that these two forms are in free variation in active clauses, but importantly behave differently in the context of object extraction. We propose that in the Desa active voice, *v* realizes the homorganic nasal *N-* and Voice is optionally realized as the syllabic prefix *me-*. For *di-* passive clauses, we maintain Nomoto's position that Voice realizes *di-*. We sketch the structure of the VoiceP in the three basic clause types and their morphological realization in (32) below:

(32) **Desa voice morphology in Voice and *v*:**

		[$_{VoiceP}$ Voice	[$_{vP}$	v+V	...
a.	Active:	(*me-*)		*N*-V	
b.	*Di-* passive:	*di-*		V	
c.	Bare passive:		DP$_{ag}$	V	

We argue in section 5.1 that this morphological decomposition of *meN-* across two syntactic heads is in fact motivated for SI and SM.

We adopt *Distributed Morphology*, a realizational model of morphology where the surface forms of terminals are determined from the syntactic structure by the application of appropriate pronunciation rules, called *vocabulary items*. (See overviews in Harley and Noyer 1999, Embick and Noyer 2007, and Bobaljik 2017, and citations there.) We give the vocabulary items for the heads Voice and *v* in Desa in (33), where * indicates linear adjacency (Marantz 1988; Embick 2010; a.o.). We treat the optional realization of *me-* formally as the optional application of the vocabulary item in (33ai). When Voice is realized overtly, as *me-* or *di-*, it affixes to the verb in *v* via *Local Dislocation* (Embick and Noyer 2001), a postsyntactic operation that requires linear adjacency between Voice and *v* to apply.

(33) **Vocabulary items in Desa:**

  a. i. (Voice ↔ *me-* / ___ * v_{ACT}) b. v_{ACT} ↔ *N-*

  ii. Voice ↔ *di-* / ___ * v_{PASS} c. v_{PASS} ↔ ∅

  iii. Voice ↔ ∅ / elsewhere

VoiceP as a phase   Many works in contemporary Minimalist syntax make reference to the idea that the full verbal extended projection is a *phase*. (See Van Urk 2020 section 5 for a recent summary of evidence for this view, from the domain of A'-movement.)   Phases reflect the intuition that certain syntactic units — including full clauses (CPs) and full noun phrases (DPs) — constitute natural boundaries with limited permeability. In particular, Chomsky (2000: 108, 2001: 13) proposes the *Phase Impenetrability Condition* (PIC) which states that, if a phrase XP is a phase, specifiers of XP are accessible for movement out of XP, but the complement of X and its subparts are not. For our discussion in this section, it suffices to simply assume the PIC to hold of the Malayic verbal phase, VoiceP, although we discuss and adopt an alternate conception of phase impenetrability effects based on considerations of linearization (as in Fox and Pesetsky 2005) in section 4.

Adopting this widespread idea of a clause-medial *verbal phase*, we propose that the VoiceP projection in Malayic constitutes a phase. The *v*P projection does not.[11]   Many previous Minimalist accounts for voice and extraction in SI and SM make use of the idea of a verbal phase, including Aldridge 2008b, Cole et al. 2008, Sato 2012, Jeoung 2017, 2018a,b, and Legate 2014. However, all of these works make reference to a single head (called Voice or *v*, depending on the work) which both introduces the external argument as its specifier and serves as the phase head. Our proposal here that VoiceP is a phase can be thought of as the simple synthesis of this idea of a verbal phase with Nomoto's organization for the extended verb phrase with the two separate heads, Voice and *v*. Separating the functions of serving as the phase head and introducing the external argument across two different functional heads, as Nomoto's phrase structure allows us to do, will play a crucial role in our analysis.

Together with VoiceP being a phase, we propose that Voice always hosts exactly one nominal (DP) specifier (boxed in (31) above). In each of the three basic voices, the nominal that moves to Spec,VoiceP must be the one that lacks licensing within VoiceP, as it must move to Spec,TP to become the subject of the clause.[12]   In active clauses, this is the agent. In passive clauses, it is instead another nominal argument, such as the theme, that moves to Spec,VoiceP. Note that we do not posit distinct Voice heads with different probe specifications for different derivations; we assume that any accessible nominal may in principle move to satisfy the requirement for VoiceP to have a nominal specifier, with invalid choices being filtered out by considerations of nominal licensing etc., as we illustrate below.

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[11] Nomoto (2015, 2021) himself does not discuss the verbal domain as a phase, which reflects the fact that accounting for restrictions on A'-extraction is not a goal of these works. Our proposal here that Voice rather than *v* is a phase head accords with the conjecture as in Bošković 2014 that the highest head of an extended projection constitutes the phase head.

[12] The overall geometry of the verbal phase here — taking the proposal for the extended projections of the verb in Nomoto 2015, 2021 together with the idea that VoiceP constitutes a phase and hosts an "escape hatch" specifier — parallels structures that have been proposed for some other languages: see especially Gallego 2008, Richards 2010, 2023, Coon et al. 2014, Hsieh to appear, as well as Collins 2005 on passives and a brief suggestion in Cole et al. 2008: 1532–1533. These proposals all involve a higher phase head, Voice, with a *v*P complement, where *v* introduces the external argument.

Derivations   We now illustrate the structure of full clauses in each of the voices, beginning with an active clause.   The *v* will be the active variety, v_{ACT}.   The v_{ACT} head licenses the theme, which it c-commands.   The agent moves to become the one nominal specifier of VoiceP. T subsequently attracts the agent from Spec,VoiceP to satisfy its own need to have a nominal specifier (the EPP requirement) and licenses it.   Licensing relationships are indicated by •—• in gray below.   We propose that this derivation underlies the "DP$_{agent}$ Aux* Voice+*v*+V DP$_{theme}$" word order of active clauses in Malayic languages. We illustrate this structure in (34), with morphological realizations for Voice and *v* according to the Desa vocabulary items in (33) above.   (Head movement of V to *v* is not shown.)   This is also our proposal for the structure of active clauses in other Malayic languages, but with minor differences in the morphological realization of Voice and *v*, as we discuss in sections 4 and 5.

(34)   **Malayic active TP, with Desa morphology:**
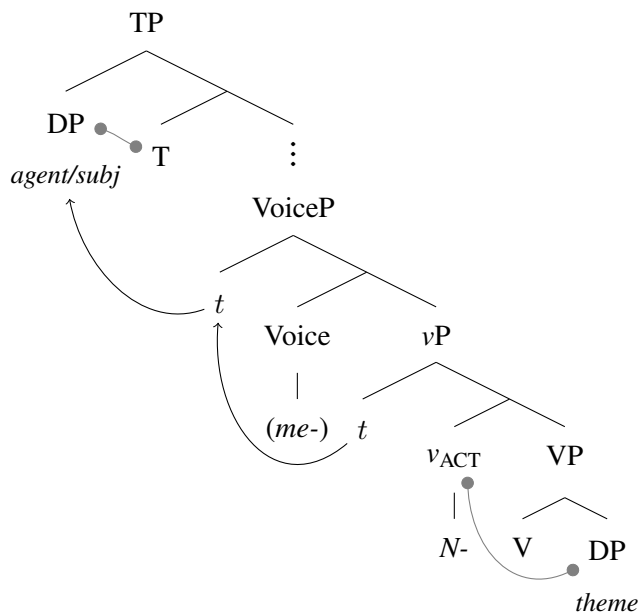
Next, we turn to the structure of passive clauses.   We present two versions of this derivation: one where v_{PASS} does not project a specifier in (35a), and one where does in (35b).   In the latter case, the v_{PASS} head itself licenses the specifier.   The two derivations are otherwise equivalent: An internal argument (here, the theme) cannot be licensed within VoiceP.   This nominal moves to become the one specifier of VoiceP, and then moves to become the subject in Spec,TP and is licensed by T.   These derivations in (35) yield passive clauses with the word order "DP$_{theme}$ Aux* Voice (DP$_{agent}$) *v*+V."

(35) **Malayic passive TPs:**

a.

$$\text{[TP [DP } theme/subj \text{ T] ... [VoiceP } t \text{ [Voice } di\text{- [vP } v_{PASS} \text{ [VP V } t \text{]]]]]}$$

b.

$$\text{[TP [DP } theme/subj \text{ T] ... [VoiceP } t \text{ [Voice [vP [DP } agent \text{] } v_{PASS} \text{ [VP V } t \text{]]]]]}$$
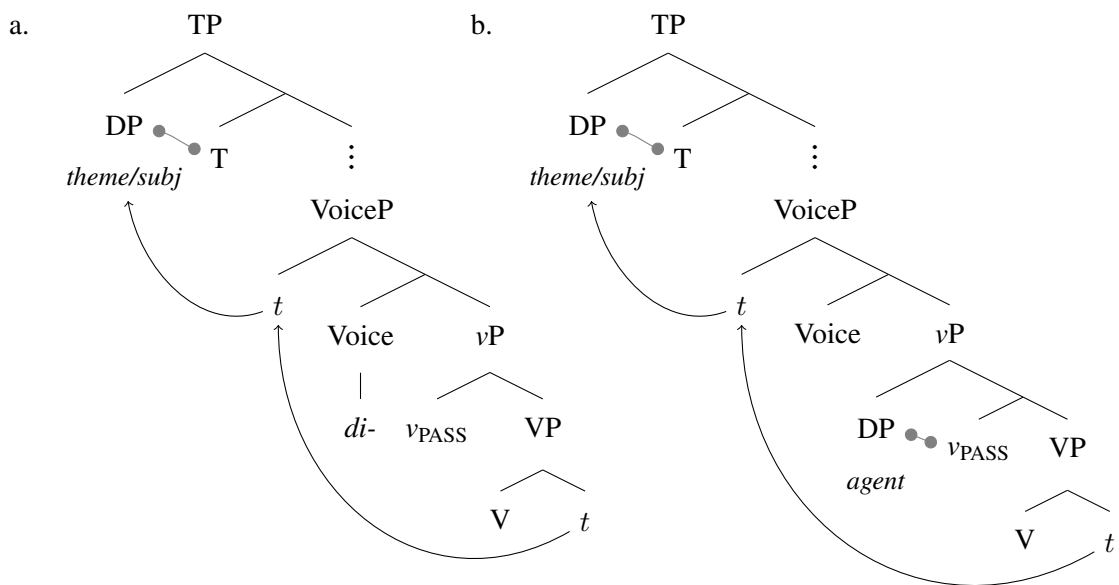
As per our vocabulary items in (33) above, Voice will realize *di-* in (35a) as it is linearly adjacent to v_{PASS}; in contrast, Voice will be unpronounced in (35b) as the agent linearly intervenes between Voice and v_{PASS}, resulting in a bare passive. Keeping the assumption fixed that Voice, when overt, must prefix to the verb in *v* via Local Dislocation, which requires linear adjacency, the organization of the verbal extended projection here adopted from Nomoto 2015, 2021 together with our vocabulary item for Voice as *di-* in (33aii) above offers a natural explanation for the complementary distribution of voice prefixes and immediately preverbal non-subject agents, which is widely observed across a wide range of Indonesian-type languages (see e.g. Ross 2002, Donohue 2008, Nomoto 2021).[13]

Mismatched derivations   For completeness, we illustrate hypothetical derivations where a different nominal argument moves via Spec,VoiceP to the subject position, Spec,TP. The two such logical possibilities with a simple bivalent verb are illustrated in (36) below. (36a) is a derivation with v_{ACT} and a theme subject, whereas (36b) involves v_{PASS} with an agent subject. Based on our proposal for Desa verbal morphology above in (33), if grammatical, these derivations would yield sentences of the form "DP_theme Aux* DP_agent *N*-V" in (36a) and "DP_agent Aux* *di*-V DP_theme" in (36b).

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[13] The Kendayan languages of western Borneo constitute the one counterexample to this generalization amongst Malayic languages, as highlighted by Adelaar (2005c,b), Kaufman (2007), and Sommerlot (2024). See section 5.2 and examples in (72) there.

