Multiple Case Assignment: An Amis Case Study

by

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Abstract

This dissertation investigates two case-related phenomena: aspect-conditioned differential subject case marking and overt case-stacking, and why case morphology on a DP may correlate with movement of a DP.

Guided by data from Amis (Formosan, Austronesian), I argue that case assignment may apply to a single DP more than once and case-stacking is overt realisation of multiple case assignment. In Amis, a DP surfaces with all the cases it has been assigned when it is a contrastive topic. Moreover, Amis provides strong evidence for treating case-stacking truly as stacking of multiple cases, instead of stacking a focus marker over a case marker.

In addition, I propose that case morphology and whether a DP can undergo certain type of movement are both mediated by φ-agreement. Specifically, each successful φ-agreement with a DP introduces to the DP a K(ase), a structural correlate of morphological case. This is based on the behaviour of subjects of perfective clauses. Subjects of perfective clauses receive genitive case in a neutral context but appear with an additional nominative case when they are contrastive topics. Moreover, there are additional restrictions on moving these subjects, compared with nominative-marked subjects of imperfective clauses. I posit that subjects of perfective clauses become φ-defective as a result of agreeing with perfective Asp(ect). This is manifested in one fewer instance of case assignment, which results in genitive case on the surface, and inability to be attracted by certain complex A/Ā-movement probes. A repair strategy applies to satisfy an interpretational need when they are contrastive topics. As an indirect consequence, these subjects remain active for φ-agreement and therefore, appear with additional case morphology.

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During one of our elicitation sessions, Taya Maray, one of my Atayal consultants, said, in his usual humorous way, "you're bringing me into the clouds." "What?" "Bū-sà-sà" ('confusing, lit. foggy,' in Taiwanese). This sums up the past few years of my life very well, but I was fortunate to have people around to help me orient myself again and again in the foggy days.

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Siōng-bué-āu, guá beh kám-siā gún tshù-lāi-lâng. Tse kuí nî nā bô in ê tsi-tshî, guá huān-sè tsá tō í-king hòng-khì--ah. Iáu-ū Szu-yu, tsún-kóng sī tāi-tsì siōng-kài bū-sà-sà, hue-lȯk-lȯk ê sî-tsūn, ū lí ê sio-phuānn, tō ná-tshiūnn lán khui-tshia tī Thài-pîng-suann sėh ê hit-jı̇t. Kuânn-thinn, suann-lāi tà-bu, tān put-sî ū tsı̇t tsuā tsı̇t tsuā ê jı̇t-thâu uì nâ-á kuân-tíng iā-lȯh-lâi.

Contents

Abbreviations and alphabets

Abbreviations for Amis

1	first person
2	second person
3	third person
ACC	accusative
ASP	aspectual marker
AV	actor voice
CAUS	causative
DISTR	distributive
EXCL	exclusive
FUT	future
GEN	genitive
INCL	inclusive
IPFV	imperfective
IV	instrumental voice
LNK	linker
LV	locative voice
NOM	nominative
OREL	object relativiser
PFV	perfective
PL	plural
PN	proper name

PST	past
PV	patient voice
P	preposition
RED	reduplicant
REFL	reflexive
SG	singular
SREL	subject relativiser
STAT	stative
TOP	topic marker

Alphabets distinct from IPA

'	[ʔ]
c	[t͡s]
d	[ɬ]
y	[j]

Chapter 1

Introduction

The central question this dissertation investigates is how multiple occurrences of morphological case on a single DP should be modeled. The language we will concentrate on is Amis, a predicate-initial Formosan (Austronesian) language. Amis is particularly instructive for this task because as I will show, it provides multiple environments where a DP may be demonstrated to bear more than one case. These include overt stacking of multiple cases on a contrastive topic DP and a raising-to-object construction. The latter contains a DP linearly preceding the embedded predicate and bears case assigned in the matrix clause, but nonetheless displays connectivity, including case connectivity, with the embedded clause.

I start with a brief demonstration of why a grammar that permits only one case/Case per DP is often taken as a default. Consequently, multiple case morphology on a single DP is unexpected and worth looking into.

1.1   One case per DP

A driving force behind syntactic operations in the Minimalist Program (Chomsky 1995, 2000, 2001) is the need to eliminate uninterpretable features [uF], properties of lexical items that lack semantic contribution. Failure to do so results in illegible structures at the interfaces. Elimination of an [uF] on a lexical item requires Agree between the lexical item and another one. Agree may be taken to consist of two steps: Match and Value. Match is

defined in (1).

(1) Matching is a relation that holds of a probe P and a goal G. Not every matching pair induces Agree. To do so, G must (at least) be in the *domain* D(P) of P and satisfy locality conditions. The simplest assumptions for the probe-goal system are shown below.

   a. Matching is feature identity.
   b. D(P) is the sister of P.
   c. Locality reduces to "closest c-command."   (Chomsky 2000 122)

Successful Match is followed by valuing the [uF] on a probe if the matching goal contains a valued feature. Then the probe is marked to be deleted later when it is transferred to the interfaces.

Taking abstract Case to be uninterpretable on DP ([uCASE]) and assuming that active *v* and finite T contain valued Case features, this proposal attributes the grammaticality contrast found in (2) and (3) to the same source. In a passive clause, as in (2), the (semantic) object cannot remain within *v*P because passive *v* does not value its [uCASE]. The object must move to SpecTP so its [uCASE] can be valued by T.

(2) a. **Annie** was invited by this year's Oshehaga festival.
     b. *(It) was invited **Annie** by this year's Oshehaga festival.

Similarly, (3) shows that the subject of a non-finite clause embedded under a raising verb cannot remain in situ, as a non-finite T cannot value its [uCASE]. It must move to the matrix clause to have its [uCASE] valued and marked for deletion.

(3) a. **Clark** seems to be an acclaimed shred guitarist.
     b. *(It) seems **Clark** to be an acclaimed shred guitarist.

The proposal in addition posits that for a goal to enter Agree, the goal must be active. A

goal is active if it contains an unvalued [uF]. This is based on the observation that once a DP's [uCASE] is valued, a second probe with a matching feature cannot Agree with the DP. For example, the subject of a finite passive clause cannot be passivised again, as in (4), because its [uCASE] is valued. As a result, the subject is no longer active.

(4) a. **Annie** was invited by this year's Oshehaga festival.
     b. ***Annie** was rumoured that (she) was invited by this year's Oshehaga festival.

Likewise, the subject of a finite clause embedded under a raising verb cannot *hyper-raise* to the matrix clause, as (5) shows, because it is rendered inactive after the embedded T values its [uCASE].

(5) a. It seems that **Clark** is an acclaimed shred guitarist.
     b. ***Clark** seems that (she) is an acclaimed shred guitarist.

That is, a DP becomes inactive once its [uCASE] is deleted. This requirement is often subsumed under the *Activity Condition*, as defined in (6).

(6) *The Activity Condition:*
     Inactive elements are not accessible for further operations.   (Nevins 2004 (29))

Moreover, it was observed that presence of (accessible) φ features on a DP often correlates with agreement morphology on the verb. For example, the expletive *il* in French agrees with the verb but the expletive *there* in English does not, as (7) shows. That *il* is a third person masculine pronoun is taken to indicate that it contains φ features. As a result, *il*, but not *there*, can value the uninterpretable φ feature [uφ] on the verb/T.[1]

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[1]This ignores the possibility that the agreement in (7a) is default morphology and the fact that not all expletives similar to *il* can agree, e.g. German *es*.

(7) *Expletive agreement*

    a.   Il arrive/*arrivent trois filles.   (French)

    b.   There *arrives/arrive three girls.   (Cardinaletti 1997 (1))

We also find that in many languages, agreement morphology tracks DPs with unmarked case (nominative or absolutive). For example, in Standard Gujarati, in an imperfective (habitual) clause, as in (8a)[2], agreement tracks the subject, the highest DP bearing unmarked case in the clause. In a perfective clause, as in (8b), the subject is marked with an inherent ergative case. We will assume that inherent case is assigned by a head that θ-licenses it (Woolford 2006) and DPs with inherent case are inaccessible from the outside (Rezac 2008a). As a result, in (8b), it is the object, now the highest unmarked DP, that the verb agrees with.

(8)   a.   **šilaa** kaagaL lah-t-**i**.
              PN.F letter.M write-IPFV-**F**
              'Sheela used to write a letter.'

    b.   šilaa-e   **kaagaL** lakh-y-**o**.
              PN.F-ERG **letter.M** write-PFV-**M**
              'Sheela wrote a letter.'   (Standard Gujarati; Grosz and Patel-Grosz 2014 (1))

Based on the pattern discussed above, it was proposed that only probes that contain an [uφ] (and a valued Case feature) can delete a DP's [uCASE]. (Valued) [uCASE] is realised as morphological case in some languages. In turn, the DP's (interpretable and valued) φ features can delete a probe's [uφ], and this is sometimes realised as agreement morphology. In this way, morphological case and agreement are thought to be reflexes of a single Agree operation.

This conception of [uCASE] on DP leads to two predictions. First, a DP that has its [uCASE] valued should become inactive and therefore, inaccessible to additional probing. Second, a DP that has its [uCASE] valued should not be able to be valued again by another

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[2]Throughout the thesis, the original glosses of examples from other sources are often slightly modified to make them consistent with or more comparable with the Amis data. Only abbreviations for Amis are included in the glossary. Please refer to the original sources for other abbreviations.

probe, given that its [uCASE] is now deleted (or marked for deletion). However, it turns out that it is not difficult to find counter-examples to these two predictions. I discuss some of these below.

1.1.1 Multiple φ probes valued by the same DP

We start with the first prediction: a Case-valued DP should not be able to Agree with another probe. It was noted early on that in Romance languages, more than one head along the verbal extension can realise agreement with the same DP. I will refer to examples of this sort as *multiple agreement*. In French, for example, both the auxiliary and the past participle agree with the subject, as in (9). However, the past participle (in these two examples) agrees in number only, whereas the auxiliary agrees in both number and person. Given this, Chomsky (2000) posited that only φ-complete probes can value and delete [uCASE] on a DP.

(9) *French past participle agreement*

  a. Nous sommes sorti-s.
      1PL   be.1PL   leave-PL
      'We left.'

  b. Vous êtes   sorti-s.
      2PL   be.2PL leave-PL
      'You left.'

This turns out to be insufficient, however. As Carstens (2001) pointed out, in Bantu compound tense construction, multiple agreement on the auxiliary and the main verb are identical and both are φ-complete. Thus, she posited that only certain verbal heads, such as finite T, can value [uCASE]. Applying this idea to (10), data from two Dutch dialects, we may say that in these two Dutch dialects, it is C that can value the subject's [uCASE], even though the same agreement morphology appears on both the complementiser and the main verb.

(10)   *Dutch complementiser agreement*

  a.   Ich dink de-**s**   doow kum-**s**.
        1SG think that-**2SG** 2SG   come-**2SG**
        'I think that you will come.'   (Tegelen Dutch; van Koppen 2005 (3a))

  b.   Kpeinzen da-**n**   zunder goa-**n** kommen.
        1SG.think that-**PL** they   go-**PL** come
        'I think that they are going to come.' (Lapscheure D.; van Koppen 2005 (3b))

Yet this proposal is still inadequate. In (11) from Lubusuku, a Bantu language, the raising verb and the embedded verb both agree with the raised subject. Moreover, as Carstens and Diercks (2009) demonstrated, the embedded clause in (11) is a full-fledged finite clause and presumably, contains a head that can value the subject's [uCASE]. The subject should become inactive afterwards, but nevertheless, it can move into the matrix clause and enter another Agree relation. That is, hyper-raising is in fact grammatical in some languages, unlike in English, as we saw above in (5).

(11)   *Lubukusu hyper-raising*
        Efula **yi**-bonekhana **i**-na-kwa   muchiri.
        9rain **9SA**-appear   **9SA**-FUT-fall tomorrow
        'It seems that it will rain tomorrow.'   (Carstens and Diercks 2009 (6))

We can also examine the prediction from a slightly different angle, based on Basque. First, Basque exhibits morphological ergativity. In (12a)[3], the auxiliary agrees with both the ergative subject and the absolutive object. Ergative agreement attaches after the root (-*t* in (12a)), and absolutive agreement attaches before the root (realised by default morphology when the object is third person). A more complex pattern emerges in a past tense clause, as in (12b). When the absolutive object is third person (and the ergative subject is first/second person), the pre-root absolutive agreement is associated with the ergative subject. This phenomenon is often called *ergative displacement*. We know that the *n-* in (12b) is the regular first person absolutive agreement, because when the ergative subject is third person and the absolutive object is first person, the same prefix *n-* also appears,

as in (12c).

(12) *Basque ergative displacement*

    a. Ni-k neure buru-a ikus-ten **d**-u-**t**.
        1-ERG my.own head-ABS seen-IPFV **DFLT**-ROOT-**1.ERG**
        'I see myself.'   (present; Laka 1993 (52a)/Rezac 2003 (19a))

    b. Ni-k neure buru-a ikus-ten **n**-u-en.
        1-ERG my.own head-ABS seen-IPFV **1SG.ABS**-ROOT-PST.
        'I saw myself.'   (past; Laka 1993 (52b)/Rezac 2003 (19b))

    c. **n**-indu-en
        1SG.ABS-ROOT-PST
        Subject = 3SG; Object = 1SG   (Rezac 2003 (16))

    d. **z**-en-u-**te**-n
        2PL.ABS-X-ROOT-**PL.ERG**-PST
        Subject = 2PL; Object = 3SG   (Rezac 2003 (18))

Interestingly, when ergative displacement applies and the ergative subject triggers absolutive agreement, the subject can at the same time trigger ergative number agreement. In (12d), the pre-root absolutive agreement *z-* and the ergative number agreement *-te* are both associated with the subject (absolutive number agreement has different morphology). Following Rezac (2003), we assume that in Basque, T values ergative case and *v* values absolutive case, and both T and *v* bear an [uNUMBER] probe and an [uPERSON] probe. We also assume that a head with a valued feature can enter Agree multiple times (as long as it remains active). In (12d) then, the subject first agrees with *v* for person and then T for number. If this is true, we also expect that the subject's [uCASE] to be valued as absolutive by *v* first. At this point, it should become inactive. However, the subject continues to agree with T (for number) and moreover, it surfaces with ergative case (data not given). That is, (12d) is a counter-example to both predictions outlined above. The ergative subject has its [uCASE] valued but continues to agree with another probe. Moreover, it is valued with another Case.

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[3]The glossing in (12) is mostly based on Rezac 2003 with minor changes. ERG and ABS refer to the ergative and absolutive agreement paradigms, respectively, instead of the argument that is agreed with. Subparts that are not important for the current purpose are glossed with X.

It is more difficult to tell in Basque whether or not a DP has indeed received two Case values. In the next section, I discuss languages which illustrate more clearly that a single DP can be associated with multiple Case values.

1.1.2 Multiple cases realised on the same DP

According to the second prediction outlined above, a DP that has its [uCASE] valued and deleted should not be able to receive another Case. DPs that surface with multiple morphological cases are relatively rare across languages, but we do find these in multiple unrelated language families. We will start with a less direct example.

In Janitzio P'urhepech, a variety of the Mexican isolate P'urhepech, certain embedding verbs, such as *ueka-* 'want,' can select a subjunctive clause with a nominative (unmarked) subject. For some speakers, this embedded subject can appear to the left of the embedded complementiser, as in (13), and this is marked with accusative case instead. Zyman (2017) demonstrated that this accusative DP is raised from the embedded clause. For example, it is sensitive to syntactic islands and it can scope in the embedded clause. In addition, this accusative DP can be associated with an embedded floating quantifier. Interestingly, as (13) shows, this floating quantifier appears with nominative case. This suggests that the accusative DP originates in the embedded clause and receives nominative case first. After it moves into the matrix clause, it receives an additional accusative case, and this overwrites the nominative case assigned previously.

(13) *Janitzio P'urhepecha raising-to-object*
    Ueka-sïn-∅-ga=ni   **Alonsu-ni, Paku-ni ka**   **Puki-ni** eska=sï
    want-HAB-PRS-IND1=1sS **PN-ACC**   **PN-ACC** **and PN-ACC** that=pS
    iamindu-eecha ch'ana-a-∅-ka.
    all-PL[NOM]   play-FUT-PRS-SBJV
    'I want Alonza, Paco, and Puki (= 3 dogs) to all play.'   (Zyman 2017 (31))

Amis, a Formosan (Austronesian) language and the main focus of this dissertation, illustrates the same pattern more transparently. In Amis, too, with certain embedding verbs, such as *mafana'* 'know,' the subject of the embedded clause (*Panay* in (14)) can appear

in the matrix clause. In Chapter 5, I will argue that reconstruction and other connectivity tests show clearly that *Panay* in (14) originates in the embedded clause.[4] Moreover, observe that *Panay* in (14) appears with three cases: accusative-nominative-genitive. In Chapter 2, I argue that the inner nominative and genitive case on *Panay* are assigned in the embedded clause. In Chapter 4, we will see that overt case-stacking is licensed when a DP is a contrastive topic. For now, (14) provides an example of a DP that receives not only two, but three cases.

(14)   *Amis raising-to-object*
        Ma-fana'   kako   **to-ko-ni**   **Panay** mi-liyas-to   inacila.
        IPFV[5].STAT-know 1SG.NOM **ACC-NOM-GEN PN**   IPFV.AV-leave-ASP yesterday
        'I know that [Panay]$_{CT}$ left yesterday.'

I end this section with Kayardild, a Tangkic, non-Pama-Nyungan language, where stacking of multiple cases is the norm. This phenomenon is also found in several other Australian languages (Plank 1995). In (15), more than one DP occurs with multiple cases. For example, *thabuju* 'brother,' is suffixed with genitive, instrumental, and what Evans (1995) calls modal ablative case, which marks past tense here, and at the end, complementising case, which is shared by multiple other lexical items in the embedded clause and in this example, indicates that this clause is a complement of a higher clause. This phenomenon is also difficult to explain under a one-case/Case-per-DP system.

(15)   *Kayardild case-stacking*
        ngada mungurru, [maku-ntha   yalawu-jarra-ntha yakuri-naa-ntha
        1SG   know   woman-C.OBL catch-PST-C.OBL   fish-M.ABL-C.OBL
        thabuju-karra-nguni-naa-ntha mijil-nguni-naa-nth]
        brother-GEN-INS-M.ABL-C.OBL   net-INS-M.ABL-C.OBL
        'I know that the woman caught the fish with brother's net.'   (Evans 1995 (35a))

To sum up briefly, according to the proposal in Chomsky 2000, 2001, syntactic operations

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[4]A base-generation structure is also available and connectivity tests can distinguish the two structures.
[5]In Chapter 2, I posit that *m-* marks imperfectivity in Amis. Following this, *ma-* is glossed as IPFV.STAT- and *mi-* is glossed as IPFV.AV- throughout the thesis.

involving DPs can be accounted by interaction between [uCASE] on DPs and [uφ] on certain verbal heads. In particular, we discussed two predictions this proposal makes. First, a DP with its [uCASE] valued should not be able to enter an Agree relation with another probe. Second, a DP with its [uCASE] valued should also not be able to receive another Case value. I then discussed a variety of languages that makes this proposal, as it is, less tenable.

1.2   Guiding hypothesis

According to the classical treatment of case and agreement, DPs have an [uCASE] that needs to be valued and certain verbal heads have an [uφ] that also needs to be valued. Moreover, once a DP's [uCASE] has been valued, the DP becomes inactive. However, as we saw above, both multiple agreement morphology registering the same DP and multiple cases on the same DP are attested. To account for multiple case assignment, this dissertation explores a hypothesis that has a similar predecessor in Rezac 2003, 2004. I posit that each φ-agreement between a DP and certain [uφ] probes adds a K to the DP. K is a structural correlate of morphological case. In addition, a DP may be Agreed with by more than one [uφ] probe (cf. Ura 1995; Carstens 2001; Rezac 2003; Béjar and Rezac 2009 a.o.). Given these, a DP may in principle appear with multiple cases.

This hypothesis predicts that the φ specification of a DP can affect case morphology on a DP. Moreover, if we follow Chomsky 1995, 2000, 2001 and assume that movement consists of Agree and Merge, and that, in addition, some instances of movement are triggered by complex A/Ā probes (cf. van Urk 2015), then the φ specification of a DP can also determine whether or not a DP can undergo certain type of movement. Given that Amis has limited agreement morphology to substantiate claims about a DP's φ feature, a DP's behaviour with respect to different types of movement will be taken as indirect evidence for a DP's φ specification.

I will propose that as a result of agreement with perfective Asp(ect), subjects of perfective clauses in Amis become φ-defective, in the sense that its subordinate φ-specification becomes inaccessible for Agree.[6] This has consequences on case morphology on subjects

of perfective clauses and their movement behaviour. I briefly illustrate the relevant phenomena below. These will be discussed in greater detail in the following chapters.

First, an example of an imperfective clause and a perfective clause in Amis is given in (16).[7] In an imperfective clause, the subject is marked with nominative case and the object with accusative case. In a perfective clause, the subject is marked with genitive case instead and the object with nominative case. This is similar to the aspect-split case variation we saw in Gujarati before in (8).

(16)   a.   *Imperfective*

Mi-asip   **ci** **Panay** to cecay a   codad i matini.
IPFV.AV-read **NOM PN**   ACC one LNK book P now
'Panay is reading a book now.'

        b.   *Perfective*

Asip-en **ni** **Panay** ko cecay a   codad inacila.
read-PV **GEN PN**   NOM one LNK book yesterday
'Panay read a book yesterday.'

There are more restrictions on the genitive subject of perfective clauses, as compared with the nominative subject of imperfective clauses. In particular, nominative subjects, but not genitive subjects, can undergo operator movement. Operator movement in Amis includes both relativisation and argument wh-questions formed by (pseudo-)clefting. (17a)-(17b) show that the nominative subject of an imperfective clause can relativise, but the genitive subject of a perfective clause cannot. In addition, in a perfective clause, the nominative-marked object can relativise (data not included here). This is reminiscent of what we saw in Gujarati in (8): the nominative (unmarked) subject of an imperfective clause and the nominative object of a perfective clause trigger verbal agreement, but the ergative subject of a perfective clause does not.

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    [6]Assuming a geometric representation of φ features (cf. Harley and Ritter 2002), by a DP's subordinate φ specification, I mean features that are further embedded in a geometric tree. For example, if we represent first person pronouns as [φ[π[PART[SPKR]]]], then [π[PART[SPKR]]] is subordinate to [φ] and [PART[SPKR]] is subordinate to [π], and so on.

    [7]Voice morphology, such as Actor Voice (AV) and Patient Voice (PV), will be discussed in Chapter 2, where I also argue that in Amis, AV clauses are imperfective and PV (and Locative Voice) clauses are perfective.

(17)   *Operator movement: nominative-only*

    a. *Imperfective subjects can relativise*

        Ma-fana'   kako   to-ra   [mi-asip-ay   to cecay a   codad
        IPFV.STAT-know NOM.1SG ACC-that IPFV.AV-read-SREL ACC one   LNK book
        i matini] a   wawa.
        P now   LNK child
        'I know that child who is reading a book now.'

    b. *Perfective subjects cannot relativise*

        *Ma-fana'   kako   to-ra   [asip-en(-ay) ko cecay a   codad
        IPFV.STAT-know 1SG.NOM ACC-that read-PV(-SREL) NOM one   LNK book
        inacila   ] a   wawa.
        yesterday   LNK child
        Intended: 'I know that child who read a book yesterday.'

However, unlike ergative subjects in Gujarati, for some Amis speakers (whose judgment will be referred to Amis II), genitive subjects are not completely inaccessible for Agree. As (18)[8] shows, both nominative subjects and genitive subjects can undergo raising-to-object. Moreover, in contrast to operator movement, nominative objects of perfective clauses cannot undergo raising-to-object.

(18)   *Raising-to-Object (in Amis II): highest argument-only*

    a. *Imperfective subjects can undergo raising-to-object*

        Ma-fana'   kako   to-ra   wawa [mi-asip   to cecay a codad
        IPFV.STAT-know 1SG.NOM ACC-that child   IPFV.AV-read ACC one   LNK book
        i matini].
        P now
        'I know that that child, (s/he) is reading a book now.'

    b. *Perfective subjects can undergo raising-to-object*

        Ma-fana'   kako   to-ra   wawa [asip-en ko cecay a   codad
        IPFV.STAT-know 1SG.NOM ACC-that child   read-PV NOM one   LNK book
        inacila   ].
        yesterday
        'I know that that child, (s/he) read a book yesterday.'

---

[8]In Chapter 5, I show that raising-to-object in Amis, when actual raising takes place, involves topicalisation. The translation in (18) anticipates this analysis.

In Chapter 3, I posit that the probe that triggers operator movement (P_{OP}) and the probe that triggers raising-to-object (P_{RTO}) are both complex A/Ā probes. P_{OP} crucially differs from P_{RTO} in having a φ-complete A probe. As a result, in a perfective clause, P_{OP} will skip the φ-defective genitive subject and agrees with the nominative object. P_{RTO}, on the other hand, contains an underspecified φ probe, and thus, cannot skip the φ-defective perfective subject. This is analogous to languages in which agreement only registers or prioritises pronouns with a more articulated φ-specification, such as first/second person pronouns, as compared with third person pronouns (Béjar 2003; Deal 2015 a.o.).

Moreover, the genitive subject of a perfective clause, being φ-defective, fails to enter an additional φ-Agree. As a result, it receives one less case than the nominative subject of an imperfective clause and surfaces with genitive case, the only case it has received.

Two facts support treating genitive case on the subject of a perfective clause as a result of one less case assignment. First, as we will see in Chapter 4, when a DP is a contrastive topic, it surfaces with all the cases it has received. In (19a), when the subject of an imperfective clause is a contrastive topic, it appears with an additional genitive case inside nominative case. This suggests that the subject of an imperfective clause is in fact assigned genitive case initially, in parallel with the subject of a perfective clause.

(19) a. *Imperfective contrastive topic subjects*
         Mi-asip   **ko-ni**   **Panay** to cecay a   codad i matini.
         IPFV.AV-read **NOM-GEN PN**   ACC one   LNK book P now
         '[Panay]$_{CT}$ is reading a book now.'

      b. *Perfective contrastive topic subjects*
         Asip-en **ko-ni**   **Panay** to cecay a   codad inacila.
         read-PV **NOM-GEN PN**   ACC one   LNK book yesterday
         '[Panay]$_{CT}$ read a book yesterday.'

Second, when the subject of a perfective clause is a contrastive topic, it appears with an additional nominative case stacked on top of genitive case, as in (19b). That is, the case marking contrast between imperfective and perfective clauses, as (20a)-(20b) illustrate again, disappears when both subjects are contrastive topics. That "adding" an extra case

to the subject of a perfective clause makes the case marking contrast with the subject of an imperfective clause disappear also supports that the subject of a perfective clause otherwise receives one less case.

(20)   a.   *Imperfective*

        Mi-asip   **ci Panay** to cecay a   codad i matini.
        IPFV.AV-read **NOM PN**   ACC one   LNK book P now
        'Panay is reading a book now.'

    b.   *Perfective*

        Asip-en **ni Panay** ko   cecay a   codad inacila.
        read-PV **GEN PN**   NOM one   LNK book yesterday
        'Panay read a book yesterday.'

To sum up, I outlined above the central theme in this dissertation: how case morphology and different movement behaviours are both mediated through φ Agree. As a consequence, a DP's φ specification can determine both its case morphology and the type of movement it can undergo. In particular, φ Agree affects case morphology because each successful φ Agree introduces a K to a DP.

In the remainder of this chapter, I give some background information to Amis and an outline of the following chapters.

1.3   Amis: language background and more

Amis (or Pangcah) is an indigenous Formosan (Austronesian) language spoken mostly in Eastern Taiwan. The Amis people have a population of around 201,000[9], although the number of native speakers is likely much smaller, given that fluent speakers tend to be in their fifties or older.

The language has been classified into multiple dialect groups in more than one way (Wu 2016). According to the classification adopted by the Council of Indigenous Peoples, Amis has five major dialect groups (from north to south): Nanshi (Northern), Siwkolang

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[9]The figure is based on the census data provided by the Council of Indigenous Peoples' website (accessed in June 2018).

(Xiuguluan), Hai'an (Coastal), Farangaw (Malan), and Palidaw (Hengchun). According to Tsuchida (1988) (cited in Wu 2016), also widely adopted, the variety of Siwkolang Amis spoken in Southern Hualien is grouped together with Hai'an Amis under the name Central Amis.

The data in this dissertation are based on four native speaker consultants, drawing primarily from two of them. The four consultants all come from Fuli in Southern Hualien.[10] Their variety of Amis would be classified as Siwkolang Amis by the Council of Indigenous Peoples or as Central Amis, by Tsuchida (1988). It is noticeably different from the Fata'an variety of Siwkolang Amis.[11]

1.3.1 Methodology

The Amis data in this dissertation, unless specified otherwise, are all based on fieldwork. The data were elicited through mostly one-on-one elicitation and occasionally, group elicitation. The elicitation included grammaticality, truth condition, and felicity judgment tasks and text elicitation prompted by pictures or videos.

1.3.2 Translation

Certain aspects of interpretation are underspecified in Amis and are in principle compatible with multiple translations. To make translations readable, I will not include every compatible English translation. I give a basic guideline for my translation choices below. Some of these are partially arbitrary.

First, bare nouns are underspecified for number. Interpretation of verbs affixed by plural reduplication illustrates this clearly. Reduplicated stative verbs, such as *makapaka-pah* in (21), are ambiguous between an intensive reading and a distributive reading. Both readings are available with bare nouns, such as *wawa* 'child' in (21a). However, when the subject is unambiguously singular, such as *Panay* in (21b), the distributive reading

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[10]One is from the Cirakesay tribe. Another is from Monating. The other two are from Cilamitay. The four consultants all reside in Taipei or Taoyuan currently, but Amis remains a dominant language in their daily life.

[11]For example, their choice of words is more typical of Hai'an Amis, but not of the Fata'an variety of Siwkolang Amis (e.g. *riko'* instead of *fodoy* for 'clothes' and *fongoh* instead of *tangal* for 'head').

is not available.[12] In addition, bare nouns, such as *wawa*, can be used in contexts where there is only one relevant child. Together, these show that bare nouns are underspecified for number. **I will translate bare nouns into plural nouns, unless the context disambiguates.**

(21)   a.   Ma-kapa-kapah   ko   wawa.
                IPFV.STAT-RED-beautiful NOM child
                'The children are particularly beautiful' or 'The children are all beautiful.'

       b.   Ma-kapa-kapah   ci   Panay.
                IPFV.STAT-RED-beautiful NOM PN
                'Panay is particularly beautiful.'

Second, Amis does not have overt markers of definiteness or specificity. Regardless of case and voice morphology, (bare) nouns can be interpreted as either definite or indefinite, or as specific or non-specific. These interpretational properties are discussed in 2.6. **I will translate bare nouns into definite nouns, unless this is incompatible with the context.** Therefore, *wawa* in (21a) is translated as 'the children.'

     Third, Amis also does not have overt tense morphology.[13] If a clause does not contain a temporal adjunct that helps disambiguate or the context is unclear, I will translate *mi-* (AV) clauses and *ma-* clauses (e.g. (21)) in the present (progressive), and non-Actor Voice clauses will be translated in the past (perfective), as in (22).

(22)   a.   Mi-nengneng ci   Panay to   tilifi.
                IPFV.AV-watch NOM PN   ACC TV
                'Panay is watching TV.'

       b.   Nengneng-en ni   Panay ko   tilifi.
                watch-PV   GEN PN   NOM TV
                'Panay watched TV.'

---

[12]This is perhaps not entirely accurate. Take (21b) as an example, it seems that the distributive reading is possible even with a singular subject if the context makes it easy to imagine a scenario where *Panay* is beautiful in multiple situations.

[13]The grammar might distinguish future and non-future. For example, the preposition *i* is used with non-future temporal adjuncts (e.g. *i matini* 'now,' *i honi* 'just now') but *ano* is used with future temporal adjuncts (e.g. *ano honi* 'later').

1.3.3 Glossing

I describe two affixes below that will be glossed in more than one way in the following chapters and three different types of reduplication that will all be glossed simply as RED. These are not intended as analyses. I include them here to minimise confusion.

Two affixes, *-ay* and *-an*, will appear frequently in the data, but not all instances will be glossed in the same way. It is unclear how these should be analysed. In particular, they both appear in multiple contexts that are not obviously related. Below I only include the uses of these two suffixes that will occur most often. The glossing choices here are not intended as analyses. All the other uses of *-ay* and *-an* will be glossed simply as AY and AN. Appendix B contains a more detailed description of the various uses of *-ay* and *-an*.

(23)   *-ay*

    a.   *Subject relativiser*

       Ma-fana'   kako   to-ra   [mi-asip-**ay**   to cecay a   codad]
       IPFV.STAT-know NOM.1SG ACC-that   IPFV.AV-read-**SREL** ACC one   LNK book
       a   wawa.
       LNK child
       'I know that child who is reading a book.'

    b.   *Other nominal modification*[14]

       Mi-kapa   kako   to tosa-**ay** (a)   koheting-**ay** a   posi.
       IPFV.AV-pet NOM.1SG ACC two-**SREL** (LNK) black-**SREL**   LNK cat
       'I'm petting the two black cats.'

(24)   *-an*

    a.   *Locative voice*

       Asip-**an** ni   Panay ko   cecay a   codad.
       read-**LV** GEN PN   NOM one   LNK book
       'Panay read a book.'

---

[14]This use of *-ay* seems to have become optional for most speakers. This is why in some of the data in the following chapters, *-ay* does not always appear on nominal modifiers, such as numerals.

b. *Accusative on pronouns, personal names, and kinship terms*

Mi-cikeroh   ci   Panay cingra-**an**/ ci   Kolas-**an**/ ci   mama-**an**.
IPFV.AV-push NOM PN   3SG-**ACC**/ ACC PN-**ACC**/ ACC father-**ACC**
'Panay is pushing her/him/ Kolas/ Father.'

c. *Object relativiser*

Ma-olah   kako   to-ya   [mi-asip-**an**   ni   Panay inacila]
IPFV.STAT-like NOM.1SG ACC-that   IPFV.AV-read-**OREL** GEN PN   yesterday
a   codad.
LNK book
'I like those books that Panay read yesterday.'

Last, descriptively, there are three types of reduplication morphology in Amis. These will all be glossed as RED. Note that when plural reduplication applies to stems with more than two syllables, the reduplicant is infixed, as in *ro-mi'a-mi'ad* 'everyday.' I will still gloss this as a prefix for consistency.

(25)   *Reduplication*

a. *Plural reduplication*

coda-codad, ro-**mi'a**-mi'ad
RED-book   **RED**-day
'many books, everyday'

b. *Animacy/humanhood agreement on numerals*

la-lima-ay   a   tamdaw, (***la-**)lima-ay   a   codad
RED-five-SREL LNK person   (***RED-**)five-SREL LNK book
'five people, five books'

c. *Immediate future*

ma-mi-asip,   **a**-asip-en
RED-IPFV.AV-read **RED**-read-PV
'about to read, about to read'

1.3.4   Transcription

The transcription in this dissertation follows Namoh Rata 2013 closely, a comprehensive dictionary compiled by the Rev. Namoh Rata.[15] I discuss briefly where I differ from Namoh

Rata 2013. These are also not intended as analyses. They are only meant to make the transcription choices sufficiently transparent so that other researchers may convert to their system easily. **Except for the first point below, this section is entirely unrelated to the rest of the dissertation and may be skipped.**

First, in Amis, stress typically falls on the final syllable of a word. Stress obligatorily shifts to the penultimate syllable when a word is focused, as in (26). This is sometimes accompanied by vowel lengthening. In addition, stress shift changes the meaning of certain lexical items in a predictable way, as (27) shows. Since stress shift (and vowel lengthening) affects grammaticality and interpretation, and this is not entirely predictable from writing, I will transcribe these overtly, following (28).

(26)   **O-ya támdaw** aca ko   mi-liyas-ay.   (*oya tamdáw)
       o-that person   only NOM IPFV.AV-leave-SREL
       'Only those people left.'

(27)   *inacilá*   'yesterday'

       inacíla   'the day before yesterday; a few days ago'

       i honí   'just now' (e.g. 2 minutes ago)

       i hóni   'a while ago' (e.g. an hour ago)

(28)   Penultimate stress and vowel lengthening are indicated as V́ and V:, respectively.
       In their absence, assume the regular final stress and vowel length hold.

Second, it is known to the community that whether [u] and [o][16] in Amis should be treated as allophones or phonemes is an issue difficult to settle. This has caused much inconsistency in how native speakers and linguists alike transcribe these sounds. Based on my own fieldwork, I find that the distribution of [u] and [o] is largely predictable. For example, when preceded or followed by a tautosyllabic epiglottal stop ' (=[ʔ]) or a glottal fricative *h* (=[h]), the target sound reliably surfaces as [o]. (29) gives two (near) minimal pairs. Moreover, [i] also becomes [e] in similar environments (except that a tautosyllabic

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[15]Amis names consist minimally of a person's given name followed by one of the person's parents' name. That is, Rata is not a family name in any sense, so I will cite this dictionary with his full name.

[ʔ] preceding [i] does not seem to trigger the alternation). This suggests that this alternation is a more general vowel lowering process that affects high vowels as a group.

(29)　　*to**lo***　　[tu.lu]　　　'three'

　　　　*to**lo**'*　　[tu.loʔħ][17]　'trip over and fall'

　　　　*na**no***　　[na.nu]　　　'from'

　　　　*fa**noh***　　[fa.noh]　　'body hair'

Other environments where /u/ is pronounced as [o] seem to subject to greater speaker variation. Nevertheless, based on these observations and the fact that using *o* to transcribe [u] and [o] is a more common practice that is familiar to all consultants, I have decided to transcribe all instances of [u] and [o] as *o*.

(30)　　All instances of [u] and [o] are written as *o*.

Third, Namoh Rata 2013 indicates that [ʔ] (written as ˆ) is largely predictable and should not be transcribed, except when it is next to a consonant, e.g. *faˆdet* 'hot' and *masoˆso* 'fat.' There are two complications to this. First, in this use, ˆ in fact indicates [ʔə]. Second, the ˆ in *faˆdet* 'hot' and *masoˆso* behave differently. When plural reduplication applies[18], the ˆ in *faˆdet* is copied (> *fa-ˆde-ˆdet*) but the ˆ in *masoˆso* is not (> *masoˆso-soˆso*; **maso-ˆso-ˆso*). This suggests that the ˆ in *faˆdet* is part of the root, but the ˆ in *masoˆso* is a result of epenthesis. In fact, if we look at a larger set of data, it is pretty clear that this epenthesis applies whenever a root consists of two identical CV syllables.[19] Based on these, I will transcribe words such as *faˆdet* as *faedet* and words such as *masoˆso* simply as *masoso*.

(31)　　[ʔ] is not transcribed.

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[16]These are often pronounced as [ʊ] and [ɔ], yet another source of confusion.

[17]Word-final /ʔ/ turns into [ʔħ]. See Edmondson et al. 2005 for a more detailed description of [ʔ] and [h] in Amis.

[18]Reduplicant = CV.CV of the final foot

[19]This is less obvious for high frequency words, such as *wawa* 'child,' *mama* 'father,' *kaka* 'older sibling' but there does seem to be a [ʔ] in between the two syllables in these words.

1.4 Structure of the dissertation

The remainder of the dissertation is structured as follows:

In Chapter 2, I establish that a multiple case assignment model is sufficient for deriving the case marking pattern in main clauses and gerunds in Amis. The model posits that the external argument in main clauses or gerunds is assigned genitive case first. I attribute this to the nominal properties of roots in Amis. Specifically, entity-denoting roots and event-denoting roots behave in parallel with respect to selection and case marking. Based on these, I posit that roots are nominalised initially in Amis. In a neutral context, the genitive case is sometimes overwritten by an additional case assigned later, obscuring the initial assignment. However, the results of multiple case assignment surface when a DP is a contrastive topic. Chapter 2 in addition examines whether movement of a DP out of the local phase is a necessary condition on additional case assignment. I illustrate that although such a proposal is in principle compatible with the data, we do not find any syntactic or interpretational evidence for it. Finally, Chapter 2 also addresses a well-researched issue in Austronesian linguistics: how should the alternation of case marking between clauses with different voice morphology be analysed. I show that unlike more common approaches which attribute case alternation directly to voice morphology, case variation in Amis correlates with viewpoint aspects.

In Chapter 3, I investigate when case assignment applies. I posit that each successful Agree between an $[u\varphi]$ probe and a DP introduces a K(ase) to a DP. The case assignment rules posited in Chapter 2 are now rules for spelling out K. The proposal predicts that the φ specification of a DP should affect case morphology. In addition, assuming that movement involves Agree and Merge, the φ specification of a DP should also be reflected on the type of movement a DP can undergo. Chapter 3 has two main components. In the first half, I posit that the subject of a perfective clause becomes φ-defective because of an additional φ probe on the perfective Asp(ect). This results in one less case assignment than the subject of an imperfective clause. Therefore, the subject of a perfective clause surfaces with genitive case. In the second half, I focus on how φ-defectiveness is manifested in movement. There are more restrictions on moving the subject of a perfective clause. It

can undergo raising-to-object but not operator movement. I propose that raising and operator movement are both triggered by a complex A/Ā probe, but the raising probe has an underspecified [uφ] whereas the operator probe has a fully specified [uφ]. As a result, the raising probe can attract a φ-defective DP but the operator probe skips the same DP.

Chapter 4 examines case-stacking in greater detail. Overt stacking of multiple cases on a single DP is licensed in Amis when the DP is a contrastive topic. The discussion provides support for two proposals posited in Chapters 2-3. First, case-stacking patterns attested in Amis are predicted by the multiple case assignment model. Second, when the subject of a perfective clause is a contrastive topic, it appears with an additional nominative case attached to the genitive case, making it identical to a contrastive topic imperfective subject. This supports the claim that the subject in a perfective clause receives one less case instead of a fundamentally different case. I posit that a repair applies only in this situation to satisfy an interpretational need. The repair adds a full set of φ feature to the perfective subject, allowing it to enter another φ Agree. The additional case is only a side effect. Similar repairs are found in some varieties of Basque and Chinook, among others.

Previous chapters assume that raising-to-object is derived by movement. Chapter 5 takes a closer look at this construction. I argue that raising in Amis can be derived by either movement or base-generation. Phenomena that require a raised DP be interpreted in the embedded clause distinguish the two structures once the raised DP sits unambiguously outside the embedded clause. In addition, I show that raising by movement is topicalisation and the raised DP is never moved across the embedded clausal boundary.

Chapter 6 summarises the main findings in this dissertation, and discusses open questions for future work.

Chapter 2

Differential subject marking

This chapter has two goals. First, I will establish that a multiple case assignment model is *compatible* with the facts of Amis, based on case patterns in clauses and gerunds. In particular, I propose that in the first round of case assignment, case on the highest argument is realised as genitive instead of nominative. I attribute this to the nominal properties of roots in Amis. In this chapter, multiple case assignment will be seen as a process that automatically applies at each phase. In Chapter 3, I introduce φ Agree as an additional constraint on case assignment. The most direct support for multiple case assignment will come from overt stacking of multiple cases. This is the topic of Chapter 4.

Second, this chapter will also address the alternation of case marking and voice morphology (1a)-(1c) show. Descriptively, when the verb is affixed with Actor Voice (AV), as in (1a), nominative case marks the external argument. When the verb is marked with Patient Voice (PV) or Locative Voice (LV)[1], as in (1b)-(1c), nominative case marks the internal argument, and the external argument receives genitive case instead.

(1) *Case marking pattern and voice morphology in Amis*

    a.   *Actor Voice (AV)*

        Mi-asip   **ci Panay** to   cecay a   codad i matini.
        IPFV.AV-read **NOM PN**   ACC one   LNK book P now
        'Panay is reading a book now.'

b. *Patient Voice (PV)*

Asip-**en ni** **Panay** ko   cecay a   codad inacila.
read-**PV GEN PN**   NOM one   LNK book   yesterday
'Panay read a book yesterday.'

c. *Locative Voice (LV)*

Asip-**an ni** **Panay** ko   cecay a   codad inacila.
read-**LV GEN PN**   NOM one   LNK book   yesterday
'Panay read a book yesterday.'