(36) **Malayic TP derivations with the wrong nominal chosen as subject:**

a. * TP
  DP T ⋮
  theme/subj
  VoiceP
  t Voice *v*P
  ☠ DP v_{ACT} VP
  agent N- V *t*

b. * TP
  DP T ⋮
  agent/subj
  VoiceP
  t Voice *v*P
  di- *t* v_{PASS} VP
  V ☠ DP
  theme
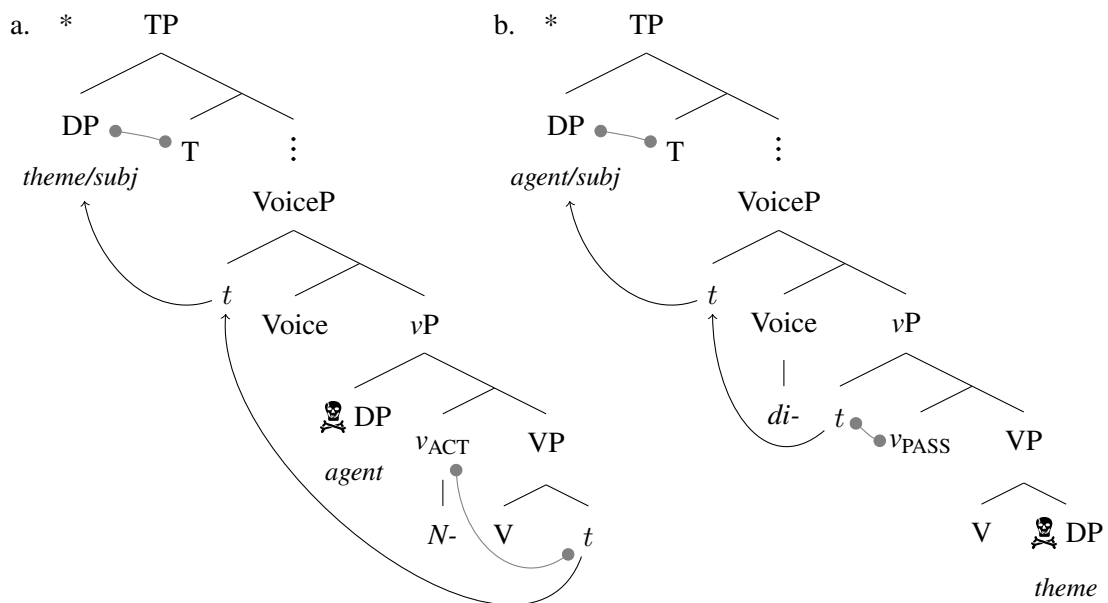
In both of these derivations, the nominal that already *has* licensing by *v* — the theme licensed by v_{ACT} in (36a) and the agent licensed by v_{PASS} in (36b) — moves to Spec,VoiceP and then to the Spec,TP subject position to satisfy T's EPP feature. T licenses the nominal that it moves to Spec,TP, so these subject nominals then may be licensed redundantly by T; it is not possible for T to instead license the other, non-subject nominal below.

Both of these structures will then be ungrammatical, even though there are no problems with the sequence of derivational steps involved, for two related reasons: First, there is a nominal that has no source of licensing, indicated by the skull (as violations of the Case Filter, in abstract Case terms). Second, the subject nominal has a redundant source of licensing.

Summary To conclude this section, we schematically represent the full TP structures that we propose for active, *di-* passive, and bare passive clauses in Malayic languages in (37) below. Here we indicate the options for the realization of voice prefixes in Desa, but we propose that the same syntactic structures apply for these clause types in other Malayic languages as well, as we discuss below.

(37) **TP clause structures for the three voice types, with Desa morphology:**

		[TP	...	[VoiceP	Voice	[vP		*v*+V	
a.	Active:	DP_{ag}	Aux*	*t*	(*me-*)	*t*		N-V	DP_{th}
b.	*Di-* passive:	DP_{th}	Aux*	*t*	*di-*			V	*t*
c.	Bare passive:	DP_{th}	Aux*	*t*		DP_{ag}		V	*t*

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The traces in these structures reflect the movement paths of the subject. In each case, the subject first moves from its base position to Spec,VoiceP, to satisfy the requirement that VoiceP host exactly one nominal specifier. It then moves from this position to the high subject position, Spec,TP. The intermediate movement step through Spec,VoiceP is necessary because VoiceP is a phase; in Chomsky's terms, movement from the complement of the phase head (from inside *v*P) directly out of the phase to Spec,TP would violate phase impenetrability.

3.2 Restrictions on A'-extraction

Next we turn to the possibilities for A'-extraction, by which we refer to processes of relativization, *wh*-movement, focus fronting, and topicalization. We assume that all A'-extractions reflect probing by the complementizer C, which takes TP as its complement. All movement steps must satisfy the locality restrictions imposed by phase impenetrability.

We first consider the A'-extraction of nominals. If we start with any of the TP structures that we proposed in the previous section, the only nominal that can be attracted by C for A'-movement is the subject. The subject is in Spec,TP, outside of the VoiceP phase, and moved there by passing through Spec,VoiceP. As we proposed above, VoiceP always hosts exactly one nominal specifier, making it impossible to move any other nominal out of the VoiceP phase. Our proposal above therefore immediately predicts the basic subject-only restriction on the A'-extraction of nominals in these languages. We will later discuss a distinct derivation that underlies object extraction clauses, for Desa in section 3.3 and for other Malayic languages including SI and SM in section 4.2.

Our proposal also correctly predicts that non-nominal constituents can be A'-extracted from within VoiceP, without any restrictions on voice choice. See for example the fronting of a *wh*-containing PP for the Desa *where*-questions below, from an active clause (38a) or from a *di-* passive clause (38b). The examples in (39) show the grammaticality of PP topicalization and *wh*-fronting in SI from an active (39a), *di-* passive active (39b), and bare passive clause (39c). (We predict PP extraction from Desa bare passive clauses to be grammatical as well, but this was not tested.) Note in particular that the A'-extraction of PPs from an active clause does not require a prefix-less verb, unlike the extraction of non-subject nominals.

(38) **PP A'-movement is not sensitive to voice, in Desa:**

    a. [PP Di oni] inya { m-oli / mem-oli } beju to ___?
          LOC where 3sg N-buy MEN-buy shirt this
      'Where did s/he buy this shirt?'

    b. [PP Di oni] beju to di-beli oleh inya ___?
          LOC where shirt this PASS-buy by 3sg
      'Where was this shirt bought by him/her?'

(39) **PP A'-movement is not sensitive to voice, in SI/SM:**

a. [PP Kepada Ani], Hasan meng-irim-kan surat itu ___ . (*meN-kirim-kan > mengirimkan*)
   to   Ani Hasan ACT-send-APPL letter that

   'To Ani, Hasan sent the letter.'

b. [PP Kepada siapa] bunga itu di-beri-kan   ___?
   to   who flower that PASS-give-APPL

   'To whom were those flowers given?'

c. [PP Kepada siapa] bunga itu kau beri-kan ___?
   to   who flower that 2sg give-APPL

   'To whom did you give those flowers?'

We hypothesize that VoiceP can host non-nominal specifiers, in addition to its one nominal specifier.[14] A non-nominal constituent originating within VoiceP can therefore move first to an additional specifier of VoiceP, feeding A'-movement to the clause periphery. Such a derivation is schematized in (40) below, abstracting over the choice of voice and therefore the VoiceP-internal base position for the subject.

(40) **Non-nominal A'-extraction fed by additional specifier to VoiceP:**

[CP PP$_{A'}$ [TP DP$_{subj}$ ... [VoiceP t t Voice [$_{vP}$ v+V ...

3.3 Object extraction in Desa

Our proposal thus ensures that the subject is the only nominal that can be A'-extracted from Malayic clauses built in the manner described in section 3.1 above. However, as we saw in section 2.3 above, Desa allows for another type of clause where an internal argument is A'-extracted, apparently without first undergoing passivization via a *di*- passive or bare passive. We refer to such structures as "object extraction clauses" and give another such example in (41). In this section, we show how we can derive Desa object extraction clauses with minimal adjustment to our overall proposal.

(41) **An example of Desa object extraction:**

Opai yang tongah inya { **m**-ilau   / ***mem**-ilau   } ___? (*N-pilau > milau*)
what C   PROG 3sg N-look.for   MEN-look.for

'What is s/he looking for?'

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[14] Van Urk and Richards (2015: 129–133) and Bossi and Diercks (2019: 16–19) similarly propose functional heads that can attract exactly one nominal and optionally also a non-nominal constituent, for Dinka and Kipsigis (both Nilotic) respectively.

   Our editor John Beavers asks whether examples with apparent extraction of non-nominals out of VoiceP, as in (38–39), could instead be derived by base-generating the phrase outside of VoiceP. Such an alternative parse is unlikely for (39), where the PP is an argument of the verb. In addition, we note that non-nominals can also be A'-extracted from embedded clauses, again across voice-prefixed verbs, as in example (63) below.

As noted above, Desa object extraction clauses as in (41) defy straightforward classification in terms of the three basic voices that we have discussed. First, the verb in object extractions bears the short active prefix *N-*, and the long active *meN-* is ungrammatical. This is unlike active clauses where the two active forms are in free variation, and is also unlike the passive clauses where the verb must bear a *di-* prefix or no prefix at all. Second, the agent is in immediately preverbal position, following any auxiliaries such as *tongah* in (41). The agent cannot precede auxiliaries, as we showed in example (27) above. The position of the agent thus makes object extraction clauses seem most similar to the bare passive, but we note again that bare passive clauses disallow any voice prefix, including the short prefix *N-*; see (13).

Motivated by the above properties, we propose to think of Desa object extraction clauses in the following way. First, their derivation involves v_{ACT}, which underlies the short active prefix *N-*. (We discuss the unavailability of the long *meN-* below.) Because v_{ACT} licenses an internal argument, the A'-extracted object (*opai* 'what' in (41)) will be licensed within VoiceP. Second, we take the immediately preverbal agent to be in its Spec,*v*P base position. Note that, because the *v* head here is v_{ACT}, there is no source of licensing for the agent in Spec,*v*P within VoiceP. Third, the high subject position, Spec,TP, is exceptionally unoccupied in these clauses. Recall that Spec,TP is always filled in the regular clause types by the nominal that T licenses, but this cannot be the object which is already licensed by v_{ACT}, nor can it be the agent which is demonstrably low; the Spec,TP subject position is therefore unoccupied in Desa object extraction.[15]

Recall that Desa exhibits the so-called EPP property, that Spec,TP must be filled with the nominal argument that it licenses. However, work on the interaction of A'-extraction and subjecthood suggests that, in some languages, the EPP requirement is relaxed specifically when a nominal is A'-moved to Spec,CP.[16] We propose that Desa is one such language: in clauses involving nominal A'-extraction, T need not move any nominal to Spec,TP and can simply license a nominal that it c-commands instead. Third and finally, we propose that this licensing by T, without EPP movement, is the source of licensing for the immediately preverbal agent in Spec,*v*P. Note that we will argue that object extraction clauses in SI/SM differ from Desa on this point, as we discuss in section 4.2 below.

We illustrate this derivation for Desa object extraction clauses in (42) below. Object extraction clauses have a VoiceP structure with the head v_{ACT} but where an internal argument moves to become the sole nominal specifier of VoiceP, which later moves to Spec,CP. The theme is licensed by v_{ACT} in

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[15] If we use "subject" to refer to the nominal that occupies (or moves through) Spec,TP, Desa object extraction clauses will be formally subject-less. Alternatively, if we choose to refer to the nominal that is licensed in the highest position (i.e., in the highest A-position) as the subject, we could refer to the agent in Spec,*v*P as the subject. This difference is merely a terminological matter. Note too that this issue only arises with Desa object extraction, not with object extraction in SI/SM (§4.2) or in any other clauses that we discuss.

[16] Motivating examples include non-subject A'-constructions with postverbal subjects in Romance (see e.g. Barbosa 2001 and citations there) and Kilega (Bantu; Kinyalolo 1991; Carstens 2005), Scandinavian stylistic fronting (see e.g. Holmberg 2000; Sigurðsson 2010) and English *as*-parentheticals (Postal 2004) and locative inversion (Bruening 2010). See for example Carstens 2005, Legate 2011, 2014, and Erlewine 2018, 2020 for formal proposals for such interactions.

its base position. T licenses the in-situ agent in Spec,vP, without triggering its movement to Spec,TP, as discussed above.[17] The combination of v_{ACT} together with movement of theme to Spec,VoiceP makes (42) distinct from the VoiceP structures for all three basic clause types presented above.