This is an issue that has received much attention in Austronesian linguistics. Two questions recur. First, how are the affixes glossed as voice in (1) associated with the case marking contrast among the three clauses? Second, what licenses the genitive case on the external argument in (1b)-(1c), a case that also appears on possessors, as in (2), and why is the same case not available to the external argument in (1a)?

(2)   *Possessive DP*

Ma-olah   kako   [to   posi **ni**   **Panay**].
IPFV.STAT-like NOM.1SG   ACC cat   **GEN PN**
'I like Panay's cats.'

A common approach to these two questions associates the case alternation among the

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[1]The name Locative Voice comes from the applicative use of LV, as in (ia). In this use, nominative case marks a promoted location (or time). Relatedly, a fourth voice, Instrumental Voice (IV), is also used in a similar way. In (ib), nominative marks a promoted instrument (or cause). Amis differs from many Austronesian languages that have a similar voice system in that presence of AV, causative *pa-* or stative *ka-* is necessary for the applicative use of LV and IV. That is, replacing *pinengnengan* in (ia) with *nengnengan* or replacing *sapinengneng* in (ib) with *sanengneng* is ungrammatical. In addition, IV cannot attach directly to a root, unlike LV in (1c). Moreover, as the translation indicates, the applicative LV and IV often have a pseudo-cleft-like interpretation. Given these syntactic and semantic differences, I will mostly put aside applicative LV and IV clauses in this dissertation.

(i)   a.   *Applicative Locative Voice*
          Pi-nengneng-**an** ni   Panay to   tilifi **ko**   **kafoti'an ningra**.
          AV-watch-**LV**   GEN PN   ACC TV   **NOM room**   GEN.3SG
          'Her room is where Panay watches TV.'

      b.   *Instrumental Voice (IV)*
          Sa-pi-nengneng ni   Panay to   tilifi **ko-ya**   dadingo.
          IV-AV-watch   GEN PN   ACC TV   **NOM-that glasses**
          'Those glasses are what Panay watches TV with.'

three clauses in (1) directly with voice morphology (Richards 2000; Pearson 2001; Aldridge 2004, 2008 a.o.) and treats genitive case in (1b)-(1c) as an inherent case assigned to the external argument that happens to be syncretic with genitive case on possessors. In an AV clause, as in (1a), this inherent case is either entirely unavailable or overwritten by nominative case (Aldridge 2004, 2008 a.o.).[2]

However, in Amis, this correlation between voice morphology and case marking pattern no longer holds when we look at gerunds. In both (3a)-(3b), within the gerund, genitive case marks the external argument and accusative case marks the internal argument, even though the verb is affixed with AV in (3a) but with PV/LV in (3b).

(3)   *Gerunds*

a.   Lipahak kako   [_GERUND_ to **pi**-fohat ni   Mayaw to   fawahan].
     happy   NOM.1SG   ACC **AV**-open GEN PN   ACC door
     'I'm happy about Mayaw's opening the door.'

b.   Lipahak kako   [_GERUND_ to fohat-**en**/-**an** ni   Mayaw to   fawahan].
     happy   NOM.1SG   ACC open-**PV**/-**LV** GEN PN   ACC door
     'I'm happy about Mayaw's opening the door.'

In the remainder of this chapter, I propose that genitive case on the external argument in (1b)-(1c) and genitive case on possessors have the same source: both are assigned in a nominal Spell-Out domain (to be defined). This domain exists in clauses, such as (1), because roots in Amis are initially nominal. In (1a), the external argument does also receive genitive case first, but this is later overwritten by nominative case.[3] On the other hand, nominative case is never assigned to the external argument in (1b)-(1c) and therefore, the external argument surfaces with genitive case.

In addition, I propose that aspect is what is responsible for the absence of additional case assignment to the external argument in (1b)-(1c). Specifically, AV clauses in Amis are imperfective and non-AV (both PV and LV) clauses are perfective. The alternation is therefore analogous to aspect-conditioned differential subject marking well attested in

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[2]Details of these studies vary. These have resulted in a variety of terms for what I call nominative case, subject, and voice. I will not review these analyses. **In this thesis, "subject" refers to semantic subject.**

[3]Both cases surface when the external argument is a contrastive topic, as we will see in Chapter 4.

other languages (Bjorkman 2011, 2015).

The rest of this chapter is organised as follows: in 2.1, we will look into roots in Amis in more detail. Next, I will propose (the initial version of) a multiple case assignment model in 2.2 and extend this to imperfective (AV) clauses in 2.3, gerunds in 2.4, and perfective (non-AV) clauses in 2.5. Finally, some previous proposals of multiple case assignment proposed that additional case assignment occurs only when a DP moves out of the local phase (Baker and Vinokurova 2010; Levin 2017). Independently, to account for restrictions on Ā-movement and interpretation of nominative arguments[4], previous works on related Austronesian languages have posited that the nominative internal argument in (1b)-(1c) has moved across the external argument to the outer edge of the local phase. In 2.6, I show that except for the restriction on operator movement discussed briefly in Chapter 1, the other motivations behind positing movement as a prerequisite for additional case assignment or positing that nominative internal arguments must move to a higher position do not hold in Amis.

2.1   Genitive case and nominal properties of roots

Bare (unaffixed) roots in Amis that denote entities and those that denote events behave alike in Amis in terms of morphological selection and case marking patterns. I discuss these in turn below. I propose that these properties suggest that roots in Amis, including event-denoting roots, are initially nominal. More importantly for the purpose of this dissertation, this is the reason why in main clauses (and gerunds), genitive case is the first case assigned to the highest argument.

First, a variety of affixes can attach directly to bare roots. For example, as (4) shows, plural reduplication can apply to either entity-denoting roots, yielding a plurality of entities, or to event-denoting roots, yielding a plurality of events.[5]

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[4]For example, in Tagalog, only nominative arguments (e.g. the external argument in Tagalog's counterpart of (1a) and the internal argument in (1b)-(1c)) can undergo Ā-movement. In addition, nominative arguments must be definite (Paul et al. 2015; Collins 2016, to appear).

[5]Roots in Amis are underspecified for number. Pluralised entity-denoting roots are not simply plural. They indicate that the number of the entity denoted by the root is large. Moreover, pluralised event-denoting roots can additionally have a distributive reading when at least one argument is semantically plural. In the same context, pluralised state-denoting roots (e.g. *kapah* 'beautiful') also have a distributive reading. For

(4)   *Plural reduplication applies to bare roots*

    a.   *Entity roots*

BARE	kalang	'crabs'	kiyafes	'guavas'
PLURAL	**kala**-kalang	'many crabs'	ki-**yafe**-yafes	'many guavas'

    b.   *Event roots*

BARE	cefos	'spray'	cikeroh	'push'
PLURAL	**cefo**-cefos	'spray repeatedly'	ci-**kero**-keroh	'push repeatedly'

Similarly, voice morphology can also apply to either entity-denoting roots or event-denoting roots, as (5) shows. This is also true for causative *pa-* and stative *ka-*: e.g. *pa-kohaw* (CAUS-soup) 'add soup to,' *ka-tamorak* (STAT-pumpkin) '(a place with its) pumpkins harvested,' *pa-cefos* 'make/let (s.o.) spray,' *ka-cefos* '(sth.) sprayed.'[6]

(5)   *Voice morphology can apply to bare roots*

    a.   *Entity roots*

AV	**pi**-kalang	'catch crabs'	**pi**-kiyafes	'pick guavas'
PV	kalang-**en**	'catch crabs'	kiyafes-**en**	'pick guavas'

    b.   *Event roots*

AV	**pi**-cefos	'spray'	**pi**-cikeroh	'push'
PV	cefos-**en**	'spray'	cikeroh-**en**	'push'

On the other hand, as (6) shows, immediate future reduplication must apply to roots that are already inflected with voice, and cannot apply directly to bare roots.

---

some speakers, pluralised state roots have an intensive reading in addition. For more on the phonology of plural reduplication, see Lu 2003; Yeh 2004; Zeitoun and Wu 2006.

    [6]Availability and interpretation of entity-denoting roots affixed by voice, causative, or stative seem to subject to more lexical idiosyncrasy.

(6)   *Immediate future cannot apply to bare roots*
     ma-mi-cefos   'about to spray'

     ca-cefos-en   'about to spray'

     *__**ca**-cefos   Intended: 'about to spray'

The data in (4)-(6) suggest that the subcategorisation requirement of certain affixes treat entity-denoting roots and event-denoting roots as one category, whereas some other affixes distinguish bare roots from roots that are inflected with voice.

The parallel between entity-denoting and event-denoting roots is also found in phrases headed by a bare root, which I will refer to as "bare root DP." For example, in (7), a bare root DP headed by an entity-denoting root (i.e. a possessive DP), genitive case marks the possessor. If the root can take a complement, such as *siri* 'goat' or *mama* 'father,' accusative case marks the complement.

(7)   *Case pattern: entity roots*
     [O   codad **ni** Panay **to**   siri-an[7]/ ci   mama-an   ] ko-ni-an.
       PRED book **GEN** PN   **ACC** goat-AN ACC father-ACC   NOM-this-AN.
     'This is Panay's book about goats/fathers.'

Likewise, in a bare root DP headed by an event-denoting transitive root, such as (8), genitive case marks the external argument and accusative case marks the internal argument.

(8)   *Case pattern: event roots*
     [O   cefos **ni** Panay **to**   nanom] ko   sa-ka-cepa' no   paenan.
       PRED spray **GEN** PN   **ACC** water   NOM IV-STAT-wet GEN floor
     'Panay's spraying water is why the floor is wet.'

---

[7]To have the kind-referring interpretation, *siri* 'goat' must be suffixed by *-an*. Without it, *siri* in (7) can only refer to (an) individual goat(s) and requires more contextual support (e.g. a celebrity goat so popular there is a book about it). Besides LV *-an*, accusative *-an*, object relativiser *-an*, and *-an* on referential pronouns, as in (7), which all have the same form but seemingly unrelated meanings (see 1.3.3 in Chapter 1 for some examples), this kind-creating *-an* adds yet another occurrence of *-an* that cannot be easily collapsed with any of the others.

Not all languages allow possessive DPs in which the complement of the possessee follows the possessor (e.g. Swahili; Carstens 2001), but this is possible, for example, in French (9). What is rarer is for a possessive DP to have a genitive possessor and an accusative complement at the same time (Baker 2015). This also seems to be possible with very few entity-denoting roots in Amis and is subject to speaker variation.

(9) le portrait de Rembrandt d' Aristote
     the portrait of Rembrandt of Aristotle
     'Rembrandt's portrait of Aristotle'   (Carstens 2001 (22a); citing Valois 1991)

In addition, bare root DPs headed by an event-denoting root often come with extra modality. For clauses with an unmarked/infinitival verb to contain covert modality is not uncommon (Bhatt 1999), but the nature of this modality is unclear at the moment.[8]. This seems to be another source of judgment variation. Nevertheless, we do find examples of either type of bare root DPs in natural data (i.e. not elicited). (10) gives a few examples.[9] The relevant roots and case markers are bolded.

(10)   *Natural examples of bare root DP*

   a. o **kimad**   **ni** mama **to** tayal no ma-misa-loma'   i á:yaw
       PRED **story/lecture** **GEN** father **ACC** work GEN RED-AV.create-house P front
       ho
       still
       'Father's story/lecture about house-building work in the past'   (2018.4.20)

---

[8]A few examples of bare root DPs that come with extra modality are given below.

(i) a. Mi-liso'   ko lafang tamiyanan   i 'ayaw no lahok i, [o   limek-to no posi
         IPFV.AV-visit NOM guest NOM.1PL.INCL P front GEN noon TOP PRED hide-ASP GEN cat
         niyam   to   lafang].
         GEN.1PL.INCL ACC guest
         'The guests are visiting us before noon. Our cats will most likely hide from the guests.'

     b. Ci-nanom   ko tamina' ni Mayaw i, [o   leneng no-ya   tamina'].
         have-water NOM boat   GEN PN   TOP PRED sink GEN-that boat
         'Mayaw's boat has water (in it). That boat will most likely sink.'

[9](10a)-(10c) below are excerpts from the Facebook page of *Taiwan Indigenous Television*'s Amis news. The dates in parentheses indicate the dates when the posts from which (10a)-(10c) are extracted were posted. These examples have been double-checked with two consultants.

b. o **limo'ot** **no** ma-to'as-ay **to** rarem a mi-solinga'
PRED **instruction** GEN IPFV.STAT-old-SREL ACC below LNK IPFV.AV-complete
to demak
ACC thing
'the elderly's instructing the youth on doing things meticulously' (2018.6.8)

c. o **hemek no** finawlan **to** fenek ni faki a mi-kawit
PRED **praise** GEN tribespeople ACC diligence GEN uncle LNK IPFV.AV-weave
to safang
ACC fishing.net
'the tribespeople's praise of the uncle's hard work at patching fishing nets'

(2018.4.21)

d. Pina ko **kilac no** miso **to** lingko?
how.many NOM **allot** GEN GEN.2SG ACC apple
'How many apples did you get?' (Namoh Rata 2013 (101))

Based on the data illustrated above, I will assume that Amis roots uniformly lack category in the lexicon. A root is merged with its argument(s) first according to its selectional requirements. Then the Root Phrase is nominalised by *n*, and may be further verbalised when a voice affix (or causative *pa-* and stative *ka-*) is attached, which I posit is merged at *v*. (11a)-(11b) illustrate a simplified structure of a transitive root and an unaccusative root, respectively.[10]

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[10]Voice in (11) is the head that introduces the external argument (Kratzer 1996), not where voice morphology is merged. I will discuss more about roots and argument structure in 2.2.1 below. In addition, I assume that presence of D entails the possibility of having a demonstrative. Whether or not voice morphology is added, this is not possible with any root, except for deictic verbs: *tayni*/*tayra* 'come/go' and *pakayni*/*pakayra* 'pass by.' These contain the demonstrative *ni* 'this' and *ra* 'that.visible,' but they are not possible with the third demonstrative *ya* 'that.invisible.' No other root, including motion predicates, seem to be able to combine with a demonstrative (e.g. *r<om>akat-ni/ra* (intended:) 'walk to here/there').

(11) *Structure of roots in Amis*

    a.   *Transitive roots*

```
                    nP
                 /      \
                n       VoiceP
                      /        \
                    DP          Voice'
                  AGENT        /       \
                          Voice         √P
                                      /     \
                                  √cefos     DP
                                  'spray'   PATIENT
```

    b.   *Unaccusative roots*

```
                nP
             /      \
            n        √P
                   /     \
              √leneng      DP
               'sink'    PATIENT
```
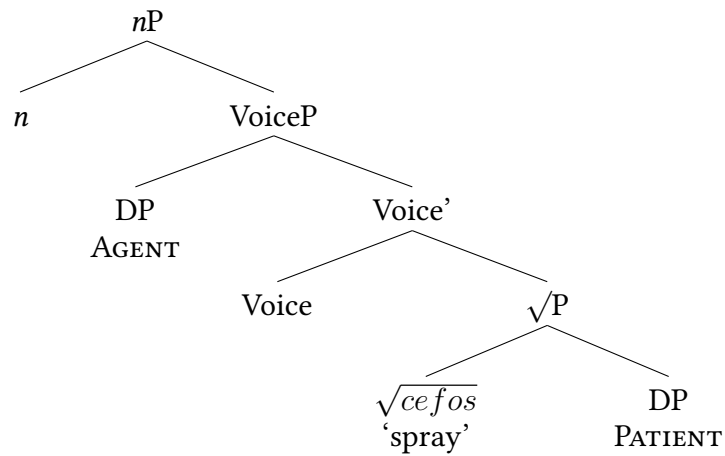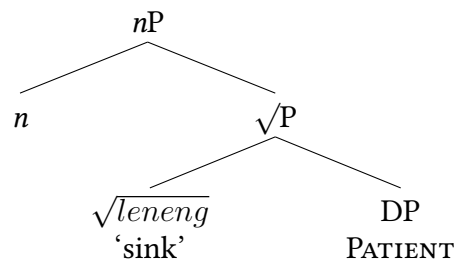
2.2 Multiple case assignment: first version

A few more examples of bare root DPs headed by an event-denoting root are given in (12). Observe first in (12a), with a transitive root, accusative case marks the internal argument even when the external argument is not overt. This contrasts with unaccusative and unergative roots, as in (12b)-(12c). In both examples, the sole argument invariably receives genitive case. (13) summarises the case patterns of bare root DPs.

(12)   a.   *Transitives*

        o   cefos *no/to   nanom
        PRED spray *GEN/ACC water
        'spraying water'

b. *Unaccusatives*

    o   leneng no/*to   tamina'
    PRED sink   GEN/*ACC boat
    'the boats' sinking'

c. *Unergatives*

    o   rakat no/*to   wawa
    PRED walk GEN/*ACC child
    'the children's walking'

(13)   *Case patterns of bare root DPs*

ENTITY		EVENT	Transitive	Unaccusative	Unergative
Possessor	GEN	Agent	GEN		GEN
Complement	ACC	Patient	ACC	GEN	

We find a similar distribution with gerunds. In a transitive gerund, such as (14), accusative case marks the internal argument whether or not the external argument is overt.

(14)   *Transitive gerunds*

a.   Faheka   kako   [to pi-'ari   ***no/to**   **kaysing**].
       surprised NOM.1SG   ACC AV-break ***GEN/ACC bowl**
       'I'm surprised at (someone's) breaking the bowls.'

b.   Faheka   kako   [to pi-'ari   ni Mayaw **to** **kaysing**].
       surprised NOM.1SG   ACC AV-break GEN PN   **ACC bowl**
       'I'm surprised at Mayaw's breaking the bowls.'

Interestingly, gerunds with a predicate affixed by the stative *ka-* behave differently. In (15a), without an overt external argument, genitive case marks the internal argument. When an external argument is overt, however, as in (15b)[11], accusative case marks the internal argument instead.

(15) *Gerunds with a stative verb*

    a.   Faheka   kako   [to ka-'ari   **no/??to**   **kaysing**].
         surprised NOM.1SG   ACC STAT-break **GEN/??ACC bowl**
         'I'm surprised at the bowls' breaking.'

    b. %Faheka   kako   [to ka-'ari   ni Mayaw **to**   **kaysing**].
         surprised NOM.1SG   ACC STAT-break GEN PN   **ACC bowl**
         'I'm surprised at the bowls' breaking by Mayaw.'

In Appendix C, I describe data which suggest that transitive clauses with a verb affixed by the stative *ka-* (or *ma-* in main clauses) are akin to stative passives. In particular, the syntactic behaviour and the interpretation of the external argument in clauses and gerunds with such predicates suggest that the external argument in these examples should be treated as an implicit argument or a non-argument.[12]

Moreover, Amis is a *pro*-drop language. Thus, the contrast between (14)-(15) can be attributed to the difference between (i.) an external argument that is only *pro*-dropped and (ii.) an implicit external argument (or a non-argument). More specifically, (ii.) affects case realisation on other DPs only when it is pronounced.[13]

The case patterns of bare root DPs, as summarised in (13), and the case patterns of

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[11]The % on (15b) indicates that not all speakers consistently accepted examples of this sort. For some, gerunds with a stativised predicate are acceptable only when genitive case marks both the external and the internal argument. Moreover, the internal argument must precede the external argument, as in (i). The speakers who accepted (15b) found (i) degraded but still acceptable. Gerunds with multiple genitive-marked arguments in an inverse order do not seem to be limited to gerunds with a stativised predicates. However, judgment on these varied greatly, so I will put these aside for now.

(i)   %Faheka   kako   [to ka-'ari   **no** kaysing **ni** Mayaw].
       surprised NOM.1SG   ACC STAT-break **GEN** bowl   **GEN** PN
       'I'm surprised at the bowls' breaking by Mayaw.'

[12]Adjuncts do receive case in Amis. For example, durative temporals are marked with accusative case. However, other than the genitive DP in stative clauses, I have not been able to find any other clearer examples of genitive-marked adjuncts. (Genitive case can mark instruments or beneficiaries in Atayal, another Formosan language, but this is not allowed in Amis.)

[13]Baker and Vinokurova 2010 discuss two types of passive in Sakha. Passives with an accusative theme are compatible with phenomena indicating that an implicit agent is present (e.g. agent-oriented adverbs), but passives with a nominative theme are not. They argue that this suggests that an implicit argument can still control dependent case calculation. They also suggest that this might be subject to language variation. I do not have data directly comparable with theirs, but in 2.2.1 below, I show that genitive DPs in stative clauses do not need to be an agent (or a causer), in clear contrast to the other voices. Treating genitive DPs in stative clauses as an implicit argument or a non-argument is therefore not necessarily at odds with their observation.

gerunds, as (14)-(15) show, are easily captured by the Dependent Case model (Marantz 1991), which holds that case assignment is based on the structural relationship among DPs that need case. A DP that is c-commanded by another one is assigned dependent case; otherwise, it receives unmarked case.

I propose that Amis assigns case by the ordered rules in (16) (to be revised later).[14] Moreover, each time a phase head (D, v, and C, by assumption) is merged, case assignment applies to its domain (*Spell-Out domain*). I further define a nominal domain as a domain in which n is the highest category-determining head.

(16)   *Amis case assignment rules (first version)*

    a.   If there are two distinct DPs in the same phase such that DP_1 c-commands DP_2, and if DP_1 is unmarked for case, assign accusative to DP_2.

    b.   If a DP does not receive dependent case, it is realised as genitive in a nominal domain.

I illustrate below how (16) derives the case pattern of bare root DPs. Assuming that bare root DPs are formed by merging D on top of nP[15], as in (17) (for a transitive root), (16) applies to nP when D is merged. By (16a), the patient receives accusative case. By (16b) and given that n is the highest category-determining head (circled and shaded) in the Spell-Out domain, the agent receives genitive case.

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[14]Amis does not have a clear example of lexical case, so this is not included in (16).

[15]A demonstrative can be added after o in a bare root DP (e.g. (12)).

(17)   *Case derivation: transitive bare root DP*

```
                DP
           ╱         ╲
         D             nP ········· SPELL-OUT DOMAIN
                    ╱      ╲
                 (n)         VoiceP
                          ╱        ╲
                       DP            Voice'
                    (AGENT)        ╱       ╲
                       ↑        Voice        √P
                      GEN                  ╱     ╲
                                      √cefos       DP
                                      'spray'    PATIENT
                                                    ↑
                                                   ACC
```
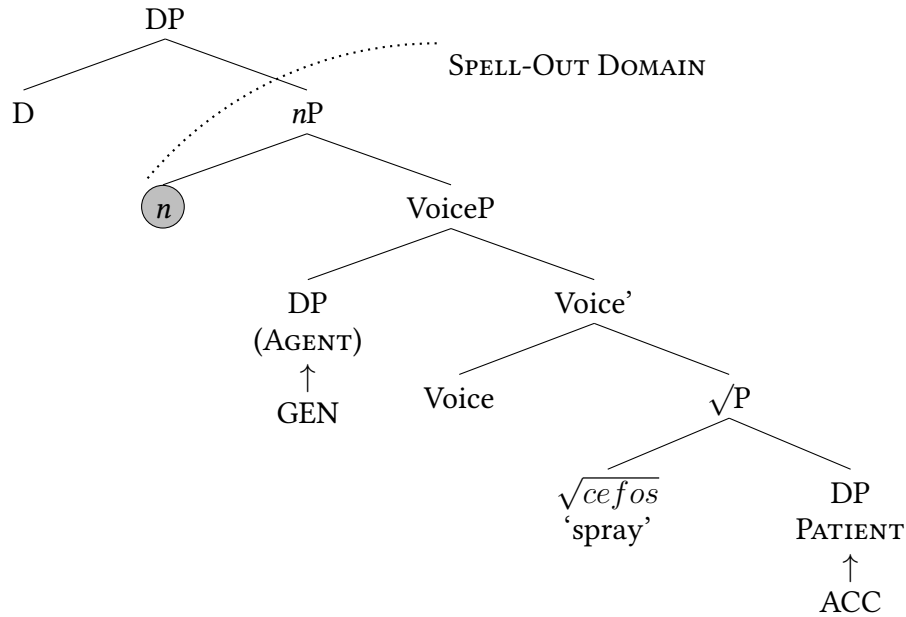
In an intransitive bare root DP, as in (18), (16a) does not apply since there is only one DP. By (16b) and given that *n* is the highest category-determining head in the Spell-Out domain, the sole argument receives genitive case.

(18)   *Case derivation: intransitive bare root DP*

```
              DP
          ╱        ╲
        D            nP ········· SPELL-OUT DOMAIN
                  ╱      ╲
               (n)         √P
                        ╱      ╲
                   √leneng       DP
                    'sink'     PATIENT
                                  ↑
                                 GEN
```
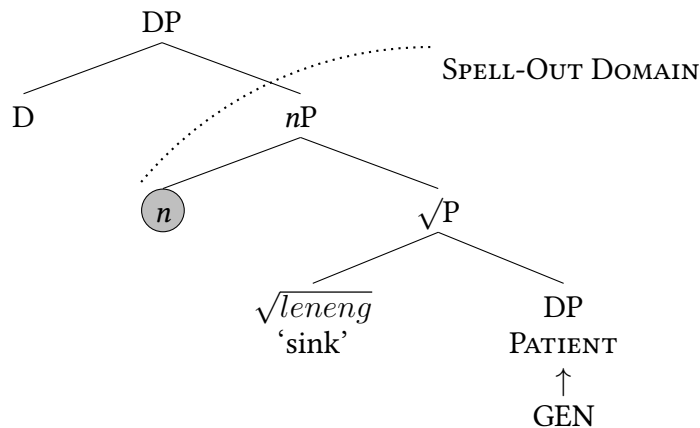
We will extend (16) to more articulated structures in 2.3. Before then I discuss some issues concerning the relationship between roots and argument structure in Amis and how the current proposal differs from other *nominalist* proposals posited for related languages.

2.2.1 Argument structure is determined by roots

In the root structure in (11) above, I proposed that all arguments selected by a root are merged before the nominalising head *n* is added. This differs from the more common approach by which the external argument is introduced by *v*, which I posit is a verbaliser and where voice morphology is merged. One possible piece of evidence for this alternative comes from an agentivity restriction found with AV *mi-* clauses, PV *-en* clauses, and LV *-an* clauses.

As the contrast between (19a)-(19b) illustrates, the external argument of an AV clause must be agentive. This also applies to PV and LV clauses, as (20a)-(20b) show.[16]

(19)   *AV external arguments must be agentive*

    a.   Mi-faedet **ci Panay** to-ya   dateng i matini.
            IPFV.AV-hot **NOM PN**   ACC-that dish   P now
            'Panay is heating that dish now.'

    b.   #Mi-faedet **ko parod** to-ya   dateng i matini.
            IPFV.AV-hot **NOM stove** ACC-that dish   P now
            Intended: 'The stove is heating that dish now.'

(20)   *PV/LV external arguments must be agentive*

    a.   Faedet-en/-an **ni Panay** ko-ya   dateng i honi.
            hot-PV/-LV   **GEN PN**   NOM-that dish   P moment
            'Panay heated that dish just now.'

    b.   #Faedet-en/-an **no parod** ko-ya   dateng i honi.
            hot-PV/-LV   **GEN stove** NOM-that dish   P moment
            Intended: 'The stove heated that dish just now.'

To be more accurate, this restriction requires that the external argument be a self-propelled agent, regardless of animacy. Therefore, nouns, such as *sapaiyo* 'medicine' in (21) or *faliyos* 'typhoon', but not *parod* 'stove' in (19)-(20) above, also fulfils the requirement.

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[16]Attaching AV *mi-*, PV *-en*, and LV *-an* to a stative root creates a causative verb, as in (19)-(21).

(21)   *Self-propelled external arguments*

    a.   Mi-adah   **ko sapaiyo** to doka' ni Komod.
        IPFV.AV-heal **NOM medicine** ACC wound GEN PN
        'The medicine is healing Komod's wound.'

    b.   Adah-en/-an **no sapaiyo** ko doka' ni Komod.
        heal-PV/-LV   **GEN medicine** NOM wound GEN PN
        'The medicine healed Komod's wound.'

This restriction does not apply to stative verbs. As (22) shows, the genitive external argument in these examples does not need to be a self-propelled agent.[17]

(22)   *Stative verbs*

    a.   Ma-faedet   **ni Panay** ko-ya   dateng i honi.
        IPFV.STAT-hot **GEN PN**   NOM-that dish   P moment
        'That dish was heated by Panay just now.'

    b.   Ma-faedet   **no parod** ko-ya   dateng i honi.
        IPFV.STAT-hot **GEN stove** NOM-that dish   P moment
        Intended: 'That dish was heated by the stove just now.'

Based on the case marking patterns, transitive clauses with a stative verb (verbs prefixed by *ma-*/*ka-*), such as (22), are often treated as a subtype of PV clauses (Wu 2006; Y. Chen 2008; V. Chen 2017). However, the data in Appendix C suggest that these clauses are syntactically and semantically distinct from PV *-en* clauses. For now we will focus on how these examples inform us about roots and argument structure.

    The contrast between stative verbs and the other voices with respect to agentivity may potentially be attributed to selectional requirements of different flavours of *v* (Harley 2009,

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[17]It also does not need to be a causer. In (i) below, it is Panay's younger sister/brother, not Panay herself, who is responsible for the necklace's disappearance.

(i)   Ma-siday   **ni Panay** ko cangaw ningra, nawhani ma-falah-to   no
      IPFV.STAT-leave.behind **GEN PN**   NOM necklace GEN.3SG because IPFV.STAT-discard-ASP GEN
      safa   ningra.
      younger.sibling GEN.3SG
      'Panay lost her necklace because it was thrown away by her younger sister/brother.'

2017). This has been proposed for Amis by Lin 2013 (and in spirit, by Wu 2006, working within the Role & Reference Grammar).

However, less discussed in previous studies on Amis is that there are also examples where presence of AV *mi-* or PV *-en* does not correlate with an agentive external argument. When *mi-* attaches to a root that denotes an involuntary activity, such as *faha'* 'cough,' the external argument can be agentive, as in (23b),[18] but it can also be a causer that is neither agentive nor self-propelled.

(23) *Involuntary activity*

    a.   Mi-faha'   ci   Mayaw to   daydam i matini.
         IPFV.AV-cough NOM PN   ACC chillies P now
         'Mayaw is coughing because of the chillies.'

    b.   Mi-faha'   ko   daydam ci   Mayaw-an i matini.
         IPFV.AV-cough NOM chillies ACC PN-ACC   P now
         'The chillies are making Mayaw cough now.'

In addition, in (24a), an example we saw above, the external argument must be agentive. However, with the same PV verb but nominative case on the external argument, as in (24b), the external argument is interpreted as an experiencer instead.[19]

(24)   a.   Faedet-en ni   Panay ko-ya   dateng.
         hot-PV   GEN PN   NOM-that dish
         'Panay heated that dish.'

    b.   Faedet-en ci   Panay to-ya   dateng.
         hot-PV   NOM PN   ACC-that dish
         'Panay felt that that dish was hot.'

Moreover, as we saw above in (12a), in a transitive bare root DP, accusative case marks the internal argument even when the external argument is not overt. This contrasts with

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[18]Accusative case can also mark causes, as in *daydam* 'chillies' in (23a).

[19]This variation is productive with stative roots. For some examples (but not (24)), the verb in the counterpart of (24b) ends in a higher pitch accent than in the counterpart of (24a), but this contrast did not appear consistently.

gerunds with a stative verb. In (15) above, when the external argument is not overt, genitive case marks the internal argument. Together, these suggest that the external argument is already present syntactically before any voice morphology is added. Voice morphology and stative *ka-*/*ma-* can modify the argument structure in some way, but presence of the external argument does not depend on any particular voice morphology.[20]

2.2.2 Nominal roots

Treating roots as acategorial or nominal (at some level) has its predecessors in studies on other Austronesian languages (Capell 1964; Starosta et al. 1982; Gil 1995, 2000; Foley 1998; Himmelmann 2008; Kaufman 2009). I discuss briefly how the current proposal differs from a more recent nominalist analysis, Kaufman 2009, and why an issue that has been raised for his analysis does not apply to the current proposal. **This section is a lengthy digression and does not directly bear on the rest of this thesis' proposal. Readers may skip to 2.3 directly.**

First, Kaufman (2009), working on Tagalog, posits that roots are acategorial and are nominalised by *n*. His proposal crucially differs from the current one in that nowhere in the derivation is *n*P verbalised. Voice morphology is analogous to affixes such as *-er* or *-ee* in English, but does not change the category of the phrase it attaches to. Accordingly, (25a) and (25b), an AV and a PV clause, respectively, are both copular in nature, as the translation indicates.

(25) *AV and PV clauses in Tagalog*

    a.   K<um>ain   nang=daga ang=pusa.
            <AV:BEG>eat GEN=rat   NOM=cat
            'The cat was the eater of a rat.'

    b.   K<in>ain-∅ nang=pusa ang=daga.
            <BEG>eat-PV GEN=cat   NOM=rat
            'The rat was the eaten one of the cat.'   (Kaufman 2009 (8a-b))

---

[20]I will not be able to account for how exactly voice morphology, stative *ka-*, and causative *pa-* modify the argument structure. I will only treat these as instances of the verbaliser *v*.

This approach also explains the restriction on Ā-movement in a very different way. In Tagalog, only nominative arguments can wh-extract. Therefore, in an AV clause, as in (26), only the subject can extract. In a PV clause, as in (27), only the object can extract. According to Kaufman 2009, the badness of (26b) and (27b) is due to having three nominative DPs in a copular clause.

(26)   *Subject wh-questions in Tagalog*

      a.   Sino   ang=b<um>ili   nang=tela?
            NOM:who NOM=<AV:BEG>buy GEN=cloth

      b.   *Sino   ang=b<in>ili-∅   ang=tela?
            NOM:who NOM=<BEG>buy-PV NOM=cloth
            'Who bought the cloth?'   (Kaufman 2009 (3))

(27)   *Object wh-questions in Tagalog*

      a.   Ano   ang=b<in>ili-∅   nang=babae?
            NOM:what NOM=<beg>buy-PV GEN=woman

      b.   *Ano   ang=b<um>ili   ang=babae?
            NOM:what NOM=<AV:BEG>buy NOM=woman
            'What did the woman buy?'   (Kaufman 2009 (4))

A more common treatment of (argument) wh-questions in Tagalog and many other Austronesian languages analyses wh-questions as psuedo-clefts or clefts (Paul 2001; Potsdam 2006; Law 2007; Potsdam and Polinsky 2011). In a pseudo-cleft analysis, the wh-word *sino* in (26) is a predicate and what follows is a headless relative clause marked by nominative case. In a cleft analysis, the predicate in (26) consists of the wh-word and what follows is a relative clause-like element. This is followed by a null expletive. (28) shows how (26) would be translated following the three approaches.

(28)   a.   **Kaufman 2009:** 'The cloth's buyer is who?'

      b.   **Pseudo-cleft:** '(The) one(s) who bought the cloth is who?'

      c.   **Cleft:** 'It is who that bought the cloth?'

Kaufman's 2009 proposal is made more plausible by two facts in Tagalog, neither of which hold in Amis. First, in (25), the object in an AV clause and the subject in a PV clause both receive the same case *nang*. However, in Amis, accusative case marks the object in an AV clause, which is morphologically distinct from genitive case.

Second, in Tagalog, predicates with only voice morphology, such as *kumain* 'eat.AV' and *kinain* 'eat.PV' in (25), can be referential without additional morphology. (29) gives an example for *kumain*. However, this is not true in Amis, either. I illustrate this point with relativisation. (30a) shows that to relativise the subject of an AV clause, the verb must be suffixed by *-ay*. In addition, the relative head *tamdaw* can be covert, making the part in square brackets a headless relative clause. An AV verb with only voice morphology, such as *misawsaw* in (30a) without *-ay*, cannot be used to refer to 'the one who is washing (sth.)' anywhere. (30b) in addition shows that the same relative clause can modify the subject in the same clause, and this subject can topicalise, as in (30c).

(29)   H\<in\>a-hanap-∅ ko   ang=k\<um\>ain   nang=daga.
          \<BEG\>RED-find-PV GEN.1SG NOM=\<AV:BEG\>eat GEN=rat
          'I'm looking for the (one) that ate the rat.'   (*Tagalog; p.c. Norvin Richards*)

(30)   *Relativisation*

     a.   Ma-fana'   kako   to-ya   [mi-sawsaw-**ay**   to riko' inacila
          IPFV.STAT-know NOM.1SG ACC-that   IPFV.AV-wash-**SREL** ACC cloth yesterday
          (a   tamdaw)].
          (LNK person)
          'I know that one(/person) who washed the clothes yesterday.'

     b.   Ma-fana'   ko-ya   [mi-sawsaw-**ay**   to riko' inacila   (a
          IPFV.STAT-know NOM-that   IPFV.AV-wash-**SREL** ACC cloth yesterday (LNK
          tamdaw)] takowanan.
          person)   ACC.1SG
          'That one(/person) who washed the clothes yesterday knows me.'

     c.   O-ya[21] [mi-sawsaw-**ay**   to riko' inacila   (a   tamdaw)] ma-fana'
          O-that   IPFV.AV-wash-**SREL** ACC cloth yesterday (LNK person)   IPFV.STAT-know
          (cingra)   takowanan.
          (NOM.3SG) ACC.1SG
          'That one(/person) who washed the clothes yesterday, (s/he) knows me.'

Moreover, *-ay* also appears in subject wh-questions and (pseudo-)clefting in general, as (31a)-(32a) illustrate.[22] (31b)-(32b) additionally show that subject extraction is not possible with a PV verb.

(31)   *Argument wh-questions*

    a.   Címa ko(-ya)   mi-sawsaw-**ay**[23]   to   riko' inacila?
        who NOM(-that) IPFV.AV-wash-**SREL** ACC cloth yesterday

    b.   *Címa ko(-ya)   sawsaw-en ko   riko' inacila?
        who NOM(-that) wash-PV   NOM cloth yesterday
        'Who washed the clothes yesterday?'

(32)   *(Pseudo-)clefting*

    a.   Ci   Pánay aca ko   mi-sawsaw-**ay**   to   riko' inacila.
        PRED PN   only NOM IPFV.AV-wash-**SREL** ACC cloth yesterday

    b.   *Ci   Pánay aca ko   sawsaw-en ko   riko' inacila.
        PRED PN   only NOM wash-PV   NOM cloth yesterday
        'Only Panay washed the clothes yesterday.'

The (pseudo-)cleft analysis offers a straightforward account for the data above. The same relativisation morphology appears in (headless) relative clauses, argument wh-questions, and (pseudo-)clefts that do not contain a wh-word.

The situation is slightly more complex when we look at object wh-questions. As (33a) shows, to wh-extract the object, the verb can be in PV or LV without additional mor-

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[21]By and large, *o* seems to mark nominal predicates. Its distribution is very similar to *ko* in Niuean and Tongan and their counterpart in other Polynesian languages (Chung 1978; Otsuka 2000; Massam et al. 2006; Potsdam and Polinsky 2011; Hohaus and Howell 2015; Polinsky 2016). For example, besides marking nominal predicates in an equative construction, *o* also marks wh-words in (pseudo-)cleft wh-questions and other focused elements in (pseudo-)clefts. *O*-topicalisation (topics marked by *o*, as in (30c)) happens to be an example that does not obviously fit into the generalisation. I will not offer an account of *o* in this dissertation, but a description of the various environments where *o* appears is included in Appendix A. Except for *o*-topicalisation, all the other instances of *o* will be glossed as PRED.

[22]Wh-words with penultimate stress have an interrogative reading, whereas wh-words with final stress are ambiguous between an interrogative reading and an existential reading in environments that license existential wh-indefinites. A description of these environments is given in Appendix D. Although (31a) is not one of these environments, throughout the thesis, I will indicate stress on interrogative wh-words and existential wh-indefinites.

[23]For some speakers, *-ay* suffixing is obligatory in relative clauses, but seems optional in wh-questions.

phology.[24] Moreover, the verb can also be in AV with object relativiser suffix *-an* (which has the same form as LV), as in (33b). (33c) in addition shows that it is not possible to wh-extract the object with an AV verb, with or without the subject relativiser *-ay*.

(33) *Object wh-questions*

    a.   O   máan ko(-ya)   sawsaw-**en/-an** ni Mayaw inacila?
         PRED what NOM(-that) wash-**PV/-LV**   GEN PN   yesterday

    b.   O   máan ko(-ya)   mi-sawsaw-**an**   ni Mayaw inacila?
         PRED what NOM(-that) IPFV.AV-wash-**OREL** GEN PN   yesterday

    c.   *O máan ko(-ya)   mi-sawsaw(-ay)   ci Mayaw inacila?
         PRED what NOM(-that) IPFV.AV-wash(-SREL) NOM PN   yesterday
         'What did Mayaw wash yesterday?'

Despite the more varied options, one thing that remains identical is that verbs with only voice morphology, such as *sawsawen* or *sawsawan* in (33a) cannot be referential by themselves.[25] On the other hand, verbs with relativisation morphology, such as *misawsawan* in (33b) can be referential, in parallel with *misawsaway* in (31). Therefore, the Tagalog data that support treating even voice-affixed "verbs" as nominal, as Kaufman 2009 proposed, are not attested in Amis.

    Richards 2009 discusses additional data that are problematic for treating voice-affixed "verbs" as nominal. As (34) shows, non-verbal predicates, but not verbal predicates, require an additional copula *maging* in infinitives. That is, this is a context where the behaviour of verbs and non-verbs diverge in Tagalog.

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[24]There is another complication. Relative clauses with a verb suffixed by just PV or LV are sometimes rejected. Consultants often prefer to add the immediate future reduplication to a PV verb in relative clauses, for example. This issue does not occur in argument wh-questions.

[25]That is, unlike Tagalog, *kaenen* 'eat-PV' cannot mean 'food/sth. to be eaten.' Reduplication is necessary for this reading. Two examples are given below.

(i)   a.   Mi-cacak   ko itafa to **ka-kaen-en** no 'aloman-ay.
           IPFV.AV-cook NOM cook ACC **RED-eat-PV** GEN many-SREL
           'The cook cooks for the group (of people).'   (Namoh Rata 2013 18)

    b.   Ma-raay   ko **ra-rakat-en** nani loma' tangasa i katayalan   no mako.
           IPFV.STAT-far NOM **RED-walk-PV** from.P house arrive   P work.location GEN GEN.1SG
           'The distance (lit. what to be walked) from home to my office is far.' (Namoh Rata 2013 (141))

(34)   *Infinitival predicates distinguish verbs and non-verbs in Tagalog*

    a.   Ayoko   na-ng   lumangoy.
        don't.want-GEN.1SG now-LNK AV.INF-swim
        'I don't want to swim anymore.'

    b.   Ayoko   na-ng   ***(maging)** doktor.
        don't.want-GEN.1SG now-LNK ***(AV.IFV-be)** doctor
        'I don't want to be a doctor anymore.'   (Richards 2009 (3a-b))

A similar contrast is also found in Amis. In (35a), the root *dangoy* 'swim' is affixed by AV *mi-*, but in (35b), *ising* is affixed by *mala-* 'become.'

(35)   a.   Ma-na'ay-to   kako   a   **mi**-dangoy.
        IPFV.STAT-don't.want-ASP NOM.1SG LNK **IPFV.AV**-swim
        'I don't want to swim anymore.'

    b.   Ma-na'ay-to   kako   a   **mala**-ising.
        IPFV.STAT-don't.want-ASP NOM.1SG LNK **become**-doctor
        'I don't want to be a doctor anymore.'

However, this contrast does not seem to suggest a categorial difference between *dangoy* 'swim' and *ising* 'doctor'. Rather, it has more to do with the semantics of the prefix *mala-*, or more specifically *la-*. The prefix *la-* is typically interpreted as 'become' when attached to an entity-denoting root. When it attaches to an event-denoting root, the resulted verb typically has a reciprocal interpretation, e.g. *ma-la-palo* 'hit each other'. There are exceptions to this, as we will see shortly. What is important for the current discussion is that some roots, including *dangoy* 'swim,' simply do not have a sensible meaning when affixed by *mala-*. Therefore, the contrast between (35a)-(35b) does not indicate that the selectional requirement of *la-* distinguishes two categories at the root level. Rather, the difference likely has a semantic cause.

    I will first show that *mala-* in (35b) is composed of minimally two parts: *ma-* and *la-*. This is not immediately obvious, given that Tsai and Zeng 1997, Ofad Kacaw 2011, and Namoh Rata 2013, three descriptive grammars or dictionary compiled by native speakers, all list *la-* and *mala-* separately. Each is associated with multiple senses, but 'become' is

listed under both *la-* and *mala-*. I discuss two things below that suggest *ma-la-* should be treated as the stative *ma-* attached to *la-*.

First, in (36), instead of *ma-*, *la-* is further attached to by the causative *pa-*, but 'become' is still part of the meaning of the resulted verb.

(36) Ma-tatodong   **pa-la**-tomok   han ci   Namoh.
      IPFV.STAT-appropriate **CAUS-become**-chief HAN NOM PN
      'Letting Namoh be(come) the chief is appropriate.'   (Ofad Kacaw 2011 64)

Second, we independently know that the stative *ma-* becomes *ka-* under negation, in gerunds, or in imperatives, as (37) illustrates.

(37) *Stative ma- becomes ka- when:*

    a. *Under negation*
        Caay **ka**-foti'   ci   Dongi.
        NEG **STAT**-hardworking NOM PN
        'Dongi is not sleeping.'

    b. *In a gerund*
        Tosa a   tatokian [ko   **ka**-foti'   ni   Dongi].
        two LNK hour   NOM **STAT**-sleep GEN PN
        'Dongi slept for two hours. (lit. Dongi's sleeping is two hours.)'

    c. *In an imperative*
        Ka-foti'!
        STAT-sleep
        'Sleep!

The examples in (38) show that *mala-* turns into *kala-* in the same environments. (36)-(38) together suggest that *ma-* in *mala-* is a separate component, and it is the stative *ma-* that we have seen elsewhere.

(38)   *Mala- becomes kala- when:*

   a.   *Under negation*

   Caay ho **ka-la**-ising   ci   Panay.
   NEG   still **STAT-become**-doctor NOM PN
   'Panay is not a doctor yet.'

   b.   *In a gerund*

   Ma-'iray   ci   Toray [to **ka-la**-ising   no   wawa nira].
   IPFV.STAT-proud NOM PN   ACC **STAT-become**-doctor GEN child GEN.3SG
   'Toray is proud of his child's be(com)ing a doctor.'   (Namoh Rata 2013 613)

   c.   *In an imperative*

   Ka-la-kiing!
   STAT-become-legislator
   'Be(come) a legislator!'   (Namoh Rata 2013 (75))

Next, *ma-la-* can also attaches to event-denoting roots. These verbs typically have a reciprocal reading, as in (39a).[26] There are also examples of *ma-la-* on event-denoting roots that intuitively can be interpreted as either reciprocal or 'become.' (39b)-(39b) illustrate two examples.

(39)   a.   **Ma-la**-palo   cangra a   ta-tosa.
               IPFV.STAT-LA-hit NOM.3PL LNK RED-two
               'The two of them are hitting each other.'

         b.   **Ma-la**-cinowas/**Ma-la**-liyas   cangra a   ta-tosa.
               STAT-become-separate/**STAT-become**-leave NOM.3PL LNK RED-two
               'The two of them are separated.'   (Namoh Rata 2013 54)

         c.   **Ma-la**-kayat   cangra a   r<om>akat.
               IPFV.STAT-become-hold.hand NOM.3PL LNK <AV>walk
               'They are walking holding (each other's) hands.'

In addition, as (40) shows, this use of *ma-la-* also turns into *ka-la* in the same environments where the stative *ma-* turns into *ka-*.

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[26]Another way of forming reciprocals is to reduplicate a root and the result is further affixed by *ma-*. For example, *ma-pa-palo* also means 'hit each other' (cf. *ma-la-palo* in (39a)). Therefore, *la-* in *ma-la-liyas* in (39b) might be ambiguous between *la-* 'become' and a reduplicant.

(40) a. *Under negation*

Caay ho **ka-la**-cinowas   cangra   a   ta-tosa.
NEG still **STAT-become**-separate NOM.3PL LNK RED-two
'The two of them are not separated yet.'

b. *In a gerund*

Faheka   kako   [to **ka-la**-cinowas   nangra a   tatosa   ].
surprised NOM.1SG ACC **STAT-become**-separate GEN.3PL LNK RED-two
'I'm surprised at the two of them's separating.'

c. *In an imperative*

Ka-la-cinowas   kamo   a   r<om>akat!
STAT-become-separate NOM.2SG LNK <AV>walk
'Walk separately!'   ([Namoh Rata 2013 54](#))

Last, attaching *ma-la-* to *dangoy* 'swim' does not yield any sensible reading. This is also true for *foti'* 'sleep,' *tawa* 'laugh,' *tayal* 'work,' among others.[27]

What *la-* denotes of course is worth studying in its own right, but I will not be able to solve this here. The demonstration above shows that *la-* does not select for a particular lexical category, and potential evidence against treating roots in Amis as nominal initially, such as [(35a)-(35b)](#), are not as straightforward as they might appear at first glance.

I briefly sum up the two subsections [2.2.1-2.2.2](#) before we return to case assignment. I first discussed evidence that support merging the external argument before voice morphology is attached. Next, I discussed a recent nominalist analysis, [Kaufman 2009](#). The current proposal crucially differs from this study in claiming absence of categorical distinction between nouns and verbs only at the root level, but not throughout the grammar. I demonstrated that the motivation behind [Kaufman 2009](#) does not hold in Amis. In addition, I discussed data that are potentially problematic for a nominalist proposal, and suggested that the issue might have a semantic source.

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[27]The descriptive grammars [Tsai and Zeng 1997](#); [Ofad Kacaw 2011](#) do include some of these verbs. Their meaning seems idiosyncratic (e.g. *radiw* 'song' and *la-radiw* 'good at singing', but these were not accepted by my consultants.

2.3 Imperfective main clauses

In 2.1, I posit that case assignment applies each time a phase head (D, *v*, C, by assumption) is merged. For example, in a bare root DP, it applies when D is merged (see (18)). Accordingly, we expect that in a more articulated structure, such as finite clauses and gerunds, case assignment may apply more than once. This section and the following two sections illustrate how (with some additions), the case assignment rules posited in (16) derive the case pattern in these examples.

Below are two examples of imperfective (AV) clauses again. I will address an issue I have been putting aside so far first. Observe that in (41a), nominative case on the subject *Panay* is *ci*, whereas in (41b), nominative case on *wawa* 'child' is *ko*. This variation is conditioned by whether or not a case marker attaches to a personal name/kinship term.

(41)   *Imperfective (AV)*

    a.   **Mi**-asip   **ci** **Panay** to cecay a   codad i matini.
        IPFV.AV-read **NOM PN**   ACC one   LNK book P now
        'Panay is reading a book now.'

    b.   **Mi**-sawsaw   **ko** **wawa** to   kiyafes i matini.
        IPFV.AV-wash **NOM child** ACC guava   P now
        'Those children are washing the guavas now.'

The same alternation is also found with accusative case and genitive case, as summarised in (42). The three allomorphy rules in (43) account for these.[28] Also, even though case markers are syntactically part of the following DP, prosodically they often encliticise to the preceding word, the category of which does not matter. This will not be indicated in the examples.[29]

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[28]Each of the three cases has a third form for plural associates: *ca*, *na*, and *ca...an*. In addition, some data suggest that *ci* should be treated as a marker of personal names/kinship terms, instead of nominative case or part of accusative case. I discuss this toward the end of 4.5 and offer a slightly different description of case morphology in Amis, but this will not change any other component of the proposal.

[29]However, I will separate multiple cases with a hyphen in examples with overt case-stacking. This does not indicate that case markers are affixal.

(42) *Contexual allomorphy of case morphology*

		Common Nouns		Names/Kinship terms
NOM	*ko*	*ko wawa*	*ci*	*ci Panay*
GEN	*no*	*no wawa*	*ni*	*ni Panay*
ACC	*to*	*to wawa*	*ci...an*	*ci Panayan*

(43) a. *Contextual allomorphy of NOM*

NOM ↔ *ci*/ ___ {personal name, kinship term}, e.g. *ci Panay*

NOM ↔ *ko* (elsewhere), e.g. *ko wawa*

b. *Contextual allomorphy of GEN*

GEN ↔ *ni*/ ___ {personal name, kinship term}, e.g. *ni Panay*

GEN ↔ *no* (elsewhere), e.g. *no wawa*

c. *Contextual allomorphy of ACC*

ACC ↔ *ci...-an*/ ___ {personal name, kinship term}, e.g. *ci Panayan*

ACC ↔ *to* (elsewhere), e.g. *to wawa*

In an imperfective (AV) clause, case assignment applies when v is merged. By (16a), the object receives accusative case. By the second rule (16b), and given that n is the higest category-determining head in the Spell-Out domain, the subject receives accusative case, as (44) shows. That is, the result is identical to what happens in a bare root DP, since in both, n is the the highest category-determining head in the Spell-Out domain.

(44) *First case assignment in an imperfective (AV) main clause*
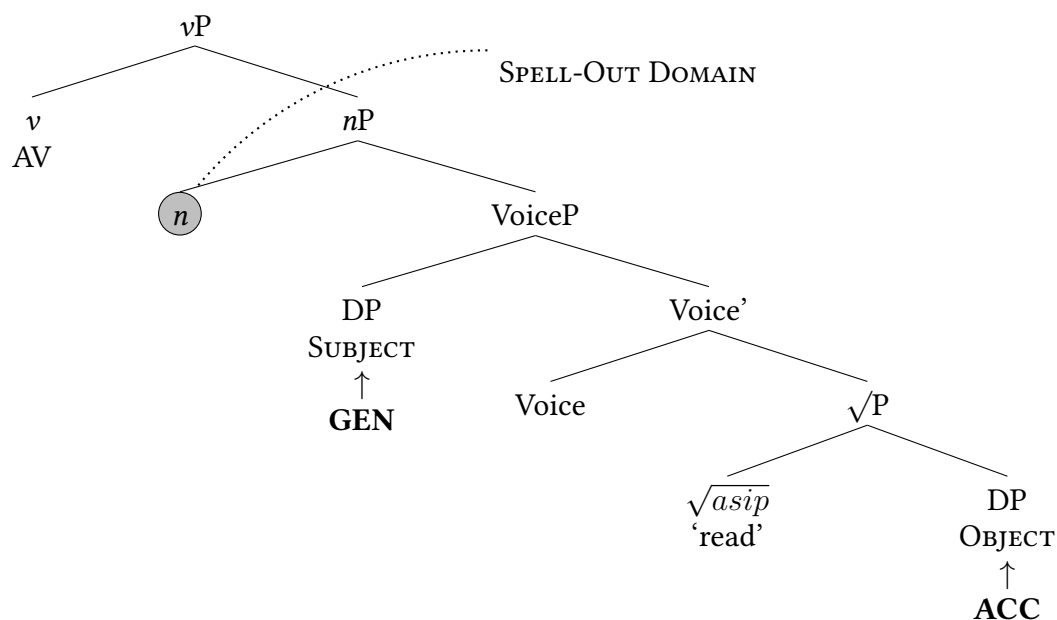
In a finite clause, case assignment applies again when C is merged. To account for nominative case, I modify the case assignment rules slightly, as in (45). There are two changes. First, I remove the condition "if DP$_1$ is unmarked for case" from (45a). Under a configurational case framework, this rule is meant to make sure a DP with lexical case does not participate in case competition. Since Amis does not have a clear example of lexical case, and more importantly, overt stacking of multiple cases on a single DP is possible, this extra constraint is not only unnecessary, but also incorrect.

The second change is bolded in (45b). Making genitive case the *elsewhere* case is a somewhat arbitrary choice. Given the data, we could also make nominative case the *elsewhere* case. I will not decide on this issue.[30]

(45) *Amis case assignment rules (second version)*

    a.   *Rule D:*

        If there are two distinct DPs in the same phase such that DP$_1$ c-commands DP$_2$, assign accusative to DP$_2$.

---

[30]In the previous version of this work (Chen to appear), the second rule says instead that the unmarked case is realised as genitive if *n* is the highest category-determining head, and as nominative if *v* is the highest category-determining head. This is redundant.

b. *Rule U:*

If a DP does not receive dependent case, **it is realised as nominative if *v* is the highest category-determining head; otherwise, it is realised as genitive.**

(46) *Second case assignment in an imperfective (AV) main clause*
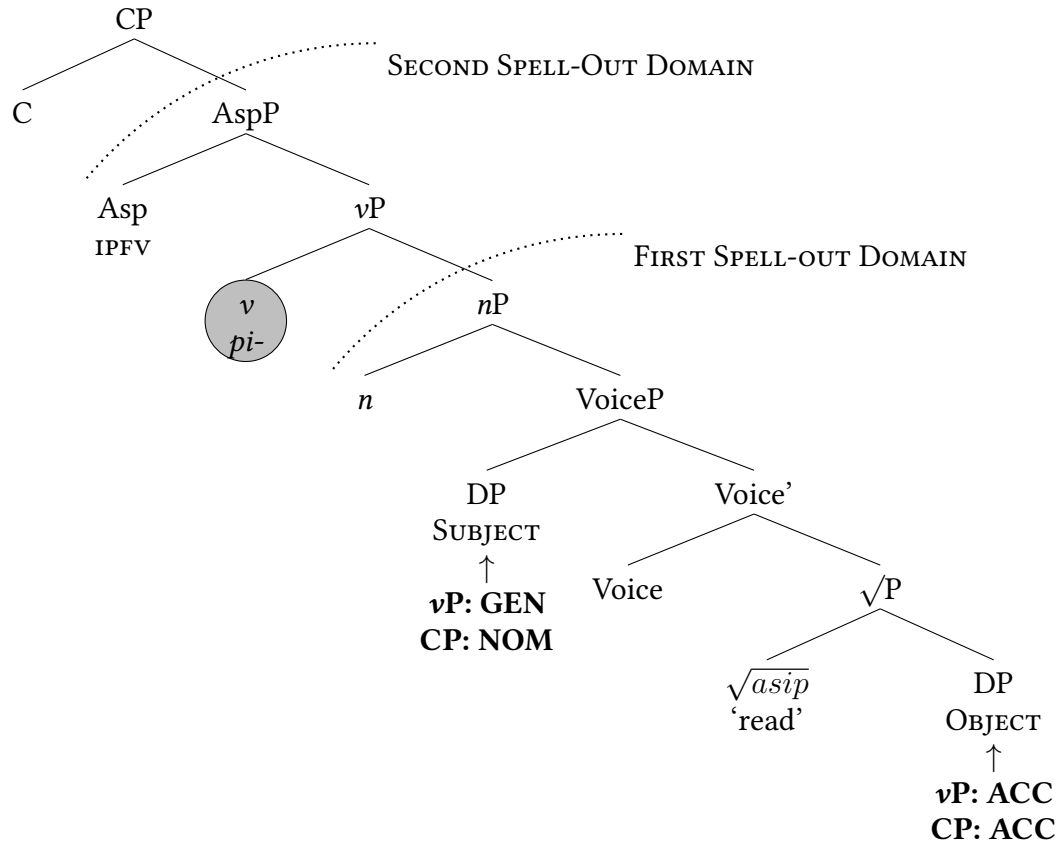
I will refer to the two rules as Rule D and Rule U from now on, for ease of reference (D for dependent case and U for unmarked case). In (46), by Rule D (45a), the object receives another accusative case. By Rule U (45b), the subject receives an additional nominative case, given *v* is now the highest category-determining head in the Spell-Out domain. Several recent proposals concerning multiple case assignment argue that additional case assignment requires movement of a DP out of the local phase (e.g. Baker and Vinokurova 2010; Levin 2017). In 2.6, I show that such a proposal is in principle compatible with the facts in Amis, but there is no independent evidence showing that any argument in a main clause

has necessarily moved into a higher phase. In addition, regardless of voice morphology and case marking, the subject always c-commands the object.

In a neutral context[31], only the case assigned in the final Spell-Out surfaces. This is accounted for by the *One Case Constraint* in (47) (cf. *One Suffix Rule* in Pesetsky 2014). As a result of (47), in an imperfective (AV) transitive clause, nominative case marks the subject and accusative case marks the object. In Chapter 4, we will see that when the imperfective subject is a contrastive topic, it appears with nominative case stacked on top of genitive case. Moreover, when the imperfective object is a contrastive topic, it can appear with two accusative cases.

(47)   *One Case Constraint:*

Delete all cases but the outermost one.

In an imperfective ditransitive clause, as in (48), nominative marks the subject and accusative case marks both the recipient and the theme.[32] In the perfective (PV/LV) counterpart of (48), nominative case marks the recipient.[33] Data on Condition C and pronominal variable binding additionally suggest that in (48), the recipient can c-command the theme, but the two tests give contradictory results as to whether the theme in (48) can c-command the recipient. I describe the relevant data below briefly.

(48)   *Imperfective ditransitive clauses*

Pa-feli   ci   Panay to-ya   wawa to   codad .
CAUS-give NOM PN   ACC-that child   ACC book
'Panay gives those children the books.'

---

[31]By "a neutral context," what I mean is really a context that does not support interpreting a particular DP as a contrastive topic.

[32]Inherently ditransitive roots are typically prefixed by the causative *pa-* in finite clauses and gerunds. For some roots, the direction of transfer depends on whether the root is prefixed by *pa-* or *mi-*, e.g. *mi-caliw* 'borrow'/*pa-caliw* 'lend,' *mi-cakay* 'buy'/*pa-cakay* 'sell.'

[33]This seems to vary with the root. For example, in a PV ditransitive clause with *pa-cakay-en* 'buy-PV,' nominative must mark the recipient. However, in a PV ditransitive clause with *pa-'aca-en* 'buy-PV', nominative can mark either the recipient or the theme, even though both verbs mean 'buy.' The difference might be related to what the root denotes. *Cakay* by itself still means 'buy,' but *'aca* means 'price.'

The contrast between (49b)-(49c) suggest that the quantifier recipient can bind into the theme, but not the other way around.[34]

(49) *Pronominal variable binding*

    a. **Context:** Every student in the class adopts a dog. Today people at the shelter bring the dogs to school and the teacher gives the dogs to the students who adopt them.

    b. Pa-feli   ko   singsi **[to ha-cecay a   sito]**$_7$ to waco **ningra**$_{7/8}$.
       CAUS-give NOM teacher **ACC DISTR-one LNK student** ACC dog   GEN.3SG
       'The teacher gives [every student]$_7$ her/his$_{7/8}$ dog.'

    c. Pa-feli   ko   singsi to sito   **ningra**$_{5/*6}$ **[to ha-cecay a   waco]**$_6$.
       CAUS-give NOM teacher ACC student **GEN.3SG**   **ACC DISTR-one LNK dog**
       'The teacher gives her/his$_{5/*6}$ student [every dog]$_6$.'

In (50a), the recipient *Panay* can co-refer with the pronoun embedded in the theme DP. This is consistent with (49). However, in (50b), when the recipient is a pronoun, it can still co-refer with *Panay* embedded in the theme DP. In 2.6, we will apply these two diagnostics to imperfective and perfective clauses to determine the c-command relationship between the subject and object in these clauses. Given the data to be discussed in 2.6, if the recipient in (50b) does c-command the theme, then (50b) should be ruled out by Condition C, but this is not what we find here.

(50) *Condition C*

   a. Pa-feli   ko   tawki **[ci Panay-an]**$_7$ to mi-pili'-an   **ningra**$_{7/8}$
       CAUS-give NOM boss **ACC PN-ACC**   ACC IPFV.AV-choose-OREL **GEN.3SG**
       a   codad.
       LNK book
       'The boss gives Panay$_7$' the books s/he$_{7/8}$ chose.'

---

[34]The theme can also linearly precede the recipient in (49). This does not change the interpretation.

b. Pa-feli   ko tawki **cingraan**$_{7/8}$ to mi-pili'-an   [**ni   Panay**]$_7$
   CASU-give NOM boss **ACC.3SG**   ACC IPFV.AV-choose-OREL GEN PN
   a   codad.
   LNK book
   'The boss gives her/him$_{7/8}$ the book Panay$_7$ chose.'

More data are needed to understand (50b). Nevertheless, (49)-(50) and the case pattern in perfective ditransitive clauses are all consistent with placing the recipient higher than the theme. I will assume this structure for ditransitive clauses from now on.

(51)   *Case derivation: imperfective ditransitive clauses*
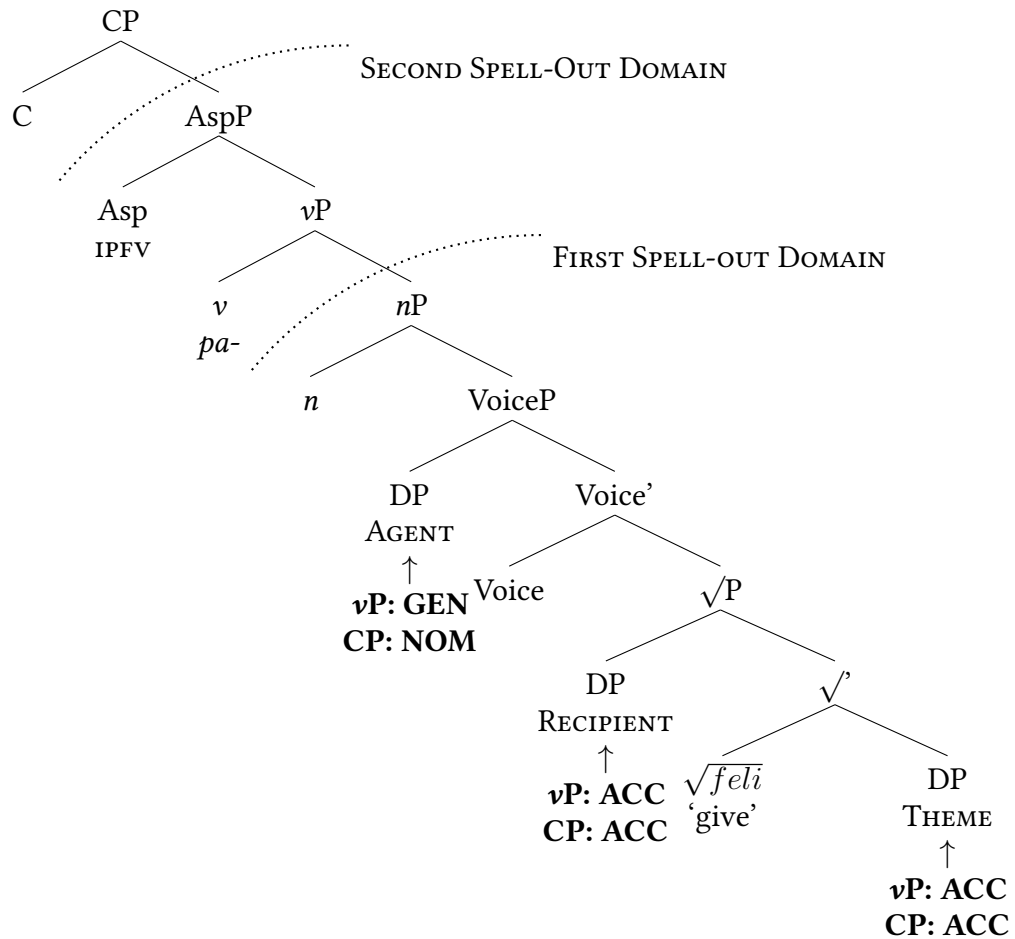
To make the illustration more concrete, I posit that the recipient of a ditransitive is merged at Spec√P, as in (51). In (51), case assignment applies first when *v* is merged. By Rule D (45a), both the recipient and the theme receive accusative case. This is true whether or

not Rule D (45a) applies globally to the structure at once or in steps, either bottom-up or top-down, since Rule D (45a) only cares about whether or not a DP is c-commanded by another DP. Next, by Rule U (45b), the subject receives genitive case.

Case assignment applies again when C is merged. By Rule D (45a), the two internal arguments receive accusative case one more time. By Rule U (45b) and given that *v* is the highest category-determining head in the Spell-Out domain, the subject receives nominative case. Finally, by the *One Case Constraint*, in an imperfective ditransitive clause, nominative marks the subject and accusative marks both objects.

2.4 Gerunds

A common treatment of voice morphology and case marking in Austronesian languages associates case alternation among clauses in different voices with voice morphology directly. (52) illustrates this alternation again. In an AV clause, nominative marks the subject and accusative marks the object. In a PV/LV (non-AV) clause, genitive marks the subject and nominative marks the object.

(52)   a.   Mi-tangtang ci   Mayaw to   foting.
            IPFV.AV-cook NOM PN   ACC fish
            'Mayaw is cooking the fish.'

       b.   Tangtang-en/-an ni   Mayaw ko   foting.
            cook-PV/-LV   GEN PN   NOM fish
            'Mayaw cooked the fish'

However, this alternation disappears in gerunds. In (53), regardless of voice morphology, the gerund subject is always marked with genitive case and the gerund object is marked with accusative case.

(53)   *Gerunds: case marking does not alternate with voice morphology*

       a.   Lipahak kako   [to   **pi**-fohat **ni**   Mayaw **to**   fawahan].
            happy   NOM.1SG   ACC **AV**-open **GEN** PN   **ACC** door
            'I'm happy about Mayaw's opening the door.'

b. Lipahak kako   [to fohat-**en**/-**an ni** Mayaw **to** fawahan].
happy NOM.1SG ACC open-**PV**/-**LV** **GEN** PN   **ACC** door
'I'm happy about Mayaw's opening the door.'

Another example is given in (54) to make sure the disappearance of case alternation does not have something to do with having an inchoative root (*fohat* 'open').

(54) *Gerunds: case marking does not alternate with voice morphology*

a. Faheka   ci   ina   [to **pi**-tangtang **ako**   **to** foting i 'ayaw no
surprised NOM mother   ACC **AV**-cook   **GEN.1SG** **ACC** fish   P front GEN
cecay a   tatokian].
one   LNK hour
'Mother is surprised at my cooking the fish an hour ago.'

b. Faheka   ci   ina   [to tangtang-**en ako**   **to** foting i 'ayaw no
surprised NOM mother   ACC cook-**PV**   **GEN.1SG** **ACC** fish   P front GEN
cecay a   tatokian].
one   LNK hour
'Mother is surprised at my cooking the fish an hour ago.'

c. Ma-keter   ci   mama [to tangtang-**an ako**   **to** foting].
IPFV.STAT-angry NOM father   ACC cook-**LV**   **GEN.1SG** **ACC** fish
'Father is angry at my cooking the fish.'

In the next section, I show that the aspectual difference between AV and PV/LV clauses is the cause of case alternation. Voice morphology only happens to converge with this aspectual contrast in main clauses.

I illustrate below how the case assignment rules posited in (45) derives the case patterns in (53)-(54). First, gerunds in Amis have the external syntax of DP. They receive case and can be marked by a demonstrative, as (55) shows. Based on this, I propose that gerunds are derived by nominalising (minimally) vP with another n, as in (56). In (56), case assignment first applies when v is merged. By Rule D (45a), the object receives accusative case. By Rule U (45b), the subject receives genitive case. Case assignment applies again when D is merged. The result is identical to the first assignment, since v is not the highest category-determining head in the Spell-Out domain. The *One Case Constraint*

applies vacuously in this case, but in Chapter 4, we will see that when a gerund subject is a contrastive topic, it appears with two genitive cases.

(55) Faheka   ci   ina   [to(-ya)   pi-tangtang ako   to   foting …].
     surprised NOM mother   ACC(-that) AV-cook   GEN.1SG ACC fish
     'Mother is surprised at my cooking the fish (an hour ago).'

(56) *Case derivation: gerunds*
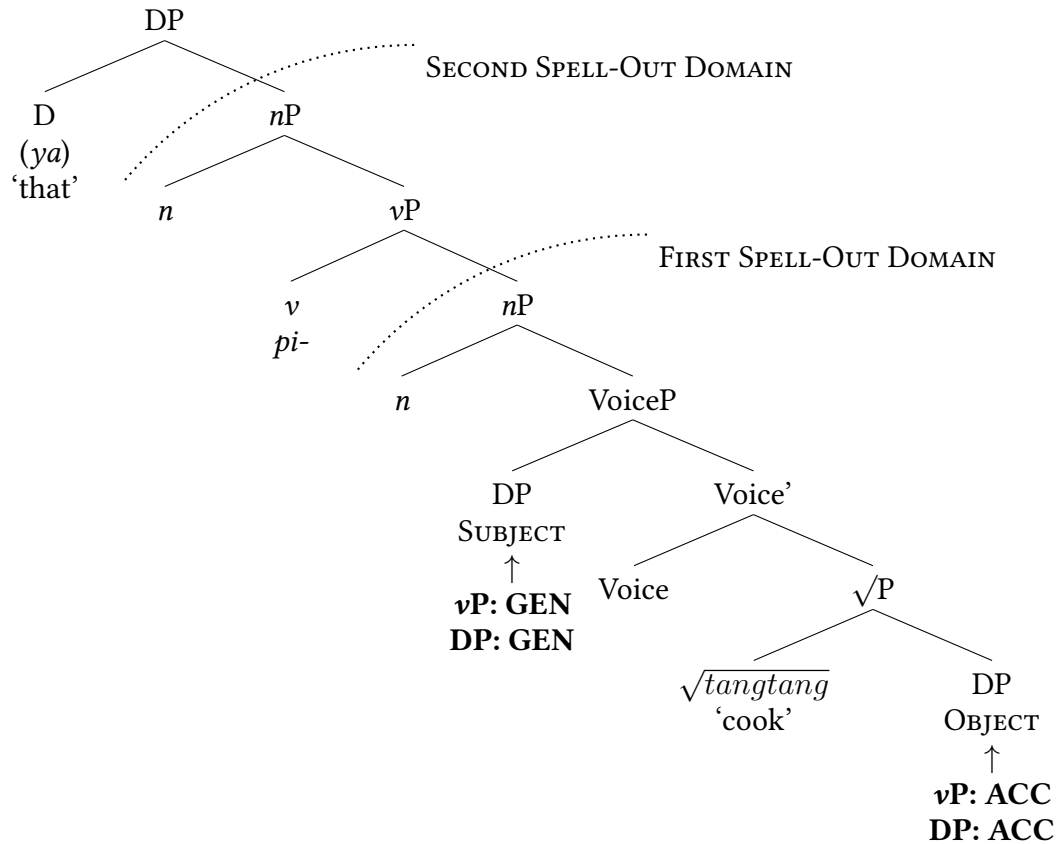
It turns out that the gerund object in (54) can also be marked with nominative case instead of accusative case. (57) illustrates this other pattern. I will not be able to account for this pattern. What is important for the current discussion is that gerunds with a nominative object are also possible with any voice morphology.

(57)   *Gerunds: case marking does not alternate with voice morphology*

    a.   Faheka   ci   ina   [to **pi**-tangtang **ako**   **ko** foting …].
        surprised NOM mother ACC **AV**-cook   GEN.1SG NOM fish
        'Mother is surprised at my cooking the fish (an hour ago).'

    b.   Faheka   ci   ina   [to tangtang-**en ako**   **ko** foting …].
        surprised NOM mother ACC cook-**PV**   GEN.1SG NOM fish
        'Mother is surprised at my cooking the fish (an hour ago).'

    c.   Ma-keter   ci   mama [to tangtang-**an ako**   **ko** foting].
        IPFV.STAT-angry NOM father ACC cook-**LV**   GEN.1SG NOM fish
        'Father is angry at my cooking the fish.'

It is unclear when a gerund object can receive nominative case. In general, even though correlation between a particular case marking pattern and a particular voice morphology does not hold in gerunds, speakers still prefer to have accusative case on the object when the gerund verb is in AV and have nominative case on the object when the gerund verb is in PV/LV. However, gerunds with a nominative object seem more restricted. I discuss this below.

Given the case assignment rules posited in (45) and the structure in (56), one way to derive the gerunds in (57) might involve nominalising a CP (i.e. the higher *n* attaches to a full-fledged clause). In addition, for some reason the subject is raised to at least the edge of this CP or is base-generated outside this CP. This way, we can derive genitive case on the subject and nominative case on the object.[35]

Putting aside what motivates raising the gerund subject or base-generating it high, this structure predicts that when a gerund object appears with nominative case, the gerund should have a propositional interpretation. That nominalisation may apply to constituents that are structurally more or less complex is well attested (Abney 1987; Pires 2007). How articulated a gerund's internal structure is can be detected by syntactic and semantic diagnostics. For example, on the surface, (58a)-(58b) differ only in whether the object is marked by *of* or accusative case. The syntactic behaviour and interpretation of (58a)-(58b),

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[35]This also requires multiple case assignment "stop" upon completion of each CP or DP. This is true empirically. Case assignment outside a CP or DP does not affect DPs within the CP or DP, unless a DP moves to the edge of the CP or DP. I will discuss this toward the end of this chapter.

however, suggest that (58a) is structurally more reduced than (58b). Moreover, semantically, (58a) has an eventive interpretation, whereas (58b) has a non-eventive interpretation (Alexiadou 2005).[36]

(58)   a.   Annie's breaking of the guitar

           b.   Clark's distorting the guitar sounds

As (59) shows, (58a) can be modified by an adjective, but not an adverb. It cannot contain an auxiliary. Semantically, it denotes an event (an activity). An event can be witnessed.

(59)   a.   Annie's abrupt/*abruptly breaking of the guitar

           b.   *Annie's having broken of the guitar

           c.   Annie's breaking of the guitar was witnessed by the audience.

On the other hand, as (60) illustrates, (58b) can be modified by an adverb but not an adjective and it can contain an auxiliary. The meaning is non-eventive. Therefore, it cannot be witnessed or participated in any way.

(60)   a.   Clark's *wild/wildly distorting the guitar sounds

           b.   Clark's having distorted the guitar sounds

           c.   *Clark's distorting the guitar sounds was witnessed by the audience.

Applying similar tests to Amis shows that gerunds with a nominative object (e.g. (57)) cannot be eventive. However, gerunds with an accusative object (e.g.(54)) can be either eventive or non-eventive.

    First, Amis does not distinguish adverbs from adjectives. What would be an adjective

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[36]According to Alexiadou 2005, gerunds with an *of* marked subject have an eventive interpretation, whereas those with an accusative object have a propositional interpretation. However, native speakers consulted didn't find a contrast between the two types of gerunds when predicated of by one of the predicates she suggested should be compatible only with the propositional interpretation. Nevertheless, predicates such as *be witnessed* do distinguish the two types of gerund. I refer to the second interpretation as non-eventive for lack of a better name.

or adverb in English are all verbal in Amis. They can be affixed by voice and aspectual morphology, in parallel with other verbs. This is typical of Formosan languages (Chang 2010). An example of adverbial verbs is given in (61). Given this, the contrast (59a)-(60a) illustrates cannot be replicated directly.

(61) **Ma-rara**   a   mi-asip   kako   to   codad.
      IPFV.STAT-slow LNK IPFV.AV-read NOM.1SG ACC book
      'I'm reading the books slowly.'

However, since adverbials can be predicative, we can perhaps still use them to see whether a gerund's interpretation is eventive or not. A non-event (e.g. a proposition) cannot be "quick," for example. Likewise, we can use evaluative predicates to see if a gerund has a non-eventive reading. (62) is an attempt to see if a gerund with an accusative object is eventive or non-eventive. As (62) shows, an accusative object is possible with either predicate.

(62)   *Gerunds with an accusative object*

   a.   Haliki ko   ka-k<om>aen ni   Mayaw to   tali.
        quick NOM KA-<AV>eat   GEN PN   ACC taro
        'Mayaw eats the taros quickly (lit. Mayaw's eating of the taros is quick).'

   b.   Ma-tama[37]   ko pi-takaw ni Mayaw to   payso.
        IPFV.STAT-correct NOM AV-steal GEN PN   ACC money
        'Mayaw's stealing the money is correct (i.e. the right thing to do).'

Interestingly, as (63) shows, gerunds with a nominative object can be predicated of by an evaluative predicate, but not by a manner adverbial. In (63), the verb in the gerund is in PV, since speakers tend to prefer having nominative case on the object when the gerund verb is PV/LV, but still, (63a) was immediately rejected.

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[37] *Ma-tama* otherwise means 'found' or 'hit' as in 'the target was hit.' 'Correct' is likely a derived meaning.

(63) *Gerunds with a nominative object*

    a. *Haliki ko   asip-en ni Panay ko-ya   codad.
       quick NOM read-PV GEN PN   NOM-that book
       Intended: 'Panay read those books quickly.'

    b. Ma-tama   ko asip-en ni Panay ko-ya   codad.
       IPFV.STAT-correct NOM read-PV GEN PN   NOM-that book
       'Panay's reading those books is correct (i.e. the right thing to do).'

The data above are preliminary but they seem to suggest that positing that the gerund in (57) contains a nominalised clausal structure might be on the right track.[38]

    To summarise 2.3-2.4 briefly, I made a minor revision to the case assignment rules, as in (45), to account for nominative case in imperfective (AV) clauses and assigning of more than one case to the same DP. I then showed how these rules derive the case pattern of imperfective (AV) clauses and gerunds. We will turn to non-AV clauses next.

2.5 Perfective main clauses

This section begins with an illustration to show that AV clauses in Amis are imperfective and PV/LV clauses are perfective. Observations along this line have been reported in previous studies (e.g. Wu 2006) but the aspectual difference between AV and PV/LV clauses were not clearly laid out. Next, in 2.5.2, I apply the case assignment rules in (45) to perfective (PV/LV) clauses with an addition: subjects of perfective clauses become inactive

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[38]The three types of gerunds discussed in Portner 1991 also do not seem to distinguish the two case patterns or at least they are all compatible with gerunds containing an accusative object. (ia)-(ic) are attempts to elicit a definite, generic, and kind-referring gerund. In all three, accusative case marks the gerund object. I do not have comparable data with gerunds containing a nominative object at the moment.

(i)   a. Ma-pa-adada   no ka-k<om>aen to wirok kako.
        IPFV.STAT-CAUS-sick GEN KA-<AV>eat   ACC pomelo NOM.1SG
        'Eating pomelos made me sick.'

      b. O   ka-lifot-an   ko ka-k<om>aen to wirok.
        PRED STAT-annoyance-LV NOM KA-<AV>eat-LV ACC pomelo
        'Eating pomelos is an annoyance.'

      c. I laloodan ko   ka-k<om>en-an to wirok.
        P autumn NOM KA-<AV>eat-LV ACC pomelo
        'Eating pomelos is common in the autumn. (lit. The time of eating pomelos is in the autumn.)'

to case competition after the first assignment. This will be a stipulation in this chapter, but I will elaborate on this in the next chapter.

2.5.1   Aspectual interpretation and voice

Previous works on Amis have noted that PV clauses are inherently telic and implicate the endpoint of a telic event (Wu 2006; Lin 2013). AV clauses, on the other hand, are often interpreted as progressive. The aspectual difference between PV and AV clauses was taken to be the reason why *ho* is interpreted as 'again' in (64a) but as 'still' in (64b).[39]

(64) a. Ranam-**en**   ho!
          breakfast-**PV** still
          'Eat the same thing for breakfast again!'

      b. **Mi**-nanom ho ci   Panay to   sayta.
          AV-water   still NOM PN   ACC soda
          'Panay is still drinking soda.'[40]   (Wu 2006 176)

In addition, AV clauses often have an additional interpretation sometimes called "future" (Wu 2016). An example is given in (65).

(65) Mi-tangtang ko   tawki to-ra   'orang.
      IPFV.AV-cook NOM boss   ACC-that lobster
      'The boss is cooking those lobsters (later).'

Below I apply three diagnostics to show that in Amis, PV/LV clauses are perfective and AV clauses are imperfective. Moreover, the "future" reading associated with AV clauses is only possible with Achievement and Accomplishment events. This is similar to the preliminary stage reading found in English when we apply the progressive to an Achievement event (e.g. *Ellen is winning the game*). The following demonstration is an initial and somewhat

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[39]Throughout the dissertation, I gloss *ho* as 'still,' but it is variably translated into 'still,' 'yet,' 'again,' and 'first/a little bit.' Cross-linguistically, it is not uncommon to find one morpheme in a single language that can have more than one of these meanings (Krifka 2000).

[40]According to Wu 2006, this example has another reading: 'Panay went to drink some soda first.' Also, my consultants couldn't quite get the reading Wu 2006 indicated for (64a), but this study is based on a different dialect.

crude assessment of the aspectual behaviour in Amis. The data establish that AV and PV/LV clauses are different aspectually, but how exactly they should be analysed will have to be left for another occasion.

Two things to note before we discuss the diagnostics. First, typically, perfective events are taken to entail both the initial and the final endpoint of an event. The data we will see below will show that this is generally true for LV clauses. However, PV clauses do not entail culmination of an event. They do seem to imply that an event has terminated. That the perfective does not entail culmination has been reported for some languages, such as Hindi-Urdu (Singh 1998; Altshuler 2013), as (66) shows. This type of perfective is called *neutral perfective* by Singh 1998, as opposed to *standard perfective.*

(66) mã̃ẽ ne aaj   apnaa kek khaayaa aur baakii   kal   khaaũ̃ũgaa
      1SG ERG today mine   cake eat-PFV and remaining tomorrow eat-FUT
      'I ate my cake today and I'll eat the remaining part tomorrow.'   (Singh 1998 (3))

Second, PV clauses have also been reported to have a "future" interpretation. (67) gives an example.[41] This reading can obscure the similarity between PV and LV clauses, but the reading disappears when a temporal adjunct makes it clear that an event takes place in the past.[42] This is why in the data below, an extra temporal adjunct is sometimes added to a PV clause.

(67) La'op-en nu kuyu   ku takulil.
      chase-PV GEN leopard.cat NOM rabbit
      'A leopard cat will chase the rabbit.'   (Wu 2006 74)

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[41]Since the data reported in Wu 2006 is based on a different dialect, I adopt her transcription and translation for this example.

[42]Perfective in Czech (at least when indicated by *o-*) has a future interpretation in the present tense.

(i)   a. Petr hol-í   Karla.
          PN   shave-s PN
          'Peter is shaving Karel.'

      b. Petr o-hol-í   Karla.
          PN   PFV-shave-s PN
          'Peter will shave Karel.'   (Caha 2009 193)

The first diagnostic we will use examines the temporal relation between an adjunct clause and a main clause. The same main clause presented in the perfective and the imperfective aspect receives different interpretations when it is modified by a temporal adjunct clause that describes an instantaneous event. For example, in English, when the main clause event is presented without endpoints (imperfective), the event is interpreted as occurring simultaneously as the adjunct clause event, as (68a) shows. When the main clause event is presented with endpoints (perfective), the event is interpreted as occurring or beginning after the adjunct clause event, as in (68b).

(68)   a.   When Ellen arrived, Annie was playing the song.

       b.   When Ellen arrived, Annie played the song.

A similar contrast between AV and PV/LV clauses is found in Amis. In (69a), the AV main clause event was in progress when the adjunct clause event took place. In (69b), the PV main clause event started right after the adjunct clause event. In (69c), the LV main clause event took place before the adjunct clause event. Together, these examples suggest that PV/LV clauses entail at least the initial endpoint of an event, whereas AV clauses present only an interval of an event.