(42) **Deriving Desa object extraction:**
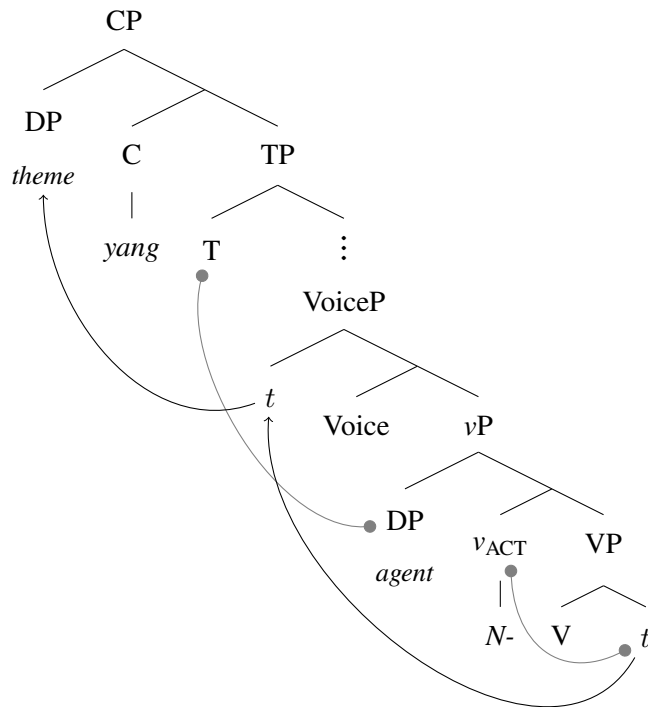
Recall that the verb in Desa object extraction clauses bears the short active prefix *N-*, unlike in bare passives, but cannot bear the long *meN-* active prefix, unlike in active clauses. See example (41). This is precisely what we predict from the derivation for object extraction clauses in (42) as well as our proposal for the allomorphic realization of Voice and *v* in Desa. We repeat the vocabulary items for Desa from (33) for the verbal functional heads in object extraction clauses as in (42), in (43):

(43) **Vocabulary items for the functional heads in Desa object extraction clauses:**   from (33)

    a. $v_{ACT} \leftrightarrow$ *N-*

    b. (Voice $\leftrightarrow$ *me-* / ___ * v_{ACT})

    c. Voice $\leftrightarrow \varnothing$ / elsewhere

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[17] We assume that licensing (via Agree) is unaffected by intervening phase boundaries, unlike movement, as per Bošković 2003, 2007. This assumption accords with the Cyclic Linearization view of phase impenetrability, which we adopt and advocate for, in section 4.2 below.

    A reviewer asks if there might be evidence that the low agent in Desa object extraction is licensed by *v*, rather than T. Recall that immediately preverbal agents of bare passives allow for reduced, proclitic forms for agent pronouns; Nomoto (2021) proposes that this reflects a case distinction, in that bare passive agents are assigned inherent ergative case from v_{PASS}, following Aldridge 2008b. We would therefore like to know whether Desa object extraction clauses also allow for such proclitic forms for their immediately preverbal agents. Unfortunately, we cannot answer this question based on our existing data.

First, as also noted above, the prefix *N-* appears as the realization of v_{ACT}, which is necessary to license the object that then A'-moves to Spec,CP (42). Second, *me-* cannot appear because the agent linearly intervenes between Voice and *v* in (42), therefore bleeding the application of the vocabulary item in (43b). In addition, even if Voice were to be realized as *me-* in this structure, it would then fail to affix to the verb, as we discuss further in section 4.3.

In summary, the specification that Voice's overt allomorphs are prefixes, together with the low position of agents in Spec,*v*P in object extraction clauses (as well as in bare passives), conspires to require that Voice be realized by a null allomorph in this configuration. In contrast, the presence of the low agent does not affect the pronunciation of *v* as *N-*, which appears transparently in Desa due to the possibility of pronouncing *N-* without *me-* in the language, unlike in SI and SM.

Finally, for completeness, given the possibility of moving the theme to Spec,VoiceP in a derivation with v_{ACT} as in (42) above, we briefly discuss the potential possibility of moving the agent to Spec,VoiceP in a derivation with v_{PASS}. Consider the structure in (44) below, which we claim is ungrammatical.

(44) **Hypothetical agent A'-extraction with v_{PASS}:**
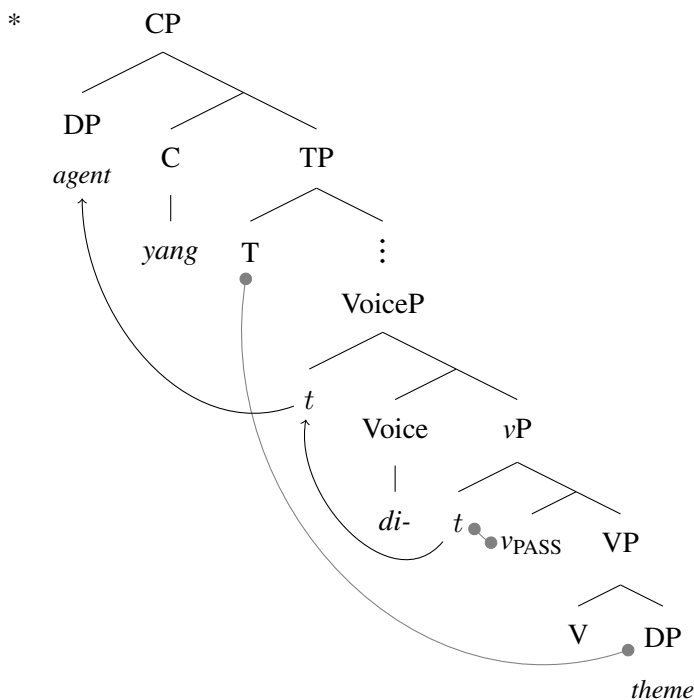
The basic logic of (44) is as follows. We start with a derivation with v_{PASS}, which licenses the agent, and then move that agent to Spec,VoiceP. The theme has no source of licensing within VoiceP. The agent A'-moves to Spec,CP, allowing for Spec,TP to be empty, as per our discussion above (see note 16). T licenses the in-situ theme, which it c-commands (see note 17), without moving it. Therefore, based on our general analysis for Malayic clause structure and the Desa-specific amendment in this section, the derivation in (44) would be predicted to be grammatical.

Based on our vocabulary items for Desa in (33) above, we would predict Voice in (44) to realize *di-*

as it is linearly adjacent to v_{PASS}. Thus, if the derivation in (44) were indeed possible, we would predict the availability of an agent A'-extraction clause with a *di-* passive verb and in-situ internal argument. This is however not possible, as reflected by the ungrammaticality of the *di-* form variant of the agent relative clause in (45) below. Agent A'-extraction requires an active clause, which in Desa may involve a short or long active prefix.

(45)   **Agent A'-extraction in Desa is ungrammatical with *di-* verb:**

Aku nge-liet lelaki [$_{\text{RC}}$ yang { ng-ikat / meng-ikat / *di-ikat   } tali   yetn].
1sg N-see man   C   N-tie   meN-tie   pass-tie rope dem

'I saw the man that tied the rope.'

Recall that, for Aldridge (2008b) and Nomoto (2021) who we follow in our proposal for nominal licensing, licensing of the specifier of *v*P by v_{PASS} may be called "ergative" case, paralleling the licensing configuration for morphological ergative case in its most widely adopted generative analyses; see Aldridge 2004, 2008a, Legate 2008, 2012b, Woolford 2006, and citations there. Furthermore, it is well known that many (though not all) morphologically ergative languages exhibit a ban on the A'-movement of ergative arguments; see e.g. Dixon 1994, Manning 1996, and Aldridge 2008a. Although the Malayic languages including Desa do not exhibit robust nominal case distinctions, the ungrammaticality of the agent A'-extraction derivation sketched in (44) above appears to reflect this widely attested ergative extraction restriction. See Deal 2016 and Polinsky 2016, 2017 for two overviews of analytic approaches to such extraction restrictions, as well as Drummond 2022, 2023 for recent arguments for the possibility of such syntactic ergativity without overt morphological case distinctions.

Here we leave open the question of the exact nature of the ungrammaticality of (44) and the nature of ergative extraction restrictions more generally, but we mention one concrete possibility. Erlewine (2016a, 2017) proposes that A'-movement is subject to an "anti-locality" constraint that bans A'-movement from the specifier of a projection XP to the specifier of the projection that immediately dominates XP, but A-movement (i.e., movement (on the way) to a licensing position) is not subject to this constraint.[18] Notice that movement of the agent from Spec,*v*P to Spec,VoiceP in (44) is from its licensing position, and thus A'-movement, in violation of Erlewine's anti-locality constraint. In contrast, movement of the agent from Spec,*v*P to Spec,VoiceP in the grammatical derivation (34) above is A-movement, as the agent is not licensed within VoiceP.

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[18] See also Bošković 2016, Deal 2019, Erlewine 2020, Branan 2023 for further discussion and motivation for this variety of anti-locality constraint, but described as applying to both A- and A'-movements.

4 Explaining "*meN*-deletion" in Standard Indonesian and Malay

We now extend our analysis to Standard Indonesian and Malay (SI/SM), where the interaction of voice and A'-extraction has received significant attention in prior theoretical literature. We begin in section 4.1 by briefly presenting our proposal for the basic clause types in SI and SM, which follows our proposal for Desa above, with only a minor difference in morphological realization. Then in section 4.2, we discuss the syntax of object extraction in SI and SM, which differs from that of Desa in that both the A'-moving nominal and the subject simultaneously move out of the verbal phase. We will show that grammatical patterns of object extraction, including the obligatory disappearance of the *meN-* prefix in such clauses ("*meN*-deletion"), can be derived from our overall proposal together with Fox and Pesetsky's (2005) *Cyclic Linearization* theory for the nature of phase impenetrability effects. We compare our account for the "*meN*-deletion" effect to preceding accounts in section 4.3, followed by discussion of further positive predictions and evidence for our account.

4.1 Clause structure and voice realization in SI/SM

As noted above, we intend for our proposal for the basic clausal syntax of Desa (in section 3.1 above) to extend to other Malayic languages including SI and SM, as well as to related languages of the region that have also been described as having so-called Indonesian-type syntax (see e.g. Wolff 1996; Ross 2002). Here we reiterate the key features of our proposal for the basic clause types and then discuss how we capture the one point of morphological divergence between Desa and SI/SM below. We discuss the further extension of our proposal to other languages of the region in section 5 below.

The most important feature of our proposal for Malayic syntax presented above is the organization of the verbal phase, VoiceP. Voice always hosts exactly one nominal specifier, which moves there from a lower thematic position. In the basic clause types, this one nominal is the subject. In an active clause, the subject is the external argument which originates in Spec,vP; in a passive clause, it is an internal argument generated lower in the clause. The subject then moves up to a high subject position (Spec,TP), so it linearly precedes any auxiliaries projected above VoiceP.

We give schematic structures for the three basic clause types — active, *di-* passive, and bare passive — in (46) below, repeated from (37) above, with minor adjustment to the realization of active functional heads. The syntactic derivations for these three clause types in SI and SM are exactly the same as in Desa. We reiterate that this proposal adopts and synthesizes the strategies for nominal licensing from Aldridge 2008b and the organization of the verbal extended projection from Nomoto 2015, 2021. These mechanisms ensure that active clause derviations (46a) involve v_{ACT} whereas the passive derivations (46b,c) involve v_{PASS}. See detailed discussion in section 3.1 above.

(46) **TP clause structures for the three voice types:** based on (37)

$[_{TP}$ ... $[_{VoiceP}$ Voice $[_{vP}$ $v+V$

a.	Active:	DP_{ag}	Aux*	t	*me-*	t	*N*-V	DP_{th}
b.	*Di-* passive:	DP_{th}	Aux*	t	*di-*		V	t
c.	Bare passive:	DP_{th}	Aux*	t		DP_{ag}	V	t

The only difference between the standard languages and Desa in these basic clause types is in the realization of active voice verbs. Recall that active voice verbs in Desa may bear the long *meN-* or short *N-* prefixes, whereas active voice verbs in SI and SM are always introduced by the full form *meN-*.[19] For Desa, we proposed to treat *N-* as the realization of v_{ACT} and *me-* as the optional realization of Voice in the context of v_{ACT}. We follow Benjamin 2009 and Gil 2002 in proposing that the active form *meN-* reflects two prefixes, *me-* and *N-*, even in languages such as SI and SM where active verbs always appear with the full form, *meN-*. We present arguments for splitting *meN-* in this way in section 5.1 below.

Formally, we implement this result for SI and SM by proposing that both v_{ACT} and Voice realize their overt affix if and only if they are linearly adjacent to one another — see vocabulary items (47ai, bi) — with null allomorphs as their elsewhere cases (47aiii, bii). These vocabulary items correctly predict that neither *me-* nor *N-* appear in isolation in SI and SM, unlike in Desa. We also adopt the vocabulary item for passive clauses in (47aii, c) from the Desa vocabulary items in (33) above.