(69)   *Diagnostic 1: Interaction with 'when-'clauses*

       a.   *Actor Voice*

            Ya ma-padeng   i honi   ko-ya   dingki i,
            that IPFV.STAT-go.off P moment NOM-that light   TOP
            mi-'owak-to   ko   tawki to-ya   epah.
            IPFV.AV-drink-ASP NOM boss   ACC-that wine
            'When that light went off just now, the boss was drinking that wine.'

       b.   *Patient Voice*

            Ya ma-padeng   i honi   ko-ya   dingki i,
            that IPFV.STAT-go.off P moment NOM-that light   TOP
            'owak-en-to   no tawki ko-ya   epah.
            drink-PV-ASP GEN boss   NOM-that wine
            'When that light went off just now, the boss started to drink that wine.'

c.   *Locative Voice*

Ya ma-padeng   i honi   ko-ya   dingki i,
that IPFV.STAT-go.off P moment NOM-that light   TOP
'owak-an-to no   tawki ko-ya   epah.
drink-PV-ASP GEN boss   NOM-that wine
'When that light went off just now, the boss already drank that wine.'

The second diagnostic looks at the interpretation of a clause-initial temporal phrase. In an AV clause, as in (70a), a clause-initial temporal phrase has a durative reading, modifying an interval of an event. (70a) in addition shows that AV clauses do not entail culmination of an event. Therefore, it is not contradictory to continue (70a) with a clause asserting that the event is still in progress or has not culminated.

In a PV or LV clause, as in (70b)-(70c), the same clause-initial temporal phrase has a completive reading, indicating the time it takes for an event to culminate or terminate. PV and LV clauses differ in whether or not culmination is entailed. LV clauses typically entail culmination. Therefore, asserting that the event is still in progress or has not culminated after (70c) sounds incoherent.[43] On the other hand, PV clauses do not entail culmination. Speakers' judgment varied as to whether or not a PV clause event must have terminated. Thus, asserting that the event did not culminate in (70b) was accepted by every speaker consulted, but asserting that the event is still in progress is odd for some.[44] The examples in (70) suggest that AV clauses present only an interval of an event, whereas PV and LV clauses entail at least the initial endpoint of an event and possibly also the final endpoint. This is consistent with the first diagnostic.

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[44]Without the initial temporal phrase 'a week ago' indicating that the event takes place in the past, '30 hours' in (70b) gets an inceptive reading instead: 'The boss is starting to make a table in 30 hours.' This is possibly related to the "future" reading associated with PV clauses described above. Also, clause-initial temporal phrases can in addition be interpreted as punctual (e.g. *at 8 o'clock*). I use '30 hours' in (70) to rule out this reading.

[44]This is by and large true for LV clauses, but there are exceptions. It's unclear what's causing the variation. In addition, it seems that for some speakers, a divide between AV and PV/LV clauses holds only when the aspectual marker *to* is present, but for some others, the divide holds only when the marker is absent. *To* is compatible with predicates in any voice or without voice morphology. Its function is not clear at the moment.

(70)   *Diagnostic 2: Interpretation of clause-initial temporal phrases*

a.   *Actor Voice*

Tolo polo' a   tatokian mi-sanga'   ko   tawki to   cecay a   sapad.
three ten   LNK hour   IPFV.AV-make NOM boss   ACC one   LNK table
'The boss has been making a table for 30 hours.'

Kirami taha-matini mi-sanga'   ho cingra/   caay ho ka-laheci.
but   until-now   IPFV.AV-make still NOM.3SG/ NEG still STAT-finish
'But until now, s/he's still making (it)/(it) isn't finished yet.'

b.   *Patient Voice*

I 'ayaw no   cecay a   lipay, tolo polo' a   tatokian sanga'-en no   tawki
P front GEN one   LNK week three ten   LNK hour   make-PV   GEN boss
ko   cecay a   sapad.
NOM one   LNK table
'A week ago, the boss made a table in 30 hours.'

Kirami tahamatini %misanga' ho cingra/ #caay ho kalaheci.
'But until now, %s/he's still making (it)/#(it) isn't finished yet.'

c.   *Locative Voice*

Tolo polo' a   tatokian sanga'-an no   tawki ko   cecay a   sapad.
three ten   LNK hour   make-LV   GEN boss   NOM one   LNK table
'The boss made a table in 30 hours.'

Kirami tahamatini #misanga' ho cingra/ #caay ho kalaheci.
'#But until now, s/he's still making (it)/(it) isn't finished yet.'

The third diagnostic examines whether what I refer to as the preliminary stage reading is available with a particular voice. This reading seems similar to the interpretation we find with the progressive in English when it applies to an Achievement event, as in (71).

(71)   Ellen is winning the game.

In Amis, this reading is possible with AV clauses describing an Achievement or an Accomplishment event. In (72a), asserting that the event did not take place in the end after the AV clause is coherent. The preliminary stage reading is not available with AV clauses describing an Activity or a Semelfactive event or any PV/LV clause, regardless of the event type. Thus, asserting that the event did not occur at all after any of these clauses is contra-

dictory. (72b)-(72c) illustrate this with a PV and LV clause, respectively. The preliminary stage reading is common for imperfective aspect across languages for Achievement events (Smith 1997). AV clauses in Amis offer another example consistent with this pattern.

(72)   *Diagnostic 3: (Un)availability of the preliminary stage reading*

    a.   *Actor Voice*

I 'ayaw no cecay a   tatokian, mi-tangtang ko tawki to-ra   'orang.
P front GEN one LNK hour   IPFV.AV-cook NOM boss ACC-that lobster
'An hour ago, the boss was planning to cook those lobsters.'

Kirami taha-matini, caay pi-tefi-téfing cingra.
but   until-now   NEG AV-RED-touch NOM.1SG
'But until now, s/he hasn't even touched (it)'.

    b.   *Patient Voice*

I 'ayaw no cecay a   tatokian, tangtang-en no tawki ko-ra   'orang.
P front GEN one LNK hour   cook-PV   GEN boss NOM-that lobster
'An hour ago, the boss cooked that lobster.'

#Kirami, tahamatini caay pitefitéfing cingra.
'#But until now, s/he hasn't even touched (it).'

    c.   *Locative Voice*

I 'ayaw no cecay a   tatokian, tangtang-an no tawki ko-ra   'orang.
P front GEN one LNK hour   cook-LV   GEN boss NOM-that lobster
'An hour ago, the boss cooked that lobster.'

#Kirami, tahamatini caay pitefitéfing cingra.
'#But until now, s/he hasn't even touched (it).'

In fact, the AV clauses in (69), (70), and (72) are all ambiguous between the progressive reading and the preliminary stage reading. For the purpose of demonstrating the aspectual contast between AV and PV/LV clauses, what is crucial is that for (69)-(70), the progressive reading is only possible with AV clauses, and for (72), the preliminary stage reading is also only possible with AV clauses (for Achievement and Accomplishment events).

The three diagnostics above support the claim that AV clauses are imperfective and PV/LV clauses are perfective in Amis. These tests only apply to main clauses. The aspectual interpretation of gerunds is less clear. For example, both (73a)-(73b) contain a gerund

with an AV (*pi-*) verb, but when either gerund is predicated of by a temporal phrase, such as 'one hour,' the event described by the gerund must have ended. Asserting that the boss is still cooking the lobsters after (73a) or Kacaw is still swimming after (73b) sounds odd.

(73) a. Cecay a   tatokian [ko   pi-tangtang no   tawki to 'orang].
          one   LNK hour   NOM AV-cook   GEN boss ACC lobster
          'The boss' cooking the lobsters took an hour.'

     b. Cecay a   tatokian [ko   pi-dangoy ni   Kacaw].
          one   LNK hour   NOM AV-swim   GEN PN
          'Kacaw's swimming took an hour.'

A noticeable difference between AV verbs in clauses and those in gerunds is that only the former can be prefixed by *m-*. I tentatively posit that *m-* marks imperfective aspect in Amis. I discuss some data below that support this.

Descriptively, AV verbs are prefixed by *m-* only in affirmative main clauses. *M-* disappears when an AV verb is negated or when it is used in a gerund or in an imperative, as in (74).

(74) *Mi- becomes pi- when:*

     a. *Under negation*
         Caay **pi**-dangoy kako   i matini.
         NEG **AV**-swim   NOM.1SG P now
         'I'm not swimming now.'

     b. *In a gerund*
         Haliki [ko   **pi**-dangoy ako   ].
         quick   NOM **AV**-swim   GEN.1SG
         'I swim fast (lit. my swimming is quick).'

     c. *In an imperative*
         Pi-dangoy!
         AV-swim
         'Swim!'

Stative verbs are also prefixed by *m-* only main clauses, as in (75). In addition, as discussed

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before in (37), *ma-* also turns into *ka-* in the three environments listed in (74).

(75) a. Ma-kapah   ko-ya   posi.
          IPFV.STAT-beautiful NOM-that cat
          'Those cats are beautiful.'

    b. Ma-olah   kako   to posi.
        IPFV.STAT-like NOM.1SG ACC cat
        'I like cats.'

It is known that interaction between viewpoint aspect and states is more restricted. Applying the perfective to a state, if grammatical in a language, can derive a coerced dynamic (inchoative) reading. (76a) is an example from Mandarin. The progressive is also typically either incompatible with states, as (76b) shows, or yields a coerced (activity) reading when it applies to states, as in (76c). However, if the imperfective in a language can be interpreted as habitual, then it can apply to states, as in (76d).

(76) *Viewpoint aspect and states*

    a. Yezi huang-le.
        leaf yellow-PFV
        'The leaves have turned yellow.'   (Mandarin)

    b. *Clark is being tall/tired.

    c. Clark is being smart/difficult.

    d. Maya uttar jaan-tii   hai.
        PN   answer know-HAB.F be.PRES
        'Maya knows the answer.'   (Hindi-Urdu; Bhatt and Pancheva 2005 (108a))

In Amis, both *mi-* clauses and *ma-* clauses can have a habitual reading, as in (77). Predicates with only PV or LV morphology are incompatible with a habitual interpretation. In addition, most stative roots cannot be attached by just PV or LV. If a stative root can be attached by PV/LV, the resulted verb is typically causative, such as *(sa-)kahengang-en* ((SA-)red-PV) 'redden' and *(sa-)kakaya'-en* ((SA-)long-PV) 'lengthen.'[45]

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[45]Stative roots suffixed by PV/LV typically require additional morphology to have a sensible reading

(77) a. Sa-ro-mi'a-mi'ad-sa ko posi ako **mi**-repet to cecay a edo'.
SA-RED-day-SA NOM cat GEN.1SG **IPFV.AV**-catch ACC one LNK mouse
'My cat catches a mouse everyday.'

b. **Ma**-cidal to ro-mi'a-mi'ad.
IPFV.STAT-sun ACC RED-day
'It is sunny everyday.'

Given the discussion above, I tentatively posit that *m-* marks imperfective aspect in Amis. Morphologically, *m-* attached to AV *pi-* is pronounced as *mi-*, and *m-* attached to stative *ka-* is pronounced as *ma-*.[46] Perfective aspect, on the other hand, is morphologically unmarked.

2.5.2 Multiple case assignment: perfective main clauses

We will now see how the case assignment rules posited in (45) derive the case pattern of perfective (PV/LV) clauses. Two examples of perfective clauses are given in (78). In both (78a)-(78b), genitive case marks the subject and nominative case marks the object. In an imperfective clause, as in (78c), nominative case marks the subject and accusative case marks the object.

(e.g. *pa-'oning-en* (CAUS-dirty-PV) 'make sth. dirty,' *sa-kapah-en* (SA-beautiful-PV) 'beautify'). Psyc/cognitive predicates can be suffixed by PV more easily, but these are not stative anymore. They're usually used as imperatives. In affirmatives, they are translated as 'intend to V' (e.g. *fana'-en* (know-PV) 'intend to know'). (i) below seems to be the only use of predicates affixed by just PV/LV that are stative-like.

(i) a. Faedet-en kako to-ya kaysing.
hot-PV NOM.1SG ACC-that bowl
'I felt that that bowl was hot.'

b. Kareteng-en ci Mayaw to-ra kafang
heavy-PV NOM PN ACC-that bag
'Mayaw felt that that bag was heavy.'

There are also a few *ma-* verbs that are not clearly stative, such as *ma-tayal* 'work,' *ma-omah* 'work in a farming field,' *ma-tawa* 'laugh,' *ma-efer* 'fly,' *ma-(sa-)kero* 'dance,' *ma-lali'op* 'wash face,' and *ma-ranam/lahok/lafi* 'have breakfast/lunch/dinner.' However, it is not inconceivable that at least some of these may contain a stative reading. For example, *ma-tayal* 'work' could be 'have work.'

[46]I assume that negation either blocks head movement of *pi-/ka-* to Asp or disrupts the linear adjacency of the two, so *m-* is not pronounced in negative clauses.

(78) a. Asip-en ni Panay ko   cecay a   codad inacila.
          read-PV GEN PN   NOM one   LNK book yesterday
          'Panay read a book yesterday.'

      b. Asip-an ni Panay ko   cecay a   codad inacila.
          read-LV GEN PN   NOM one   LNK book yesterday
          'Panay read a book yesterday.'

      c. Mi-asip   ci Panay to cecay a   codad i matini.
          IPFV.AV-read NOM PN   ACC one   LNK book P now
          'Panay is reading a book.'

Case alternation conditioned by aspect is not uncommon across languages (Bjorkman 2011, 2015). We saw an example from Standard Gujarati before in (8) in Chapter 1. (79) gives a similar example from Hindi-Urdu. In (79a), an imperfective clause, the subject is unmarked, whereas in (79b), a perfective clause, ergative case marks the subject.

(79) a. **Rahul** kitaab paṛh-**taa**   **thaa**.
          PN.M   book.F read-HAB.**M.SG** be.PST.**M.SG**
          'Rahul used to read (a/the) book.'

      b. Rahul-ne **kitaab** paṛh-**ii**   **thii**.
          PN-ERG   **book.F** read-PFV.**F** be.PST.**F.SG**
          'Rahul had read the book.'   (Hindi-Urdu; Bhatt 2005 (2))

In languages where subjective case alternates with aspect, perfective subjects are often more restricted in some way. For example, in Hindi-Urdu, imperfective subjects trigger verbal agreement but perfective subjects do not, as (79b) shows. In addition, perfective subjects in Hindi-Urdu must take wide scope above the object, whereas imperfective subjects can scope above or below the object, as (80) shows.[47]

(80) a. *Imperfective:* $\exists > \forall, \forall > \exists$
          koi   shaayer   har   ghazal   likhtaa   hai
          some poet.NOM every song.ACC write.M.IPFV be.PRES
          'Some poet writes every song.'

---

[47]Subjects of perfective clauses can scope under negation, however.

b. *Perfective:* ∃ > ∀, *∀ > ∃

kisii   shaayer-ne   har   ghazal   likhii
some poet.ERG   every song.NOM write.F.PFV
'Some poet wrote every song.' (Hindi-Urdu; Anand and Nevins 2006 (2a-b))

This restriction on scope interpretation does not apply to Amis, but subjects of perfective (PV/LV) clauses are restricted in other ways. For example, they cannot undergo operator movement, as (81) illustrates. In addition, word order is also more restricted in perfective clauses. Specifically, only in imperfective clauses can a non-subject argument scramble to a position between the predicate and the subject.[48]

(81)   *Subjects of perfective clauses cannot undergo operator movement*

a.   Ma-lalok   [ko-ya   mi-asip-ay   to codad a   sito   ].
      IPFV.STAT-diligent   NOM-that IPFV.AV-read-SREL ACC book   LNK student
      'Those students who are reading the books are diligent.'

b.   *Ma-lalok   [ko-ya   asip-en/-an(-ay)   ko codad a   sito   ].
      IPFV.STAT-diligent   NOM-that read-PV/-LV(-SREL) NOM book   LNK student
      Intended: 'Those students who read the books are diligent.'

However, subjects of perfective clauses are not entirely inactive. For some speakers, they can still undergo raising-to-object, as in (82b), or topicalisation.

(82)   *Subjects of perfective clauses can undergo raising-to-object for Amis II speakers*

a.   Ma-fana'   kako   asip-en **ni Panay** ko   codad inacila.
      IPFV.STAT-know NOM.1SG read-PV **GEN PN**   NOM book   yesterday
      'I know that Panay read those books yesterday.'

b.   Ma-fana'   kako   **ci Panay-an** asip-en ko   codad inacila.
      IPFV.STAT-know NOM.1SG **ACC PN-ACC**   read-PV NOM book   yesterday
      'I know that Panay, (she) read those books yesterday.'

Chapter 3 gives an account of this partial inactivity of subjects of perfective clauses. I

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[48]This restriction is not about linear adjacency between verbs and subjects of perfective clauses. See 3.1.2 for a more detailed discussion of this word order restriction.

stipulate for now that an additional Agree relation (dotted line in (84)) between perfective Asp and the subject is the source of this partial inactivity. In addition, as a result of this Agree relation, the subject becomes inactive to case assignment afterwards (indicated by a strikethrough). I will make this more concrete in the next chapter.[49]

With this addition, the same case assignment rules we applied to imperfective clauses and gerunds can also derive the case pattern of perfective clauses easily. The rules are repeated below.

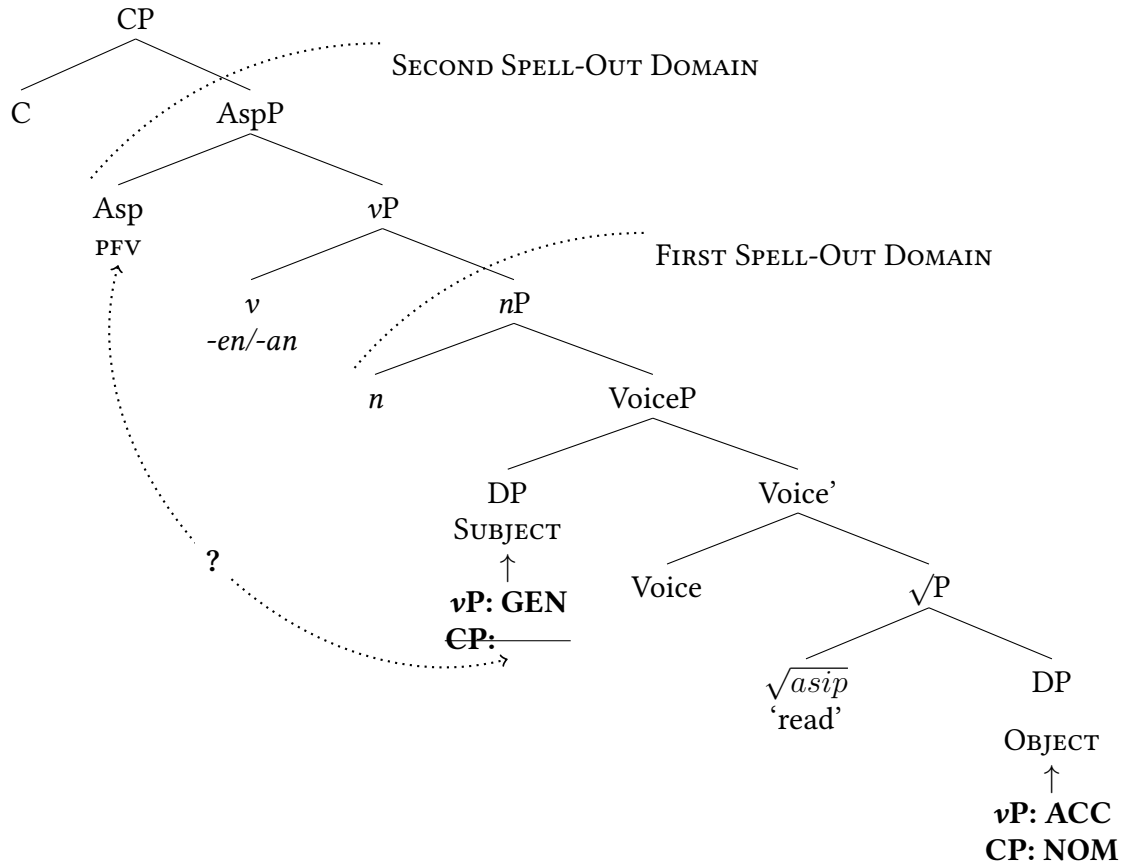(83)   *Amis case assignment rules (second version)*

   a.   *Rule D:*

         If there are two distinct DPs in the same phase such that DP_1 c-commands DP_2, assign accusative to DP_2.

   b.   *Rule U:*

         If a DP does not receive dependent case, it is realised as nominative if v is the highest category-determining head; otherwise, it is realised as genitive.

---

[49]As a forecast, ultimately I will not have an explanation for why perfective Asp is different. Previous analyses of aspect-conditioned case alternation can be roughly divided into two approaches (a more detailed comparison can be found in Bjorkman (2015)). One approach, such as Bjorkman (2011, 2015) and the current proposal, proposes that perfective Asp "needs more" (e.g. an additional [uφ] that needs to be licensed). The other approach proposes instead that imperfective (or just progressive) Asp "gives more." This can correspond to an additional φ probe that licenses an extra argument, as in Kalin 2014; Kalin and van Urk 2015, or a bi-clausal structure, as in Laka 2006; Coon 2010. In an abstract sense, the two approaches are both claiming that perfective Asp is deficient, and thus, it either needs more or cannot give more. Importantly, AV (imperfective) clauses in Amis are not bi-clausal and do not seem structurally more complex (except perhaps for the extra *m-* prefix). In fact, restructuring infinitives (infinitives that are structurally radically reduced) must be in AV. This suggests, if anything, only AV morphology is available in a reduced structure.

(84)   *Case derivation: perfective (PV/LV) main clauses*

```
                    CP
              ┌──────┴──────┐
              C          AspP ·········· SECOND SPELL-OUT DOMAIN
                     ┌──────┴──────┐
                    Asp            vP
                    PFV       ┌─────┴─────┐
                    ↑         v           nP ··········· FIRST SPELL-OUT DOMAIN
                          -en/-an     ┌────┴────┐
                                      n       VoiceP
                                          ┌──────┴──────┐
                                         DP           Voice'
                                       SUBJECT     ┌─────┴─────┐
                                         ↑       Voice        √P
                        ?              vP: GEN         ┌───────┴───────┐
                                       CP:────       √asip            DP
                                                     'read'         OBJECT
                                                                      ↑
                                                                   vP: ACC
                                                                   CP: NOM
```

In (84), case assignment first applies when *v* is merged. By Rule D (83a), the object re-
ceives accusative case. By Rule U (83b), the subject receives genitive case. Next, perfective
Asp is merged and agrees with the subject. The subject becomes inactive to further case
assignment afterwards. When C is merged and case assignment applies again, only the
object is active. Therefore, Rule D (83a) does not apply. By Rule U (83b) and given that *v*
is the highest category-determining head, the object receives nominative case. Finally, as
a result of the *One Case Constraint*, the subject surfaces with genitive case and the object
with nominative case.

In (84), the subject gets one less case than the subject in an imperfective clause. Ad-
ditional support for claiming that the subject in (84) is getting less instead of getting a
different case (e.g. an agentive inherent case) can be found in (85). When the subject is a
contrastive topic, it appears with nominative case on top of genitive case. For some rea-
son, being a contrastive topic, metaphorically speaking, puts the subject of a perfective

clause back in the game.[50]

(85) *Perfective contrastive topic subjects*

Asip-en **ko-ni** **Panay** to cecay a codad inacila.
read-PV **NOM-GEN PN** ACC one LNK book yesterday
'[Panay]$_{CT}$ read a book yesterday.'

In a perfective ditransitive clause, as in (86), genitive case marks the subject. Nominative marks the recipient and accusative marks the theme.
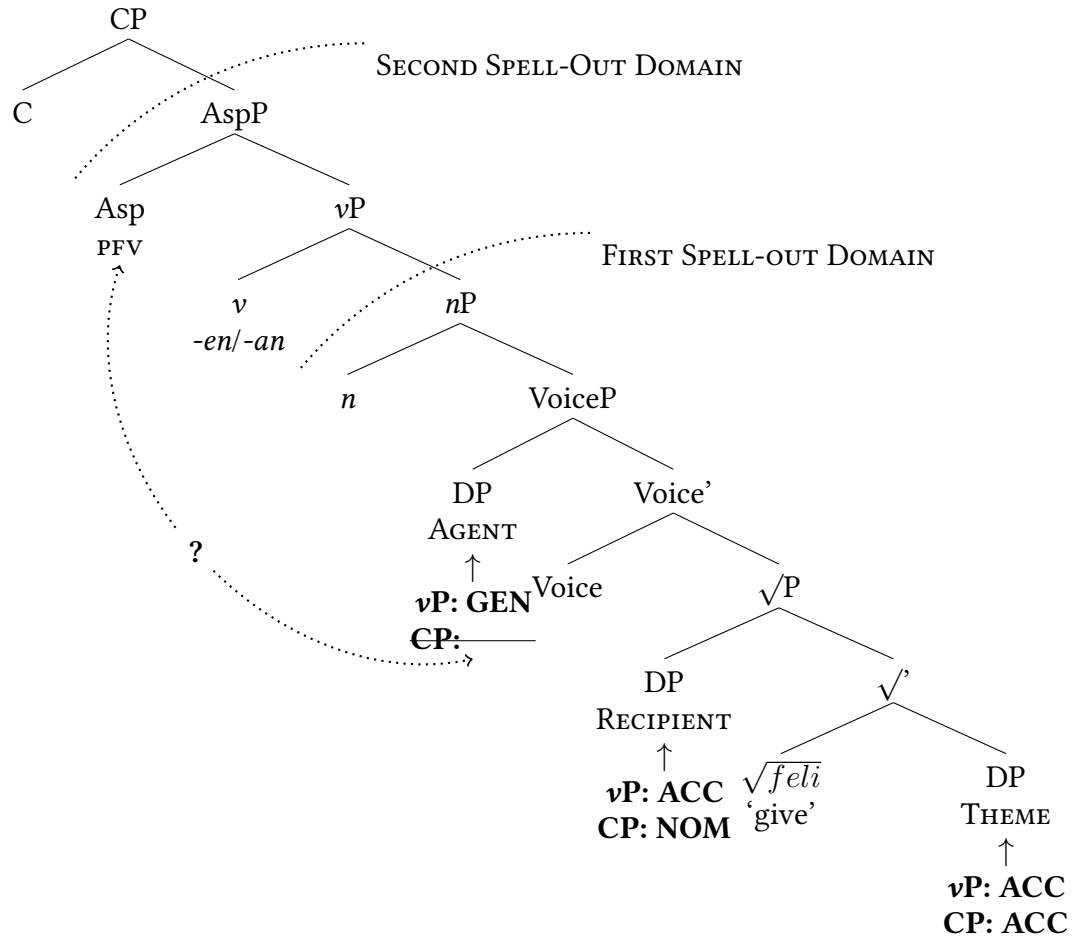
(86) *Perfective ditransitive clauses*

Pa-feli-en/-an ni Panay ko-ya tamdaw to cecay a codad.
CAUS-give-PV/-LV GEN PN NOM-that person ACC one LNK book
'Panay gave those people a book.'

In (87), case assignment applies first when *v* is merged. By Rule D (83a), the two objects receives accusative case. By Rule U (83b), the subject receives genitive case. The subject becomes inactive after agreeing with perfective Asp. When C is merged and case assignment applies again, the theme receives another accusative case by Rule D (83a) and the recipient receives an additional nominative case by Rule U (83b). Last, the surface case pattern is a result of the *One Case Constraint*.

---

[50]In Chapter 4, I propose that in order to be interpreted as a contrastive topic, the subject must be accessible to C/T. A repair strategy applies only in this circumstance and adds an extra set of φ feature to the subject, allowing it to be agreed with by C/T. The same sort of repair strategy applies in certain Basque dialects and Chinook, yielding an additional case on a DP when the Person Case Constraint would otherwise be violated.

(87)   *Case derivation: perfective (PV/LV) ditransitive clauses*

CP
├─ C
└─ AspP   SECOND SPELL-OUT DOMAIN
   ├─ Asp
   │ PFV
   └─ vP   FIRST SPELL-OUT DOMAIN
      ├─ v
      │ *-en/-an*
      └─ nP
         ├─ n
         └─ VoiceP
            ├─ DP
            │ AGENT
            │ ↑
            │ **vP: GEN** Voice
            │ **CP:——**
            └─ Voice'
               ├─ Voice
               └─ √P
                  ├─ DP
                  │ RECIPIENT
                  │ ↑
                  │ **vP: ACC**   √*feli*
                  │ **CP: NOM**   'give'
                  └─ √'
                     └─ DP
                        THEME
                        ↑
                        vP: ACC
                        CP: ACC

?

Hypothetically, if the same additional Agree also happens in a gerund, we predict that when the gerund predicate is transitive or ditransitive, both the subject and the (highest) object should surface with genitive case. Applying the rules as above, the subject receives genitive case in the first assignment and becomes inactive after agreeing with perfective Asp. In the second assignment, the (highest) object receives an additional genitive case. Gerunds with this case pattern do exist, as in (88). However, speakers' judgment on these examples varied a lot and their aspectual properties are also unclear. Therefore, I will put aside these examples.[51]

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[51]Judgment on these examples varied even within the same speaker. However, gerunds with this case pattern have also been volunteered multiple times, in writing even, and are likely a genuine phenomenon.

(88) a. %Cecay a   tatokian [ko   pi-tangtang **no**   tawki **no**   'orang].
one   LNK hour   NOM AV-cook   **GEN** boss   **GEN** lobster
'The boss' cooking the lobsters took an hour.'

b. %Pa-sowal-en   no   tawki ko   sito   [to   pi-pa-rakat   **no**   ising
CAUS-word-PV GEN boss   NOM student   ACC AV-CAUS-walk **GEN** doctor
no-ra   wawa to   codad].
GEN-that child ACC book
'The boss told the students about the dr.'s sending those children the books.'

To sum up, in Section 2.5, I first applied three diagnostics to show that AV and PV/LV clauses have different aspectual interpretations. Next, with a stipulation by which perfective subjects are removed from case competition after the first Spell-Out, I demonstrated how the same case assignment rules derive the case pattern of perfective clauses.

2.6   Movement and additional case assignment

Some recent proposals concerning multiple case assignment argue that additional case assignment hinges on movement of a DP out of the local phase (e.g. Baker and Vinokurova 2010; Levin 2017). The argument is typically based on the distribution of a given DP, relative to, for example, *v*P-level adjuncts, and interpretation of the DP. Levin 2017 observes that in Korean, a DP with overt case-stacking must be specific, whereas a corresponding DP without case-stacking can be either specific or non-specific. Accordingly, in (89a), the dative-marked subject is ambiguous between a specific and a non-specific interpretation. In (26b), the subject is marked by two cases: an inner dative and an outer nominative. This subject must be interpreted as specific.

(89)   *Korean case-stacking and specificity*

a.   *No case-stacking: specific, non-specific*

Etten-salam-**hanthey** Yenghi-ka coha.
some-person-**DAT**   PN-NOM   likes
'Some person likes Yenghi.'

b. *Case-stacking: specific, *non-specific*

Etten-salam-**hanthey**-ka Yenghi-ka coha.
some-person-**DAT-NOM**   PN-NOM   likes
'Some person likes Yenghi.'   (Levin 2017 (20a-b))

Following Diesing 1992, Levin 2017 assumes that movement of a DP outside *v*P forces a specific interpretation of the DP. Based on this, he argues that the correlation between case-stacking and the obligatory specific interpretation indicates that in (26b), the object is first assigned dative within *v*P. An additional nominative is assigned to the object when it moves out of *v*P.[52] This is posited as a necessary condition on multiple case assignment: a DP must move out of the local phase to undergo an additional case assignment.

Independently, to account for why only nominative arguments can undergo Ā-movement in Tagalog and related languages, Aldridge 2004 (et seq.) and Rackowski and Richards 2005 both proposed that in a PV clause, the object has moved across the subject to the edge of *v*P. (90) illustrates this schematically, abstracting over differences between these analyses. Assuming only the highest DP at the edge of a phase (*v*P) can move out of the phase, as a result of the movement in (90), the object is now able to further Ā-extract when an Ā probe in C searches down.

(90)

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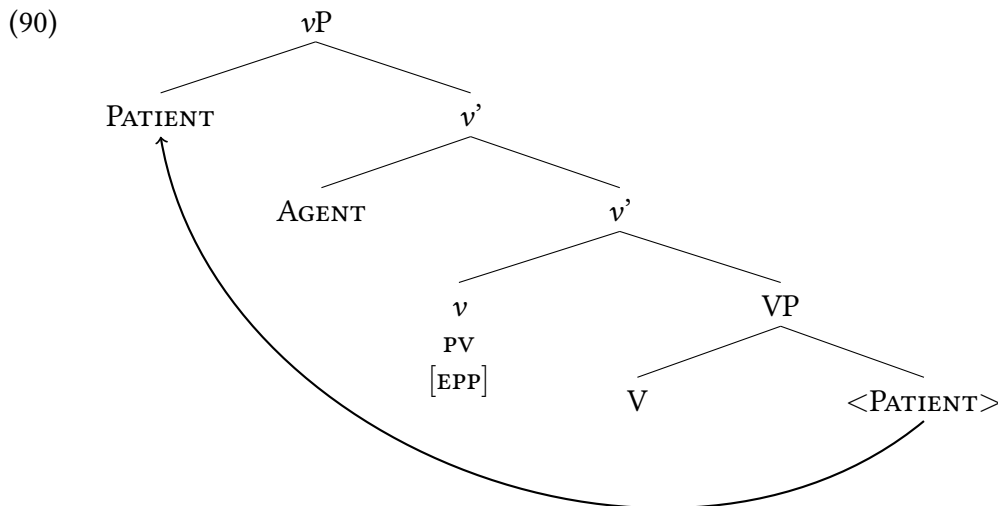
[52]The dative-marked subject in (89a) is ambiguous because, according to Levin 2017, the additional case made possible by movement out of the local phase does not need to be pronounced.

Moreover, similar to the Korean case-stacking examples in (26b), movement of the object in a PV clause to the edge of vP is said to correlate with an obligatory specific/definite interpretation of the object of a PV clause and a non-specific/indefinite interpretation of the object of an AV clause.

In the current proposal, nominative case on a DP is necessarily a result of an additional case assignment. Given the studies discussed above, we expect that nominative-marked DP in Amis should move out of the local phase and be interpreted as specific/definite. In addition, I proposed before that subjects of perfective clauses surface with genitive case because they do not participate in an additional case assignment. Based on this, we might expect that in a perfective clause, the nominative-marked object should c-command the genitive-marked subject.

Below I first discuss data on Condition C, pronominal variable binding, and reflexive binding. All of these show that in Amis, regardless of voice morphology and case marking patterns, the subject always c-commands the object. Next, I show that both AV objects and PV objects can be either specific/definite or non-specific/indefinite. That is, except for operator movement, which is restricted to nominative arguments, we do not find support for moving the object of a PV clause out of vP (or to the edge of vP) or for making movement a necessary prerequisite for additional case assignment.

In Chapter 4, I show that when a DP is a contrastive topic, it surfaces with all the cases assigned to it. It is indeed true that DPs with overt case-stacking tend to take wide scope over negation. However, this can be independently attributed to the semantics of contrastive topics. In addition, in Korean, whenever case-stacking is licensed, the same DP can also appear with either just the inner case or just the outer case. When it appears with just the outer case, the DP must also be interpreted as specific. As we will see in this section, DPs that surface with just the outer case (nominative) can be specific or non-specific. This also suggests that the wide scope reading of case-stacked DPs in Amis should be attributed to their contrastive topic status.

2.6.1 No evidence for movement

We start with testing Condition C, pronominal variable binding, and reflexive binding in AV clauses. In the current proposal, both the subject and the object in an AV clause undergo two case assignments. Therefore, these data will not be informative for our present purpose: to see whether a DP assigned case both in a lower and a higher phase must c-command a DP assigned case only once in a lower phase.[53] We will only use them as a baseline for comparing with PV clauses.

First, observe that in (91a)-(91b), *Nikar* can co-refer with the pronoun only if it is nominative, but not when it is accusative. To see whether coreference is bad in (91b) is because *cingra* c-commands *Nikar* (a Condition C violation), or because *Nikar* c-commands *cingra* (a Condition B violation), we embed the pronoun under another DP, as in (91c). We see that when the pronoun is embedded, and as a result, no longer c-commands *Nikar*, coreference becomes possible again. In addition, in (91d), when *Nikar* is embedded, coreference with the pronoun is still ruled out. Together, (91c)-(91d) suggest that coreference in (91b) is bad because the pronoun c-commands *Nikar*, a Condition C violation.

(91)   *Condition C in AV clauses: NOM c-commands ACC*

    a.   Mi-pohpoh[54] [ci   Nikar]$_7$ cingraan$_{7/8}$.
           IPFV.AV-touch NOM PN   ACC.3SG
           'Nikar$_7$ is touching herself$_7$/her$_8$.'   (Coreference ✓)

    b.   Mi-pohpoh   cingra$_{*7/8}$ [ci Nikar-an]$_7$.
           IPFV.AV-touch NOM.3SG   ACC PN-ACC
           'She$_{*7/8}$ is touching Nikar$_7$.'   (Coreference ✗)

    c.   Mi-pohpoh   [ko-ya   mi-pa-kaen-an   **ningra**$_{7/8}$ a   posi] [**ci**
           IPFV.AV-touch   NOM-that IPFV.AV-CAUS-eat-OREL **GEN.3SG** LNK cat   **ACC**
           Nikar-an]$_7$.
           PN-ACC
           'The cat that she$_{7/8}$ fed is touching Nikar$_7$.'   (Coreference ✓)

---

[53]Unless the object is somehow merged higher than the subject, the data are still not informative even if the object is assigned case once only in the lower phase, which is possible since in either assignment, the object receives accusative case and in a neutral context, the object is always marked with accusative case.

d. Mi-pohpoh **cingra**$_{*7/8}$ [to-ya mi-pa-kaen-an **[ni Nikar]**$_7$
IPFV.AV-touch **NOM.3SG** ACC-that IPFV.AV-CAUS-eat-OREL **GEN PN**
a posi].
LNK cat
'She$_{*7/8}$ is touching the cat that Nikar$_7$ fed. (Coreference ✗)

Next, (92a) shows that the nominative quantified subject can bind a pronoun in the accusative object, whereas in (92b), the accusative quantified object cannot bind a pronoun in the nominative subject. This also supports that in an AV clause, the nominative subject c-commands the accusative object.

(92) *Pronominal variable binding in AV clauses: NOM c-commands ACC*

a. Mi-nengneng [ko ha-cecay a ina]$_7$ to wawa ningra$_{7/8}$.
IPFV.AV-watch NOM DISTR-one LNK mother ACC child GEN.3SG
'Every mother$_7$ is looking at her$_{7/8}$ child.' (Bound reading ✓)

b. Mi-nengneng ci ina ningra$_{*7/8}$ [to ha-cecay a wawa]$_7$.
IPFV.AV-watch NOM mother GEN.3SG ACC DISTR-one LNK child
'Her/his$_{*7/8}$ mother is looking at every child$_7$.' (Bound reading ✗)

Third, pronouns suffixed by *-to* behave like reflexives in Amis. They must be bound by an antecedent in the local clause. (93) shows that the nominative subject can bind the accusative reflexive.[55] On the other hand, having the reflexive as the nominative subject, as in (93b), is ungrammatical. This shows that a *-to* reflexive must have a c-commanding antecedent. More importantly for our current purpose, this also shows that the nominative subject c-commands the accusative subject. (93c) in addition shows that the antecedent must be a clausemate. Therefore, the embedded subject *Mayaw*, but not the matrix subject *Panay*, can bind the embedded *-to* reflexive.

---

[54]The data on Condition C and pronominal variable binding were taken from earlier fieldwork. I later found out that *pohpoh* is not ordinary touching but touching by a shaman with the intent to heal. This does not affect the tests, though some people might find (91c)-(91d) funny because of this.

[55]The same pronoun without *-to* can still refer to *Mayaw*, but it does not have to be bound in this case (i.e. *cingraan* in (93a) can refer to someone other than Mayaw.)

(93) *Reflexive binding in AV clauses: NOM c-commands ACC*

    a.   Mi-komimit ci   Mayaw **cingraan-to** i matini.
          IPFV.AV-pinch NOM PN   **ACC.3SG-REFL** P now
          'Mayaw is pinching himself.'

    b.   *Mi-komimit **cingra-to**   ci Mayaw-an i matini.
          IPFV.AV-pinch **NOM.3SG-REFL** ACC PN-ACC   P now

    c.   Ma-fana'   [ci Panay]$_7$ mi-komimit [ci Mayaw]$_8$ **cingraan-to**$_{*7/8}$.
          IPFV.STAT-know NOM PN   IPFV.AV-pinch NOM PN   **ACC.3SG-REFL**
          'Panay$_7$ knows that Mayaw$_8$ is pinching himself$_{*7/8}$.'

Turning to PV clauses. I posited before in 2.5 that the subject in a PV clause becomes inactive to additional case assignment after agreeing with perfective Asp. Given this, PV clauses contain a DP, the genitive subject, that receives case only in a lower phase, and a second DP, the nominative object (in a transitive clause), that receives case first in a lower phase and later in a higher phase. If movement out of the local phase is necessary for the object to receive case again, the nominative object should c-command the genitive subject. What we find is in fact the opposite. In a PV clause, the genitive subject still c-commands the nominative object.

First, (94a)-(94b) show that, in a PV clause, *Nikar* can corefer with the pronoun only if it is genitive, but not when it is nominative. To see whether coreference in (94b) is ruled out is because *ningra* c-commands *Nikar*, *ningra* is embedded in (94c). This makes coreference between the pronoun and *Nikar* available again. (94d) in addition shows that embedding *Nikar* does not make coreference possible. Based on (94c)-(94d), we know that in (94b), coreference is unavailable because *ningra* c-commands *Nikar*, a Condition C violation.

(94) *Condition C in PV clauses: GEN c-commands NOM*

    a.   Pohpoh-en [ni Nikar]$_7$ cingra$_{7/8}$.
          touch-PV   GEN PN   NOM.3SG
          'Nikar$_7$ touched herself$_7$/her$_8$.'   (Coreference ✓)

    b.   Pohpoh-en ningra$_{*7/8}$ [ci   Nikar]$_7$.
          touch-PV   GEN.3SG   NOM PN
          'She$_{*7/8}$ touched Nikar$_7$.'   (Coreference ✗)

c. Pohpoh-en [no-ya mi-pa-kaen-an **ningra**$_{7/8}$ a posi] [**ci Nikar**]$_7$.
touch-PV GEN-that IPFV.AV-CAUS-eat-OREL **GEN.3SG** LNK cat **NOM PN**
'That cat that she$_{7/8}$ fed touched Nikar$_7$.' (Coreference ✓)

d. Pohpoh-en **ningra**$_{*7/8}$ [ko-ya mi-pa-kaen-an [**ni Nikar**]$_7$ a
touch-PV **GEN.3SG** NOM-that IPFV.AV-CAUS-eat-OREL **GEN PN** LNK
posi].
cat
'She$_{*7/8}$ touched that cat that Nikar$_7$ fed.' (Coreference ✗)

The behaviour of pronominal variable binding is consistent with the Condition C data above, as (95a)-(95b) illustrate. In (95a), the genitive quantified subject can bind into the nominative subject, but as (95b) shows, the nominative quantified object cannot bind into the genitive subject.

(95) *Pronominal variable binding in PV clauses: GEN c-commands NOM*

a. Nengneng-en [no ha-cecay a ina]$_7$ ko wawa ningra$_{7/8}$.
watch-PV GEN DISTR-one LNK mother NOM child GEN.3SG
'Every mother$_7$ looked at her$_{7/8}$ child.' (Bound reading ✓)

b. Nengneng-en ni ina ningra$_{*7/8}$ [ko ha-cecay a wawa]$_7$.
watch-PV GEN mother GEN.3SG NOM DISTR-one LNK child
'Her/his$_{*7/8}$ mother looked at every child$_7$.' (Bound reading ✗)

Reflexive binding offers additional support. (96a)-(96b) show that the genitive subject c-commands the nominative subject in a PV clause, but not the other way around.