(47) **Vocabulary items in SI/SM:**

a. i. Voice $\leftrightarrow$ *me-* / ___ * v_{ACT} b. i. v_{ACT} $\leftrightarrow$ *N-* / Voice * ___

   ii. Voice $\leftrightarrow$ *di-* / ___ * v_{PASS} ii. v_{ACT} $\leftrightarrow$ $\varnothing$ / elsewhere

   iii. Voice $\leftrightarrow$ $\varnothing$ / elsewhere   c. v_{PASS} $\leftrightarrow$ $\varnothing$

Next we address patterns of A'-extraction in SI and SM. Recall that the subject is the only nominal that can be A'-extracted from each of the basic clause types, with the exception of object extraction with "*meN*-deletion," which we discuss in the next section. The basic subject-oriented extraction restriction

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[19] Some works note the possibility of "bare active" clauses, where the verb bears no voice prefix but the subject is high (i.e. preceding auxiliaries), in certain varieties of Indonesian and Malay. Chung (1978) call these "stem sentences." As Voskuil (1996: 58 note 1) writes, "There is some controversy about the bare active; prescriptive and descriptive sources alike often claim that the construction is unacceptable or, at the very least, 'sub-standard'." For instance Tjung 2006 and Cole et al. 2008 describe the bare active as a distinct feature of certain non-standard, regional dialects. In contrast, Voskuil (1996, 2000) and Nomoto (2010, 2013) have argued that the bare active deserves to be described as a feature of the "Standard" languages, albeit being more common in colloquial and spoken registers.

Here we concentrate on addressing the consensus description for the "Standard" languages: active verbs must bear *meN-*, but it is possible to extract an object across a bare verb and a high (pre-auxiliary) subject, as we discuss in section 4.2 below. For varieties that regularly allow bare actives, we hypothesize that speakers may optionally access a grammar where both v_{ACT} and v_{ACT}-adjacent Voice are realized as $\varnothing$-, resulting in their simultaneous null realization.

is explained by VoiceP being a phase. As introduced in section 3 above, phases can be described as being subject to the Phase Impenetrability Condition (PIC), which suggests that phrasal movement out of a phase must proceed through the phase head's specifiers, also described as the "phase edge." As Voice always hosts exactly one nominal specifier, the subject, we predict that no other nominal can move out of VoiceP in the basic case. The subject that moves first to Spec,TP is the only nominal that can be A'-extracted from the clauses in (46). We accurately predict that non-nominal constituents, however, can move through the phase edge and therefore may undergo A'-extraction; see examples in (39) above.

In summary, we propose that the syntactic derivations for the basic clause types in SI and SM are identical to those in Desa, with only a minor difference in the morphological realization of active voice verbs. This proposal derives the basic subject-only A'-extraction restriction in the same way that we did for Desa, due to the phasehood of VoiceP.

4.2   Object extraction in SI/SM and Cyclic Linearization

We turn next to the derivation of object extraction clauses in SI/SM, which appears to violate the basic subject-only restriction on nominal A'-extraction. We begin by briefly reiterating the key features of object extraction clauses in SI/SM, illustrated with the topicalization example in (48). Object extraction clauses involve A'-extraction of a nominal that is not the local external argument. The external argument (*Badu* in (48)) appears in the high subject position, preceding any preverbal auxiliaries (*sudah*), just as in active clauses. The verb cannot bear a voice prefix, as in bare passive clauses but unlike active clauses.

(48)   **Object extraction in SI/SM has high agent and no voice prefix:**

Buku ini   Badu sudah { ***mem**-baca / baca } ___.
book DEM Badu ASP   ACT-read   read
'This book, Badu has read.'   (SI; Voskuil 2000: 199, Musgrave 2001: 60)

Against the backdrop of our discussion thus far, the most notable feature of SI/SM object extraction clauses is that *two nominals move simultaneously out of VoiceP*: Here, the theme *buku ini* A'-moves to Spec,CP and the agent *Badu* moves to the subject position, Spec,TP. This makes SI/SM object extraction clauses unlike all other clause types, and not derivable based on our proposal as presented so far. As discussed above, we propose that VoiceP always hosts exactly one nominal specifier and is a phase; assuming that only the specifiers of a phase can move out — due to the Phase Impenetrability Condition (PIC) of Chomsky 2000, 2001 — we then predict it to be impossible for multiple nominals to move simultaneously out of VoiceP.

We argue that we can derive the possibility of object extraction in SI/SM — including its obligatory absence of a voice prefix, as well as various other aspects of this construction, which we discuss in the remainder of section 4, below — from our overall proposal for Malayic syntax, by refining our

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characterization and understanding of phase impenetrability effects. We will continue to maintain that VoiceP constitutes a phase and always hosts exactly one nominal specifier.

Introducing Cyclic Linearization   So far in our discussion, we have made reference to the PIC, proposed by Chomsky (2000: 108, 2001: 13), which claims that only the "edge" of a phase (its head and specifiers) is accessible for syntactic operations from outside the phase. The PIC was proposed to account for the observation that phrasal movement is *successive-cyclic*; that is, that apparent cases of long-distance (especially cross-clausal) movement involves multiple, more local steps of movement. For instance, long-distance *wh*-movement in the English (49) has been argued to first stop at the intermediate Spec,CP position and then move to its surface position (see e.g. Chomsky 1973, 1977 and a recent overview in Van Urk 2020). Assuming that full clauses (CPs) are phases, movement directly from the embedded object position to the surface position would descriptively violate the PIC.[20]

(49)   **Long-distance movement is successive-cyclic:**

[CP *Who* did Ash say [CP ___ that Belle saw ___]]?
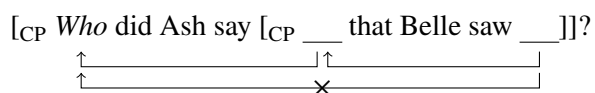
Fox and Pesetsky (2005) develop a particular view of phasehood which has the effect of deriving many such restrictions on non-successive-cyclic movement, without having to rigidly assume Chomsky's PIC as a condition on syntactic operations. Under their theory, dubbed *Cyclic Linearization*, after each full phase has been built, the structure undergoes *Spell-Out*, wherein the pronunciation and linearization of its contents are determined. The contents of the linearized phase can still be targeted by syntactic operations in a higher phase, including movement, as long as the relative ordering established by earlier Spell-Out is not contradicted.

Let us see how the theory of Cyclic Linearization serves to enforce the successive cyclicity of movement in (49). We again assume each CP to be a phase (see note 20 on the verbal phase). We first consider the ungrammatical derivation in (50), where *wh*-movement does not involve an intermediate step to the embedded clause edge. When the embedded CP is complete, *who* is still in the object position. At embedded CP Spell-Out, we therefore establish that *who* must follow the other constituents in the embedded CP; see (50a). We then build the matrix CP, including moving the embedded object *who* directly to the matrix Spec,CP. At matrix CP Spell-Out, we then establish that *who* must precede the other constituents in the matrix CP; see (50b). This yields an ordering contradiction: we established that *who* follows the other material in the embedded clause but also must precede it. The impossibility of coherently linearizing the entire structure leads to its ungrammaticality.

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[20] Assuming that maximal verbal projections (*v*P for Chomsky, but here VoiceP) are also phases, movement must proceed through the edge of these intermediate phases as well. For ease of presentation, we do not illustrate effects of the verbal phase in (49–51).

(50) **One-fell-swoop movement yields an ordering paradox:**

* $[_{CP}$ *Who* did Ash say $[_{CP}$ that Belle saw ___ ?

a. Linear order relations at embedded CP Spell-Out:

$C_{that} < DP_{Belle} < V_{saw} < DP_{who}$

b. Linear order relations at matrix CP Spell-Out:

$DP_{who} < C_{did} < DP_{Ash} < V_{say} < CP$

$\Rightarrow$ ordering paradox! $(\underline{DP_{who}} < ... < V_{say} < C_{that} < ... < \underline{DP_{who}})$

We avoid this ordering paradox if *who* instead moves first to the edge of the embedded CP as in (51). Spell-Out of the embedded CP establishes that *who* precedes all other material in the embedded clause; see (51a). After the *wh*-word is moved further, Spell-Out of the matrix CP records that *who* precedes all other material there as well. Linearization of the entire structure succeeds in this case, resulting in the total ordering in (51c), explaining the need for successive cyclic movement.

(51) **Successive-cyclic movement avoids an ordering paradox:**

$[_{CP}$ *Who* did Ash say $[_{CP}$ ___ that Belle saw ___ ?

a. Linear order relations at embedded CP Spell-Out:

$DP_{who} < C_{that} < DP_{Belle} < V_{saw}$

b. Linear order relations at matrix CP Spell-Out:

$DP_{who} < C_{did} < DP_{Ash} < V_{say} < CP^{21}$

c. Total ordering possible:

$DP_{who} < C_{did} < DP_{Ash} < V_{say} < C_{that} < DP_{Belle} < V_{saw}$

Fox and Pesetsky (2005) argue that this theory of Cyclic Linearization explains apparent phase impenetrability effects on overt movement, and in fact is empirically superior to simply mandating through the PIC that only the phase edge is accessible for movement. What makes the edge of the phase special is not its structural position, but rather that it is linearly leftmost in the phase, and therefore its leftward movement will not contradict previous ordering relations. Further work that supports the Cyclic Linearization approach to phase impenetrability effects include Ko 2007, 2011, 2014, Sabbagh 2007, Medeiros 2013, Erlewine 2017, Davis 2020a,b, 2021, Lee 2021, and citations there.

Deriving object extraction in SI/SM   Adopting the theory of Cyclic Linearization in place of the PIC, we make a very precise prediction about extraction from the Malayic VoiceP. Simultaneous movement

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[21] See Fox and Pesetsky 2005, especially its appendix, for discussion of the linearization of trace positions of movement. Here it suffices to treat the precedence relation "$< CP$" as indicating precedence with respect to the unmoved parts of CP, and similarly for VoiceP in (54) below.

of two nominals out of a Malayic VoiceP should be possible as long as they are leftmost in the VoiceP phase and move in an order-preserving fashion. We argue that this is precisely what happens in object extraction clauses. Concretely, we illustrate the derivation of the object topicalization example in (48), repeated here as (52) below.

(52)   **Object topicalization in SI/SM: =(48)**

Buku ini   Badu sudah { **mem*-baca / baca } ___.
book DEM Badu ASP   ACT-read   read
'This book, Badu has read.'   (SI; Voskuil 2000: 199, Musgrave 2001: 60)

We first build a VoiceP as we did for object extraction clauses in Desa in section 3.3 above. We use v_{ACT} to introduce the agent and license the theme, and then move the theme to Spec,VoiceP. This results in the VoiceP structure schematized in (53a) below. Because VoiceP is a phase, it undergoes Spell-Out after its derivation is complete, establishing the morphological forms for its contents as well as their relative linear order. We first address the morphological realization of Voice and *v*. Recall that Voice and v_{ACT} in SI/SM are realized as *me-* and *N-* respectively if and only if they are linearly adjacent to one another; see (47). Because the two heads are not linearly adjacent at this point of phasal Spell-Out, they are both realized with their null, elsewhere forms as in (53b). Next, we record the relative ordering of the contents of the phase. Ordering statements are not generated with reference to null heads, as proposed in Erlewine 2017 and reflecting the pruning of null terminals (Embick 2003, 2010), leaving us only with the linear order statements for phrases and overt heads in (53c).[22]

(53)   **Object extraction VoiceP:**

   a. [$_{VoiceP}$ DP$_{A'}$ Voice [$_{vP}$ DP$_{ag}$ v_{ACT}+V t

   b. Vocabulary insertion:
       [$_{VoiceP}$ DP$_{A'}$ Voice [$_{vP}$ DP$_{ag}$ v_{ACT}+V t
                       $\emptyset$- $\emptyset$-*baca*

   c. Linear order relations at VoiceP Spell-Out:
       DP$_{buku\ ini}$ < DP$_{Badu}$ < v+V$_{baca}$

Next we build the higher phase of the clause. T moves the agent to Spec,TP, above the temporal auxiliary *sudah*, and licenses it. The C head above attracts the theme to Spec,CP. The complete derivation for (52) is thus reflected in (54) below. At CP Spell-Out, we establish the ordering statements in (54b).

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[22] Some A'-constructions, such as headless relative clauses, arguably involve the movement of a null DP phrase. This may also be true of nominal *wh-* and focus-fronting constructions, if we adopt a biclausal pseudocleft analysis (Kader 1976; Cole et al. 1999a, 2005; Kroeger 2009; see also Potsdam 2009). We propose that such null phrases are *not* pruned from linearization statements, unlike null heads. Davis (2020b: 339–343) argues that null operators undergo linearization just as overt constituents do, as they are subject to the same locality constraints on movement in English that Davis argues are best explained by Cyclic Linearization. Similarly, the subject-only extraction restriction and its *meN*-deletion exception apply to all A'-extractions in SI/SM, whether they are best analyzed as involving movement of a null phrase or not.

(54) **Object extraction CP:**

    a. $[_{CP}$ DP$_{A'}$ C $[_{TP}$ DP$_{ag}$ ... $[_{VoiceP}$ t Voice $[_{vP}$ t v_{ACT}+V t
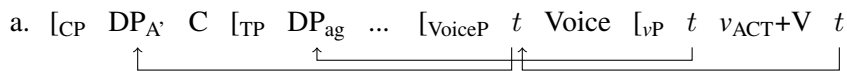
    b. <u>Linear order relations at CP Spell-Out:</u>

       DP$_{buku\ ini}$ < DP$_{Badu}$ < Aux$_{sudah}$ < VoiceP

    c. <u>Total ordering possible:</u>

       DP$_{buku\ ini}$ < DP$_{Badu}$ < Aux$_{sudah}$ < v+V$_{baca}$

The linearization statements established at VoiceP and CP Spell-Out are compatible with each other in this case, together producing the total ordering for the utterance in (54c). The movements of the theme and agent are order-preserving, requiring at each phase for *buku ini* to precede *Badu*. Furthermore, as these two constituents were the two leftmost parts of VoiceP as linearized in (53c), their further movement in (54) did not cross any overt material linearized in VoiceP which would have led to an ordering paradox. In particular, this simultaneous movement of the theme and agent was made possible by the null allomorph of Voice, independently motivated for the derivation of the bare passive. We discuss the importance of null Voice and its connection to the bare passive form over the next two sections.

4.3 On the importance of null Voice

The nature of the "*meN*-deletion" effect has received significant attention in previous theoretical work on SI and SM. Although many details differ, these prior proposals share the following intuition. The functional head associated with the voice prefix may bear different formal features, depending on whether a non-subject nominal A'-moves over it or not. (For some authors, this reflects the presence of a feature that triggers the movement, while others make reference to a feature that reflects that such movement has taken place.) The resulting feature bundle associated with movement of a non-subject is realized as a null allomorph. See proposals to this effect in Aldridge 2008b: 1456, Cole and Hermon 2005: 85–86, Cole et al. 2008: 1535, Sato 2012: 41–42, Georgi 2014: 151–156, Erlewine 2016b: 304–305, Jeoung 2017: 31, 2018a: 95–96, 2018b: 25, and Keine and Zeijlstra to appear. For these accounts, there is no deeper reason why the allomorph that appears in such cases is a null allomorph. The extraction-indicating allomorph could just as well be a different overt form, as is the case for Irish complementizer morphology (McCloskey 1979, 2001) or Chamorro *wh*-agreement (Chung 1982, 1998); see also Georgi 2017 for an overview of such morphology.

In contrast, our approach here directly predicts that Voice *must* be null to allow for object extraction to occur. To see why this is the case, let us consider what would happen if we build an object extraction

clause following the proposal above as in (55a) below, but Voice then realizes an overt form such as *me-*. At VoiceP Spell-Out, we establish that *me-* precedes the agent DP in Spec,*v*P. In the construction of the CP, we move the agent DP to Spec,TP, as well as the nominal in Spec,VoiceP to Spec,CP, in an order-preserving fashion. However, CP Spell-Out determines that the moved agent DP must precede all non-moved parts of VoiceP, including *me-*. We are then left with two contradicting ordering statements — Voice both precedes and follows the agent DP — leading to the ungrammaticality of this structure. It is precisely this conflict which we avoid when the realization of Voice is null and thereby pruned.

(55) **Ungrammatical object extraction with overt Voice:**

  a. [$_{CP}$ DP$_{A'}$ C [$_{TP}$ DP$_{ag}$ ... [$_{VoiceP}$ *t* Voice [$_{vP}$ *t* *v*$_{ACT}$+V *t*   =(54)

  b. <u>Linear order relations at VoiceP Spell-Out:</u>

   DP$_{A'}$ < Voice$_{me-}$ < DP$_{ag}$ < *v*+V ...

  c. <u>Linear order relations at CP Spell-Out:</u>

   DP$_{A'}$ < DP$_{ag}$ < ... < VoiceP

  ⟹ ordering paradox! (<u>DP$_{ag}$</u> < Voice$_{me-}$ < <u>DP$_{ag}$</u>)

We have furthermore proposed that the realization of Voice as *me-* is one-to-one with the realization of *v*$_{ACT}$ as *N-* in SI and SM (47), unlike in Desa. Therefore, in object extraction clauses in SI and SM, the verb must bear no voice prefix. In this way, our account explains why the "*meN*-deletion" interaction must take the form that it does, i.e. taking advantage of the existence of a null allomorph for a functional head to facilitate movement.

  Support for our proposal comes from the behavior of a limited set of psych verbs such as *suka* 'like' that bear no prefix (see e.g. Sneddon 1996: 267–268). The object of these verbs can also be extracted across a high subject. Notice that the external argument *saya* precedes the future auxiliary in example (56) below, indicating that both the focused object (or a corresponding relative operator; see note 22) and the external argument have moved out of VoiceP.

(56) **Object extraction from psych verb with high subject:**

  Ini   yang saya akan suka ___.
  DEM C   1sg FUT like
  'This is the one that I will like.'   (SI; Stevens 1970: 71)

The possibility of object extraction from these prefixless psych verbs as in (56) is again predicted by and supports our analysis. The Voice head associated with these verbs is generally null, and therefore allows for the simultaneous movement of the object (first moved to Spec,VoiceP) and the subject (generated in Spec,*v*P) out of VoiceP in an order-preserving manner.

These prefixless psych verbs teach us that the possibility of object extraction is not a special quirk of verbs that normally bear *meN-*, but instead reflect a more general possibility of Malayic clause structure, made possible in configurations where Voice is null. See also Soh 1998, 2013 and Fortin and Soh 2014 for an additional argument from transitive verbs that are optionally prefixed by *ber-*, which allow for object extraction only with their prefixless form. These interactions are precisely as predicted by our proposal and the Cyclic Linearization theory of phasehood.

Our proposal also offers a new understanding for the relationship between the bare passive and object extraction clauses. Although object extraction clauses cannot be simply reduced to instances of bare passives — due to differences in the position of their agents, as observed first by Soh (1998) and Cole and Hermon (2005) and reviewed in section 2.3 above — both require Voice to not be realized as an overt prefix. In bare passives (as well as object extraction clauses in Desa; see §3.3), if Voice were to be realized as an overt prefix such as *di-*, it would fail to affix to *v*+V via Local Dislocation, as the agent DP intervenes between the two heads. Under our analysis for SI and SM, we propose that overt allomorphs are inserted for Voice when linearly adjacent to *v* (47). The agent DP intervenes between Voice and *v*+V at VoiceP Spell-Out in both bare passives and object extraction clauses, correctly leading to the insertion of the null allomorph in these cases.

We provide further evidence for our account of the causal link between the null Voice allomorph and object extraction through discussion of two registers of Madurese, in section 5.3 below.

4.4 Further properties of object extraction

We now return to the syntax of object extraction in SI and SM. Following discussion in Soh 1998 and Cole and Hermon 1998, we have emphasized that two nominals move simultaneously out of VoiceP in these constructions: one to Spec,TP (the subject) and one to Spec,CP, as schematized in (57).

(57) **Moving two nominals out of VoiceP:**

[$_{CP}$ DP [$_{TP}$ DP ... Aux* ... [$_{VoiceP}$ ...   (requiring no voice prefix)
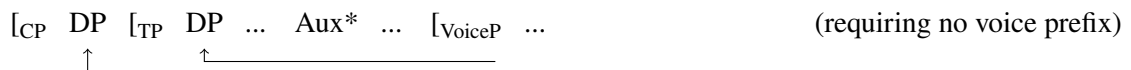
Our proposal for such derivations makes very particular predictions about the conditions under which such a derivation would be grammatical, including that the Voice head must be unpronounced, as we discussed in the previous two sections. In this section, we discuss the choice of nominals that end up in Spec,CP and Spec,TP in such configurations, which provides further support for our proposal over other alternative approaches.

First, our proposal predicts that the configuration in (57) can only arise if the local external argument (generally an agent) moves to Spec,TP, and therefore the A'-extracted nominal in Spec,CP cannot itself

be the local external argument. Concretely, this leads us to predict that the agent of a bare passive cannot be A'-extracted, as first noted by Chung (1976b: 85), thus explaining the ungrammaticality of structures such as (58).

(58) **Ungrammatical bare passive agent A'-extraction:**

    * *Siapa*ᵢ yang pintu ituⱼ akan ___ᵢ buka ___ⱼ?
    who   C   door that FUT   open
    Intended: 'Who will the door be opened by?'   (SI; based on Vamarasi 1999: 55)

In order to move both *siapa* and *pintu itu* out of VoiceP as in (58), we would first move the theme *pintu itu* to Spec,VoiceP, establishing the relative order *pintu itu < siapa* at VoiceP Spell-Out. However, movement of *siapa* to Spec,CP and *pintu itu* to Spec,TP leads to the conflicting ordering *siapa < pintu itu* at CP Spell-Out. This explains the ungrammaticality of this structure.

The ungrammaticality of structures as in (58) serves as an argument against an alternative approach to "*meN*-deletion" effects. Suppose that we took the absence of overt Voice to indicate that there is no verbal phase boundary (either with the Voice head not projected or lacking its status as a phase head), predicting all nominal arguments to be accessible for movement. Such a theory would not predict the attested restriction on the order of moved nominal arguments, which is correctly predicted by our Cyclic Linearization account.

Next we discuss the choice of nominal that undergoes A'-movement to Spec,CP in (57). Although in most cases above we have presented examples that A'-move the local direct object, in fact a range of different nominals can be A'-extracted, leading to the configuration (57). For example, Sato (2012) shows that A'-extraction can target either argument of certain ditransitives as in (59) and Jeoung (2018b) shows that A'-extraction can target the possessors of objects as in (60). (See Jeoung 2018b for arguments that such examples involve A'-movement of the possessor, rather than another relation such as pronominal binding.) A'-extraction can also target the arguments of embedded clauses, as in (61–62) below. In all of these examples, verbs that are along the path of A'-movement cannot bear their voice prefix.

(59) **A'-extraction of ditransitive objects:**

    a. *Apa* yang kamu { ***mem**-beli-kan / beli-kan } ibu-mu   ___.
        what C   you   ACT-buy-APPL   buy-APPL   mother-your
        'What did you buy your mother?'

    b. *Siapa* yang kamu { ***mem**-beli-kan / beli-kan } ___ bunga.
        what C   you   ACT-buy-APPL   buy-APPL   flower
        'Who did you buy flowers?'   (SI; Sato 2012: 43)

(60) **A'-extraction of object possessor:**

Siapa yang adik　　　　{ ***mem**-baca / baca } [buku-nya ___]?
who　C　younger.sibling　ACT-read　read　book-D
'Whose book is that little brother reading?'　　　(Colloquial Indonesian; Jeoung 2018b: 10)

(61) **A'-extraction of embedded subject:**

Apa-kah yang mereka { ***ber**-harap / harap } [CP ___ akan di-terima]?
what-Q　C　3pl　　　MID-hope　hope　　　　FUT　PASS-accept
'What do they hope will be accepted?'　　　　　　　　(SM; Soh 1998: 305)

(62) **A'-extraction of embedded object:**

Siapa yang Bill { ***meng**-ira / kira　} [CP Fred { ***men**-cintai / cintai } ___]?
who　that　Bill　ACT-think　think　　Fred　ACT-love　love
'Who does Bill think Fred loves?'　　　　　　(SI; based on Saddy 1991: 187)

As previously noted by Aldridge (2008b), Sato (2012), and Jeoung (2018b), such examples argue against any approach to non-subject extraction in SI/SM that specifically ties the absence of a voice prefix to the extraction of the direct object or theme, as in Cole and Hermon's (2005) case agreement account. The A'-extracted nominal may not even be an argument of the verb, as it may be a possessor (60), an embedded subject (61), or embedded object (62). By the same token, what we have called "object extraction" clauses above, then, may more accurately be described as the general structure for the A'-extraction of any nominal that is not the local external argument from within VoiceP.