(96) *Reflexive binding in PV clauses: GEN c-commands NOM*

a. Komimit-en ni Mayaw **cingra-to** i honi.
pinch-PV GEN PN **NOM.3SG-REFL** P moment
'Mayaw pinched himself just now.'

b. *Komimit-en **ningra-to** ci Mayaw i honi.
pinch-PV **GEN.3SG-REFL** NOM PN P moment

The pattern found in (94)-(96) parallels the pattern of AV clauses. That is, regardless of voice morphology and case marking, the subject c-commands the object. Crucially, the

genitive subject in a PV clause still c-commands the nominative object, even though only the latter undergoes an additional case assignment, according to the current proposal.

Several studies (e.g. Richards 2000 on Tagalog and Pearson 2005 on Malagasy) proposed an alternative account of nominative DPs (or their equivalent) in related Austronesian languages. According to this alternative, the nominative object in a PV clause does move. Richards 2000 and Pearson 2005 argued that the nominative DP in Tagalog or its equivalent in Malagasy, which does not have overt case marking, is a topic that originates low and Ā-moves to its surface position. Moreover, this topic is comparable to clause-initial topics in V2 languages.

In addition, this topic can reconstruct (at least in certain constructions). This explains why a nominative object of a PV clause, which can be independently shown to be in a higher position than the subject in those languages, can nevertheless be bound by the subject.

Adopting this proposal for Amis means that the nominative DP in any clause is a topic that has Ā- moved to the surface position. The data we discussed above do not provide evidence in favour of either the topic account or the current proposal. Specifically, if in (94)-(95), the nominative object is a topic and obligatorily reconstructs to its thematic position, the predictions would be identical to the current proposal, by which none of the arguments has moved in the first place.

However, as we will see later, nominative DPs in either AV or PV clauses can take wide or narrow scope over negation. If nominative DPs obligatorily reconstruct, an additional explanation will be needed to account for the scope behaviour.

In addition, the DP posited to be a topic in Tagalog or Malagasy shares another property with V2 topics. As the contrast between (97a)-(97b) shows, in German, fronting a V2 topic across a co-indexed pronoun, *sein*, creates a new binding relation, instead of inducing a weak crossover violation. Richards 2000 and Pearson 2005 show that similar data are also found in Tagalog, as in (97c), and in Malagasy, as in (97d). Following Lasnik and Stowell 1991, Pearson 2005 argued that Ā-movement other than wh-movement does not invariably trigger weak crossover effects. Therefore, that (97c)-(97d) are grammatical is not evidence against the topic proposal.

(97) a. *German: quantified DP stays low*

    ***Sein Vater** hat gestern jeden Studenten besucht.
    his.NOM father has yesterday every.ACC student.ACC visited
    'His$_7$ father visited every student$_7$ yesterday.'   (Pearson 2005 (65a))

  b. *German: quantified DP in V2 topic position*

    [**Jeden Studenten**]$_7$ hat gestern sein$_7$ Vater besucht.
      every.ACC student.ACC has yesterday his.NOM father visited
    'Every student$_7$, his$_7$ father visited yesterday.'   (Pearson 2005 (65b))

  c. *Tagalog*

    ? Minamahal ng kanyang$_7$ ama [**ang bawat anak**]$_7$.
      PV.love   GEN his   father **NOM every child**
    'His$_7$ father loves every child$_7$.'   (Richards 2000 (28b))

  d. *Malagasy*

    Norohan' [ny vadiny]$_7$ [**ny vehivavy rehetra**]$_7$.
    PST.PV.kiss DET spouse-3 **DET woman all**
    'All the women$_7$, their$_7$ spouse(s) kissed.'   (Pearson 2005 (68b))

Crucially, (95b), the Amis counterpart of (97c)-(97d), does not permit the bound variable reading, unlike (97c)-(97d). One can maintain that nominative DPs (topics) obligatorily reconstruct, but as mentioned above, this will need to address why nominative DPs can scope above or below negation.

    As outlined at the beginning, that in Tagalog and Malagasy, the object of a PV clause must be specific or definite is another motivation behind positing moving the object to the edge of *v*P. From this position, it can further Ā-move to the edge of CP. Richards 2000 argues that this interpretational restriction on nominative DPs is yet another property shared by V2 topics. For example, in (98a)-(98b), the expletive *da*þ in the V2 topic position prevents anything from moving into the same position. An in-situ subject in Icelandic, however, must be interpreted as indefinite. As a result, (98b) with *Maria*, a definite subject, is ruled out. Similarly, in an AV clause in Tagalog, such as (98c), the non-nominative object *ng isda*, a DP that has not topicalised, following the topic proposal, must be indefinite. (98d) in addition shows that the object in a PV clause cannot be a DP that denotes obligatorily definite entities, such as *ng mundo* 'the earth.'

(98)   *Definiteness restriction on fronted topics: Icelandic and Tagalog*

    a.   *Icelandic*

        Ég harma aþ   ðaþ skuli   **enginn** hafa lesið ðessa bók.
        I   regret that it   should **nobody** have read this   book
        'I regret that nobody should have read this book.'   (Richards 2000 (26a))

    b. *Ég harma aþ   ðaþ skuli   **Maria** hafa lesið ðessa bók.
        I   regret that it   should **PN**   have read this   book
        'I regret that Mary should have read this book.'   (Richards 2000 (26b))

    c.   *Tagalog*

        Bumili   **ng**   **isda** ang lalaki.
        AV-bought **GEN** **fish** NOM man
        'The man bought (*the) fish.'   (Richards 2000 (23))

    d. ?Nag-poprotekta ako   **ng** **mundo**.
        AV-protect   NOM.1SG **GEN** **earth**
        '?I protect an Earth.'   (Collins 2016 (13))

This definiteness (or specificity) restriction does not apply to Amis. The data below will show first, the accusative object in an AV clause, which corresponds to the object in (98c)-(98d), can be definite or indefinite, and specific or non-specific. Next, I show that this is true for the nominative subject in an AV clause and the nominative object in a PV clause. Therefore, the interpretation of none of these DPs motivates movement.

In the demonstration below, I will focus on showing that the interpretation that has been claimed to be incompatible with a particular DP in Tagalog and related languages is available in Amis. Therefore, I will not present data supporting the interpretation that is expected, but it is true that for any of the DPs below, it can be definite/indefinite or specific/non-specific.

We will first examine if there is any interpretational restriction on the object in an AV clause. The Tagalog counterpart of an AV object must be indefinite or non-specific.[56] First, in (99a), the accusative object *toya codad* in the second clause can refer to a DP introduced already by the preceding existential construction. In the same context in English, using an indefinite for the object is infelicitous, as indicated in the translation. (99b) in addition

shows that an AV object can be an an obligatorily definite entity, such as *cidal* 'sun.'

(99)   *AV accusative objects can be definite*

    a.   Ira   ko   cecay a   codad i sapad.
           exist NOM one   LNK book   P table
           Mi-nengneng ci   Nikar **to-ya   codad**.
           IPFV.AV-watch NOM PN   **ACC-that book**
           'There is a book on the table. Nikar is reading that/#a book.'

    b.   Mi-nengneng ci   Nikar **to   cidal**.
           IPFV.AV-watch NOM PN   **ACC sun**
           'Nikar is looking at the sun.'

Next, we will try to determine if AV objects cannot be specific. Specificity is not a well-defined concept. Below I will look at epistemic specificity (informally speaking, whether or not the speaker has a particular entity in mind) and scopal specificity (whether a DP can take wide or narrow scope relative to a scope-bearing element).

First, in the example below, either (100b) or (100c) is a coherent follow-up to (100a). This suggests that AV objects can be epistemically specific or non-specific.

(100)   *AV accusative objects can be epistemically specific*

    a.   Mi-kilim   kako   to cecay a   wawa.
           IPFV.AV-find NOM.1SG ACC one   LNK child
           'I'm looking for a child.'

    b.   Ci   Panay ko   ngangan ningra.
           PRED PN   NOM name   GEN.3SG
           'Her name is Panay.'

    c.   O   ma-mi-kiki.
           PRED RED-IPFV.AV-act
           'For acting.'
           (I'm looking for a child to play a role in my film. Any child will do.)

Second, (101) is compatible with either context listed below. This shows that AV objects

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[56]Recent studies, such as Paul et al. 2015; Collins 2016, show that the restriction in Tagalog is about definiteness instead of specificity, but I will talk about both below.

can scope above or below negation.

(101) *AV accusative objects can scope above negation*

Caay pi-kapa-to ci Panay to tosa a efa inacila.
NEG AV-pet-ASP NOM PN ACC two LNK horse yesterday
'Panay didn't pet two horses yesterday.'

∃ > ¬: Panay's class went to the farm on a field trip yesterday. There were many horses in the farm. Panay pet most of them, but the black horse and the white horse were hiding in the corner, so she didn't get to pet them.

¬ > ∃: Panay's class went to the farm on a field trip yesterday. There were many horses in the farm. Panay only got to pet one of them (not two).

In addition, (102a) can be further elaborated by either (102b) or (102c).[57] This shows that the AV object can scope above or below the subject in the same clause.

(102) *AV accusative objects can scope above subject*

a. Mi-nengneng ko emin a sito to tosa a ika inacila.
IPFV.AV-watch NOM all LNK student ACC two LNK film yesterday
'All of the students watched two films yesterday.'

b. O Halipote ato o Seediq Bale ko-ya tosa a ika.
PRED Harry Potter and PRED Seediq Bale NOM-that two LNK film
'Those two films were *Harry Potter* and *Seediq Bale*.'

c. O Halipote ato o Seediq Bale ko mi-nengneng-an a ika
PRED Harry Potter and PRED Seediq Bale NOM IPFV.AV-watch-OREL LNK film
ni Panay. O Wawa no Cidal ato o Kano ko mi-nengneng-an
GEN PN PRED child GEN sun and PRED Kano NOM IPFV.AV-watch-OREL
ni Nakaw …
GEN PN
'The films Panay watched were *Harry Potter* and *Seediq Bale*. What Nakaw watched was *Wawa no Cidal* and *Kano*. …'

The data above show that AV objects can be definite or specific, unlike what has been

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[57] *Seediq Bale*, *Wawa no Cidal*, and *Kano* are titles of recent Taiwanese films.

claimed for their Tagalog counterpart.

Previous studies also reported that in Tagalog, nominative subjects in an AV clause must be definite or specific. Therefore, the demonstration below will focus on showing that AV subjects can be indefinite or non-specific.

First, (103) would be contradictory if AV subjects must be definite (have a maximal unique referent), as the infelicity of the English sentence in parentheses shows. That (103) is coherent suggests that AV subjects do not need to be definite.

(103)   *AV subjects can be indefinite*
Mi-'aw'aw   ko   tosa a   waco. Caay pi-'aw'aw ko   tosa a   waco.
IPFV.AV-bark NOM two LNK dog   NEG AV-bark   NOM two LNK dog
'Two dogs are barking. Two dogs aren't barking.'
(cf. #The two dogs are barking. The two dogs aren't barking.)

In addition, if AV subjects must be definite, then we might expect that AV subject wh-in-situ questions would be D-linked. However, as the answer in (104) suggests, such wh-questions do not presuppose a discourse-salient domain of quantification for the wh-word.[58]

(104)   *AV subject wh-in-situ questions do not need to be D-linked*

    a.   Mi-asip   ko   címa to   codad inacila?
          IPFV.AV-read-SREL NOM who ACC book yesterday
          'Who read the books yesterday?'

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[58]If AV subject wh-in-situ questions are D-linked, contrary to what I claim, then that (104b) is an acceptable answer might suggest that it is interpreted as a presupposition denial. However, if this is true, we also expect that the answerer should feel odd about being asked this question in the first place and should say more to clarify the situation. For example, in (i), the answer feels incomplete without the follow-up in parentheses (p.c. Mitcho Erlewine). However, Amis nominative-marked wh-in-situ questions were accepted readily, so it is unlikely that (104b) is only a presupposition denial.

(i)   **Q:**   Which book did which person buy?
       A: No one bought anything. (What are you talking about?)

In Tagalog, nominative-marked wh-in-situ words are ungrammatical (Richards 1998). This also applies to Malagasy subjects (triggers, pivots) (Sabel 2003), so (104) and (108) below might be surprising to some people, but the data I have here are consistent with what Lin 2014 reported for Amis. In addition, according to Lin 2014, nominative-marked wh-in-situ questions are typically bad in Kavalan, a related Formosan language. Interestingly, in Kavalan, nominative DPs in general need to be definite.

b. Awa-ay   ko tamdaw.
   NEG.exist-AY NOM person
   'No one.'

Second, (105a) below can be followed up by either (105b) or (105c). This shows that AV subjects can be epistemically specific or non-specific.

(105)   *AV subjects can be epistemically non-specific*

a. Mi-'aca   ko cecay a   sito   to dateng   ako.
   IPFV.AV-buy NOM one   LNK student ACC vegetable GEN.1SG
   'A student bought my vegetables.'

b. Ci   Sawmah ko   ngangan ningra.
   PRED PN   NOM name   GEN.3SG
   'His name is Sawmah.'

c. Sakafana'an kako   o   címa.
   want.to.know NOM.1SG PRED who
   'I want to know who.'

AV subjects also do not need to be scopally specific. The AV subject in (106a) can scope above or below negation. The unexpected (non-specific) reading is verified by continuing (106a) with (106b).

(106)   *AV subjects can scope above or below negation*

a. Caay pi-tangtang ko   emin a   wawa to kalang.
   NEG AV-cook   NOM all   LNK child ACC crab
   'All of the children didn't cook crabs.'   ($\forall > \neg, \neg > \forall$)

b. Mi-tangtang ci   Panay to kalang. Caay pi-tangtang ci   Nakaw ato
   IPFV.AV-cook NOM PN   ACC crab   NEG AV-cook   NOM PN   and
   ci   Sawmah to   kalang.
   NOM PN   ACC crab
   'Panay cooked crabs. Nakaw and Sawmah didn't cook crabs.'

The data above demonstrated that AV nominative subjects do not need to be definite or specific. As discussed before, previous studies on Tagalog also reported that PV nomina-

tive objects must be definite or specific. The following data likewise will concentrate on showing that they can in fact be indefinite or non-specific in Amis.

First, (107) should be contradictory if PV objects must be definite, but it is coherent. This shows that PV objects can be indefinite.

(107)   *PV objects can be indefinite*
Kapa-en no   wawa ko   tosa a   siri. Caay kapa-en no   wawa ko   tosa a
pet-PV GEN child NOM two LNK goat NEG pet-PV GEN child NOM two LNK
siri.
goat
'The children pet two goats. (And) the children didn't pet two goats'
(cf. #The children pet the two goats. The children didn't pet the two goats.)

In addition, PV object wh-in-situ questions do not need to be D-linked, as the answer in (108) suggests.

(108)   *PV object wh-in-situ questions do not need to be D-linked*

a.   O   máan ko   asip-en iso   inacila?
PRED what NOM read-PV GEN.2SG yesterday
'What did you read yesterday?'

b.   Awa-ay   ko   maa-maan (a)   ma-asip-ay   ako   inacila.
NEG.exist-AY NOM RED-what (LNK) IPFV.STAT-read-SREL GEN.1SG yesterday
'I didn't read anything yesterday.'

Second, either (109b) or (109c) can follow (109a). This shows that PV objects can be epistemically specific or non-specific.

(109)   *PV objects can be epistemically non-specific*

a.   Asip-en ni   Panay ko   cecay a   codad inacila.
read-PV GEN PN   NOM one   LNK book yesterday
'Panay read a book yesterday.'

b.   O   mato'asay ato riyar ko   ngangan no-ya   codad.
PRED elderly   and sea NOM name   GEN-that book
'The name of that book is The Old Man and the Sea.'

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    c.   Kirami, caay ka-fana' kako o maan-ay a codad.
           but   NEG STAT-know NOM.1SG PRED what-SREL LNK book
           'But I don't know what book.'

Next, (110) can be uttered in either of the two contexts that follow. This shows that PV objects can scope above or below negation.

(110)   *PV objects can scope above or below negation*
        Caay nengneng-en ni Sera ko ma-emin-ay[59] a codad.
        NEG watch-PV GEN PN NOM IPFV.STAT-all-SREL LNK book
        'Sera didn't read all of the books.'

        $\forall > \neg$: Sera got lazy over the summer and didn't read any book from the reading list assigned for the summer break.

        $\neg > \forall$: The reading list assigned for the summer break is too long. Sera read a few books from the list but didn't get to read all of them.

In addition, if PV objects must be specific, we might expect them to be incompatible with (negative) creation verbs, since one cannot not make a certain entity that already exists in the actual world.[60] The grammaticality of (111) then suggests that PV objects do not need to be specific.

(111)   Caay sanga'-en ni Panay ko cecay a sapad.
        NEG make-PV GEN PN NOM one LNK table
        'I didn't make a table.'

In this section, I showed that we do not find data that clearly support positing movement out of the local phase as a necessary condition for multiple case assignment. These include two groups of data. The first one uses Condition C, pronominal variable binding, and reflexive binding to verify a theory-internal prediction. If movement is a necessary

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[59]Some of the examples use just *emin*, such as (106) above. I assume this does not affect the interpretation.

[60]As mentioned before in (7) in Section 2.1, it seems that nouns typically need to be suffixed by *-an* in order to have a kind-referring interpretation. Thus, *sapad* 'table' in (111) cannot be talking about a particular kind/style of tables.

prerequisite for additional case assignment, we expect that in a perfective (PV/LV) clause, the nominative object should c-command the genitive subject, given that only the nominative object has undergone case assignment triggered by the higher phase head (C). However, the data showed that the genitive subject still c-commands the nominative object, contrary to the prediction.

The second group of data concerns possible interpretations of DPs. Based on previous proposals of multiple case assignment and works on Austronesian languages, we expect that if movement is a precondition for multiple case assignment, DPs that receive additional case (i.e. at least nominative DPs given the current proposal) should be definite or specific. I showed that this prediction is also not borne out in Amis.[61]

These data are compatible with two possibilities: either (i.) movement out of a local phase is not a necessary condition for additional case assignment or (ii.) in perfective (PV/LV) clauses, both the genitive subject and the nominative object move out of the local phase, and the relative position between the two DPs remain constant before and after movement. Either option comes with a cost: either Phase Impenetrability Condition (Chomsky 2000, 2001) does not hold or two string-vacuous movements that are not motivated need to take place. A third option might involve phase extension by head movement (e.g. den Dikken 2007; Wood 2011; Alexiadou et al. 2014).[62] Yet another possibility is that *v*P is not a phase and multiple case assignment is not phase-based. In the next section, I discuss a potential piece of data in support of *v*P as a phase in Amis, but a phonological account might also be able to explain the data. The data we have at the moment simply are not in favour of any of these options. I will leave these open in this dissertation.

2.6.2   Phases

I proposed that multiple case assignment applies each time a phase head is merged, and by assumption, phase heads in Amis include D, *v*, and C. I discuss data below that support this assumption.

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[61]Based on impression, PV objects do tend to be definite or specific, but as the discussion above illustrated, this is not a necessary interpretation.

[62]I also assume that the predicate-initial word order is derived by head movement.

Multiple case assignment is limited to DP or CP in the least. This is based on the observation that case assignment does not affect DPs within a DP or CP unless they move to at least the edge of the DP or CP.

If case on DPs within a DP or CP can be determined by case assignment outside a DP or CP, we expect that the genitive possessor in (112a) should surface with accusative case instead, but this is ungrammatical. We would also expect that in (112c), the nominative subject of the embedded clause should appear with accusative case instead, given that when the same verb takes a DP object, as in (112b), the DP is marked with accusative case. This is also not acceptable.

(112)   a.   Mi-asip   kako   [to-ya   codad no/*to-ya   sito]   i matini.
                IPFV.AV-read NOM.1SG   ACC-that book GEN/*ACC-that student P now
                'I'm reading those books of the students now.'

        b.   Ma-fana'   kako   to-ya   demak.
                IPFV.STAT-know NOM.1SG ACC-that thing
                'I know about those things.'

        c.   Ma-fana'   kako   mi-liyas   ko/*to-ya tamdaw inacila.
                IPFV.STAT-know NOM.1SG IPFV.AV-leave NOM/*ACC person   yesterday
                'I know that those people left yesterday.'

In addition, in Chapter 5, I will show that raising-to-object in Amis involves either base-generating the object in the matrix clause or moving the object from inside the embedded clause. Moreover, in the latter structure, the movement that takes place is topicalisation to the edge of the embedded clause or gerund. A variety of diagnostics can be applied to show that only in the latter structure does the raised DP exhibit connectivity effects with the embedded clause or gerund. One of the diagnostics involves embedding an idiom and raising the subject of the idiom. As (113b) and (114b) show, the idiomatic reading is preserved after raising.

(113)   *Raising-to-object out of an embedded clause*

a. Ma-fana'   kako   o   fali **ko sowal no-ra   tamdaw**.
    IPFV.STAT-know NOM.1SG PRED wind **NOM word GEN-that person**
    'I know that that person's words are meaningless/bluffing (lit. are wind).'

b. Ma-fana'   kako **to sowal no-ra   tamdaw** o   fali.
    IPFV.STAT-know NOM.1SG **ACC word GEN-that person** PRED wind

(114)   *Raising-to-object out of an embedded gerund*

a. Ma-fana'   kako   to-ya   o   fali **no sowal no-ra   tamdaw**.
    IPFV.STAT-know NOM.1SG ACC-that PRED wind **GEN word GEN-that person**
    'I know that that person's words are meaningless/bluffing (lit. are wind).'

b. Ma-fana'   kako **to sowal no-ra   tamdaw** to-ya   o
    IPFV.STAT-know NOM.1SG **ACC word GEN-that person** ACC-that PRED
    fali.
    wind

Moreover, (115) shows that when the raised DP is a contrastive topic, it surfaces with three
cases. The inner two cases correspond to the two cases imperfective subjects or gerund
subjects receive, as discussed in 2.3-2.4.

(115)   a. Ma-fana'   kako **to-ko-ni**   **Panay** mi-tefing   to siri.
            IPFV.STAT-know NOM.1SG **ACC-NOM-GEN PN**   IPFV.AV-touch ACC goat
            'I know that [Panay]CT is touching [the goats)]EXH.'

        b. Faheka   kako **to-no-ni**   **Panay** to pi-tefing   to siri.
            surprised NOM.1SG **ACC-GEN-GEN PN**   ACC AV-touch ACC goat
            'I'm surprised at [Panay's]CT touching [the goats]EXH.'

The data in (112)- (115) show that multiple case assignment does not apply to DPs within
a CP or DP unless they move to at least the edge of the CP or DP. This is consistent with
positing C and D as phase heads.

Demonstrating that *v* is also phasal is more difficult. Below I describe an over-application
of a vowel lowering process and suggest that the apparent over-application is in fact
preservation of Spell-Out of *v*'s domain.

First, as Travis et al. 2009 described, phonological processes that take place inside a

phase are often more "destructive" than processes that take place across a phasal bound-ary. For example, assuming that DP and vP are both phasal in Ojibwa, (116a) shows that when two vowels are adjacent within DP, vowel deletion applies. In (116b), the two ad-jacent vowels are intervened by v, assuming that the root is merged at V and the tense morphology is attached at T. In this configuration, vowel deletion does not apply and vowel hiatus is left unresolved.

(116)   *Hiatus resolution in Ojibwa*

    a.   *Phase-internal vowel hiatus results in vowel deletion*
        name:-ag   [name:g]
        sturgeon-PL
        'sturgeons'   (Travis et al. 2009 (1a))

    b.   *Vowel hiatus across a phasal boundary is tolerated*
        gi:-a:gamose: [gi:a:gamose:]
        PST-walk.in.snowshoes
        's/he walked in snowshoes'   (Travis et al. 2009 (1b))

    c.   *C-epenthesis*
        ni-a:pawe: [nida:pawe:]
        1SG-have.nightmares
        'I have nightmares'   (Travis et al. 2009 (3))

Hiatus resolution applies across a phasal boundary only when the element in the higher phase is too light phonologically. However, as (116c) shows, when hiatus must be resolved across a phasal boundary, vowel deletion does not apply. Instead, a consonant is added. This is attributed to *Phonological Persistence* in (117).

(117)   *Phonological Persistence*:   (Travis et al. 2009 (4))

    In the computation of phonology, there is a tendency to retain the phonological form that has been previously mapped to each individual phase constituent dur-ing later computation; i.e. the phonology assigned to a phase will be maintained as much as possible during subsequent computation.

Below I suggest that an over-application of a vowel lowering process (illustrated by (118))
can also be explained by *Phonological Persistence* if *v* is phasal and voice morphology is
merged at *v*.

First, in Amis, [u] is lowered to [o] when a tautosyllabic epiglottal stop or glottal
fricative precedes or follows [u]. Two pairs of examples are given in (118).

(118) *to**lo***   [tu.lu]   'three'

        *to**lo*'**   [tu.loʔħ]   'trip over and fall'

        *na**no***   [na.nu]   'from'

        *fa**noh***   [fa.noh]   'body hair'

When an epiglottal stop follows [u] but is syllabified to the following syllable, vowel low-
ering does not occur, as (119) shows.

(119)

Root-Internal *o.'*V			Root-Internal *o.h*V		
to'em	[tu.ʔəm]	'dark (sky)'	*rohem*	[ru.həm]	'ripe'
to'as	[tuʔas]	'old'	*kohaw*	[ku.haw]	'soup'
limo'ot	[li.mu.ʔot]	'instruction'	*kohecalay*	[ku.h(ə).t͡salaj][63]	'white'
po'ot	[pu.ʔot]	'dagger'	*fohat*	[fu.hat]	'open'

The absence of vowel lowering in (119) contrasts with (120). Take *taroh* as an example.
By itself, vowel lowering applies as predicted. When PV *-en*[64] attaches to *taroh*, yielding
tarohen, even though *h* is resyllabified to the final syllable, vowel lowering still applies.
The reduplication example in addition shows that vowel lowering does not apply to *taro*,
the reduplicant[65] of *taroh*. That is, vowel lowering over-applies to *tarohen*. The same
variation can also be demonstrated with *tolo'*, though having an additional causative *pa-*
makes it less clear what the syntactic structure it corresponds to should be.

We can explain (120) by *Phonological Persistence* if voice morphology is merged at *v*

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[63][ə] in an unstressed open syllable can be optionally deleted. This does not affect vowel lowering.

[64]This is also true for LV *-an* and the subject relativiser *-ay*.

[65]The reduplicant of this type of reduplication is a CV.CV copy of the final foot of the root.

and *v* is a phase head. Adopting this, the over-application of vowel lowering can now be thought of as preserving the previous Spell-Out. That is, vowel lowering applies when the domain of *v* undergoes Spell-Out. The result is retained when PV *-en* is merged at *v*, even though resyllabification applies as a result of this suffixation, and vowel lowering does not occur in the same environment when it is root-internal.[66]

(120)	ROOT	*tolo'*	[tu.loʔ]	*taroh*	[ta.roh]
		'trip over and fall'		'drag'	
	PV	*pa-tolo'-en*	[pa.tu.lo.ʔən]	*taroh-en*	[ta.ro.hən]
		'cause s.o. to trip over and fall (PV)'		'drag (PV)'	
	REDUP.	*ma-tolo-tolo'*	[ma.tu.lu.tu.lo.ʔən]	*mi-taro-taroh*	[mi.ta.ru.ta.roh]
		'trip over and fall repeatedly'		'drag repeatedly'	

Note that the structure of roots I posited raises another issue, since it contains an *n*. It has been proposed that all category-determining heads are phasal (Marantz 2007). If case assignment applies each time a phase head is merged and *n* is phasal, we will wrongly predict that in a simplex AV main clause, three case assignments apply and in a gerund, four case assignments apply. This pattern is not attested. Triple case-stacking is possible only on DPs that have undergone raising-to-object. This can be resolved, for example, by phase extension licensed by head movement, or by positing that when two phase heads are adjacent, the lower one "postpones" Spell-Out until the higher one is merged. I do not have data to argue for one or another.

2.7 Summary

To sum up Chapter 2, this chapter addressed two issues. First, I showed that a phase-based multiple case assignment system, implemented in the Dependent Case model, is

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[66]The story might be more complicated. [i] is also lowered to [e] in similar environments. To the extent that I can hear the difference, when a root ending in *i'* is suffixed by PV *-en*, vowel lowering still applies. This is consistent with (120). However, when a root ending in *ih-* is suffixed by PV *-en*, vowel lowering does not seem to apply.

compatible with Amis. I illustrated how a simple pair of case assignment rules derives the case marking pattern of imperfective clauses, gerunds, and perfective clauses with a stipulation to be addressed in the next chapter. In addition, I showed that the data that motivated previous studies to posit movement as a precondition for additional case assignment are not attested in Amis.

Second, I argued that in Amis, what alternates with case marking is aspect instead of voice morphology. Moreover, genitive case marking a possessor and genitive case marking the subject in a perfective (PV/LV) clause have the same source. They both mark a DP that is at some point in a Spell-Out domain that is not verbal. In addition, in Chapter 4, we will see that the subject in an imperfective (AV) clause can appear with genitive case inside nominative case. Thus, singling out genitive case on the subject in a perfective clause as an inherent agentive case is too restricted.

Chapter 3

φ Agree, movement, and case

In the previous chapter, multiple case assignment is seen as a process that automatically applies at each phase. I also posited that perfective Asp establishes an additional Agree relation with the subject, and as a result, the subject becomes defective and inaccessible to additional case assignment and operator movement.

This chapter aims to establish that case morphology and varied movement behaviours are both mediated by how articulated a DP's φ specification is.

I propose that each successful Agree between a φ probe and a DP introduces a layer of K(ase)P (Rezac 2003, 2004), unless Merge follows the Agree. In addition, a DP can potentially agree with multiple φ probes. The case assignment rules posited in Chapter 2 will be rethought of as rules for spelling out K.

In a perfective (PV/LV) clause, the subject becomes φ-defective due to the additional Agree relation with perfective Asp. As a result, it does not match φ probes with a more articulated specification and has only one K to be spelled out.

Following Chomsky 1995, 2000, 2001, I assume that movement involves two procedures: Agree and Merge. Moreover, adopting proposals by van Urk 2015, I will posit that movement can be triggered by complex A/Ā probes. Given these, whether a given constituent can undergo a particular type of movement can inform us about the accessible (A/Ā) features on the constituent. I will claim that, even though Amis displays very limited agreement morphology, the behaviour of different movements support treating subjects of perfective clauses as φ-defective. Specifically, there are more restrictions on moving

subjects of perfective clauses but they are not entirely inactive. For example, subjects of perfective clauses cannot undergo operator movement, but they remain accessible to the probe that triggers raising-to-object, which I posit contains an underspecified φ probe. Moreover, subjects of perfective clauses can block a φ-complete but structurally lower DP (the nominative object in the same clause) from raising. This proposal will also account for *o*-topicalisation, a pure Ā-movement not restricted to DP.

The remainder of this chapter has two main components. In 3.1, I examine what the additional Agree relation initiated by perfective Asp is. I posit that this Agree makes the subordinate specification of a DP's φ feature inaccessible, leaving it φ-defective. I suggest a word order constraint found only in perfective clauses correlates with this fact about Agree. In 3.2-3.3, I propose that each successful φ Agree with a DP introduces a layer of K to the DP. Given this, a DP's accessible φ features will interact indirectly with both case morphology and movement. Finally, I show that positing case as Spell-Out of KP helps us explain case-stacking on resumptive pronouns. This happens when the DP that moves is a contrastive topic.

3.1 Perfective aspect and differential subject marking

I propose below that perfective Asp in Amis contains a φ probe with an EPP feature. This builds on previous research on the possessive construction and the auxiliary *have*. I discuss some relevant studies below.

Freeze 1992 observed that in many languages, the locative construction is also used to express possession. An example from Tongan is given in (1). He proposed that the possessive interpretation of the locative construction comes from having a [+human] location. In addition, he posited that in languages that use a designated predicate, such as *have*, to express possession, the predicate is derived by incorporating a locative element into I. The cross-linguistic variation between using the locative construction and using *have* to express possession can then be attributed to whether this incorporation takes place in a given language. Kayne 1993 extended this analysis to account for the alternation between the auxiliary *be* and *have*, and proposed that the auxiliary *have* is also derived by

incorporating a D/P element into *be*.

(1)   a.   *Tongan: locative construction*

           'oku 'i ai 'ae   nofo'anga 'i he poopao.
           TNS P 3SG ABS.ART seat   P ART canoe
           'There's a seat in the canoe.'

    b.   *Tongan: possessive construction*

           'oku 'i ai 'ae   faanau 'a   sione.
           TNS P 3SG ABS.ART children ABS/GEN PN
           'John has children.'   (Freeze 1992 (71a-b))

Languages such as English use *have* as a predicate to express a possessive relation and as an auxiliary in perfect(ive) clauses.[1] That the same structure or vocabulary item is used both in the possessive construction and in perfect(ive) clauses is also found in those languages that use the locative construction to express possession (Bjorkman 2011, 2015). That is, a similar locative construction is also used in perfect(ive) clauses.

    Below are some examples from Russian, Estonian, and Hindi-Urdu. These three languages all use the locative construction to express (predicative) possession. (2) and (3) from Russian illustrates this most clearly. Both examples contain a copula *be* and a location or a possessor marked by a preposition. A similar pattern is found in Hindi-Urdu and Estonian. Both (3b)-(3c) contain a copula *be* and a possessor marked by genitive or adessive case.

(2)   *Russian: locative construction*

    na stole   byla kniga.
    on table.LOC be   book.NOM.F
    'There was a book on the table.'   (Freeze 1992 (1b))

---

[1] While perfect and perfective refer to different semantic concepts, in some languages, such as French, the perfect has replaced the past perfective (in colloquial speech). That's why I add parentheses in "perfect(ive)".

(3)   *Possessive construction*

    a.   **U menja**   byla kniga.
         at 1SG.GEN be   book.NOM.F
         'I have a book.'   (Russian; Bjorkman 2015 (10))

    b.   **Larkee-kee**   paas   kuttaa hai.
         boy.OBL-GEN proximity dog   be.3SG.PRES
         'The boy has a dog.'   (Hindi-Urdu; Freeze 1992 (47b))

    c.   **Mu-l**   on   uus auto.
         1SG-ADE be.3SG new car
         'I have a new car.'   (Estonian; Bjorkman 2015 (11))

Perfect(ive) clauses in these languages have similar syntax. In (4a)-(4c), the auxiliary is *be* and the subject is either marked by the same case marking possessors or a designated case (e.g. ergative), whereas subjects of imperfective clauses in these languages are typically marked by nominative case or unmarked.[2]

(4)   *Aspect-conditioned differential subject marking*

    a.   **U traktora**   tut   proexano.
         at tractor.GEN here passed.by.PTCP.N.SG
   'A tractor has passed by me.'   (North Russian; Bjorkman 2015 (14))

---

[2]In some languages, the existential/locative construction is not only used to express possession but also property concepts. The latter hasn't received as much attention, but it might teach us why in some languages, *have* is both a possessive verb and the perfect(ive) auxiliary, whereas in some other languages, the possessive construction and perfect(ive)s are syntactically identical or similar to the existential/locative construction. In (ia)-(ib) from Hausa, both possession and property concepts are expressed by the existential construction. (ib) contrasts with French (ic), which uses *have* to indicate possession and (some) property concepts.

(i)   a.   àkwai kuɗī   gàrē kà?
         exists money at   you
         'Do you have any money on you?'   (Hausa; Francez and Koontz-Garboden 2017 27 (12))

    b.   àkwai sù dà   kyâu.
         exists 3PL with beauty
         'They're really beautiful!'   (Hausa; Francez and Koontz-Garboden 2017 26 (11b))

    c.   J'ai   faim.
         1SG-have hunger
         'I'm hungry.'   (French)

b. **Raam-ne** Ravii-ko piiṭaa hai.
   PN-ERG PN-OBJ beat-PFV be.3SG.PRES
   'Ram has beaten Ravi.'   (Hindi-Urdu; Bjorkman 2015 (3))

c. **Mu-l** on juba maga-tud.
   1SG-ADE be.3SG already sleep-PASS.PTCP
   'I have already slept.'   (Estonian; Bjorkman 2015 (16))

Bjorkman 2015 proposed that perfect(ive) Asp contains a φ probe with an EPP feature. The perfect(ive) Asp agrees with the external argument which moves to SpecAspP, as in (5). She posited that in some languages, such as Hindi-Urdu, the same Asp additionally assigns an inherent case to the DP in its specifier. In some others, such as English, Asp is realised as *have* when a DP is in its specifier. This accounts for the cross-linguistic variation mentioned above.[3]

(5)   *Perfect(ive) Asp contains an uφ probe (based on Bjorkman 2015)*
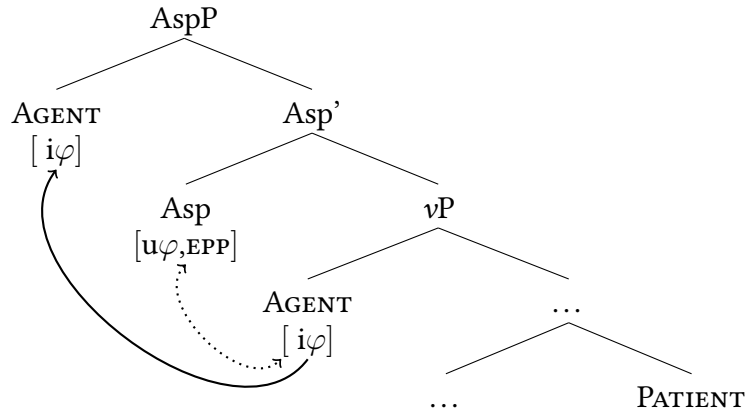
3.1.1 Perfective in Amis and extra φ licensing

Amis is another language that uses the locative construction to express possession, as (6a)-(6b) show.

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[3]In Bjorkman 2011, the cross-linguistic variation between auxiliary *have* and a designated case on the external argument in perfect(ive) clauses is accounted for in a different way. Instead of raising the external argument to SpecAspP, a locative feature in Asp is lowered down to the external argument. This is realised as adessive case, for example, in Estonian (4c). When this lowering does not occur, Asp with this extra locative feature is realised as *have*.

(6) a. *Locative construction*

Ira   ko   cecay a   codad i sapad.
exist NOM one   LNK book P table
'There is a book on the table.'

b. *Possessive construction*

Ira   ko   cecay a   codad **ni   Panay**.
exist NOM one   LNK book **GEN PN**
'Panay has a book. (lit. There is a Panay's book.)'

In addition, similar to North Russian in (7), subjects of perfective (PV/LV) clauses are also marked with genitive case, the same case marking possessors.

(7) Asip-en/-an **ni   Panay** ko   cecay a   codad inacila.
read-PV/-LV **GEN PN**   NOM one   LNK book   yesterday
'Panay read a book yesterday.'

I posit that perfective Asp in Amis also contains a φ probe with an EPP feature, as in (8). This is the additional Agree stipulated in Chapter 2.5.2.

(8) *Perfective Asp in Amis*
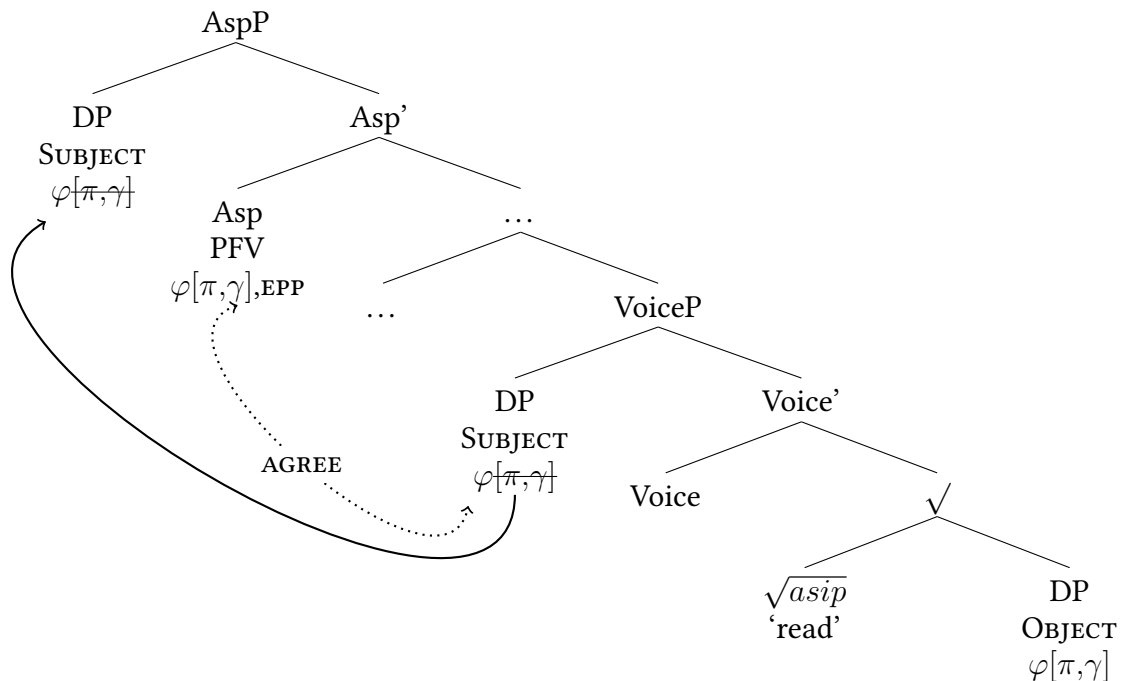
There are two differences between (8) and Bjorkman's 2015 proposal. First, I posit that when the perfective Asp agrees with the subject, the subject becomes φ-defective. I stipulate that this is a result of "deletion" of the subject's subordinate φ specification[4], effectively making it an underspecified DP.[5] This is indicated with a strikethrough over the subordinate specification of the subject's φ feature. Second, the genitive case on the perfective subject is not an inherent case. It is assigned in the previous Spell-Out and is retained because the φ-defective subject does not receive an additional case (an additional K in the current proposal).

Partial deletion of the perfective subject's φ feature is motivated by the subject's behaviour in Amis. Perfective subjects are not entirely inactive. They can still undergo raising-to-object or topicalise.

This is also based on the observation that in some languages where the subject of a perfective clause is said to be marked with an inherent case, the verb still agrees with the subject. For example, even though in many Indo-Aryan languages, such as Hindi-Urdu, Kashmiri, Marathi, and Punjabi, the ergative subject in a perfective clause does not trigger agreement (Bhatt 2005), the ergative subject in Nepali, also Indo-Aryan, does agree. As (9a)-(9b) show, both the subject of a perfective clause and the subject of an imperfective clause agree, even though the subject in a perfective clause is marked with an additional ergative case. Nepali offers an example of a DP marked with inherent case that remains active for φ agreement.

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[4]Assuming a geometric representation of φ features (cf. Harley and Ritter 2002), by a DP's subordinate φ specification, I mean features that are further embedded in a geometric tree. For example, if we represent first person pronouns as [$\varphi[\pi[\text{PART}[\text{SPKR}]]]$], then [$\pi[\text{PART}[\text{SPKR}]]$] is subordinate to [$\varphi$] and [PART[SPKR]] is subordinate to [π], and so on.

[5]I will leave open how this deletion is achieved. Assuming φ features are structurally represented along the nominal extension in a DP (e.g. Ritter 1991), perhaps deletion results from subextraction of some functional structure or raising of a particular functional head, although neither has an effect on pronunciation in Amis.

[5]Ergative case in Basque has also been treated as an inherent case (Woolford 2006 a.o.). However, as Rezac 2008a pointed out, raising-to-ergative exists in Basque. Basque has ergative expletives in addition. These are incompatible with treating ergative case in Basque as an inherent case assigned to a DP (with a certain theta role) in a designated position.