Finally, we note that non-nominal phrases can move long-distance, crossing Voice prefixed verbs in each clause. See example (63) below, the interpretation of which requires 'to who' to originate as a PP argument of the embedded verb 'give.' Such examples are straightforwardly derived on our account, as VoiceP can host the subject nominal and a non-nominal simultaneously as specifiers, allowing for both to move out of the phase while realizing the active prefix; see schema in (40).

(63) **A'-extraction of embedded PP:**

Kepada siapa kamu **meng**-harap-kan [CP Ali akan **mem**-beri mobil-nya ___]?
to　　who 2sg　meng-hope-APPL　　Ali FUT ACT-give car-3sg
'To whom do you hope Ali will give his car?'　　　(SI; Fortin and Soh 2014: 50)

In summary, our proposal correctly predicts that object extraction clauses as schematized in (57) above allow for any non-subject to land in Spec,CP, with the local external argument in Spec,TP. Under our Cyclic Linearization account, the only way that multiple nominals can move out of the VoiceP phase is if they are a non-subject and the local external argument, in that linear order, with no overt realization of Voice.

4.5 Object extraction and ellipsis

Further evidence for our proposal comes from the interaction of object extraction with ellipsis. (We thank Norvin Richards (p.c.) for encouraging us to consider such interactions.) Fortin (2007) shows that Standard Indonesian allows for VP ellipsis under certain auxiliaries, but that voice mismatches are disallowed (see especially pages 269–272). Now consider example (64):

(64) **Grammatical object extraction from elided VP with active antecedent:**

Ali bisa mem-beli sepeda. Apa yang Siti bisa △?
Ali can ACT-buy bike   what C   Siti can
'Ali can buy a bike. What can Siti (buy)?'   (SI; Fortin 2007: 265)

The second clause in example (64) is an object extraction clause, with A'-movement of the theme *apa* 'what' and the agent *Siti* in the high, pre-auxiliary position. It also involves VP ellipsis (referring pre-theoretically to ellipsis of an extended verb phrase constituent), with the ellipsis site indicated by △ interpreted under identity with the antecedent VP, *membeli sepeda* 'buy bike,' modulo object extraction. (VP ellipsis of this form is also possible in English, as reflected in the translation.) Notice that a variant of this sentence without VP ellipsis would be ungrammatical if realized with the string-identical *membeli*, although the prefixless *beli* is possible.

The grammaticality of structures of the form in (64) is predicted by our proposal. Much prior work has shown that ellipsis requires a structurally identical linguistic antecedent, modulo material that is focused and/or moved out of the ellipsis site. In particular, Merchant (2013) argues specifically on the basis of interactions between voice alternations and VP ellipsis in English and other languages that "the identity relation between an elided phrase XP_E and its antecedent XP'_A is one of syntactic featural identity" (p. 88), not requiring identity of surface forms. On our proposal, the active antecedent clause and the object extraction clause in (64) involve featurally identical functional heads, Voice and v_{ACT}, despite differences in the derivations, as illustrated in (65) below.

(65) a. [$_{TP}$ DP$_{ag}$ ... Aux ... [$_{VoiceP}$ t Voice [$_{vP}$ t v_{ACT}+V   DP$_{th}$

Ali   *bisa*   *me-*   *N-beli*   *sepeda*

b. [$_{CP}$ DP$_{A'}$ C   [$_{TP}$ DP$_{ag}$ ... Aux[E] ... [$_{VoiceP}$ t Voice [$_{vP}$ t v_{ACT}+V t

apa   *yang*   *Siti*   *bisa*   △

As per the proposals in Fortin 2007, Merchant 2013, and citations there, we suppose that the auxiliary *bisa* 'can' may bear the ellipsis feature [E] in (65b), triggering PF deletion (or the lack of vocabulary insertion) for its complement. We therefore predict the grammaticality of (64), despite the fact that

the surface form for the elided verb — if pronounced — would differ in form from the antecedent verb. The active verb with *meN-* and prefixless verb in object extractions differ on our account only in their morphological realizations, not in the syntactic heads involved. In turn, both featurally differ from passives (with v_{PASS}), explaining the unavailability of active–passive voice mismatches between antecedent and elided VPs (Fortin 2007: 269–272).

5   Voice prefix structure and variation

In this section, we take a closer look at the organization of voice prefixes and their cross-linguistic variation. In section 5.1, we present arguments for the idea that the active formative *meN-* in SI and SM reflects two prefixes, *me-* and *N-*, as we had assumed in our analysis above. We also discuss the extension of our proposal to a range of regional and colloquial Malayic varieties where active verbs exhibit only a homorganic nasal, in section 5.2. Finally, in section 5.3, we discuss voice and extraction patterns in two varieties of Madurese, which provides further support for our account.

5.1   Splitting active *meN-* in Standard Indonesian and Malay

An important component of our proposal for Malayic clausal syntax is the idea that the extended projection of the verb involves two functional heads, Voice and *v*, following Nomoto 2015, 2021, and in particular that these two heads correspond to two separate prefixes that appear on active verbs in SI/SM, *me-* and *N-*. We motivated such a decomposition first for Desa, where the active prefixes *N-* and *meN-* are generally in free variation but the behavior of object extraction clauses motivates treating the *me-* component separately. For Malayic languages such as SI and SM where active verbs always realize the full prefix *meN-*, the proposed split is less obvious and warrants further discussion and motivation.

The idea that active verb forms with *meN-* in SI and SM reflect two prefixes, *me-* and *N-*, is suggested by Benjamin (2009) and Gil (2002). Together with these authors, we note that there are multiple processes in these languages that would lead a learner to treat the *meN-* of active verbs as the combination of two prefixes, *me-* and *N-*. Here we highlight two such considerations: parallels between *meN-* verbs and *peN-* nominalizations and the behavior of *meN-* verbs under reduplication.

The first process that motivates the decomposition of *meN-* is deverbal nominalization with *peN-* versus *pe-*. The phonological realization of the nasal *N* in *peN-* nominalizations is identical to that of the nasal *N* in *meN-* active verbs (see e.g. Sneddon 1996: 9–14), and the phonological alternation is not a general process in these languages (Blust 2004). Although the range of stems that take *peN-* versus *pe-* and their resulting denotations are subject to individual lexical idiosyncrasies, there nonetheless are a number of established generalizations that support treating *peN-* nominals as tightly linked to *meN-* active

verbs. We argue with Benjamin (2009: 303–304) that such distributional and semantic correspondences between *peN-* and *meN-* support their decomposition into *pe-* + *N-* and *me-* + *N-*, with *N-* being a shared agent/causer-introducing functional head, i.e. what we call v_{ACT}.

Semantically, prior works observe that *peN-* nominals denote the subject (agent/causer) or instrument of the corresponding *meN-* active verb,[23] whereas *pe-* nominals correspond to the subject of a *di-* passive or *ber-* verb form. See Sneddon 1996: 27–30, Dardjowidjojo 1978: 277–278, and various citations in Denistia 2018, as well as corpus evidence in Denistia and Baayen 2019 that supports this correlation. *Ber*-prefixed verbs are frequently described as middles, resulting in intransitive predicates or transitive predicates with various interpretational restrictions, depending on the stem; see for example Kemmer 1993, Wee 1995, Wong 1998, Benjamin 2009, Beavers and Udayana 2023, Karaj and Sansò 2023, and citations there.

A limited set of verbal stems appear with both *peN-* and *pe-*, for which two generalizations have been noted in the literature. First, for one class of predicates, the resulting *peN-* nominals are agent/causer-denoting whereas corresponding *pe-* nominals are theme-denoting, as exemplified in (66):

(66) **Some agentive *peN-* vs patientive *pe-* nominalizations:**

(from Benjamin 2009: 304 crediting Hassan 1974: 59–63; Sneddon 1996: 29–30; Denistia 2018)

a. *sakit* 'sick'   *peny-akit* 'disease'   *pe-sakit* 'patient'

b. *sapa* 'greet'   *peny-apa* 'greeter'   *pe-sapa* 'addressee'

c. *suruh* 'order'   *peny-urut* 'commander'   *pe-suruh* 'one who takes orders'

e. *tatar* 'train'   *pen-atar* 'trainer'   *pe-tatar* 'trainee'

f. *tunjuk* 'show'   *pen-unjuk* 'indicator'   *pe-tunjuk* 'instructions'

g. *ubah* 'change'   *peng-ubah* 'changer'   *pe-ubah* 'variable'

Second, for another class of predicates, both *peN-* and *pe-* nominals are at first glance both agent-denoting, but subtly differ. The *peN-* forms are straightforward agent nominalizations of the activity described by the verb stem, whereas the corresponding *pe-* nominals appear to be what Zobel (2017) calls *role nouns*, which are conventionally associated with the activity but conceptually richer (see also Maienborn 2020). (We thank Ryan Walter Smith (p.c.) for discussion here.)

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[23] Stems vary idiosyncratically in what variety of *peN-* nominal they derive. *PeN-* nominals with certain stems are ambiguous between agent and instrument readings, such as with *pen-cetak* 'printer' (Sneddon 1996: 28) or *peng-gerak* 'mover' (Denistia and Baayen 2019: 395), just as their English translations are as well.

(67) **Some *peN-* agent nominalizations vs *pe-* role nouns:** (from Sneddon 1996: 30; Denistia 2018)

    a.   *jabat* '(hold) office'   *pen-jabat* 'acting' (i.e. temporary)   *pe-jabat* 'official'

    b.   *selam* 'dive'   *peny-elam* 'one who dives'   *pe-selam* 'diver'

    c.   *serta* 'accompany'   *peny-erta* 'accompanying'   *pe-serta* 'participant'

    d.   *tembak* 'shoot'   *pen-embak* 'one who shoots'   *pe-tembak* 'shooter'

    e.   *tinju* 'punch'   *pen-inju* 'one who punches'   *pe-tinju* 'boxer'

These observed generalizations regarding the use of *peN-* versus *pe-* further support the identification of a shared *N-* between *peN-* nominals and *meN-* active verb forms. As we see, *peN-* nominals regularly denote agent nominalizations, directly corresponding to the subject of the corresponding *meN-* verb form. In contrast, *pe-* nominals may describe a wider range of types of nouns associated with the verb, in a more idiosyncratic fashion depending on the stem.

On our analysis, *meN-* active verbs necessarily introduce agent semantics through its v_{ACT}, whereas passives with v_{PASS} and *ber-* middles only optionally project an agent argument.[24] *PeN-* nominals include the v_{ACT} head of active verbs, whereas *pe-* nominals contain a different verbal structure, without v_{ACT}. These correspondences would support a learner identifying a shared *N-* between *meN-* and *peN-*, with its shared semantics and identical phonological realization.

The second process that motivates splitting *meN-* is its interaction with verbal reduplication. SI and SM have a process which is commonly described as verbal stem reduplication, with various semantic functions (Sneddon 1996: 20–21). Notably, when an active verb undergoes reduplication and so-called *nasal substitution* takes place, replacing the stem-initial consonant, both instances of the stem reflect nasal substitution but the syllabic, *me-* part of *meN-* appears only once (Onn 1976; Lapoliwa 1981; Sneddon 1996: 14). See example (68), where we underline the effects of nasal substitution.

(68) **Verbal reduplication reflects nasal substitution but not *me* of active *meN-*:**

tulis 'write' > active *me<u>n</u>ulis* > *me<u>n</u>ulis-<u>n</u>ulis* 'write repeatedly'

(cf **me<u>n</u>ulis-tulis*, **me<u>n</u>ulis-me<u>n</u>ulis*)

This interaction has received substantial attention in the phonological literature, including as a motivating example for the idea of Base-Reduplicant faithfulness constraints in Optimality Theory, with McCarthy and Prince (1995: 86) describing it as "an otherwise unexplained phenomenon." However, Benjamin (2009: 298) suggests (crediting the idea to Hendon 1966: 46–47) that such interactions may be more straightforward if we posit nasal-substituting *N-* as a prefix that applies first, feeding reduplication, with *me-* being a separate, second prefix. In relation to our syntactic proposal, we may hypothesize that

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[24] We do not develop a full account of the syntax/semantics of *ber-* verb constructions here. For our purposes, it suffices to note that, according to Beavers and Udayana (2023), a *ber-* middle can project an agent argument but nonetheless fails to (Case) license its internal argument. We conclude that the *v* head in *ber-* verbs cannot be v_{ACT}, which *does* license an internal argument.

verbal reduplication targets the material in the head *v* (including the verb root which head-moves to *v*), to which the realization of Voice combines via Local Dislocation, although this approach is not without its own complexities.[25] But even setting aside the question of the best analysis of these facts (see note 25), surface patterns such as in (68) again provide a hint for the learner that supports the decomposition of *meN-* into two parts: *me-* and *N-*.