(9) *Nepali: ergative DP agrees*

    a.   *Perfective*

        maile   gaiko aaitvaar dhairai raksi: **kha:ẽ**
        1SG-ERG gone Sunday a.lot   alcohol eat-PST.**1SG**
        'I drank a lot last Sunday.'

    b.   *Imperfective*

        ma   asti somvaar sku:lma: ḍhi:lo **a:ẽ**
        1SG-NOM last Monday school-in late   come-PST.**1SG**
        'I was late to school last Monday.'   (Bhatt 2005 (26a-b))

In addition, in Kutchi Gujarati and Marwari, even though both subjects of perfective clauses and subjects of imperfective clauses are unmarked, transitive verbs only agree with subjects of imperfective clauses (Grosz and Patel-Grosz 2014). (10) gives an example from Kutchi Gujarati. This suggests that whether or not a DP remains active is perhaps not as closely associated with inherent case as is commonly assumed.[6]

(10)   *Kutchi Gujarati: unmarked perfective subjects do not agree*

    a.   *Perfective*

        Reena **kutro**(-ne)   mar-y-**o**
        PN[F] **dog[M]-DOM** hit-PFV-**M**
        'Reena hit a/the dog.'

    b.   *Imperfective*

        Reena kutro(-ne)   mar-th-**i**
        PN[F] dog[M]-DOM hit-IPFV-**F**
        'Reena used to hit a/the dog.'   (Grosz and Patel-Grosz 2014 (5a-b))

In Amis, assuming that verbs raise to C/T, we will not see any difference on the surface whether or not subjects of perfective clauses move overtly in (8). However, in Puyuma, a related Formosan language, PV verbs appear with an additional genitive clitic that is absent on AV verbs, as (11) illustrates. (11b) might potentially be an example that satisfies Asp's EPP requirement by incorporating (a φ-defective) D into the verb (cf. Travis 2006b).[7]

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[7]I do not know whether the same aspectual diagnostics I applied in 2.5.1 also distinguish (11a)-(11b). Li's 2007 translation happens to make (11b) perfective, but given the other data in the paper, it is not clear

(11) *Puyuma genitive clitic doubling*

    a. *Actor Voice: no clitic doubling*

        M-ekan dra kuraw i   Pilay.
        AV-eat OBL fish   NOM PN
        'Pilay eats fish.'

    b. *Patient Voice: genitive clitic doubling*

        tu=ekan-aw   **kan Pilay** na   kuraw.
        GEN.3SG=eat-PV **GEN PN**   NOM fish
        'Pilay ate the fish.'   (Li 2007 (3a-b))

Interaction between perfect(ive) Asp and the subject's φ feature is also found in languages where the choice of auxiliary in perfect(ive) clauses vary with certain φ specification on the subject. For example, in Italian, with verbs expressing controlled affecting processes, such as 'yield' in (12), when the subject is animate, the auxiliary must be *have*. When the subject is inanimate, the auxiliary can be either *have* (preferred) or *be*.

(12) *Italian auxiliary selection*

    a. *Animate subjects*

        Maria ha/*e ceduta alle tue insistenze.
        PN   **has**/*is yielded to your pressure
        'Maria yielded to your pressure.'

    b. *Inanimate subjects*

        Il **pavimento** ha/?**e** ceduto all'improvviso.
        the floor   has/?**is** yielded suddenly
        'The floor suddenly yielded.'   (Bjorkman 2015 (20a-b))

Abruzzese (Italo-Romance) illustrates auxiliary selection conditioned by the subject's person features. The auxiliary in a perfect clause is *be* when the subject is first or second person (Coon and Preminger 2012). When the subject is third person, *have* is used instead.

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whether or not this is true for all PV verbs in Puyuma.

(13)   *Abruzzese auxiliary selection*

    a.   *1st/2nd person subjects*

       Ji   **so'** magnate.
       1sg be eaten-sg
       'I have eaten.'

    b.   *3rd person subjects*

       Esse a   magnate.
       3sg **have** eaten-sg
       'S/he has eaten.'   (Coon and Preminger 2012 (9a-b))

I will not account for these φ feature-conditioned alternations, but the data discussed above support the claim that in some languages, perfective Asp interacts with the subject's φ feature in ways that imperfective Asp does not. I posit that Amis is one of these languages. Imperfective Asp does not contain an extra φ probe, as in (14).

(14)   *Imperfective Asp in Amis*
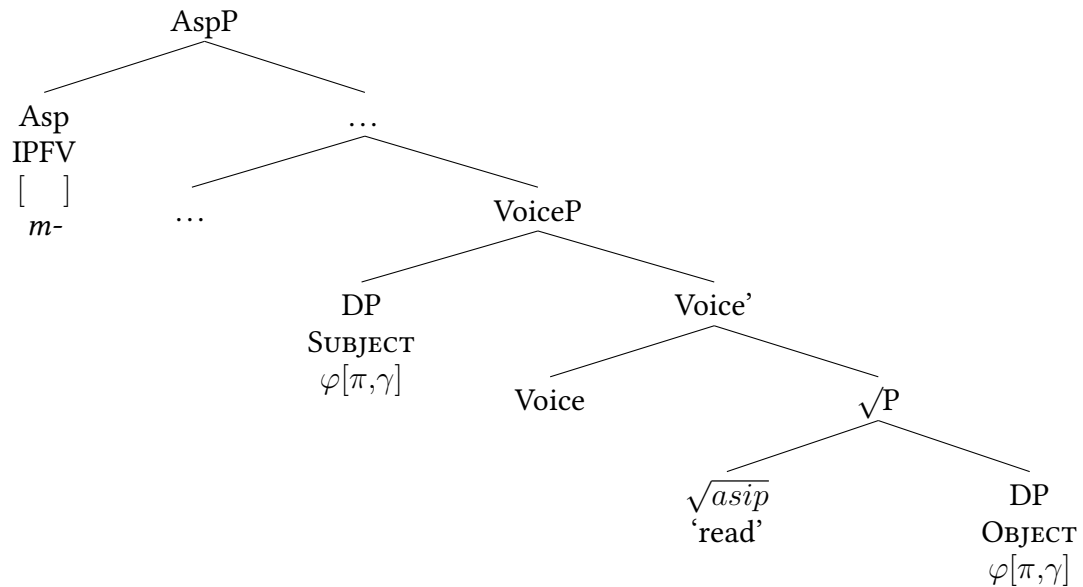
3.1.2   Word order restriction on perfective clauses

Although whether or not the subject in a perfective clause has moved to SpecAspP is harder to detect in Amis, I suggest below that a word order restriction that applies only to perfective clauses offer potential evidence for this movement. Descriptively, the data

below show that an element with a(n) (accessible) φ feature cannot intervene between the verb and the subject in a perfective clause.

First, in an imperfective (AV) clause, such as (15), the object can either precede or follow the subject. In an imperfective ditransitive clause, all six possible word orders are attested (data not included).

(15)   *Imperfective (AV): object can precede subject*

    a.   Mi-asip ci   Panay **to   cecay a   codad** i matini.
            AV-read NOM PN   **ACC one   LNK book** P now
            'Panay is reading a book now.'

    b.   Miasip **to cecay a codad** ci Panay i matini.

However, in a perfective (PV/LV) clause, as in (16), the object can only follow the subject.

(16)   *Perfective (PV/LV): object cannot precede subject*

    a.   Asip-en ni   Panay **ko   cecay a   codad** inacila.
            read-PV GEN PN   **NOM one   LNK book** yesterday
            'Panay read a book yesterday.'

    b.   *Asipen **ko cecay a codad** ni Panay inacila.

This restriction is not about being nominative. In a perfective ditransitive clause, such as (17)[8], neither the nominative-marked recipient nor the accusative-marked theme can precede the subject. It also does not matter whether or not the DP preceding the subject is pronominal. Replacing *koya tamdaw* in (17b) or *ci Nakawan* in (17c) with a pronoun does not improve these sentences. In addition, the theme in (17a) can still scramble over the recipient. This option remains identical as in an imperfective clause.

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[8]A context was provided to the consultants for (17) since normally one does not "give" a person to another one. The context: Panay is in charge of pairing up people for a project. She gives "that person" Nakaw. In addition, animacy of the theme in a ditransitive clause might play a role somehow with respect to the word order restriction. Fronting an inanimate theme, as in (ic), was sometimes accepted. However, identical or comparable examples have also been immediately rejected in separate elicitation sessions. This judgment variation does not seem to be a result of interpreting the genitive DP in (17c) as the possessor of the accusative theme. An adjunct can still separate the two DPs, for example. This interpretation is in principle possible since Amis is a *pro*-drop language (and *pro*-drop is not limited to nominative DP). I will put this aside.

(17)   *Perfective: object cannot precede subject*

    a. Pa-feli-en   ni Panay ko-ya   tamdaw ci Nakaw-an.
       CAUS-give-PV GEN PN   NOM-that person ACC PN-ACC
       'Panay gave that person Nakaw.'

    b. *Pafelien **koya tamdaw** ni Panay ci Nakawan.

    c. *Pafelien **ci Nakawan** ni Panay koya tamdaw.

On the other hand, adjuncts, including accusative-marked adjuncts[9], can precede the subject in a perfective clause, as in (18a)-(18b). (18c) in addition shows that more than one adjunct can precede the subject.

(18)   *Perfective: adjuncts can precede subject*

    a. Asip-en **to mámang** ni Panay ko-ya   cecay a   codad.
       read-PV **ACC little**   GEN PN   NOM-that one LNK book
       'Panay read that book for a little bit.'

    b. Asip-en **i loma'** ni Panay ko-ya   cecay a   codad.
       read-PV **P house** GEN PN   NOM-that one LNK book
       'Panay read that book at home.'

    c. Asip-en **i honi**   **i loma' no-ya**   tamdaw ni Panay koya   cecay
       read-PV **P moment P house GEN-that person** GEN PN   NOM-that one
       a   codad.
       LNK book
       'Panay read that book at that person's house just now.'

(i)   a. Pa-feli-en   ni Panay ko-ya   tamdaw to cecay a   codad.
       CAUS-give-PV GEN PN   NOM-that person ACC one LNK book
       'Panay gave that person a book.'

    b. *Pafelien **koya tamdaw** ni Panay to cecay a codad.

    c. %Pafelien **to cecay a codad** ni Panay koya tamdaw.

  [9]Besides *to mámang* 'a little,' durative temporal phrases and causes are also marked by accusative case. Two examples of accusative-marked causes are given below.

(i)   a. Ma-paheng   ko tangila ako   to tano-soni   no fiteli'.
       IPFV.STAT-deaf NOM ear   GEN.1SG ACC abundant-sound GEN thunder
       'My ears are deafened by the incessant sounds of thunder.'   (Namoh Rata 2013 507)

    b. Mi-etan   ko mama to sapicodad no wawa nira.
       IPFV.AV-profit NOM father ACC tuition GEN child GEN.3SG
       'Father earns money for his children's tuition.'   (Namoh Rata 2013 99)

Moreover, it is unlikely that the genitive subject has been (pseudo-)incorporated in perfective clauses, given that this subject is not structurally reduced. It can be marked by a demonstrative or modified by a relative clause, as shown by the data on Condition C discussed in 2.6. We also just saw that multiple adjuncts can intervene between the verb and the subject in (18c).

If this word order restriction is related to the Agree relation between perfective Asp and the subject, we expect that this restriction should not hold in gerunds. This is correct. In (19), the gerund object can follow or precede the subject.[10]

(19)   *Gerunds: object can precede subject*

a.   Pa-cekok   kako   to pi-tefing ni Mayaw **to   siri**.
     CAUS-scare NOM.1SG ACC AV-touch GEN PN   **ACC goat**
     'Mayaw's touching the goats scares me.'

b.   Pacekok kako to pitefing **to siri** ni Mayaw.

The same sort of restriction is found in several Austronesian languages, although the restriction is manifested in different ways. For example, in non-AV, but not AV, clauses in Malagasy, the determiner of the agent is incorporated into the verb, as in (20b). If the agent is pronominal, as in (20c), or is a proper name, as in (20d), the entire agent is incorporated.

(20)   *Malagasy N-bonding*

a.   *AV: no N-bonding*

     [Manasa   ny lamba amin'ny savony] ny lehilahy.
       PRES-AV.wash DET clothes with-DET soap   DET man
     'The man washes the clothes with the soap.'   (Travis 2006b (71))

---

[10]There are many examples of gerunds with an accusative object preceding a genitive subject. However, some, such as (ib), were not accepted by every consultant. I do not have an explanation for this.

(i)   a.   Faheka   kako   [to   pi-asip ni Mayaw to cecay a   codad].
           surprised NOM.1SG ACC(-that) AV-read GEN PN   ACC one   LNK book
           'I'm surprised at Mayaw's reading a book.'

      b.   %Faheka kako [to piasip **to cecay a codad** ni Mayaw].

b. *Non-AV: N-bonding*

[Hitan'**ny** **lehilahy**] ny trano.
PV.see-**DET** **man** DET house
'The house was seen by the man.'

c. [Hitan**ao**] ny trano.
PV.see-**2SG** DET house
'The house was seen by you.'

d. [Hitan-**dRabe**] ny trano.
PV.see-**PN** DET house
'The house was seen by Rabe.' (Travis 2006b (16a-c))

This incorporation is called N-bonding in Keenan 2000. It induces the same phonological change that happens in compounding, as in (21). Travis 2006a argued that N-bonding involves D-to-T movement.

(21) a. híta + Rabé → hitandrabé (Travis 2006b (17))
seen + Rabe 'seen by Rabe'

b. tráno + rázana → tranondrázana
house + ancestor 'tomb'

A similar word order restriction is also found in Balinese. As (22a)-(22c) show, in situ (post-verbal) subjects can be a pronoun, a proper name or a bare noun. On the other hand, nouns marked by a determiner cannot appear in this position, as in (22d).

(22) *Balinese in situ subjects*

a. Be-e daar **ida**.
fish-DEF PV.eat **3SG**
'S/he ate the fish.'

b. Be-e daar **Nyoman**.
fish-DEF PV.eat **PN**
'Nyoman ate the fish.'

c. Be-e daar **cicing**.
fish-DEF PV.eat **dog**
'A dog ate the fish.'

d. *Be-e   daar **cicing-e**.
   fish-DEF PV.eat **dog-DEF**
   Intended: 'The dog ate the fish.'   (Erlewine et al. 2017 (29a-d))

Moreover, in situ subjects must be linearly adjacent to the verb. Adverbs cannot come in between, as (23) shows. This is different from Amis. As we saw above in (18), adjuncts can intervene between the verb and the subject in a PV clause.

(23)   *Be-e   daar **keras-keras** ida/Nyoman/cicing.
        fish-DEF ov.eat **quickly**   3SG/PN/dog
        Intended: 'S/he/Nyoman/A dog ate the fish quickly.'   (Erlewine et al. 2017 (30))

The word order restriction in Amis, Malagasy, and Balinese seems similar fundamentally. In all three languages, the subject of a non-AV clause needs to be local to the verb in some way. They differ in what counts as local. Malagasy and Balinese require head incorporation or head-to-head adjacency. Amis only blocks other arguments from this position. In Matuuwal (Mayrinax) Atayal[11], an accusative DP can intervene between a non-AV verb and the genitive subject, but a nominative DP cannot, as in (24). This is less restricted than Amis.

(24)   *Matuuwal (Mayrinax) Atayal*

   a.   Baiq-an ni yaba cu pila i   Yumin.
        give-LV GEN father ACC money NOM PN
        'Father gave money to Yumin.'

   b.   Baiqan **cu pila** ni yaba i Yumin.

   c.   *Baiqan **i Yumin** ni yaba cu pila.

I suggest that perfective Asp is the cause of the word order restriction in Amis. Specifically, having a φ-bearing DP in between the verb and the subject in a perfective clause either blocks the subject from moving to SpecAspP or disrupts the Agree relation somehow. On

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[11]This dialect of Atayal is more commonly known as Mayrinax, but the name apparently has a derogative origin, which has unfortunately been popularised by unknowing linguists. Some of the speakers prefer to refer to their language as Matuuwal.

the other hand, adjuncts either lack the relevant φ feature or the φ feature is inaccessible by being embedded inside a PP. However, given that this word order restriction is common across Austronesian languages, many of which do not have the same aspectual contrast as in Amis, it seems unlikely that the restriction in these languages can all be attributed to perfective Asp. This will remain an open question.

3.1.3 φ features in Amis

Amis has very limited agreement morphology. An animacy/humanhood agreement on numerals, to be shown below, is the only one I have found that might be treated as agreement. Therefore, it might seem odd to posit multiple φ agreement in the language and relate case and movement to φ agreement. However, the data I discuss below indicate that at least person and animacy/humanhood features are morphologically and syntactically active in Amis. Most of these are only initial data that emerged at the time of writing this dissertation, so I will not be able to offer an account. For now the data are only meant to support relevance of φ features in Amis.

First, pronouns with the same person and number in all case paradigms share a basic component. For example, *ako* is present in all 1SG pronouns and *iso* is found in all 2SG pronouns. Among these, nominative and accusative pronouns display two different patterns based on person (1/2 vs. 3).[12] In the nominative paradigm, 1/2 person pronouns all start with *k*. In the accusative paradigm, 1/2 pronouns all start with *t*. However, in either paradigm, 3 person pronouns start with *ci* or *ca*. These are most likely the same marker that appears on personal names and kinship terms (e.g. *ci/ca Panay*).[13]

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[12]The contrast is not obvious in the genitive or possessive paradigms. I include them for the sake of completeness.

[13]It seems possible that third person pronouns can be decomposed into *ci/ca* plus *ira*. *Ira* is the predicate in the existential construction. For example, *cingra* can also be pronounced as *ciira* or *cira* in casual speech. The nasal might be (diachronically) a result of hiatus resolution.

(25)   *Pronouns in Amis: 1/2 vs. 3 in nominative and accusative*

	NOM	ACC	GEN	POSS
1SG	kako	takowanan	ako	no mako
1PL.INCL	kita	titaanan	ita	no mita
1PL.EXCL	kami	tamiyanan	niyam	no niyam
2SG	kiso	tisowanan	iso	no miso
2PL	kamo	tamowanan	namo	no namo
3SG	cingra	cingraan	ningra/nira	no ningra/nira
3PL	cangra	cangraan	nangra	no nangra

Second, imperfective (AV) ditransitive clauses display a phenomenon that is reminiscent of Person Case Constraint (PCC), attested in many languages. The PCC refers to ungrammaticality that arises in presence of certain person combinations. The phenomenon in Amis is similar but it seems to happen whenever the recipient and the theme are both pronominal, regardless of person and number. This is not typical of PCC.

Descriptively, in an AV ditransitive clause, when both the recipient and the theme are pronominal, the recipient needs to be marked by the preposition *i*. (26) gives a partial paradigm.[14]

(26)   *Person Case Constraint*

  a.   Pi-pa-ini   ci   Panay takowanan *(i) cingraan.
        AV-CAUS-here NOM PN   ACC.1SG   *(P) ACC.3SG
        'Panay introduced me to her/him.'

  b.   Pi-pa-ini   ci   Panay tisowanan *(i) cingraan.
        AV-CAUS-here NOM PN   ACC.3SG   *(P) ACC.3SG
        'Panay introduced you to her/him.'

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[14] As illustrated in 2.3 , case marking and pronominal variable binding suggest that in a ditransitive clause, the recipient c-commands the theme. Thus, (26) shows that even when the intervener is a 3SG pronoun, which tends to be the least specified pronoun cross-linguistically, an extra preposition *i* is still necessary. Besides the three combinations shown in (26), this constraint also applies to the following four combinations (<theme,recipient>): <1SG,2SG>, <2SG,1SG>, <3SG,1SG>, <3SG,2SG>. This does not exhaust all the possibilities. I do not have the data right now to fill the gaps, so it is possible that a pattern less restricted than the one I suggested (*pronoun pronoun) might turn out to be more accurate. In addition, this constraint does not hold in transitive clauses in any voice and also not clearly active in non-AV ditransitive clauses.

    c.   Pi-pa-ini   ci   Panay cangraan *(i) cingraan.
        AV-CAUS-here NOM PN   ACC.3PL *(P) ACC.3SG
        'Panay introduced them to her/him.'

Whenever either the theme or the recipient (or both) is not pronominal, then the recipient can but does not need to be marked by the preposition *i*, as (27) shows.

(27)   a.   Pi-pa-ini   ci   Panay to-ya   ising (i) cingraan.
          AV-CAUS-here NOM PN   ACC-that doctor (P) ACC.3SG
          'Panay introduced that doctor to her/him'

       b.   Pi-pa-ini   ci   Panay cingraan (i) ci   Mayaw-an.
          AV-CAUS-here NOM PN   ACC.3SG (P) ACC PN-ACC
          'Panay introduced her/him to Mayaw.'

       c.   Pi-pa-ini   ci   Panay to-ya   ising (i) ci   Mayaw-an.
          AV-CAUS-here NOM PN   ACC-that doctor (P) ACC PN-ACC
          'Panay introduced that doctor to Mayaw.'

       d.   Pi-pa-ini   ci   Panay to-ya   ising to-ya   tamdaw/i ya tamdaw.
          AV-CAUS-here NOM PN   ACC-that doctor ACC-that person/(P) that person
          'Panay introduced that doctor to that person.'

The pronoun paradigm and the PCC-like phenomenon above suggest that person features interact with morphology and syntax in Amis. The data to be introduced below suggest that animacy/humanhood also plays a role.[15]

    First, when a numeral other than *cecay* 'one' modifies an animate/human DP, as in (28a), the numeral is reduplicated.[16] When the DP is inanimate/non-human, reduplication on the numeral is ruled out, as (28b) shows. This reduplication seems to have become more optional for some speakers, so for them, reduplication does not necessarily apply to the numeral in (28a). However, applying reduplication when a numeral modifies an inanimate/non-human DP is still ungrammatical.

    In addition, two quantifiers, *'aloman* and *adihay*, both mean 'many,' but *adihay* modifies only inanimate/non-humand DP, whereas *'aloman* modifies only animate/human DP,

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[15]The relevant distinction seems to be about humandhood. However, speakers often seemed unable to decide whether agreement on numerals, as in (28), can co-occur with animate but non-human DP.

as (28c) shows. Similar to the numeral reduplication, the word/morphology that is used with inanimate/non-human DP can also be used with animate/human DP for some speakers, but not the other way around. For example, speakers who accepted *adihay a tamdaw* 'many people' still rejected *'aloman a codad* 'many books.'

(28)   *Animacy/humanhood agreement on quantifiers*

    a. **(ta-)**tosa-ay   a   wawa, **(la-)**lima-ay   a   tamdaw
        (RED-)two-SREL LNK child   **(RED-)**five-SREL LNK person
        'two children, five people'

    b. **(*ta-)**tosa-ay   a   codad, **(*la-)**lima-ay   a   kaysing
        (*RED-)two-SREL LNK book   **(*RED-)**five-SREL LNK bowl
        'two books, five bowls'

    c. **'aloman/%adihay** a   tamdaw, ***'aloman/adihay** a   codad
        many/%many   LNK person ***many/many**   LNK book
        'many people, many books'

The agreement in (28) illustrates that animacy/humanhood is morphologically active in Amis. (29)-(30) show that it is also relevant for certain syntactic operations. *O*-topicalisation can freely apply to any DP, regardless of case on the DP and voice morphology, for some speakers. This is the pattern introduced before. However, for some others, *o*-topicalising the object of an imperfective (AV) clause is allowed only when the object is inanimate/non-human, as in (29). When the object is animate, *o*-topicalisation is ungrammatical even with a resumptive pronoun.[17] Elsewhere in this dissertation, unless otherwise specified, when I say *o*-topicalisation, I am referring to the one that can apply to any DP.[18]

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[16]The reduplicant copies the first consonant of the root and this is followed by *a*. If the root is vowel-initial (e.g. *enem* 'six'), then the reduplicant consists of just *a* (e.g. *aenem*).

[17]Third person pronouns in Amis also only refer to animate/human referents. Another environment where animacy/humanhood might matter was discussed before in footnote 8 on the word order restriction found in perfective clauses.

[18]This animacy/humanhood contrast is robust for the speakers who have it, but I haven't been able to follow up on these examples to see whether it correlates with anything else, and also, whether person or number features matter. I'll leave this for later.

(29)   *Inanimate/non-human AV object can topicalise*

a.   Mi-sawsaw   ko   tawki to   kiyafes.
     IPFV.AV-wash NOM boss   ACC guava
     'The boss is washing the guavas.'

b.   O kiyafes i,   mi-sawsaw   ko   tawki.
     O guava   TOP IPFV.AV-wash NOM boss
     'The guavas, the boss is washing (them).'

(30)   *Animate/human AV object cannot topicalise (for some speakers)*

a.   Mi-cikeroh   ko   tawki to-ya   cecay a   tamdaw.
     IPFV.AV-push NOM boss   ACC-that one   LNK person
     'The boss is pushing that person.'

b.   *O-ya cecay a   tamdaw i,   mi-cikeroh   ko   tawki (cingraan).
     O-that one   LNK person   TOP IPFV.AV-push NOM boss   (ACC.3SG)
     Intended: 'That person, the boss is pushing (her/him).'

Given the data discussed above, I posit that φ features in Amis are organised as in (31)
(altered from Harley and Ritter 2002). In the following sections, whether a probe and a
goal is a match and whether a DP is φ-defective will be based on (31). For example, third
(singular) pronouns might contain an underspecified [π] whereas first/second pronouns
contain a more articulated [π[PART]]. Likewise, inanimates might have an underspecified
[γ], but animates have a more specified [γ[ANIMATE]].


(31)   *φ feature geometry*
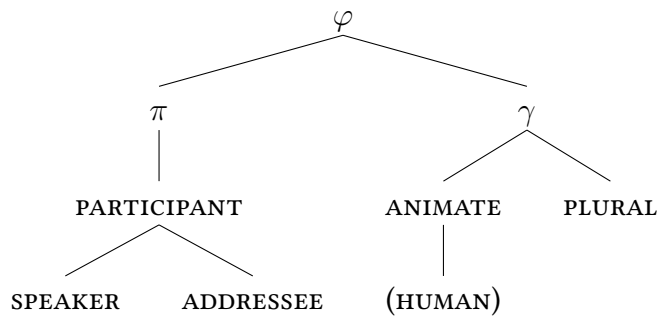
I will also assume that full DPs come with the full set of the relevant φ features. A DP

is "defective" in the sense that some or all of its subordinate specification becomes unavailable. In addition, I will posit that complex A/Ā probes can also contain a more or less articulated φ specification. Given the Match condition to be defined later, a more articulated φ probe can skip a defective DP that intervenes between the probe and a fully matched goal, because the intervening defective DP is not seen by this probe. (32) illustrates a scenario that conforms to this configuration.

(32)
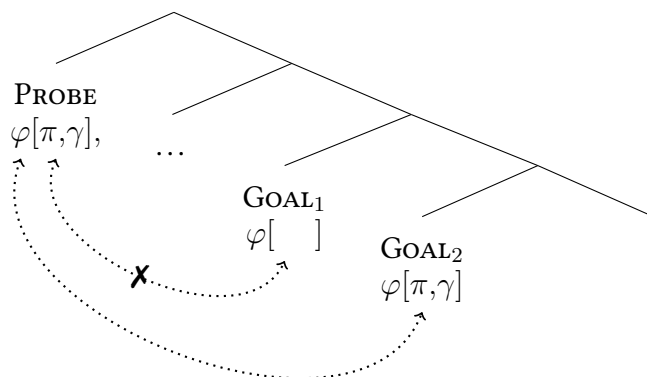
Summing up 3.1. I posited that perfective Asp in Amis contains a φ probe with an EPP feature. In addition, Agree between perfective Asp and the subject renders the subject φ-defective. I further showed that person and animacy/humanhood features have morphological and syntactic correlates in Amis. A hierarchical organisation of the relevant φ features in Amis was proposed based on these data. The discussion above serves as background for the following sections. Below I will show that a DP's φ specification determines both case morphology on the DP and what (movement) probes can access the DP.

3.2 Multiple φ Agree

The goal of this section is to show that case morphology and varied behaviour of different movements are both mediated by how articulated a DP's φ specification is.

There are two separate issues we will need to address. One concerns the relation between a DP's φ features and different movements. Specifically, in Amis, why can a DP

inaccessible to operator movement still *o*-topicalise or undergo raising-to-object? Following Béjar 2003; Béjar and Rezac 2009; van Urk 2015 a.o., I assume that a probe can consist of multiple sub-probes that can act separately or in unison, depending on the language. A probe's featural make-up can thus determine which DP is a possible goal, given a separate Match condition that evaluates a probe and a potential goal's features. The Match condition will be introduced shortly, but the interaction between different movement probes and possible goal DPs will be postponed until the next section.

The other issue we will address is how to characterise the relation between a DP's φ specification and case morphology on the DP. I posit below that the relation is indirect. It is mediated by (certain type) of φ agreement. This is achieved by two proposals. First, I posit that a DP can in principle agree with more than one (φ) probe, as long as the DP is a match for multiple probes. Given that it is in fact not uncommon to find languages in which multiple heads along the verbal extension all agree with the same DP, a multiple agreement approach to φ agreement along this line has many predecessors (Ura 1995; Carstens 2001; Rezac 2003; Béjar and Rezac 2009 a.o.).

(33)   *Multiple φ Agree:*

A DP can potentially agree with more than one φ probe as long as Match is observed.
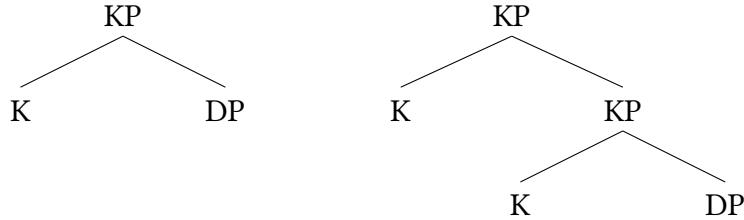
Second, I propose that each successful φ Agree with a DP introduces to the DP a K(ase), a functional projection that may be spelled out as case morphology in some languages (Travis and Lamontagne 1992; Levin 2015). I further posit that Agree with any kind of φ probe will introduce K, except when the probe also contains an EPP feature. That is, K is not introduced to a DP when a DP (or part of it) raises after Agree.

(34)   *K(ase)P shell introduction:*

Each successful Agree between a φ probe and a goal DP introduces a K(ase) to the DP, unless the probe also contains an EPP feature.

Moreover, given that multiple φ Agree with a DP is in principle possible, we expect to find situations where more than one K is added to a DP, as in (35).

(35)   *K(ase)P shell(s)*

```
        KP                      KP
       /  \                    /  \
      K    DP                 K    KP
                                  /  \
                                 K    DP
```

A similar idea was proposed in Rezac 2003, 2004. The current proposal differs from his in two respects. First, φ agreement initiated by a probe that also has an EPP feature does not introduce an additional K. Second, Rezac 2003, 2004 posited that the addition of K is a copy of the probe's uninterpretable φ features. I sketch an alternative below that connects together multiple φ agreement, K, and EPP, but this is only speculation.

First, I assume that at least part of a DP's φ specification is structurally introduced by different functional categories along the nominal extension (e.g. #P in Ritter 1991). Based on this, the reason why multiple φ agreement with a DP happens might be because for the functional categories to be accessible to probes outside a DP, the DP needs to be agreed with first.

A CP parallel to this idea was proposed in Rackowski and Richards 2005. First, they assume that (i.) a probe must Agree with the closest goal α that can move (closeness is defined by c-command), (ii.) a goal α can move if it is a phase, and (iii.) once a probe P is related by Agree with a goal G, P can ignore G for the rest of the derivation. Given (i.)-(iii.), in a long-distance wh-question in English, such as (36a), the closest goal for the matrix *v* is the embedded CP (bolded). Once *v* Agrees with this CP, the CP can be ignored. Now *v* can Agree with the embedded wh-word, which is then raised to the edge of the matrix *v*P and later to matrix SpecCP.

(36)   a.   [$_{CP}$ Who do you [$_{VP}$ think [$_{CP}$ that we should [$_{VP}$ hire ___]]]]?

     b.   *[$_{CP}$ Who do you [$_{VP}$ think [$_{CP}$ that [**$_{CP}$** if we [$_{VP}$ hire ___]], we'll [$_{VP}$ regret it]]]]?

In (36b), however, the embedded clause contains an additional adjunct CP. Thus, after the matrix *v* Agrees with the first embedded CP, the next closet goal is still a CP, the adjunct CP (bolded). (36b) is ruled out by an independent constraint on extracting out of an adjunct clause.

Turning back to DP. Typically, in the current literature, when a φ probe Agrees with a DP, it is assumed that the DP's φ features are immediately accessible to an external probe, even though research on DP/NP suggests that DP/NP can contain a rather articulated functional structure internally. I suggest that a process similar to Agree between *v* and CP in (36a) also needs to take place for φ features nested inside the DP to be accessible to an external φ probe. More specifically, once a DP is agreed with, an external φ probe (not necessarily the same one that Agrees with the DP) can Agree with a functional X(P) nested inside the DP.

We might imagine if a DP has a more articulated φ specification, such as first/second person pronouns as opposed to third person pronouns, the DP will need to be Agreed with more times in order for all the relevant features to become accessible.[19] The *Person-Licensing Condition* (Béjar and Rezac 2009), which has the effect of demanding extra licensing for more specified pronouns, can perhaps be interpreted along this line. A more marked pronoun contains more structure and needs to be Agreed with more times to be fully accessible.

In addition, I suggest that φ agreement with functional structure nested inside a DP can be accompanied by merging a copy of the relevant φ feature to the edge of the DP. This may be what K is. The φ feature at the edge of the DP may further move into the attracting probe, if the probe has an EPP feature. In this case, K, now effectively an intermediate copy, may not be pronounced.

The discussion above might be one way to connect φ agreement, EPP, and K, but as

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[19]This might be motivated by having multiple phases inside some DPs, for example.

mentioned at the beginning, this is only speculation. However, positing K as a structural correlate of case morphology does find empirical support from case-stacked resumptive pronouns, if we understand resumptive pronouns as partial Spell-Out (Sichel 2014; van Urk 2016). I discuss this in 3.4.

3.2.1 Match

This section discusses conditions on Agree between a probe and a goal. This serves as theoretical background for the following sections.

Agree can be thought of as a two-step process: Match and Value. Only when a probe successfully locates a goal that matches it can valuation applies. Match is defined as feature identity in Chomsky 2000, as in (40).

(37)   Matching is a relation that holds of a probe P and a goal G. Not every matching pair induces Agree. To do so, G must (at least) be in the *domain* D(P) of P and satisfy locality conditions. The simplest assumptions for the probe-goal system are shown below.

    a.   Matching is feature identity.

    b.   D(P) is the sister of P.

    c.   Locality reduces to "closest c-command." (Chomsky 2000 122)

Later studies found that probes and potential goals interact in a more nuanced way. For example, in Nez Perce, when the subject is first person and the object is second person, as in (38a), the complementiser shows agreement with both the subject and the object. When the subject is second person and the object is first person, there is only agreement with the subject, as in (38b). Moreover, when the subject is third person and the object is second person, there is only agreement with the object, as in (38c).

(38) *Nez Perce complementiser agreement*

   a. *1SG>2SG: agreement with both 1+2*

   ke-m-ex kaa ***pro*SUBJ** cewcew-téetum *pro*OBJ
   C-2-1 then **PRO.1SG** telephone-TAM PRO.2SG
   'when I call you'   (Deal 2015 (13))

   b. *2SG>1SG: only agreement with 2*

   ke-m kaa ***pro*SUBJ** cewcew-téetum *pro*OBJ
   C-2 then **PRO.2SG** telephone-TAM PRO.1SG
   'when you call me'   (Deal 2015 (12))

   c. *3SG>2SG: only agreement with 2*

   ke-m kaa A.-nim hi-cewcew-téetu ***pro*OBJ**
   C-2 then **A.-ERG** 3SUBJ-telephone **PRO.2SG**
   'when A. calls you'   (Deal 2015 (8b))

We can account for (38b) and (38c) if the probe contains an [u[PART[ADDR]]]. As a result, only second person pronouns can be matched. This leaves (38b) unresolved. Alternatively, a probe can interact with any partially matched goal, as long as it contains the same φ feature at the root level, such as first pronouns ([PART([SPKR])). Conversely, third person pronouns are not specified for [PART] and cannot be seen by an [u[PART[ADDR]]] probe.

Languages might vary as to whether or not a partially matched goal interacts with a probe, or if this always happens, whether this interaction is reflected in morphosyntax. For example, in Algonquian, when a first person argument has a second person co-argument, the agreement prefix agrees only with the second person argument. However, when a first person argument has a third person co-argument, then there is agreement with the first person argument. This might suggest that in Algonquian, a probe interacts with a partially matched goal only when no fully matched goal exists. Or alternatively, a probe interacts with any goal but interaction with a partially matched goal is reflected in morphosyntax only when no fully matched goal exists.

(39)   *Algonquian person agreement*

    a.   *2>1, 1>2: only agreement with 2*

        g-waabm-i,   **g**-waabm-in
        2-see-DIR.THEME **2**-see-INV.THEME
        'I see you. You see me.'

    b.   *1>3, 3>1: only agreement with 1*

        m-waabm-aa,   **n**-waabm-ig(w)
        1-see-DIR.THEME **1**-see-INV.THEME
        'I see him. He sees me.'   (Béjar 2003 (84)-(85))

To account for the different behaviour of goals that are fully matched, partially matched, and not matched at all, a Match condition that is determined by only feature identity is insufficient. Instead, Match operates on feature intersection, as in (40) (based on Béjar 2003).[20] According to (40), a goal is matched by a probe when the goal's feature intersects the probe's feature.

(40)   *Match*:

A probe P with feature F_P and a goal G with feature F_G match if F_P and F_G intersect.

The four hypothetical scenarios below illustrates how (40) works. In the first scenario, the goal is not specified for any relevant feature, so Match is not satisfied. In the other three scenarios, F_P and F_G intersect, so Match is satisfied in all three. Scenarios 2-4 differ in whether F_G entails (/is a subset of) F_P. In Scenario 2, F_G is not a subset of F_P. Instead F_P aymmetrically entails (/is a proper subset of) F_G. F_G and F_P still intersect in this case and Match is satisfied. F_G in Scenario 2 is what I called a partially matched goal above. Languages may differ in how a partially matched goal interacts with a probe.

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[20]The Match condition in Béjar 2003 says that F_G entails F_P at the root level. This also ensures intersection.

(41)   *Match is determined by feature intersection*

| Probe F_P	Goal F_G	Match
$[\pi[\text{PART}]]$	$[\gamma]$	no
$[\pi[\text{PART}]]$	$[\pi]$	yes
$[\pi[\text{PART}]]$	$[\pi[\text{PART}]]$	yes
$[\pi[\text{PART}]]$	$[\pi[\text{PART}[\text{SPKR}]]]$	yes

3.2.2 Multiple φ Agree and case in Amis

We will see in Chapter 4 that when a DP is a contrastive topic, it surfaces with all the cases it has received. For example, in an imperfective clause, when the subject is a contrastive topic, it surfaces with nominative on top of genitive. When the object is a contrastive topic, it appears with two accusatives. In a neutral context, we only see the outer case because of the *One Case Constraint*, but this constraint is suspended when a DP is a contrastive topic.

In 3.2, following Rezac 2003, 2004, I proposed that each successful Agree between a DP and a φ probe without an EPP feature introduces a K to the DP. Reasoning backwards based on the case-stacking data, I posit that in an imperfective (AV) transitive clause, the subject and the object are each agreed with twice. (42) illustrates a possible scenario. In (42), both *v* and C/T contain a (complex) [uφ] probe.[21] *v* agrees with both the subject and the object. C/T also agrees with both the subject and the object. As a result, two DPs each have two additional K.

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[21]There is no tense morphology in Amis or other indication of a T separate from C, so I label the head as C/T instead. Nothing hinges on this.

(42) φ *Agree: imperfective (AV) main clauses*
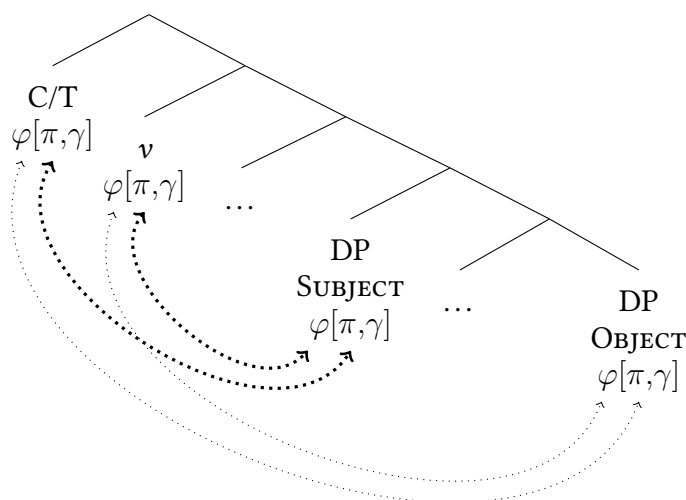
Undoubtedly, a scenario such as (42) is only stipulation and raises separate issues.[22] This is partially because at the moment, we do not understand enough the mechanics behind the φ-related phenomena in Amis, such as the PCC-like variation in (26) and the animacy/humanhood constraint on topicalisation in (30). For the current purpose, an alternative is sufficient as long as the subject and the object are each agreed with twice.[23] This can be achieved, for example, by positing multiple φ probes on separate heads or multiple φ probes on the same head that search separately. I will not be able to solve this in this dissertation.

In a perfective clause, v also agrees with both the subject and the object, as in (43). A K is added to each of the two DP. Next, the perfective Asp agrees with the subject and raises it to its specifier. The subject becomes φ-defective by deleting its subordinate specification, as proposed above. When C/T is merged and searches down, the subject is matched but it is a partially matched goal, as defined above. I posit that in Amis, a probe does not interact with partially matched goals.[24] C/T continues to search down and agrees

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[22]For example, how can v and C/T each agree with multiple goals, though this has been proposed in previous studies (with certain restrictions), e.g. Hiraiwa 2001; Rezac 2003; Béjar and Rezac 2003, 2009; Bobaljik and Branigan 2006; Deal 2015. Another issue raised by (42) is how can v and C/T agree with the object across the subject if both the probe that triggers operator movement and the probe that triggers raising-to-objects only attract the closest goal.

[23]This also applies to gerunds. Relatedly, given what happens on the subject of a perfective clause when it is a contrastive topic, an alternative in which the object in an imperfective clause is agreed with only once would also be sufficient. I will discuss this in more detail in the next chapter.

with the object. As a result, another K is introduced to the object.

(43)   *φ Agree: perfective (PV/LV) main clauses*
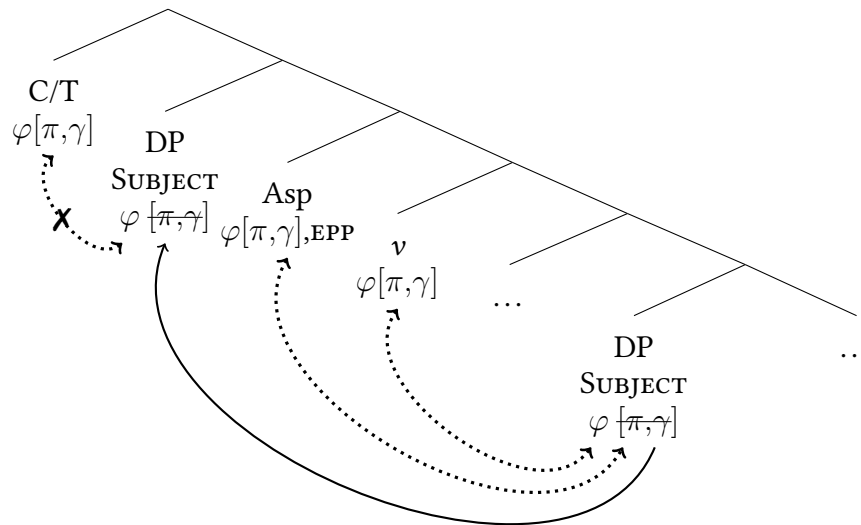
The discussion above essentially repeats what the case assignment rules posited in Chapter 2 do. Nevertheless, positing that the subject of a perfective clause is φ-defective and that only (the highest) φ-complete DP receives nominative case finds additional support from the behaviour of different movements. This is discussed in the next section.

Moreover, in Chapter 4, we will see that when the subject of a perfective clause is a contrastive topic, it appears with an additional nominative case on top of genitive case. Adopting Constant 2014, I posit that for a DP to be interpreted as a contrastive topic, it necessarily needs to be agreed with by C/T and raises to at least SpecC/T.[25] In addition, I propose that only in this situation can a Last Resort repair applies. The repair adds a full set of φ feature to the subject. As a result, the subject can be agreed with by C/T. This sort of repair is attested in other languages. For example, in Basque and Chinook, only when Person Case Constraint would otherwise be violated can a DP appear with a higher case.

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[24]This will be changed slightly later.

[25]Contrastive topic raising in Constant 2014 is posited as a movement driven by interpretation. Extracting the contrastive topic-marked element is necessary for creating a gap and a variable that can be bound later to create the contrastive topic meaning.

3.3 φ-defective DP: evidence from movement

This section discusses three types of movement in Amis: operator movement, raising-to-object, and *o*-topicalisation. I argue that their different behaviour can be accounted for by how φ-complete and φ-defective DPs interact with different probes. Descriptively, operator movement is only possible with nominative DP. Raising-to-object can apply to the highest DP for some speakers. In a perfective clause, this is the genitive-marked subject. Last, *o*-topicalisation can apply to any DP and even non-DP. I posit that the probe that triggers operator movement and the probe that triggers raising-to-object are both complex A/Ā probes (cf. van Urk 2015), but the latter's φ feature is underspecified. The probe that triggers *o*-topicalisation on the other hand is a pure Ā-probe. Therefore, it can raise a DP across another one, and even non-DP can be *o*-topicalised.

We will first look at data that illustrate the difference between operator movement and raising-to-object. First, only nominative DP can undergo operator movement. Operator movement in Amis underlies relativisation and argument wh-questions, as discussed in Chapter 2. (44a)-(44b) show that in an imperfective (AV) clause, only the nominative subject can extract. Extracting the accusative object is ungrammatical. The intended meaning can be expressed by a wh-in-situ question, as discussed before in 2.6.[26]

(44)   *Operator movement: nominative-only*

    a. Címa ko mi-asip-ay   to-ya   tosa a   codad i matini?
        who NOM IPFV.AV-read-SREL ACC-that two LNK book P now
        'Who is reading those two books now?'

    b. *O   máan ko mi-asip-ay   ci   Panay i matini?
        PRED what NOM IPFV.AV-read-SREL NOM PN   P now
        Intended: 'What is Panay reading now?'

    c. Mi-asip   ci   Panay to máan i matini?
        IPFV.AV-read NOM PN   ACC what P now
        'What is Panay reading now?'

Likewise, (45a)-(45b) show that in a perfective (PV/LV) clause, the nominative object, but

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[26] As discussed in Chapter 2, nominative wh-in-situ questions are also allowed in Amis.

not the genitive subject, can extract. (45b) also needs to be expressed with a wh-in-situ question, as in (45c).

(45)   *Operator movement: nominative-only*

    a.   O   máan ko   asip-en ni Panay inacila?
          PRED what NOM read-PV GEN PN   yesterday
          'What did Panay read yesterday?'

    b. *Címa ko   asip-en ko-ya   tosa a   codad inacila?
          who NOM read-PV NOM-that two LNK book yesterday
          Intended: 'Who read those two books yesterday?'

    c.   Asip-en níma   ko-ya   tosa a   codad inacila?
          read-PV GEN.who NOM-that two LNK book yesterday
          'Who read those two books yesterday?'

Next, the nominative subject of an embedded imperfective (AV) clause can undergo raising-to-object, as in (46b). Raising the embedded object is ungrammatical, as (46c) shows. This is true for all speakers consulted.[27]

(46)   *Raising-to-object out of an imperfective clause*

    a.   Mi-asip   ci Panay to-ya   codad i matini.
          IPFV.AV-read NOM PN   ACC-that book P now
          'Panay is reading those books now.'

    b.   Ma-fana'   kako   **ci Panay-an** mi-asip   to-ya   codad i
          IPFV.STAT-know NOM.1SG **ACC PN-ACC** IPFV.AV-read ACC-that book P
          matini.
          now
          'I know that Panay, (she) is reading those books now.'

    c. *Ma-fana'   kako   **to-ya** **codad** mi-asip   ci Panay i matini.
          IPFV.STAT-know NOM.1SG **ACC-that book** IPFV.AV-read NOM PN   P now
          Intended: 'I know that those books, Panay is reading (them) now.'

---

[27]In Chapter 5, I show that examples such as (46b) can be formed by either topicalising the subject to the edge of the embedded or by prolepsis. The two structures can be distinguished by a variety of diagnostics, such as idiom preservation.

For some speakers (Amis I henceforth), raising-to-object also only applies to the nominative object in a perfective (PV/LV) clause, as in (47c). Raising the genitive subject is ruled out, as (47b) shows. That is, raising-to-object for Amis I speakers behaves like operator movement.

(47) *Raising-to-object out of a perfective clause (Amis I)*

    a. Asip-en ni Panay ko-ya codad inacila.
       read-PV GEN PN NOM-that book yesterday
       'Panay read those books yesterday.'

    b. *Ma-fana' kako **ci Panay-an** asip-en ko-ya codad inacila.
       IPFV.STAT-know NOM.1SG **ACC PN-ACC** read-PV NOM-that book yesterday
       Intended: 'I know that Panay, (she) read those books yesterday.'

    c. Ma-fana' kako **to-ya codad** asip-en ni Panay inacila.
       IPFV.STAT-know NOM.1SG **ACC-that book** read-PV GEN PN yesterday
       'I know that those books, Panay read (them) yesterday.'

For other speakers (Amis II henceforth), the genitive subject of a perfective clause, but not the nominative object, can be raised, as (48b)-(48c) show.[28] Note that Amis is a *pro*-drop language, but (48c) is still ungrammatical when the genitive subject is dropped.

(48) *Raising-to-object out of a perfective clause (Amis II)*

    a. Asip-en ni Panay ko-ya codad inacila.
       read-PV GEN PN NOM-that book yesterday
       'Panay read those books yesterday.'

    b. Ma-fana' kako **ci Panay-an** asip-en ko-ya codad inacila.
       IPFV.STAT-know NOM.1SG **ACC PN-ACC** read-PV NOM-that book yesterday
       'I know that Panay, (she) read those books yesterday.'

---

[28]This judgment seems to have gone unnoticed in previous studies on raising-to-object in Amis (Chen 2008; Liu 2011; Chen and Fukuda 2016). They all reported the Amis I speakers' judgment. One possible reason might be that in most examples they discussed, the verb of an embedded "PV" clause is in fact a *ma-* verb. Data included in Appendix C show that, even though clauses with *ma-* attached to an eventive root contain a genitive DP (usually an agent or a causer) and a nominative DP (usually a patient), they are syntactically and semantically distinct from PV *-en* clauses. These clauses are more similar to stative passives. Moreover, the nominative DP is the grammatical subject in these clauses, whereas in PV clauses, the genitive subject behaves like the grammatical subject except for operator movement. For Amis II speakers, raising the genitive DP out of an embedded *ma-* clause is also ungrammatical.

c. *Ma-fana'   kako **to-ya**   **codad** asip-en ni Panay inacila.
   IPFV.STAT-know NOM.1SG **ACC-that book** read-PV GEN PN   yesterday
   Intended: 'I know that those books, Panay read (them) yesterday.'

If we follow studies that posit moving the object of a PV clause to the edge of vP (e.g. Aldridge 2004, 2008; Rackowski and Richards 2005), one might think perhaps the embedded clause in (48b)-(48c) is somehow structurally reduced. As a result, the object remains low. However, as I demonstrated in Chapter 2.6, Condition C, pronominal variable binding, and reflexive binding all show that in Amis, the genitive subject in a PV clause c-commands the nominative object. Except for operator movement (and raising-to-object for Amis I speakers), there is no evidence which indicates that nominative DPs in any clause, regardless of voice morphology, are always privileged in some way.

Moreover, predicates that allow raising-to-object are all epistemic predicates, such as *mafana'* 'know' and *paso'elin* 'believe.'[29] These predicates tend to select for a proposition-denoting complement and are often incompatible with (radically) structurally reduced clauses. For example, in languages where certain predicates show restructuring effects (Wurmbrand 2001), these predicates almost always disallow restructuring. This is true for Amis, too. Predicates that allow restructuring, such as *mitanam* 'try (AV),' and those that allow raising-to-object are two different groups of predicates. Therefore, it is quite unlikely that predicates that allow raising-to-object can select for a complement so reduced structurally that the object cannot move to at least the edge of vP.

To account for the data discussed above, I posit that operator movement and raising-to-object are both triggered by a complex A/Ā probe. They differ in their φ featural make-up. The probe that triggers operator movement (and raising-to-object for Amis I speakers) contains a φ-complete feature, whereas the probe that triggers raising-to-object for Amis II speakers contains an underspecified φ feature. These are summarised in (49). I will also assume that both OP and TOP come with an EPP feature.

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[29]Perception predicates also allow "raising"-to-object, but I haven't tried the same diagnostics discussed in Chapter 5 carefully on these predicates, so I don't know yet whether they are derived by prolepsis only or they can also be derived by either prolepsis or topicalisation.

(49)

| Movement	Probe
Operator Movement	$\varphi[\pi,\gamma]$, OP
RtO: Amis I	$\varphi[\pi,\gamma]$, TOP
RtO: Amis II	φ, TOP

I will first illustrate how this system accounts for why operator movement applies only to nominative DP. (50) gives another example, with a ditransitive verb this time. As (50b)-(50d) show, in a perfective ditransitive clause, only the nominative recipient can undergo operator movement. Neither the genitive subject nor the accusative theme can extract.

(50)   *Operator movement*

   a. (Pa-)feli-en   ni Panay ci   Nakaw to   cecay a   codad inacila.
       (CAUS-)give-PV GEN PN   NOM PN   ACC one   LNK book yesterday
       'Panay gave Nakaw a book yesterday.'

   b. Címa ko   (pa-)feli-en   ni Panay to   cecay a   codad inacila?
       who NOM (CAUS-)give-PV GEN PN   ACC one   LNK book yesterday
       'Who did Panay give a book to yesterday?'

   c. *Címa ko   (pa-)feli-en   ci Nakaw to   cecay a   codad inacila?
       who NOM (CAUS-)give-PV NOM PN   ACC one   LNK book yesterday
       Intended: 'Who gave Nakaw a book yesterday?'

   d. *O   máan ko   (pa-)feli-en   ni Panay ci   Nakaw inacila?
       PRED what NOM (CAUS-)give-PV GEN PN   NOM PN   yesterday
       Intended: 'What did Panay give Nakaw?'

Extracting the genitive subject of a perfective clause, as in (50c), is ruled out, because the perfective subject is φ-defective. The perfective subject (GOAL$_1$ in (51)) is a partially matched goal, given the Match condition in (40). I posited that a probe does not interact with partially matching goals in Amis. As a result, in (51), Agree is not established between the operator probe and the perfective subject.

(51) *φ-defective DP cannot undergo operator movement*

PROBE
$\varphi[\pi,\gamma]$,OP
...
GOAL$_1$
$\varphi[\pi,\gamma]$,OP
...
GOAL$_2$
$\varphi[\pi,\gamma]$
...
GOAL$_3$
$\varphi[\pi,\gamma]$
...
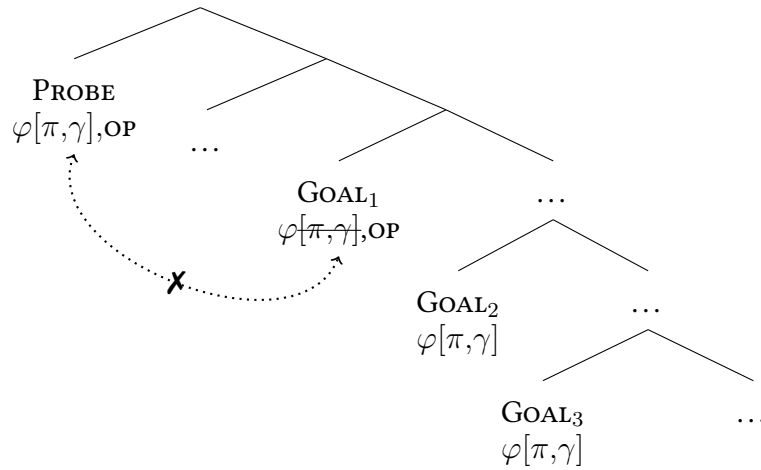
Next, in a perfective clause, since the φ-defective subject is only a partial match, the probe will continue to search down. If the nominative subject, the highest φ-complete DP, also contains an OP feature (GOAL$_2$ in (52)), then the probe will Agree with the object and raise it to its specifier.

We also saw above that the accusative object cannot undergo operator movement, as (50d) illustrated. This will be discussed later, since a similar configuration also occurs in raising-to-object.

(52) *φ-complete DP can undergo operator movement*

PROBE
$\varphi[\pi,\gamma]$,OP
...
GOAL$_1$
$\varphi[\pi,\gamma]$
...
GOAL$_2$
$\varphi[\pi,\gamma]$,OP
...
GOAL$_3$
$\varphi[\pi,\gamma]$
...
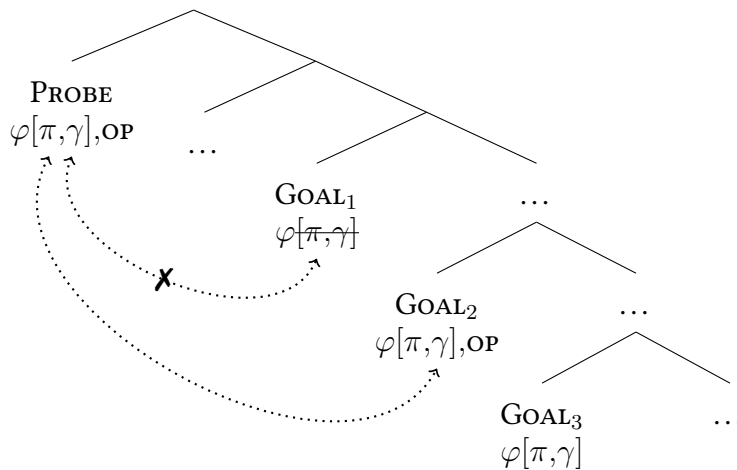
Turning to raising-to-object next, (53a)-(53b) repeat two examples from above. They show that for Amis II speakers, in a perfective clause, only the genitive subject, but not the nominative object can raise.

(53) *Raising-to-object (Amis II) out of a perfective clause*

    a.   Ma-fana'   kako **ci Panay-an** asip-en ko-ya   codad inacila.
        IPFV.STAT-know NOM.1SG **ACC PN-ACC**   read-PV NOM-that book yesterday
        'I know that Panay, (she) read those books yesterday.'

    b.   *Ma-fana'   kako   **to-ya   codad** asip-en ni Panay inacila.
        IPFV.STAT-know NOM.1SG **ACC-that book** read-PV GEN PN   yesterday
        'I know that those books, Panay read (them) yesterday.'

In addition, when the embedded clause is imperfective (AV), only the nominative subject, but not the accusative object, can raise, as (54) illustrates.

(54) *Raising-to-object out of an imperfective clause*

    a.   Ma-fana'   kako   **ci Panay-an** mi-asip   to-ya   codad i
        IPFV.STAT-know NOM.1SG **ACC PN-ACC** IPFV.AV-read ACC-that book P
        matini.
        now
        'I know that Panay, (she) is reading those books now.'

    b.   *Ma-fana'   kako   **to-ya codad** mi-asip   ci Panay i matini.
        IPFV.STAT-know NOM.1SG **ACC-that book** IPFV.AV-read NOM PN   P now
        Intended: 'I know that those books, Panay is reading (them) now.'

The generalisation based on (53)-(54) is that raising-to-object can only apply to the highest DP for Amis II speakers. I posit that raising-to-object is also triggered by a complex A/Ā probe but the A sub-probe contains an underspecified φ feature, as in (55). A probe with an underspecified φ feature in the current proposal is essentially a probe that looks for any noun.

When this probe searches down in a perfective clause, the genitive subject with an additional TOP feature (GOAL$_1$ in (55)), though φ-defective, is still a good match. The
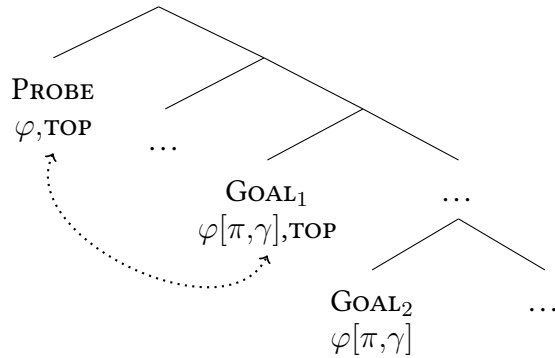
probe Agrees with it and raises it to its specifier.[30]

(55) *φ-defective genitive DP can undergo RtO (Amis II)*

PROBE
φ,TOP
...
GOAL$_1$
$\varphi[\cancel{\pi,\gamma}]$,TOP
...
GOAL$_2$
$\varphi[\pi,\gamma]$
...
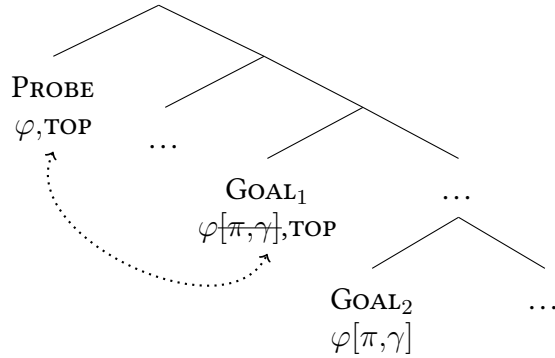
When the embedded clause is imperfective, the nominative subject with a TOP feature (GOAL$_1$ in (56)) is the best match. The probe Agrees with it and raises it.

(56) *Closest φ-complete DP can undergo RtO (Amis I & II)*

PROBE
φ,TOP
...
GOAL$_1$
$\varphi[\pi,\gamma]$,TOP
...
GOAL$_2$
$\varphi[\pi,\gamma]$
...

As shown before, for Amis II speakers, raising the nominative object of a perfective clause is ungrammatical. (57) illustrates this configuration. Here, even though the nominative object with an additional TOP feature (GOAL$_2$ in (57)) is the best match for the raising-to-object probe, it cannot be attracted.

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[30]When raising-to-object applies to an embedded perfective clause, if the additional case on the raised DP is a result of agreeing with (at least) matrix *v*, we will need to change the φ probe on *v* in (43) to an underspecified φ probe; otherwise, the perfective subject cannot be matched by the probe on *v*.

(57)   *φ-defective genitive DP is an intervener for RtO (Amis II)*
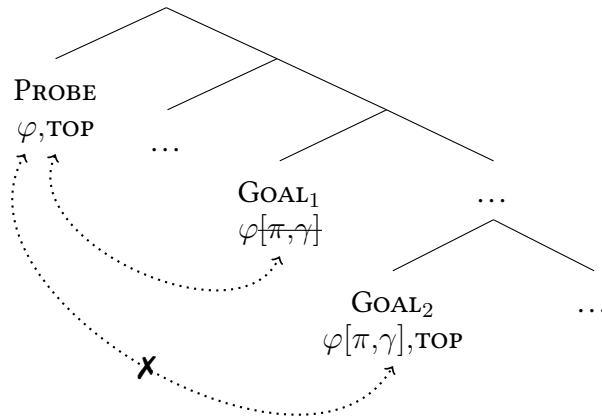
The same configuration also arises when we try to operator-extract the accusative object of an imperfective clause. Here too, the accusative object with an OP (GOAL₃ (58)) is the best match, but extraction is ruled out.

(58)   *A higher φ-complete DP is an intervener for operator movement*
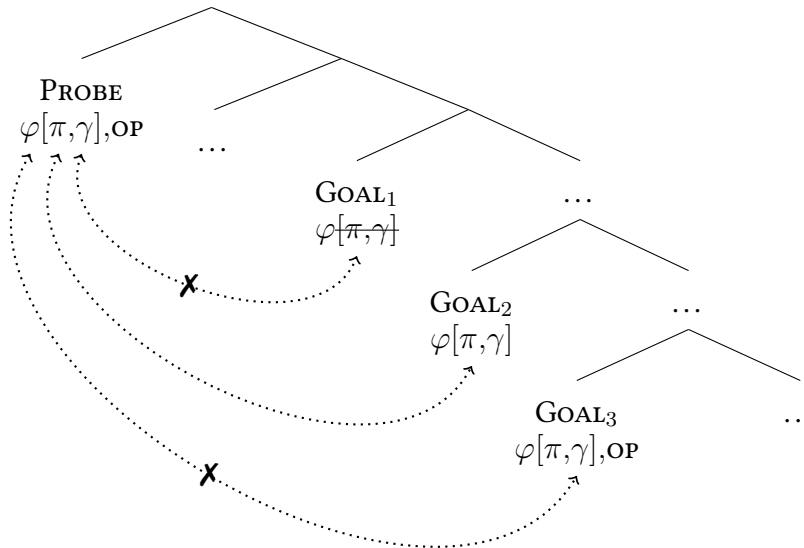
What (57)-(58) have in common is that, Agree between a complex A/Ā probe with a goal G that is the best match is not possible when G is c-commanded by another goal G' that

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[30]Even if we assume that in an imperfective (AV) clause, the accusative object is trapped inside *v*P and cannot be accessed from the outside after the lower phase is spelt out, (57) would still be unaccounted for.

is the best match for the probe's A component but is only a partial match for the entire complex A/Ā probe.

I discuss three possible accounts below that are all compatible with the data discussed above and *o*-topicalisation, which will be introduced below. First, positing Ā-features, in particular, TOP on DP or anything that can topicalise, seems counter-intuitive. All a topicalisation probe needs to know is what can be raised. The topic interpretation results from the semantics of a topic operator (cf. Constant 2014), and the results of applying this operator to the constituent in its specifier. This in principle can also be extended to probes that trigger operator movement. Adopting this, we can remove the Ā feature posited on the probes in (49), as in (59) (and the probe that triggers *o*-topicalisation will contain just an EPP feature).

(59)　*Alternative I*

MOVEMENT	PROBE
Operator Movement	$\varphi[\pi,\gamma]$, EPP
RtO: Amis I	$\varphi[\pi,\gamma]$, EPP
RtO: Amis II	φ, EPP

Alternatively, if we adopt the probes as posited before in (49), the data can be accounted for with the additional constraint in (60), a less restricted version of *Agree with Closest* in van Urk 2015. According to (60), a probe that contains a φ feature will Agree with the first goal that matches the probe's φ feature, whether or not the probe also contains an additional Ā feature. This applies even when the goal does not contain an Ā component. That is, a goal that is a match only for a complex A/Ā probe's A component but at the same time a partial match for the entire complex probe, will nevertheless be agreed with. In other words, a complex A/Ā probe prioritises its A component (or the A component is the gate-keeper of a complex probe).

(60)　φ *Agree with Closest:*
　　　A probing φ feature F must Agree with the closest XP that bears F.

In addition, I suggest that partially matched goals are not treated equally. A complex A/Ā probe does not interact with a goal that is a partial match for its A component (e.g. an operator probe and the perfective subject). However, a goal that is a perfect match for a complex probe's A component acts as an intervener.

If (60) only applies to φ features, we expect that a pure Ā-probe should be able to overlook an intervening element that is a best match. (61) provides potential evidence for this. In (61a)-(61b), both the subject and the object are contrastive topics that have been topicalised overtly. Contrastive topic DPs surface with all the cases that have been assigned to them. Case-stacking will be explained in greater detail in Chapter 4. For now, assume that except for additional case marking, topicalisation of a case-stacked DP is identical to *o*-topicalisation. I show below that *o*-topicalisation is pure Ā-movement. Assuming first that an element merged later is always attached above an element merged earlier (i.e. no tucking-in), (61a) shows that the object can topicalise before the subject. This argument still holds if we assume instead that an element raised to a specifier later is tucked in under another element raised to the same specifier earlier. Under this assumption, it is (61b) that shows that the object can be topicalised before the subject. Either way suggests that a topic probe can Agree with a matched goal even when the goal is c-commanded by another matched goal.[31]

(61)   *Multiple topicalisation*

    a.   **Ko-ni**   **Nakaw** i, **to-ci**   **ina-an**   i, pa-feli   to kaysing.
        NOM-GEN PN   TOP **ACC-ACC mother-ACC** TOP CAUS-give ACC bowl
        '[Nakaw]$_{CT}$, [Mother]$_{CT}$, she gave (her) [the bowls]$_{EXH}$.'

    b.   **Toci inaan** i, **koni Nakaw** i, pafeli to kaysing.

In the third alternative, the A and Ā components of a complex probe act separately. The A sub-probe halts its search when a fully matched goal is located and Agreed with.

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[31](61) also rules out another possibility: the A component of a complex A/Ā probe is not prioritised. Instead, as long as a perfect match for either the A component or the Ā component is Agreed with, the probe stops searching down. Also, similar data are probably not possible for operator movement. A clause with two operator movements result in a type <e,et> relative clause. It's unclear what kind of noun a relative clause of this sort can modify. Indeed, relativisation of this sort or multiple argument wh-questions (each associated a (pseudo-)cleft structure) is unattested in Amis.

But the Ā sub-probe (OP or TOP) can continue on its own. I will consider two scenarios below. In one, the EPP feature is associated with TOP or OP. In the other, the EPP feature is associated with the A sub-probe. We will in addition assume that a goal that is matched and Agreed with by a probe with an EPP feature will be raised.

Starting with the first scenario in which the EPP feature is associated with TOP or OP, we predict that in (62), repeated from above, the object (GOAL$_2$ in (62)) will topicalise. The result of this can be either identical to what happens when the same object *o*-topicalises, which is grammatical as we will see shortly, or it will look like (63b). In (63b), the accusative object is topicalised. This is ungrammatical, whether or not the intervener, the subject, is raised, as in (63c).

(62)   *φ-defective genitive DP is an intervener for RtO (Amis II)*
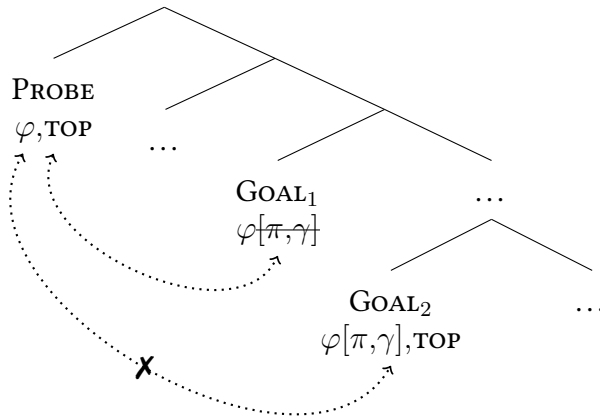
(63)   *Raising-to-object (Amis II) out of a perfective clause*

  a.   Ma-fana'   kako   **ci Panay-an** asip-en ko-ya   codad inacila.
        IPFV.STAT-know NOM.1SG **ACC PN-ACC**   read-PV NOM-that book   yesterday
        'I know that Panay, (she) read those books yesterday.'

  b.   *Ma-fana'   kako   **to-ya   codad** asip-en ni   Panay inacila.
        IPFV.STAT-know NOM.1SG **ACC-that book**   read-PV GEN PN   yesterday
        'I know that those books, Panay read (them) yesterday.'

  c.   *Ma-fana'   kako   **to-ya   codad ci   Panay-an** asip-en inacila.
        IPFV.STAT-know NOM.1SG **ACC-that book   ACC PN-ACC**   read-PV yesterday

In another scenario, the EPP feature is associated with the A sub-probe in a complex A/Ā probe. In (62), Goal₁ will be raised and nothing discernible on the surface will happen to Goal₂. Therefore, based on the discussion above, the third alternative is either false or if it is true, the data that will support it are independently available and we cannot be sure whether the relevant examples are indeed a result of what the third alternative posits. I will assume either the first or the second alternative discussed above is feasible.

Moving to the third movement, *o*-topicalisation. As (64) shows, either the subject or the object of an imperfective clause can *o*-topicalise.[32]

(64) *A higher φ-complete DP is not an intervener for o-topicalisation*

    a.   Mi-asip   ci Panay to-ya   codad i matini.
           IPFV.AV-read NOM PN   ACC-that book P now
           'Panay is reading those books now.'

    b.   Ci Panay i,   mi-asip   to-ya   codad i matini.
           CI PN   TOP IPFV.AV-read ACC-that book P now
           'Panay, (she) is reading those books now.'

    c.   O-ya codad i,   mi-asip   ci   Panay i matini.
           o-that book TOP IPFV.AV-read NOM PN   P now
           'Those books, Panay is reading (them) now.'

O-topicalising the subject or the object of a perfective clause is also possible, as (65) illustrates.[33]

(65) *φ-defective genitive DP can undergo o-topicalisation*

    a.   Asip-en ni Panay ko-ya   codad inacila.
           read-PV GEN PN   NOM-that book yesterday
           'Panay read those books yesterday.'

    b.   Ci Panay i,   asip-en ko-ya   codad inacila.
           CI PN   TOP read-PV NOM-that book yesterday
           'Panay, (she) read those books yesterday.'

---

[32]As mentioned before, I will not be able to address the animacy/humandhood constraint that matters for some speakers, as illustrated above by (29)-(30).

[33]One consultant sometimes required a resumptive pronoun for *o*-topicalising the genitive subject of a perfective clause, but she has also accepted similar examples without resumption.

   c.   O-ya codad i,   asip-en ni   Panay inacila.
       o-that book TOP read-PV GEN PN   yesterday
       Those books, Panay read (them) yesterday.

In fact, even PP can *o*-topicalise, as (66b) and (66d) show.[34]

(66)   *PP can undergo o-topicalisation*

   a.   Mi-nokay   kako   **nani**   **Kalingko** inacila.
       IPFV.AV-return NOM.1SG **from.P Hualien**   yesterday
       'I returned from Hualien yesterday.'

   b.   **(O) nani**   **Kalingko**, mi-nokay   kako   inacila.
       (o) from.P Hualien   IPFV.AV-return 1SG.NOM yesterday
       'From Hualien, I returned (from there) yesterday.'

   c.   Pa-teli   kako   to codad **i parad**.
       CAUS-put NOM.1SG ACC book   **P table**
       'I put the books on the table.'

   d.   **(O) i parad** pa-teli   kako   to   codad.
       (o) P table   CAUS-put NOM.1SG ACC book
       'On the table, I put the books (on it).'

I posit that the probe that triggers *o*-topicalisation is a pure Ā-probe, as in (67) (as before, I assume that the Ā-probes come with an EPP feature). Therefore, a c-commanding DP

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[34] It is true that PP can *o*-topicalise. However, (66b) and (66d) without *o* is also possible. Moreover, PP *o*-topics seem to be more restricted semantically or pragmatically. For example, (66b) and (66d) with *o* are not felicitous answers to wh-questions, as (i) illustrates, but they can be used as answers to alternative questions (e.g. 'Did you put the book on the table or on the chair?') or as corrections. *O*-topics in general seem to require a contrastive reading. For example, personal names can be topicalised without *o*. In the second clause in (ii), *o* is optional, but with *o*, a contrastive context is necessary. In (ii), this context is established by the first clause. The distribution of *o* is very similar to *ko* in Niuean and its counterpart in many Polynesian languages. Hohaus and Howell 2015 argued that in Samoan, *'o*, the counterpart of *o*, indicates that the focus value of the *'o*-marked constituent is relevant for interpretation. Perhaps *o* in Amis has a similar function.

(i)   a.   Icowa kiso   pa-teli   to codad?
          P.where NOM.2SG CAUS-put ACC book
          'Where did you put the books?'

     b.   (#O) i parad pateli kako to codad.

(ii)   O   fa'inayan ca   Mayaw. O ci   Panay i,   fafahiyan cingra.
       PRED man   NOM.PL PN   O PRED PN   TOP woman   NOM.3SG
       'Mayaw and those with him are men. Panay, she's a woman.'

without [TOP] is not an intervener between the probe and a lower DP with TOP.

(67)   *Three movement probes in Amis*

MOVEMENT	PROBE
Operator Movement	$\varphi[\pi,\gamma]$, OP
RtO: Amis I	$\varphi[\pi,\gamma]$, TOP
RtO: Amis II	φ, TOP
o-topicalisation	TOP

If we follow the first alternative discussed above, OP and TOP in (67) will simply be replaced with EPP. The *o*-topicalisation probe will contain just an EPP feature and will attract any DP (or PP). The topic reading results from being interpreted in the specifier of a topic operator.[35]

3.3.1   Implications

I discuss briefly what the three-way movement contrast illustrated above imply about case-discriminating movement (or agreement; Bobaljik 2008, 2017; Deal 2016). Bobaljik 2008, 2017 proposed that Agree may target DP with certain types of case. Languages may differ in which type of case is accessible for Agree. In addition, this accessibility is implicational. A language that allows Agree with DP with dependent case will also allow Agree with DP with unmarked case. For example, in Hindi-Urdu and many Indo-Aryan languages, verbs only agree with DP with unmarked case. In Nepali, verbs can agree with ergative DP, but they also agree with DP with unmarked case, as shown by (9) above. If movement hinges on Agree, then this proposal can be extended to account for movement restrictions. In Tagalog, for example, only nominative DP can Ā-extract.

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[35]In Tagalog, matrix adverbial wh-questions are ambiguous between a matrix and an embedded reading with bridge verbs, but not with non-bridge verbs. Rackowski and Richards 2005 suggested that this could be due to non-bridge verbs' selectional requirement. Specifically, they need to Agree for a φ feature. Given this and the proposal above, which posits a complex A/Ā probe for raising-to-object, one might wonder whether matrix adverbial wh-questions with embedding predicates that allow raising-to-object only have the matrix interpretation. Initial data suggest that this does not necessarily hold. It is true for some raising predicates, such as *mafana* 'know' and *faheka* 'surprised.' However, *paso'elin* 'believe' also allows raising, but a matrix adverbial wh-word is ambiguous between a matrix and an embedded reading.

However, as discussed above, Amis illustrates three different movement profiles. Operator movement only applies to nominative DP. Raising-to-object can apply to either nominative DP or genitive DP, as long as it is the highest DP. *O*-topicalisation, on the other hand, can apply to DP with any case. We could posit that the probes for these three movements have different accessibility conditions, but the simplicity of this approach will be lost if we have to posit three accessibility conditions in a single language.

The three-way contrast is also problematic for proposals that treat voice morphology as Ā agreement (e.g. Rackowski and Richards 2005; V. Chen 2017). V. Chen 2017, for example, proposed that genitive case is the true nominative in Amis, whereas what I call nominative case is a topic marker. In an AV clause, this topic marker overwrites genitive case on the external argument. Voice morphology is thought to be Ā (thematic) agreement with topics. Following this type of approach, the correct generalisation for Austronesian languages where only nominative DP can Ā-extract should instead be that only DPs that can Ā-extract will surface with nominative case (topic marking in this approach).

However, this approach cannot be adopted as easily in Amis given the three different types of movement. In particular, these three types of movement are all conventionally treated as Ā-movement.[36] Thus, claiming that voice morphology is Ā-agreement is problematic for examples in which the genitive subject of a perfective clause is raised with the nominative object staying in situ. In these examples, the verb is in PV or LV but what Ā-moves on the surface is the subject (agent). The same problem also arises in examples where the accusative object of an imperfective (AV) clause *o*-topicalises.

What Amis shows is that except for operator movement, there is little evidence indicating that nominative DPs are privileged in some way. Any approach that singles out nominative DPs and make them syntactically privileged while fundamentally excluding DPs with other case would face the same problem.

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[36]Chapter 5 shows that raising-to-object involves topicalisation to the edge of the embedded clause.

3.4 KP and case-stacking on resumptive pronouns

In the current proposal, φ agreement with a DP is indirectly related to case morphology. This is so because each successful Agree with a φ probe (that does not contain an EPP feature) introduces a K to a DP. The case assignment rules posited in Chapter 2, repeated in (68), are now treated as rules for spelling out K.

(68) *Amis case assignment rules (second version)*
   a. *Rule D:*
       If there are two distinct DPs in the same phase such that DP_1 c-commands DP_2, assign accusative to DP_2.
   b. *Rule U:*
       If a DP does not receive dependent case, it is realised as nominative if v is the highest category-determining head; otherwise, it is realised as genitive.

The rules are modified as in (69) to make them directly applicable to the structure posited in this chapter. These will be slightly revised again in Chapter 4 to account for case impoverishment on objects of imperfective clauses that are contrastive topics. These objects can surface with either two accusative cases or accusative case stacked on top of genitive case.

(69) *Amis case assignment rules (third version)*
   a. *Rule D:*
       If there are two distinct DPs with a K added in the same phase such that DP_1 c-commands DP_2, assign accusative to K on DP_2.
   b. *Rule U:*
       If a K on a DP does not receive dependent case, it is realised as nominative if v is the highest category-determining head; otherwise, it is realised as genitive.

Positing structural correlates for case morphology also helps account for case-stacking

on resumptive pronouns. Sichel 2014; van Urk 2015, 2016 argued that resumptive pronouns are results of spelling out copies of DP movement. In particular, van Urk 2015, 2016 proposed a partial spell-out approach, according to which, pronouns can spell out what is remained of a DP after part of it undergoes ellipsis. In addition, the ellipsis needs to be independently available in the language. Below we will first look at some examples with case-stacked resumptive pronouns. Then I will illustrate how we can derive case-stacking on resumptive pronouns given the availability of NP ellipsis and K. Last, I will discuss two pronominal paradigms, genitive and possessive. Their distributional difference offers evidence for NP ellipsis in Amis.

First, (70a) shows that in an imperfective clause, when the subject is a contrastive topic, it appears with nominative case on top of genitive case. In addition, this case-stacked DP can topicalise, as in (70b). When it does, an optional resumptive pronoun can appear with matching stacked cases but not just genitive case. Note that in (70b), the resumptive pronoun itself is glossed as possessive and the pronoun is preceded by the genitive *no*. This does not indicate that the resumptive pronoun is marked with three cases: nominative-genitive-possessive. Pronouns in the possessive paradigm are typically preceded by an additional genitive *no*. This will be explained in more detail below.

(70)   *Case-stacking on resumptive pronouns*

    a.   Mi-tefing   **ko-no**   **wawa** to siri i matini.
        IPFV.AV-touch **NOM-GEN child** ACC goat P now
        '[The child]$_{\text{CT}}$ is touching [the goats]$_{\text{EXH}}$.'

    b.   **Ko-no**   **wawa** i, mi-tefing   (**ko-no**   **nira**/   *__no nira__)   to
        NOM-GEN child TOP IPFV.AV-touch **NOM-GEN POSS.3SG GEN POSS.3SG** ACC
        siri i matini.
        goat P now
        '[The child]$_{\text{CT}}$, (s/he) is touching [the goats]$_{\text{EXH}}$.'

    c.   **No wawa** i, mi-tefing   (**ko-no**   **nira**/   *__no nira__)   to siri
        GEN child TOP IPFV.AV-touch **NOM-GEN POSS.3SG GEN POSS.3SG** ACC goat
        i matini.
        P now
        '[The child]$_{\text{CT}}$, (s/he) is touching [the goats]$_{\text{EXH}}$.'

Moreover, when a contrastive topic DP topicalises, it can also appear with just the inner case, such as genitive case on the subject in (70c). In (70c), the resumptive pronoun can also occur with nominative case on top of genitive case but it cannot surface with just genitive case.

We know that for economy reasons, languages tend not to spell out all the copies on a movement chain (Bošković and Nunes 2007). There is a preference for spelling out just the head of a chain. If more than one copy is spelled out, then the lower copy(/ies) typically occur(s) in an impoverished form, such as pronouns. In addition, following the proposal in van Urk 2015, 2016, full DPs and DPs that have undergone NP ellipsis can both be spelled out as pronouns. That NP ellipsis is independently available in Amis will be demonstrated later. I further assume that person and number features (can) move to D (cf. Cinque 1993).[37]

Based on these, I propose that when a case-stacked DP (K_2P in (71)) topicalises, NP ellipsis applies to the lower copy. Applying NP ellipsis to (71), what remains is two K's and D. These are realised as case-stacked pronouns. In addition, as there is no ellipsis independently available that targets only K_2 (external case), the resumptive pronoun cannot appear with just K_1 (inner case). That explains why in (72), repeated from above, the resumptive pronoun cannot be marked with genitive case only.

(71)   *Case-stacking on resumptive pronouns*

---
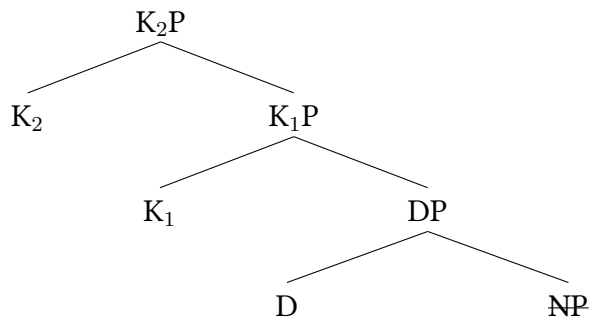
[37]That N-to-D (or to a lower functional head) is available in Amis is supported by the word order in possessive DP and also what I called bare root DP in Chapter 2. In both, the possessor/external argument and the complement/internal argument follow the possessee or the bare root.

[37]The *One Case Constraint* deletes inner K(s).

(72)   *Case-stacking on resumptive pronouns*

    a. **Ko-no wawa** i, mi-tefing (**ko-no nira**/ *__no nira__) to
        NOM-GEN child TOP IPFV.AV-touch **NOM-GEN POSS.3SG GEN POSS.3SG** ACC
        siri i matini.
        goat P now
        '[The child]$_{\text{CT}}$, (s/he) is touching [the goats]$_{\text{EXH}}$.'

    b. **No wawa** i, mi-tefing (**ko-no nira**/ *__no nira__) to siri
        GEN child TOP IPFV.AV-touch **NOM-GEN POSS.3SG GEN POSS.3SG** ACC goat
        i matini.
        P now
        '[The child]$_{\text{CT}}$, (s/he) is touching [the goats]$_{\text{EXH}}$.'

Moreover, as (72b) shows, the overtly moved topic can also appear with just genitive case. I posit that this is a result of subextracting K_1P from K_2P (Travis and Lamontagne 1992). Crucially, the topic cannot appear with just nominative case. That is, replacing *no* in (72b) with *ko* is ruled out. Given the *CT Case Preservation Constraint*, both K_2 and K_1 are retained. Thus, there will be no derivation in which K_2P topicalises without bringing K_1. That is, when a case-stacked DP is topicalised, if it appears with the outer case, it will also appear with the inner case.[38]

    A note on genitive case and possessive case is in order. The discussion below will in addition establish that NP ellipsis is independently available in Amis. The two paradigms are given in (73) below. Descriptively, except for 1SG, 1PL inclusive and 2SG pronouns, genitive and possessive pronouns have the same form, except that possessive pronouns typically appear with an additional *no*, glossed as genitive in (70) and elsewhere.[39] The two paradigms are interchangeable in most contexts. For example, in all the non-AV clauses we have seen so far, if the subject is pronominal, it can be either genitive or possessive.

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[38]This still leaves one issue unresolved. In both (72a)-(72b), the resumptive pronoun can also be marked with just nominative case. That is, *kono nira* can be replaced with *cingra* 'NOM.3SG.' Perhaps the *CT case preservation constraint*, posited in the next chapter to account for overt case-stacking, does not apply to lower copy(/ies) of a movement chain. Resumptive pronouns are optional after all.

[39]The possessive forms in Wu 2015 are listed without *no*, but for the speakers consulted, possessive forms without *no* are degraded.