Finally, we note that the idea that Malayic *meN-* may reflect two prefixes echoes a long-standing hypothesis in Austronesian historical linguistics regarding the proper reconstruction of **maŋ-* in Proto-Malayo-Polynesian (PMP). For example, Blust (2004) notes that "there are independent prefixes **ma-* and **pa-* that must be assigned to PMP next to **maŋ-* and **paŋ-*" (p. 90), suggesting the segmentation of the nasal, **ŋ*, noting that Dempwolff (1934) and Tharp (1974) suggest this sort of historical decomposition (pp. 90, 111–112).[26] We reiterate that our primary claim is about the synchronic representation of active voice forms in SI/SM, rather than their historical source. Nonetheless, these phonological considerations would also be relevant for the language learner, regardless of the form's etymology.

5.2   *N-* active forms

In this section, we briefly discuss the availability of object extraction in other varieties of Malay/Indonesian and related languages of the region. In many such colloquial and regional varieties, active verb forms bear a shorter active prefix such as *N-* rather than the full *meN-* form of the standard languages (see e.g. Gil 2002; Cole et al. 2008). When we consider the possibility of object A'-extraction in these varieties, two patterns of behavior emerge.

The first pattern, exemplified here by Jakarta Indonesian, parallels the "*meN*-deletion" interaction between voice morphology and extraction in SI/SM above. In Jakarta Indonesian, active verbs optionally

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[25] A complication to this account, which Benjamin does not discuss, is the fact that nasal substitution only applies to stems with initial voiceless consonants, and non-substituting *N* is not targeted by reduplication. For example: *baca* 'read' > active *membaca* > *membaca-baca* 'read repeatedly' (cf **membaca-mbaca*). The approach to reduplication that we suggest here would require adjusting our vocabulary items so that *N* reflects *v*$_{ACT}$ only where the verb stem has an initial voiceless consonant, with Voice realizing *meN-* instead of *me-* otherwise. Such an amendment to our vocabulary items is possible, as a straightforward instance of inwards-sensitive phonologically conditioned allomorphy (see e.g. Bobaljik 2000).

Support for the plausibility of such an approach comes from the fact that, in certain colloquial varieties such as Johor Malay as reported in Onn 1976, with stem-initial consonants which are *not* targeted for nasal substitution, the nasal part of *meN-* is optionally included in verbal reduplication. For example, in Johor Malay: *gali* 'dig' > active *menggali* > *menggali-(ng)gali* 'dig continuously' (p. 178). These variants reflect optionality in treating *N* as the realization of *v*$_{ACT}$ or as part of Voice in non-substitution contexts.

See also Blust 2004, whose discussion of the proper analysis of nasal substitution in SI/SM *meN-* and *peN-* concludes that "it is perhaps safest to say that the morpheme boundary does not properly precede or follow the nasal," for reasons independent of the reduplication facts. As a matter of notation, he suggests "placing a morpheme boundary on either side of the prefixal nasal," i.e. as *me-N-* (p. 83).

[26] In particular, Blust mentions that the phonological behavior of reflexes of **ŋ* is best "seen as a product of infixation" (Blust 2004: 90).

Blust himself ultimately rejects splitting PMP **maŋ-* into **me-* and **ŋ-* as a matter of historical reconstruction, as "there is no obvious semantic/functional relationship between **ma-*... and **maŋ-*... or **pa-*... and **paŋ-*... in the synchronic grammars of any of the languages" (p. 91). The decomposition we suggest for SI/SM *me-* + *N-* and *pe-* + *N-* above, following Benjamin (2009) and Gil (2002), in fact serves as a concrete counterexample to Blust's logic for rejecting the split.

bear the *N-* active prefix, as in (69a). A'-extraction of the subject is possible from an active clause with or without the prefix (69b), as well as from other, non-active clause types (not shown here). A'-extraction of an object is possible only if the verb bears no prefix, as in (69c) below.

(69)   **Extraction from Jakarta Indonesian actives:**   (Tjung 2006: 22–24)

    a.   <u>*N-* and bare actives:</u>   c.   <u>Object extraction:</u>

        Anak itu { **nge**-baca / baca } buku.   *Apa* yang anak itu { ***nge**-baca / baca } ___?
        child that N-read   read book   who C   child that   N-read   read
        'The child is reading a book.'   'What is the child reading?'

    b.   <u>Subject extraction:</u>

        Siapa yang ___ { **nge**-baca / baca } buku?
        who C   N-read   read book
        'Who is reading a book?'

Like SI and SM, Jakarta Indonesian also has bare passives with immediately preverbal agents. As Tjung (2006) shows, A'-extraction of a theme can cross a high subject that precedes auxiliaries as in (70), indicating that the possibility of theme extraction across a bare verb cannot be reduced to the existence of bare passives (see also Cole et al. 2006).

(70)   **Subject can be high in Jakarta Indonesian object extraction:**

    Buku [RC yang gua nggak lagi   baca ___] mahal.
    book   C   1sg NEG   PROG read   expensive
    'The book that I am not reading is expensive.'   (*ibid.*: 25)

The same pattern of behavior — object extraction that is possible when the active prefix *N-* is absent, with a high subject that precedes auxiliaries — is also attested in Sarang Lan Malay (Cole et al. 2008: 1524–1527) and three dialects of Jambi Malay (Yanti 2010: Tanjung Raden, pp. 46–47; Jambi City, pp. 52–53; Mudung Darat, pp. 58–60). It is also attested in some non-Malayic languages of the region with similar, so-called Indonesian-type syntax, including Semarang Javanese (Cole et al. 1999b), Kendal Javanese (Sato 2012), and polite Madurese (Jeoung 2017; see section 5.3 below).

For these languages, we propose that the active prefix *N-* is a realization of the head Voice. Adopting our overall proposal for the Malayic VoiceP above, our Cyclic Linearization analysis explains the possibility of object A'-extraction and simultaneous subject raising being dependent on the non-realization of Voice as *N-*.

The second possibility is that lone *N-* is the realization of *v*, similar to our proposal for Desa and SI/SM, but with Voice always being null. In this case, we predict the availability of object extraction across a *N-* prefixed active verb. This pattern of behavior is attested in Kuching Malay as described in

Cole, Hermon, and Yanti 2008. Object extraction is possible whether across a *N*-prefixed active verb or a bare active, as we see in (71):[27]

(71) **Object extraction in Kuching Malay:**

Apa (nok) kitak { **n**-anam / tanam } ___?
what C 2   N-plant plant
'What did you plant?'   (Cole et al. 2008: 1548–1549)

Additional evidence for the possibility of associating lone *N*- with the lower head *v* rather than the higher head Voice comes from the Kendayan group of Malayic languages in western Borneo. In these languages, *N*- appears not only on active verbs but also on passive verbs under certain conditions, as in (72a).[28] In addition, passive agents may intervene between *di*- and *N*- (Dunselman 1949: 70; Kalom and Hudson 1970: 287–288; Adelaar 1992: 161–162 *et seq*), as in (72b). See also Sommerlot 2024 for evidence that these properties, exemplified here in (72) in Salako, indeed hold across the Kendayan subgroup.

(72) **"*di* (agent) *N*-V" passives in Salako (Kendayan Malayic):**

a. Uma-e   akà' **di-nga**-rumput.
   field-POSS.3 done PASS-N-weed
   'Her field was already weeded.'

b. Ang-koà-lah   tuàkng kaleng **di**=*kau* **m**-atàh-**m**-atàh ang-koà. (*N-patàh > matàh*[29])
   REL-DEM-EMPH bone   catfish PASS=2sg N-break-RED   REL-DEM
   'That's the catfish-bone you've broken into many pieces.'

                                           (Adelaar 2002: 15, 18, 2005c: 218, 2005b: 55, 57)

The co-occurrence of *di*- and *N*- as in (72) as well as the position of the agent between *di* and *N*- in (72b) are easily accounted for by the organization of the verbal extended projection with Voice and *v* put forward by Nomoto (2015, 2021) and adopted here. It appears that in Kendayan, unlike in most other Malayic varieties, *N*- realizes a variety of the lower head *v* that has been reanalyzed with separate semantics (see note 28) and thus may cooccur with passive voice. In addition, with the *di* form of Voice

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[27] Cole, Hermon, and Yanti (2008) propose that nasal-initial forms in the language are synchronically analyzed as variant stem forms; i.e. *nanam* and *tanam* are simply allomorphs for the stem 'plant' in free variation. However, the discussion there suggests that 'plant' is one of a class of verbs which allow for both *N*-initial and *N*-less variants. Positing an optional *N*- prefix for these forms, as we suggest here, is cognitively plausible depending on the distribution and frequency of such items (see e.g. Yang 2016), and thus cannot be categorically ruled out.

    Musgrave (2001) suggests that this pattern might also be identified in other colloquial Malay/Indonesian varieties as well: "Umar Muslim (p.c.) points out that in this case [in varieties where active verbs bear *N*- alone], the verb behaves like the bare verbs discussed in the preceding sections [where object extraction is described], and not like a prefixed verb" (p. 62 note 24). Unfortunately, however, he does not include supporting examples or name the specific varieties which exhibit this behavior.

[28] *N*- in passive voice indicates perfective aspect in some Kendayan varieties including Salako (Adelaar 2005b: 57–61; Kaufman 2007: 629), but appears to be used more freely in other Kendayan varieties (Sommerlot 2024). The cooccurrance of *di*- and *N*- in passives is also attested in Riau Indonesian (Gil 2002), but without the possibility of agents intervening.

[29] Notice that the verb is reduplicated in (72b). Just as we suggested for SI/SM verbal reduplication in section 5.1 above, reduplication targets precisely the material we propose as realized in the *v* head, without the realization of Voice (here: *di*-).

reclassified as a proclitic instead of as a prefix, the word order in (72b) is explained by the agent being introduced as a specifier of the lower head *v*.

With *N-* realizing the lower head *v*, following our analysis of object extraction above, we predict that Kendayan languages will allow for object extraction across *N-* prefixed verbs. Example (73) shows that our prediction is borne out in Belangin, another Kendayan dialect (Adelaar 2006, Sommerlot 2024). Notice that the agent subject *aku* precedes the auxiliary *udah* in (73), indicating that this is an object extraction clause rather than a passive with subject extraction.

(73) **Object extraction in Belangin (Kendayan Malayic):** (second author field notes)

Motor [RC nang aku udah **m**-injam ___] ada kiya. (*N-pinjam* > *minjam*)
motorcycle C 1sg ASP N-lend exist here
'The motorcycle that I lent out is here.'

In summary, our proposal for Malayic clausal syntax and its verbal functional projections based on Nomoto 2015, 2021 can account for a wide range of attested grammatical behaviors in lesser studied Malay and Malayic varieties. In particular, those with active verbs that bear *N-* alone may be analyzed as realizing *N-* on Voice or *v*, then correlating with the (im)possibility of object extraction across *N*-prefixed verbs. Prior accounts which posit a single verbal functional head face greater challenges in modeling the space of attested variation.

5.3 Evidence from Madurese register variation

Further evidence for our approach to the importance of null Voice for object extraction, as well as the relation between object extraction and bare passives, comes from Jeoung's (2017) discussion of the familiar and polite registers of Madurese, another language of the region with so-called Indonesian-type syntax. Madurese is classified as non-Malayic but in the larger Malayo-Sumbawan group (Adelaar 2005a). Earlier work on Madurese had described the language as having exactly two voices, which are both morphologically marked: active verbs bear a homorganic nasal *N-* (or *a-*; see note 30 below) and passive verbs bear the prefix *e-*. These two voices neatly parallel the behavior of the active voice versus *di-* passive in the Malayic languages that we introduced in section 2.2 above. Jeoung however demonstrates that polite register Madurese additionally has a bare passive, unlike in the familiar register, hypothesizing that previous descriptions were based primarily on work on the familiar register only (p. 17). The following examples illustrate these voice possibilities with the stem 'call,' which is *tembhal* in the polite register and *kato* in the familiar register.

(74) **Three voices in polite Madurese:**

    a. <u>Active:</u>

       Ramah ampon n-embhal-ih potra-epon.
       father ASP   ACT-call-APPL son-DEF
       'Father called his son.'

    b. *e-* passive:

       Potra-epon ampon e-tembhal-ih
       son-DEF   ASP   PASS-call-APPL
       sareng ramah.
       by   father
       'The son was called by father.'

    c. <u>Bare passive:</u>

       Potra-epon ampon ramah tembhal-ih.
       son-DEF   ASP   father call-APPL
       'Father called his son.'

              (Jeoung 2017: 17, 20)

(75) **Only two voices in familiar Madurese:**

    a. <u>Active:</u>

       Ali ng-ato-eh   ana'-eng.
       Ali ACT-call-APPL child-DEF
       'Ali called his child.'

    b. *e-* passive:

       Ana'-eng e-kato-eh   bi' Ali.
       child-DEF PASS-call-APPL by Ali
       'The child was called by Ali.'

    c. <u>Bare passive:</u>

    * Ana'-eng la   engko' kato-eh.
      child-DEF ASP 1sg   call-APPL
      Intended: 'I called his child.'

              (*ibid.*: 16, 25)

Just as in the bare passive of Desa or SI/SM above, the agent in the polite register's bare passive must be immediately preverbal, following any auxiliaries:

(76) **Bare passive agent must be low in polite Madurese:**

    Buku panekah {*ramah} ampon {ramah} bacah.
    book that   ASP   father read
    'Father already read that book.'   (*ibid.*: 22)

Jeoung also shows that the subjects of all of these clause types can be A'-extracted; see pp. 28–29.

In addition to the availability of the bare passive, Jeoung documents one other difference between the polite and familiar registers of Madurese: object extraction is possible in the polite register across a verb without its voice prefix (77), but not in the familiar register (78).[30]

(77) **Object extraction in polite Madurese:**

    Buku panekah se ramah ampon {**m**-acah / bacah} ___.
    book that   C father ASP   ACT-read read
    'It's that book that father read.'   (*ibid.*: 29)

(78) **Attempted object extraction in familiar Madurese:**

    * *Buku jiyah* se David la   {**m**-acah / bacah} ___.
    book that C David ASP ACT-read read
    Intended: 'It's that book that David read.'   (*ibid.*: 29)

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[30] Certain stems take *a-* instead of *N-* in its active form (see Davies 2010: 99–102, 250–255). Jeoung (2016: 58) reports that verbs that take an *a-* active prefix also allow for object extraction by dropping the *a-* prefix; see exx. 23b vs 25b there.

As Jeoung points out, in the grammatical object extraction example in (77), the agent *ramah* 'father' precedes the auxiliary *ampon*. This is unlike agents in the polite register's bare passive, which must be immediately preverbal; see (76) above. Therefore the structure in (77) cannot be described as an instance of bare passive subject extraction. Parallel to object extraction clauses in SI/SM, then, the agent in (77) is in the high, canonical subject position (Spec,TP) as in an active clause, but the verb bears no voice prefix as in a bare passive, inviting a description parallel to that of "*meN*-deletion" for SI and SM. Jeoung therefore concludes (pp. 30–31) that there are two separate points of variation between the polite and familiar registers in the inventory of functional heads: in the terms of her analysis, the polite register has an extra bare passive Voice head, as well as a variant active Voice head that is unpronounced and allows for object extraction. In other words, there is no direct causal relationship between these two contrasts.

We argue instead that the differences in the grammars of polite versus familiar Madurese, introduced above, can all be attributed to just one difference in the morphological realization of Voice: polite Madurese has a null allomorph for Voice, but familiar Madurese does not. First, given the overall parallels in their behaviors (described in detail in Jeoung 2017), we adopt our proposal for the syntax of the four clause types in Malayic — the three basic clause types as well as object extraction — for Madurese. We repeat our schemata for the derivation of these clause types in (79) below, with minor adjustments for the shape of voice prefixes. We propose that all four of these clause types can in principle be derived in the syntax of both polite and familiar Madurese, but that the bare passive (79c) and object extraction clauses (79d) fail to result in licit surface forms in the familiar register.

(79) **Deriving four clause types in Madurese:** (based on (46, 54))

$[_{CP}$ $[_{TP}$ ... $[_{VoiceP}$ Voice $[_{vP}$ v+V

a. Active: DP_{ag} Aux* t N- t V DP_{th}

b. *E*- passive: DP_{th} Aux* t e- V t

c. Bare passive: DP_{th} Aux* t DP_{ag} V t

d. Object extraction: $DP_{A'}$ DP_{ag} Aux* t t V t

As reflected in (79) above, for Madurese, we treat both v_{ACT} and v_{PASS} as null. A possible account of these facts is as follows. In polite Madurese, Voice realizes the overt active and passive prefixes when linearly adjacent to the heads v_{ACT} and v_{PASS}, respectively, and is null otherwise (80), just as we proposed for SI and SM above (47). In contrast, in familiar Madurese, Voice realizes the overt active and passive prefixes when *structurally* adjacent to vP headed by a particular flavor of v, as in (81) below.[31]

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[31] Alternatively, one could posit two distinct flavors of Voice in familiar Madurese (Voice$_{ACT}$ ↔ N-; Voice$_{PASS}$ ↔ e-), which are in a selectional relationship with their corresponding v heads.

Note that (80a) and (81a) are simplified due to the variable realization of the active prefix; see note 30 above.

(80) **Vocabulary items in polite Madurese:**

    a. Voice ↔ N- / ___ * v_{ACT}

    b. Voice ↔ e- / ___ * v_{PASS}

    c. Voice ↔ ∅ / elsewhere

(81) **Vocabulary items in familiar Madurese:**

    a. Voice ↔ N- / ___ v_{ACT}P

    b. Voice ↔ e- / ___ v_{PASS}P

Now consider how Voice will be realized when the VoiceP phase undergoes Spell-Out in each of the structures in (79) above. In the active and e- passive clauses, Voice will be linearly adjacent to v — because the agent has already moved out of the way in (79a) or none was generated in (79b) — as well as a sister to its vP projection, thereby allowing for Voice to realize its active or passive prefixes as in (80a,b, 81a,b). These prefixes then affix to v+V via Local Dislocation. Davies (2010: 256) and Jeoung (2017: 19, 33) note that these active and passive prefixes are obligatory in these clause types.

In the bare passive and object extraction clause types, the agent intervenes between Voice and v at the point of VoiceP Spell-Out. We propose that polite Madurese has an allomorph that can be realized in this circumstance, (80c), which furthermore is null and will therefore be pruned (Embick 2003, 2010). Unlike an overt Voice prefix, the null Voice allomorph does not require Voice to be linearly adjacent to v+V in order to affix to it via Local Dislocation, allowing for the bare passive with its in-situ agent in (79c), nor will it introduce conflicting ordering statements when the agent moves across it in an object extraction clause (79d). In contrast, the vocabulary items for familiar Madurese do not rely on linear adjacency with v, and therefore will continue to realize their overt prefix forms. In the bare passive (79c), the overt prefix will fail to affix to the verb in v+V. In the object extraction clause (79d), the overt affix will introduce contradictory ordering statements with respect to the linear position of the agent. We therefore predict that the vocabulary items in (81) lead to the ungrammaticality of the bare passive and object extraction constructions in the familiar register, unlike in the polite register.

6 Conclusion

Since at least the 1970s (see e.g. Keenan 1972, 1976a,b, Chung 1976a,b, Schachter 1976), western Austronesian languages have featured prominently in theoretical discussions around subjecthood and voice and their interactions with A'-movement. Many western Austronesian languages appear to exhibit a subject-only restriction on A'-extraction (Keenan and Comrie 1977 *et seq*; see also recent discussion in Branan and Erlewine 2024: 389–392), including the most well studied Malayic languages of Standard Indonesian (SI) and Standard Malay (SM): A'-extraction can only target the subject, as determined by voice morphology on the verb and reflected by its clause-initial position in basic word order, without changes in morphology. However, as first noted in Keenan 1972 and Chung 1976a and elaborated upon in

works such as Saddy 1991, Soh 1998, and Cole and Hermon 2005, SI and SM *do* allow for the extraction of non-subject nominals if the verb appears exceptionally without its *meN-* active voice prefix.

In this paper, we developed a new proposal for the clausal morphosyntax of Malayic languages, which leads to a new and more explanatory account for the observed interactions between voice morphology and nominal A'-extraction. Central to our proposal is the assumed organization of the verbal domain, which draws especially on the prior proposal of Nomoto 2015, 2021 and synthesizes it with the idea that the verbal domain constitutes a *phase* as in Aldridge 2008b, Sato 2012, among others. A lower functional head *v* introduces the external argument (agent) and a higher head Voice serves as the phase head, hosting exactly one nominal specifier. We further integrate Nomoto's proposal of these two functional heads with the idea that the Malayic active voice *meN-* reflects two prefixes (following Benjamin 2009, Gil 2002, and others; see section 5.1), associating Voice and *v* with *me-* and *N-* respectively.

Taking the verbal domain (VoiceP) to constitute a phase, and in particular adopting the linearization-based conception of phasehood effects in Fox and Pesetsky 2005 and much subsequent work, our proposal is able to derive the almost exceptionless subject-only restriction on nominal A'-movement in these languages, as well as the one exception of object extraction clauses and their verbal morphology. Of particular importance is the relationship between the external argument (e.g. agent, base-generated in Spec,*v*P) and the choice of morphology realized by the Voice head. Consider the A'-extraction of a nominal (DP$_{A'}$) that is not the local external argument via Spec,VoiceP as in (82a,b) below.

(82)   **The external argument requires Voice to be unpronounced:**

		[$_{CP}$	[$_{TP}$	...	[$_{VoiceP}$	Voice	[$_{vP}$		*v*+V	
a.	SI/SM-type object extr.:	DP$_{A'}$	DP$_{ag}$ Aux*		*t*	∅		*t*	∅-V	*t*
b.	Desa object extraction:	DP$_{A'}$	Aux*		*t*	∅	DP$_{ag}$		*N*-V	*t*
c.	Bare passive:		DP$_{th}$ Aux*		*t*	∅	DP$_{ag}$		∅-V	*t*

For such a derivation to converge, one of two things must happen. The first possibility is that the external argument moves to the high subject position in Spec,TP, to proceed any auxiliaries (82a); this is possible only if Voice is unpronounced, making DP$_{A'}$ and DP$_{ag}$ the two leftmost parts of the VoiceP phase. The second possibility is that the external argument stays in-situ in Spec,*v*P, as in Desa object extraction (82b). If Voice were then realized as an overt prefix, the external argument would block its lowering onto the verb under linear adjacency with *v*, and so Voice must be unpronounced in this configuration as well.

This proposal, whereby the realization of Voice as overt or null underlies the availability of non-subject A'-extraction, offers a new understanding of the relationship between object extraction clauses and bare passives. Even though object extraction clauses importantly differ from bare passives — as

reflected by the position of the subject in SI/SM and other varieties as in (82a) and by the form of the verb in Suak Mansi Desa (82b) — object extraction will only be grammatical if Voice is realized as a null allomorph, pruned from the representation and not subject to lowering or linearization. This requires the language to have a means of generating a null allomorph for Voice, as in the bare passive (82c). The correlation between voice allomorph inventories and extraction possibilities in two registers of Madurese, among other facts, strongly supports this understanding of the relationship between bare passives and object extraction. More generally, our proposal highlights the important role that overt morphosyntax and linearization may play in explaining restrictions on movement, in the spirit of Fox and Pesetsky's (2005) Cyclic Linearization theory.

Finally, we note that our paper also stands apart from many prior works on the syntax of SI and SM in that we consider the broader range of attested voice and extraction interactions in regional Malayic languages and their varieties. In particular, we highlighted the behavior of Suak Mansi Desa, a previously undescribed Malayic language of West Kalimantan, in western Borneo, as particularly informative. While the morphosyntax of Desa at first glance appears quite similar to that of the standard languages, in particular syntactic configurations, their behaviors come apart. The consideration of such details in the grammars of closely related languages directly motivated our proposal for the grammars of Malayic languages, including our new approach to the previously well-studied phenomenon of "*meN*-deletion" in SI and SM. This demonstrates the value of syntactic theory-building that is informed by a broader typological and comparative lens, including original empirical work on previously undescribed or marginalized varieties.

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