(73)   *Genitive and possessive pronouns*

	GEN	**POSS**
1SG	ako	no mako
1PL.INCL	ita	no mita
1PL.EXCL	niyam	no niyam
2SG	iso	no miso
2PL	namo	no namo
3SG	ningra/nira	no ningra/nira
3PL	nangra	no nangra

There are at least two environments where only possessive pronouns can be used. I discuss these below. I will suggest that the two environments should be reduced to one: only possessive pronouns can front in a DP and can therefore survive NP ellipsis.[40]

First, (74) shows that in a fragment answer to a possessive wh-question, possessive pronouns must be used. Based on data like (74), Wu 2015, 2016 argued that genitive pronouns (at least 1SG, 1PL inclusive, and 2SG) are clitics.

(74)   *Fragment answers must be possessive*

   Q: Níma   ko-nini a   siri?
       who.GEN NOM-this LNK goat
       'Whose goat is this?'

   A: No mako.[41]/ *Ako.
       GEN POSS.1SG *GEN.SG
       'Mine.'

However, genitive pronouns in Amis do not behave like the second position clitics that are quite common in Formosan languages. For example, as (75) shows, in a negative PV clause, the genitive pronoun *ako* still follows the main predicate and it cannot attach to the negation. In fact, no pronoun in Amis behaves like a clitic in this way.

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[40]This also accounts for another environment Wu 2015 discussed.

[41]In this example, without *no*, *mako* needs to be suffixed by *-ay* (i.e. *makoay*).

(75) *Genitive pronouns cannot attach to negation*

    a.   Caay **kapa-en ako**   ko-ya   siri inacila.
         NEG **pet-PV**   **GEN.1SG** NOM-that goat yesterday
         'I didn't pet those goats yesterday.'

    b.   *****Caay=ako** kapaen koya siri inacila.

This contrasts with Matuuwal (Mayrinax) Atayal. In a negative PV clause, the genitive pronominal clitic *mu* must attach to the negation, as in (76).

(76) *Matuuwal (Mayrinax) Atayal: pronominal clitics must attach to negation*

    a.   **Ini=mu**   niq-i ku mit.
         NEG=GEN.1SG eat-PV NOM goat
         'I didn't eat the goat.'

    b.   *Ini **niqi=mu** ku mit.

    Possessor fronting illustrates the second environment where genitive and possessive pronouns behave differently. First, in Amis, in possessive DP, the possessor can either follow the possessee or precede it. A fronted possessor must be followed by the linker *a*, as (77a)-(77b) illustrate.

(77) *Possessor can follow or precede possessee*

    a.   Ma-foti'   ko posi **ni** **Panay** i matini.
         IPFV.STAT-sleep NOM cat **GEN PN**   P now

    b.   Ma-foti'   ko **ni** **Panay a**   posi i matini.
         IPFV.STAT-sleep NOM **GEN PN**   **LNK** cat P now
         'Panay's cats are sleeping now.'

When the possessor is pronominal and follows the possessee, either the genitive or possessive form can be used, as in (78a). However, when the possessor is fronted, only the possessive form is allowed, as (78b) shows.

(78)   *Only Possessive-marked pronouns can front*

    a.   Mi-asip   ci   Panay to codad **iso/**   **no miso**   i matini.
        IPFV.AV-read NOM PN   ACC book **GEN.2SG/ GEN POSS.2SG** P now

    b.   Mi-asip   ci   Panay to ***iso/**   **no miso** **a**   codad i matini.
        IPFV.AV-read NOM PN   ACC ***GEN.2SG/ GEN POSS.2SG LNK** book P now
        'Panay is reading your books now.'

I do not know at the moment whether fronted possessors are semantically or pragmatically different from post-possessee possessors and why only possessive pronouns can front. Perhaps genitive and possessive pronouns correspond to weak and strong pronouns in Cardinaletti and Starke 1999. If possessor fronting is associated with focus, then that might be why only possessive (strong) pronouns can front. Note in addition, in (70b)-(70c) above, the inner case on resumptive pronouns with case-stacking is possessive. These examples are possible with genitive pronouns but they are degraded (i.e. ?*ko nira* for both). This might suggest that only the possessive form can be used when a pronoun is focused. Alternatively, as we will see in the next chapter, stacked cases are not always pronounced together. How a string of cases is pronounced is regulated by prosodic constraints that apply more generally in Amis. Given this, perhaps having an extra genitive (the *no* marking the possessive pronoun) makes case-stacked pronouns prosodically better-formed.

That only possessive pronouns can front in addition determines what can remain after NP ellipsis. As (79) shows, descriptively, when the possessee of a possessive DP is elided, the possessor must be in the possessive form. Assuming when the possessee is not pronounced, NP ellipsis has taken place, then (79) shows that only possessors that can front can survive NP ellipsis. In addition, in (74) above, we saw that only possessive pronouns can occur in fragment answers. Assuming fragment answers in (74) also involve NP ellipsis, then it is expected that only possessive pronouns can be used in (74).

(79) *Only Possessive-marked possessor can survive NP ellipsis*

Mi-asip ci Panay to codad ako i matini.
IPFV.AV-read NOM PN ACC book GEN.1SG P now

Mi-asip ci Nakaw to ***iso/** **no miso**.
IPFV.AV-read NOM PN ACC ***GEN.1SG/ GEN POSS.2SG**
'Panay is reading my books. Nakaw is reading yours.'

Moreover, numerals and property modifiers can still appear after ellipsis takes place, as (80a)-(80b) show.

(80) a. Mi-nengneng ko-na cecay a sito to tilifi.
          IPFV.AV-watch NOM-this one LNK student ACC TV

          Mi-asip **ko-ra** **ta-tosa** to codad.
          IPFV.AV-READ **NOM-that RED-two** ACC book
          'This student is watching TV. Those two are reading books.'

      b. Mi-asip kako to kohecal-ay a codad.
          IPFV.AV-watch NOM.1SG ACC white-SREL LNK book

          Mi-asip cingra **to koheting-ay**.
          IPFV.AV-READ NOM.3SG **ACC black-SREL**
          'I'm reading the white books. S/he's reading the black ones.'

In addition, numerals must precede property modifiers. The other order is ungrammatical, as (81) illustrates. Based on this, I posit that Amis DP has the structure in (82).

(81) a. Mi-pa-ino' ci Panay to **cecay** a **kohecal-ay** a posi.
          IPFV.AV-CAUS-bath NOM PN ACC **one** LNK **white-SREL** LNK cat
          'Panay is washing a white cat.'

      b. *Mipaino' ci Panay to **kohecalay** a **cecay** a posi.

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(82)   *Structure of DP*

```
                    DP
               ┌────┴────┐
               D        NumP
                    ┌────┴────┐
                   Num       ModP
                         ┌────┴────┐
                        Mod        NP
```
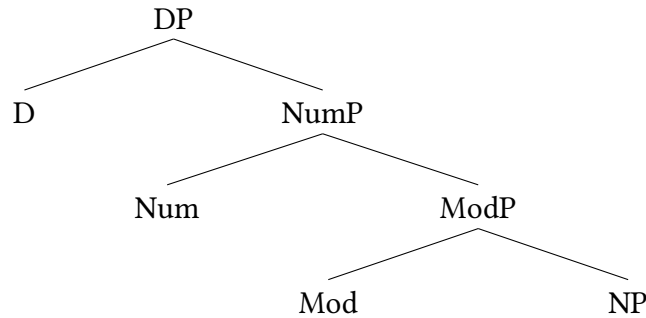
Following van Urk 2015, 2016, DPs that have undergone NP ellipsis can be spelled out as pronouns, but the NP ellipsis should be independently available in the language. The data in (79)-(80) above offer evidence for this.

3.5   Summary

This chapter proposed that a DP's φ specification determines case morphology on the DP and whether or not the DP can undergo certain movement. This is because Agree underlies both case and movement.

First, I posited that each successful Agree with a φ probe without an EPP feature and a DP introduces a K to the DP. K is later spelled out as case. In addition, a DP can in principle Agree with more than one φ probe. Therefore, a DP can receive multiple cases.

Second, assuming that movement consists of two steps: Agree and Merge, and certain movement probes are complex A/Ā probes, a DP's φ specification will determine whether or not it can be Agreed with by a certain movement probe. Moreover, I argued that even though Amis has little φ agreement morphology, we can detect a DP's φ specification indirectly through its movement profile.

In particular, I showed that a φ-defective DP correlates with two things in Amis: genitive case (in a perfective clause) and inability to undergo operator movement. At the same time, raising-to-object can still apply to the genitive subject. Moreover, it acts as an intervener for raising the φ-complete but structurally lower nominative object in the same clause. This suggests that an approach which treats genitive case on the perfective

subject as an inherent case and therefore, cannot be Agreed with by an external (φ) probe is too strict. Indeed, except for operator movement, we do not find evidence suggesting that nominative DPs in Amis are privileged in some way.

Before I end this chapter, I briefly address another issue. Classic Case theories posited rules such as the Case Filter (*N where N has no Case; Chomsky 1980) to account for the distribution of DP. In the Minimalist Program (Chomsky 2000, 2001), this is formalised as [uCase] on DP. DPs need to be "licensed" (have their [uCase] feature valued). This dissertation will not offer much with regards to what it means for a DP to be licensed.

However, I discuss data below which show that case morphology is not obligatory on DP in Amis. These DPs do not seem reduced syntactically. Thus, the data suggest that if DPs need to be licensed syntactically in some way, other than being interpretable semantically, then Case, if this is what morphological case corresponds to in languages that have morphological case, cannot be the only factor that is at play.

First, it is possible to drop case marking in Amis. Case-dropping is attested in many languages (Travis and Lamontagne 1992; Levin 2015). What is unusual about Amis is where case can be dropped. As (83a) shows, accusative case cannot be dropped on a bare noun. However, when the noun is marked by a demonstrative, as in (83b), or is modified in some way, for example, by a numeral or a property modifier, as in (83c), then accusative can be dropped. These are slightly degraded (indicated by the ? on (83b)-(83c)) and speakers' judgment varied on dropping nominative case or genitive case.

(83)   *Dropping accusative case*

    a.   Mi-nengneng ko   cecay a   wawa *(to)   codad.
          IPFV.AV-watch NOM one   LNK child   *(ACC) book
          'A child is reading the books.'

    b.   ?Mi-nengneng ko   cecay a   wawa **(to)-ya**   **codad**.
          IPFV.AV-watch NOM one   LNK child   **(ACC)-that book**
          'A child is reading those books.'

c. ?Mi-nengneng ko   cecay a   wawa **(to) kahengang-ay/tosa-ay a**
   IPFV.AV-watch NOM one   LNK child **(ACC) red-SREL/two-SREL   LNK**
   codad.
   book
   'A child is reading the red/two books.'

The caseless objects in (83) do not seem structurally reduced. Unlike what is found in other languages that allow case dropping in limited environments, these objects do not need to be adjacent to the verb (but they can). Moreover, they can be modified by a relative clause and they can be interpreted as definite (data not included).

What makes (83) even harder to understand is that in the same environments, the object in an imperfective (AV) clause can receive nominative case, as in (84). That is, these clauses contain two nominative-marked DP. Without the additional demonstrative in (84a) or the numeral in (84b), having nominative case on the object was rejected by most speakers. One noticeable property of clauses with two nominative DP, such as (84a)-(84b), is that the word order of the subject and the object cannot be reversed. Scrambling that is otherwise available cannot apply. I will have to leave this as a mystery, but at the least, data such as (83) suggest that if DPs need to be syntactically licensed, then morphological case is not the only means available.

(84)   *Two nominative DP in one clause*

   a. Mi-sawsaw   ko   tawki **ko-ya   kiyafes**.
       IPFV.AV-wash NOM boss **NOM-that guava**
       'The boss is washing those guavas.'

   b. Mi-sawsaw   ko   tawki **ko   tosa-ay   a   kiyafes**.
       IPFV.AV-wash NOM boss **NOM two-SREL LNK guava**
       'The boss is washing the two guavas.'

Chapter 4

Case-stacking

Classic theories of morphological case ([Chomsky 2000](#), [2001](#) a.o.) argued that a DP may only receive case once. DPs are said to come with an [uCASE] feature that needs to be valued. Once a DP's [uCASE] is valued, the DP becomes inactive to further probing and will not be valued with Case again.

In the previous two chapters, I posited that case assignment may apply to a single DP more than once. This chapter discusses case-stacking, overt stacking of two or more cases on a single DP. This offers direct support for multiple case assignment.

Proposing that a DP can receive more than one case has many predecessors ([Babby 1984](#); [McCreight 1988](#); [Béjar and Massam 1999](#); [Bailyn 2004](#); [Merchant 2006](#); [Matushansky 2008](#), [2010](#), [2012](#); [Biskup 2009](#); [Carstens and Diercks 2009](#); [Baker and Vinokurova 2010](#); [Richards 2013](#); [Assmann 2014](#); [Assmann et al. 2014](#); [Pesetsky 2014](#); [Lyutikova 2015](#); [Levin 2017](#) a.o.). The details of these analyses vary. For example, not all involve directly assigning multiple cases to a single DP (e.g. [Matushansky 2008](#), [2010](#), [2012](#)). Nevertheless, by and large these proposals were motivated by phenomena which either directly or indirectly suggest that a single DP can be associated with more than one case value.

Perhaps the strongest indication that a single DP can be associated with multiple case values is shown by DPs that surface with multiple cases. This is found in several Australian languages, as in (1)-(2).

(1) *Case-stacking in Lardil*

    a.   Ngada latha karnjin-i   marun-**ngan-ku** maarn-ku.
          1SG   spear wallaby-ACC boy-**GEN-INS**   spear-INS
          'I speared the wallaby with the boy's spear.'   (Richards 2013 (3))

    b.   Ngada kurri marun-**ngan-i** kantha-n.
          1SG   see   boy-**GEN-ACC** father-ACC
          'I saw the boy's father.'   (Richards 2013 (10a))

(2) *Case-stacking in Kanyara and Mantharta languages (Western Australia)*

    a.   ngatha   nhukura kupuju-**parnti-ku**
          1SG(abs) knowing child-**ABL-DAT**
          'I have known him from a child (i.e. since he was a child).' (Austin 1995 (40))

    b.   kupuju-lu kaparla-nha yanga-lkin wartirra-**ku-nha**
          child-ERG dog-ACC   chase-PRES woman-**DAT-ACC**
          'The child chases the woman's dog.'   (Austin 1995 (22))

The kind of case-stacking found in Australian languages is intuitively different from case-stacking in Amis and Korean, to be discussed below. First, (1)-(2) are ungrammatical without multiple cases. Second, DPs with case-stacking in these languages do not seem to be associated with a certain information structure. Third, although Caha 2009 stated that this type of case-stacking (called case-compounding in Caha 2009 69: footnote 19) is different from the kind of case-stacking he focuses on, interestingly, the order of multiple cases in (2) are in fact consistent with the Case containment relationship he posited, as in (3).

(3) *Universal Case Containment*

    a.   In the Case sequence, the marking of cases on the right can morphologically contain cases on the left, but not the other way round.

    b.   The Case sequence:
        NOM - ACC - GEN - DAT - INS - (ABL) - COM (Caha 2009 49: (75); 213: (4))

Assuming that the order relation is transitive, the case sequence (2a)-(2b) together indicates is ABL-DAT-ACC. The linear order is the opposite of (3b), but the containment

hierarchy is consistent with (3b). It is not immediately obvious that this is also true for Lardil, since genitive case precedes accusative case in (1b). However, as Zompì 2017 discussed, genitive's exceptional behaviour suggests that it should be treated as an unmarked case. Moreover, Richards's 2013 generalisation based on Lardil case-stacking states that "if a structural case [nominative or accusative] is to appear, it must be on the periphery of the DP's inflection." In some sense then, this suggests that nominative or accusative needs to be attached external to non-structural (inherent) cases. The two structural cases also happen to be on top of the sequence in (3b). Given these similarities, it seems that an analysis of Australian case-stacking that takes into account of Caha's 2009 insights might worth pursuing. I will not try to come up with such an account.[1] This discussion is meant to serve as a comparison with case-stacking in Amis and Korean.

First, unlike case-stacking in Australian languages, as in (1)-(2) above, case-stacking in Amis and Korean is optional in the sense that the same clause is still grammatical without case-stacking. For instance, in the Korean examples in (4), the DP suffixed with two case markers can also appear with just one of these two cases.

(4)   *Case-stacking in Korean*

    a.   Cheli-**hanthey-ka** ton-i   isse.
           PN-**DAT-NOM**   money-NOM have
           'Cheli has money.'

    b.   Swunhi-ka Yenghi-**hanthey-lul** chayk-ul cwuesse.
           PN-NOM   PN-**DAT-ACC**   book-ACC gave
           'Swunhi gave Yenghi the book.'   (Levin 2017 (1a-b))

    c.   Sensayng-nim-tul-**kkeyse**-man-**i** kulen   il-ul   hasipnita.
           teacher-HON-PL-**H.NOM**-only-**NOM** that.kind work-ACC do
           'Only teachers do such work.'   (Levin 2017 (2))

Second, DPs with case-stacking in Amis and Korean require a certain information structure. It has been observed that Korean case-stacking is licit only when a DP is a focus or topic (Gerdts and Youn 1988, 1999; Schütze 2001a; Yoon 2004; Chung 2013). For example,

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[1] Assmann 2014 offers an analysis along this line.

stacking two nominative cases, as in (4c), is more acceptable with a focus particle, such as *-man* 'only.' Later I will show that case-stacked DPs in Amis must be contrastive topics.

The third difference between Australian case-stacking and Amis or Korean case-stacking can also be illustrated with (4c). As discussed above, the order of stacked cases in Australian languages seems to be consistent with the containment hierarchy posited by Caha 2009. However, this cannot be extended to Amis or Korean. This is most obvious when the two cases have the same value, such as nominative in (4c). We will see later that in Amis, when the subject of a gerund is a contrastive topic, it surfaces with two genitive cases.

The introduction above highlights two phenomena that have both been referred to as case-stacking. I suggest that they are different in several ways. In the remainder of this chapter, we will focus on the second type of case-stacking. The rest of this chapter is organised as follows: in 4.1, I provide some background information on contrastive topics. Next, in 4.2, I apply several diagnostics to case-stacked DPs in Amis and show that they are contrastive topics. In 4.3, we will look at a variety of environments where case-stacking is licensed in Amis. In particular, we will see that when the subject of a perfective clause is a contrastive topic, an additional nominative case is added to the perfective subject. I will propose that this results from a Last Resort repair applied to satisfy an interpretational need that otherwise cannot be met. Last, in 4.4, I consider a few alternative analyses of case-stacking in Amis, including one that treats the outer case as a focus particle (cf. Schütze 2001a). I conclude that these alternatives are insufficient for Amis case-stacking.

4.1   Background: contrastive topic

This section provides theoretical background on the meaning of contrastive topics (CT). I will abstract away from a formal implementation of CT. The goal is to introduce the diagnostics we will be applying in the next section, and to have some idea about why having a question in a certain form makes using CT in the response, the target sentence, more natural. Providing contextual support of this sort is crucial to successfully eliciting case-stacking in Amis.

Informally speaking, use of CT indicates that the speaker chooses to solve a "bigger" question of concern in the current conversation in steps (Büring 2003; Constant 2014). For example, this "bigger" question can be *What musical instrument do members of this band play?*, as in (5)Q. Instead of entirely resolving this question by a single answer, using CT in the response, such as (5)A, indicates that the speaker divides the "bigger" question into (minimally) two subquestions that vary only by the CT-marked constituent: *What musical instrument does Ellen play?*, *What musical instrument does Annie play?* ...

(5)   *English CT marking: B-accent*

    Q: What musical instrument do members of this band play?

    A: [ELLEN]$_{CT}$ ...plays [the GUITAR]$_{EXH}$.[2]

In English, CT-marked constituents are often pronounced with sentence-level stress, followed by a low-rising pitch movement and a pause (indicated by ...) (, if an EXH-marked constituent follows the CT). This is commonly referred to as the B-accent (Jackendoff 1972). Some languages mark CT with a designated morpheme, such as Japanese contrastive *wa* (Kuno 1973; Tomioka 2010).

To account for why CT-marking makes a set of questions in a particular form salient, previous studies on CT, such as Büring 2003; Wagner 2012; Constant 2014, made an analogy with how F (EXH)-marking on a constituent in an assertion, such as (6)**A1/A1'**, determines whether the assertion is a felicitous answer to a preceding question. As (6)**Q1**-(6)**A1** show, it is natural to F-mark the subject *Annie* (i.e. clausal level stress on the subject) in the answer to a subject wh-question, but F-marking the object *bubble tea* is infelicitous, as in (6)**A1'**. The judgment is reversed when the preceding question is an object wh-question, as in (6)**Q2**-(6)**A2/A2'**.

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[2]SMALL CAPS here indicates clausal level stress. Following Constant 2014, I will use [·]$_{CT}$ to indicate CT-marked constituents and [·]$_{EXH}$ to indicate exhaustive focus, even though formally they might be identical. Both are simply F-marked.

(6)   *Question-Answer Congruence*

   Q1: Who ordered bubble tea?

   A1: [Annie]$_{\text{EXH}}$ ordered bubble tea.

   A1': #Annie ordered [Bubble Tea]$_{\text{EXH}}$.

   Q2: What did Annie order?

   A2: #[Annie]$_{\text{EXH}}$ ordered bubble tea.

   A2': Annie ordered [Bubble Tea]$_{\text{EXH}}$.

Following Rooth 1985, 1992, 1996 and putting aside the details, the focus semantic value of (6)**A1** is a set of propositions that vary on the subject: {Annie ordered bubble tea, Clark ordered bubble tea, …}. This can be thought of as denoting the wh-question *Who ordered bubble tea?* (Hamblin 1973). On the other hand, the focus semantic value of (6)**A1'** is a set of propositions that vary on the object: {Annie ordered bubble tea, Annie ordered oolong, …}. This is essentially the wh-question *What did Annie order?*. In addition, we assume that a separate mechanism (the squiggle operator) requires that when one utters an assertion that contains an F-marked constituent, the context should be "matched with" the focus semantic value of this assertion. In this way, we can explain why (6)**A1'** is an infelicitous answer to (6)**Q1**, because what the (6)**Q1** makes salient in the context does not "match" the focus value of (6)**A1'**. The same reasoning also explains why the judgement flipped in (6)**Q2**-(6)**A2/A2'**.

How F-marking constrains question-answer congruence can be extended to CT-marking, except that CT-marking a constituent in an assertion, such as (7)**A**, requires the context "match" a set of questions (i.e. a set of sets of propositions). We can use Büring's 2003 D(iscourse)-tree to visualise what "matching" a set of questions means. By uttering (7)**A**, the speaker is suggesting that there is a "bigger" question that we are trying to resolve. This "bigger" question can be the topmost node in the D-tree in (7) or it could be what I had before, *What musical instrument do members of this band play?*, depending on the context. Moreover, (7)**A** also suggests that the speaker intends to answer this "bigger" question in steps, by addressing a series of subquestions that vary on the CT-marked constituent. These correspond to the mid-level nodes in this D-tree. Having a discourse

structure organised in this way salient in the context is what the pragmatic contribution of CT-marking is.

(7)   *Contrastive Topic Congruence: CT + Exh*

    Q: What about Ellen and Annie? What musical instrument do they play?

    A: [ELLEN]$_{CT}$ …plays [the GUITAR]$_{EXH}$. [ANNIE]$_{CT}$ …

D-tree   Who plays what musical instrument?

What does [Ellen]$_{CT}$ play?   What does [Annie]$_{CT}$ play?   What does …?

[Ellen]$_{CT}$ plays [the guitar]$_{EXH}$.   [Annie]$_{CT}$ plays [the drums]$_{EXH}$.   …
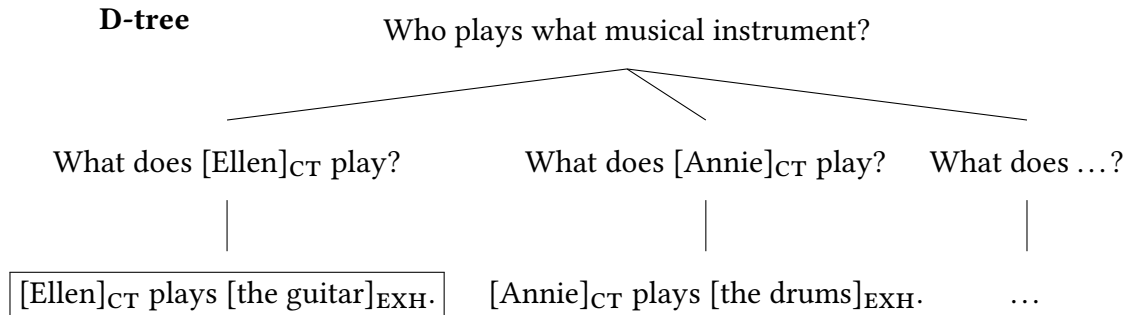
This is also why having a question, such as (7)**Q**, or similar questions that are variants of the topmost node in the D-tree in (7), makes CT-marking in the response natural. The preceding question in the right form provides immediately retrievable contextual support. This is important to keep in mind later when we look at case-stacking in Amis. Contextual support of this kind has been essential for eliciting case-stacking in Amis.

I discuss one more example below. This illustrates another type of CT assertion that will appear again later. (7)**A** above contains an Exh-marked constituent (object) in addition to the CT-marked constituent (subject). I will refer to utterances of this sort as "CT+Exh utterance." As the D-tree in (7) shows, the set of questions made salient by a CT+Exh utterance is a set of wh-questions.

It is also possible to have just one CT-marked constituent by itself in a clause, as in (8)**A** below.[3] As the D-tree in (8) indicates, the set of questions made salient by a lone CT utterance is a set of yes/no-questions. How exactly the difference between (7) and (8) should be derived is not relevant for our purpose. All we need to know is that questions

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[3]Wagner 2012 treated what we call lone CT utterances as a separate phenomenon (Rise-Fall-Rise/RFR contour) that is not directly related to CT. However, as Constant 2014; Yabushita 2017 illustrated, lone CT utterances are in fact attested in many languages, including Amis, as we will see later. Based on these, I will assume that lone CT utterances do not involve a fundamentally different phenomenon.

such as (8)**Q** can also provide contextual support for case-stacking. The corresponding answer will of course need to change accordingly.[4]

(8)   *Contrastive Topic Congruence: Lone CT*

   Q: What about Ellen and Annie? Do they play the bass?

   A: [ELLEN]$_{CT}$ does …

   D-tree
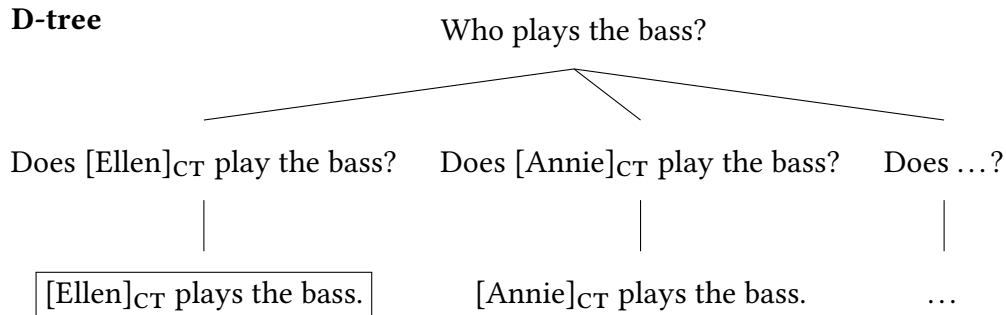
4.1.1   Diagnostics of contrastive topics

I illustrate three diagnostics of contrastive topics below. Each involves an environment that is incompatible with contrastive topics. We will apply these to case-stacked DP in Amis in the next section. I will only explain briefly why these environments rule out contrastive topics. These are discussed at length in Constant 2014.

First, contrastive topics are incompatible with thoroughly exhaustive answers. What thoroughly exhaustive answers refer to are answers that can entirely resolve what was called the "bigger" question above. For example, in (9), assuming that there can be at most one winner of the race, CT-marking *Persephone* in the answer is infelicitous because this assertion resolves the only question that is relevant in this context. By assumption, there is no other individual we will still be unsure of her/his winner status after hearing (9)**A**. Intuitively, thoroughly exhaustive answers are incompatible with contrastive topics because such answers defeat the use of contrastive topics: making salient a set of contrasting

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[4]To set up a context for a lone CT utterance, one might need to make sure that the question provides a sufficiently complex scenario. Take (8)**Q** as an example. If *Ellen* and *Annie* are the only two people relevant in the current conversation, then an answer such as (8)**A** strongly implies that *Annie* does not play the bass. This is sometimes referred to as the *Reverse Polarity Implicature* (Büring 1997). Given the existence of this implicature, a scenario that is too simple might make using CT (and therefore, case-stacking in Amis) unnatural.

questions, each of which partially but not entirely addresses the "bigger" question.

(9)   *#CT on thoroughly exhaustive answers*

    Q: Who won the race?   (Constant 2014 49: (46))

    A: #[PERSEPHONE]_{CT} did …

Relatedly, contrastive topics are also incompatible with what Constant 2014 called maximal elements, such as *all* and *both.* In (10)**A**, CT-marking *all* is infelicitous. This contrasts with CT-marking *some* or *most.* The reason why CT-marking maximal elements (in this context) is ruled out is essentially the same as was just discussed above. In (10)**A**, an answer with *all* entirely resolves the "bigger" question. Note that CT-marking is not fundamentally incompatible with maximal elements. If, for example, we are contrasting all the members of Group A with all the members of Group B (, C, …), then CT-marking *all* is allowed. What matters is whether or not an answer leaves some other question(s) unaddressed.

(10)   *#CT on maximal elements*

    Q: Which train did they take?   (Constant 2014 51: (50))

    A: [SOME/MOST/#ALL]_{CT} of them … took the [EARLY]_{EXH} train.

Third, contrastive topics are also incompatible with non-referential quantificational DPs. Non-referential quantificational DPs here refer to generalised quantifiers formed by a right downward entailing quantifier. In (11)**A**, for example, CT-marking *few* is bad, in contrast with CT-marking *some.* This diagnostic also applies with a caveat. CT-marking such quantifiers is not fundamentally ruled out. This is infelicitous only when we are contrasting pluralities of entity. (11)**A** with *some* is claiming that some members of a relevant group (*the grads*) live in Amherst and perhaps some other members of this group live in Northampton. This reading is not possible with right downward entailing quantifiers, according to Constant 2014. If the context supports contrasting proportions, instead of pluralities of entity, then CT-marking on quantifiers such as *few* is allowed. However, a

proportion reading tends to require more contextual support and this is hard to come by in (11). Therefore, the judgment contrast between CT-marking *some* and *few* is robust in examples such as (11).

(11)   *#CT on non-referential quantificational DP*

    Q: Where do the grads live?   (Constant 2014 160: (170))

    A: [SOME/#FEW]_{CT} of them …live in [AMHERST]_{EXH}.

4.2   Case-stacked DP in Amis are contrastive topics

Below we will apply the diagnostics discussed above to case-stacked DP in Amis. What we find is case-stacking is infelicitous in the same environments. This suggests that case-stacked DPs are contrastive topics. In addition, in 3.4, we saw that case-stacked DP in Amis can be topicalised. This is another property typical of contrastive topics cross-linguistically.

First, assuming that in (12), only one person is sleeping (e.g. you can clearly see someone sleeping in your bed), (12)**A1** with case-stacking on the subject is an infelicitous answer to (12)**Q**. The subject must be marked by nominative only, as in (12)**A2**.

(12)   *#Case-stacking on thoroughly exhaustive answers*

    Q: Címa ko   ma-foti'-ay   i matini?
          who   NOM IPFV.STAT-sleep-SREL P now
          'Who is sleeping now?'

    A1: #Ma-foti'   **ko-ni**   **Lekal** i matini.
          IPFV.STAT-sleep **NOM-GEN PN**   P now
          '#[Lekal]_{CT} is sleeping now.'

    A2: Ma-foti'   **ci**   **Lekal** i matini.
          IPFV.STAT-sleep **NOM PN**   P now
          '[Lekal]_{EXH} is sleeping now.'

Second, in (13), when the context does not include minimally one other group of people

we can contrast 'all the children' with, case-stacking is bad on maximal elements, such as *emin* 'all' in (13)**A1**. This subject can only appear with nominative case, as in (13)**A2**.

(13)   *#Case-stacking on maximal elements*

    Q: Ma-foti'   ko emin a   wawa i matini?
         IPFV.STAT-sleep NOM all   LNK child P now
         'Are all of the children sleeping now?'

    A1:#Ma-foti'   **ko-no**   **emin a**   **wawa** i matini.
         IPFV.STAT-sleep **NOM-GEN all**   **LNK child** P now
         '#[All]$_{CT}$ of the children are sleeping now.'

    A2: Hai. Ma-foti'   **ko** **emin a**   **wawa** i matini.
         yes IPFV.STAT-sleep **NOM all**   **LNK child** P now
         'Yes, all of the children are sleeping now.'

Third, case-stacking is also ruled out on non-referential quantificational DP when we are contrasting pluralities of entity.[5] As an answer to (14)**Q**, case-stacking can mark 'all doctors' in (14)**A1**, but not 'few doctors' in (14)**A2**.[6]

(14)   *#Case-stacking on non-referential quantificational DP*

    Q: Tahira-to ko   singsi ato ising?
         arrive-ASP NOM teacher and doctor
         'Have the teachers and the doctors arrived?'

    A1: Caay ho tahira ko   singsi.
         NEG   still arrive NOM teacher
         Kirami, tahira-to **ko-no**   **emin a**   **ising**.
         but   arrive-ASP **NOM-GEN all**   **LNK doctor**
         'The teachers haven't arrived yet, but [all]$_{CT}$ of the doctors have arrived.'

    A2: … Kirami, #tahira-to **ko-no**   **mámang a**   **ising**.
         but   arrive-ASP **NOM-GEN few**   **LNK doctor**
         '…, but #[few]$_{CT}$ of the doctors have arrived.'

---

[5]Initial data suggest that when we are contrasting proportions, case-stacking on *mámang* 'few' is acceptable. However, the context I elicited these examples with is quite complex and a bit unnatural, so I would prefer following up on these data later with a better designed context.

[6]Replacing *emin* in (14)**A1** with *roma* 'some; other' is also acceptable.

Note that (14)**A1** is an example where case-stacking on a maximal element is fine, because the clause with 'all doctors' does not by itself entirely resolve the "bigger" question. This question can be (14)**Q** or given a particular context, people other than teachers and doctors might also be relevant.

In addition, given the first half of (14)**A1**, one might think after hearing that 'all of the doctors have arrived,' if the "bigger" question is (14)**Q**, then the question is fully resolved. This is not relevant, however. All that is required is that the "bigger" question cannot be addressed completely by a single assertion with a case-stacked DP, leaving no other alternative questions potentially relevant.

Summing up, I demonstrated above that in the three environments that are incompatible with contrastive topics, case-stacking is also infelicitous. This supports treating case-stacked DPs as contrastive topics. In addition to overt topicalisation and the three diagnostics, another property of case-stacked DP also suggests that they are contrastive topics, although these should be treated as anecdotal for now, since they have not been tested systematically.

Occasionally, the speakers consulted would translate a case-stacked DP with 'only' or indicate this in a comment. For example, when asked about how (15a) is different from (15b) or whether there is a scenario where using one but not the other sounds odd, the consultant offered the comment below for (15b). This 'only' interpretation is most likely an implicature. It can be cancelled by, for example, continuing (15b) with 'The boss of that store is angry at Mayaw's mistake, too.' This is reminiscent of the *Reverse Polarity Implicature* mentioned before, but we will need to examine data like these more carefully to be certain.

(15)   *Reverse polarity implicature*

    a.   Ma-keter   **ko tawki** to raraw ni Mayaw.
            IPFV.STAT-angry **NOM boss** ACC mistake GEN PN
            'The boss is angry at Mayaw's mistake.'

b. Ma-keter **ko-no tawki** to raraw ni Mayaw.
IPFV.STAT-angry **NOM-GEN boss** ACC mistake GEN PN
'The boss is angry at Mayaw's mistake.'
(Comment: This is saying that only this boss is angry at Mayaw's mistake.

The other bosses aren't.)

Based on the discussion above, I posit the *CT Case Preservation Constraint* in (16). Adopting an Optimality Theoretic model of morphology (McCarthy 2006), I posit that this constraint competes with and is ranked higher than the *One Case Constraint*, repeated below in (17). As a result, a CT-marked DP will surface with all the cases assigned to it.[7]

(16) *CT Case Preservation Constraint*:
      Realise all cases attached to a CT-marked nominal.

(17) *One Case Constraint:*
      Delete all cases but the outermost one.

I address two other issues related to the behaviour of case-stacked DP in Amis below before we turn to the next section. First, case-stacking is most natural on non-initial alternatives clauses.[8] In all of the felicitous examples we saw above, case-stacking appears in the second clause.[9] Case-stacking in initial clauses improves when one cannot assume that the speaker is opinionated about all the contrasting subquestions. For example, case-stacking in initial clauses was accepted more easily when consultants were asked to imagine a situation where they did not know the answers to all the subquestions without checking a list one item by one item.

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[7]This constraint is comparable to Levin's 2017 *Korean Case Preservation Constraint*. Ultimately I do not know why a constraint of this sort exists. Across languages, focused elements are always realised by prominence in a certain form (Büring 2009) and contrastive topics can be considered a type of focus. However, (16) cannot be reduced entirely to just one way of marking focus prominence, as other focused elements in Amis (e.g. exhaustive focus) do not license case-stacking.

[8]Alternative clauses here refer to clauses that address contrasting subquestions made salient by CT-marking a particular constituent.

[9]This non-initiality preference for CT-marking is also found in some other languages, such as Mandarin *ne*. Constant 2014 argued that *ne* is a contrastive topic marker. *Ne* tends to sound odd in initial alternative clauses.

This is potentially a confound to the first two diagnostics we applied above in (12)-(13). The diagnostics showed that case-stacking on thoroughly exhaustive answers is bad, but both (12)**A1** and (13)**A1** contain just one single clause and thus, case-stacking is on an initial clause. However, if case-stacking is in fact possible in those examples, then these examples should improve in a context where the speaker is uncertain of the answer at the time of speaking. (18) is an attempt to create such a context. Case-stacking in (18)**A** is still not acceptable.

(18) *Non-initiality preference*

a. **Context:** Someone is sleeping in your bed, but the person is completely covered by the sheet, so you cannot tell who that person is. You ask Panay:

Q: Címa ko   ma-foti'-ay   itiraw?
who   NOM IPFV.STAT-sleep-SREL there
'Who is sleeping over there?'

b. **Context:** Panay does not know who that person is either. Based on the shape of the body, she thinks it might be Mayaw, but she cannot be sure. She replies:

A: #Ma-foti'   **ko-ni**   **Mayaw** itiraw.
IPFV.STAT-sleep **NOM-GEN PN**   there
'Mayaw is sleeping over there'

The second issue concerns whether case-stacking is obligatory when a DP is a contrastive topic. All the examples with case-stacking we saw above are still acceptable without case-stacking, but it is difficult to tell whether this shows that case-stacking is optional or that the speaker chooses to not interpret the same DP as a contrastive topic.

Moreover, in (19)**Q** below, case-stacking is already present in the question. Even in this example, case-stacking is still optional in the answer. Both (19)**A1** and (19)**A2** are acceptable.[10]

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[10]When an answer consists of three consecutive alternative clauses, case-stacking in the middle clause also does not require case-stacking in the final clause.

(19) **Q:** Ma-fana'   kako   mi-'aca   ci   Nakaw aci   Mayaw to
IPFV.STAT-know NOM.1SG IPFV.AV-buy NOM PN   and.NOM PN   ACC
codad.
book
'I know that Nakaw and Mayaw bought books.'

Mi-'aca   **ko-ni**   **Kolas** to   máan? Ma-fana'   kiso?
IPFV.AV-buy **NOM-GEN PN**   ACC what   IPFV.STAT-know NOM.2SG
'What did [Kolas]$_{CT}$ buy? Do you know?''

A1: Mi-'aca   **ko-ni**   **Kolas** to   cecay a   mali.
IPFV.AV-buy **NOM-GEN PN**   ACC one   LNK ball
'[Kolas]$_{CT}$ bought [a ball]$_{EXH}$.'

A2: Mi-'aca   **ci Kolas** to   cecay a   mali.
IPFV.AV-buy **NOM PN**   ACC one   LNK ball
'Kolas/[Kolas]$_{CT}$ bought [a ball]$_{EXH}$.'

We cannot be entirely sure whether case-stacking is obligatory on contrastive topic DP. However, even if it is not, this is not unusual given what we know about CT-marking in other languages. For example, in (20), neither (20)**A1** nor (20)**A2** directly answers (20)**Q**. Instead, both address an implicit question, such as *What did the female pop stars wear?* In this situation, CT-marking is necessary, as in (20)**A1**. The same answer without CT-marking sounds odd, as in (20)**A2**.

(20)   *English: CT marking is obligatory with implict questions*

Q: What did the pop stars wear?

(Implicit: What did the female pop stars wear?)

A1: The [female]$_{CT}$ pop stars wore [caftans]$_{EXH}$.

A2:#The female pop stars wore [caftans]$_{EXH}$.   (Büring 2003 (27))

However, as Büring 2003 observed, if the implicit question in (20)**Q** is made explicit, as in (21)**Q**, then CT-marking becomes optional. The contrast between (20) and (21) suggests that besides constraints on when CT-marking is possible, there can be additional constraints on when overt CT-marking is obligatory. Perhaps case-stacking in Amis is

regulated in a similar way.[11]

(21)   *English: CT marking is optional with explicit questions*

    Q: What did the pop stars wear? What did the female pop stars wear?

    A1:   The [female]$_{CT}$ pop stars wore [caftans]$_{EXH}$.

    A2:   The female pop stars wore [caftans]$_{EXH}$.   (Büring 2003 (28))

4.3   Multiple case assignment and case-stacking

Below we will look at case-stacking in the three environments discussed in previous chapters: imperfective (AV) clauses, gerunds, and perfective (PV/LV) clauses (in this order). The case-stacking pattern these data show is predicted by the case assignment model posited in Chapters 2-3.[12] In between I will also discuss issues that arise only in a particular environment. These include two case-stacking patterns that are not entirely predicted.

First, when the object of an imperfective clause is a contrastive topic, it can appear with either two accusative cases or accusative case on top of genitive case. The latter is surprising, given that transitive objects are not assigned genitive case anywhere in the derivation. I attribute this to a case impoverishment rule.

Second, when the subject of a perfective clause is a contrastive topic, it surfaces with nominative case on top of genitive case. At the same time, the object receives accusative case. That is, the case marking contrast between imperfective and perfective clauses disappears when the subject is a contrastive topic. I posit that for a DP to receive a contrastive topic interpretation, it must be Agreed with by C/T and raise to (at least) SpecCP/TP. In a neutral context, the subject of a perfective clause does not agree with C/T, as proposed in

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[11]Consultants did prefer to have case-stacking for some examples. These tend to be examples where the case-stacked DP is topicalised, but this preference does not seem to hold consistently.

[12]Speakers' judgment on certain case-stacking combinations varied to some extent, but the pattern reported in this dissertation has been verified multiple times and most combinations have been volunteered spontaneously at some point. I would not be too surprised if some Amis speakers find case-stacking unacceptable, given what has been reported for Korean. Case-stacking is licensed in similar contexts in Korean. Previous studies often noted that not all speakers accepted case-stacking. Besides putting the examples in focus contexts, other things not obviously relevant also improves case-stacking for some speakers (e.g. placing an example in the past tense; Schütze 2001a footnote 4).

Chapter 3. I posit that a Last Resort repair strategy applies only in this situation to meet the interpretational need. A full set of φ feature is added to the perfective subject. As a result, it can agree with C/T. Repairs of this sort, whose observable effect is an additional case marker, are also found in some varieties of Basque and Chinook (Rezac 2008b, 2011).

4.3.1 Imperfective subjects: nominative-genitive stacking

Following the case assignment model proposed in Chapters 2-3, the subject of an imperfective (AV) receives two cases: genitive and nominative, as in (22).[13]

(22) *Case derivation: imperfective subjects*
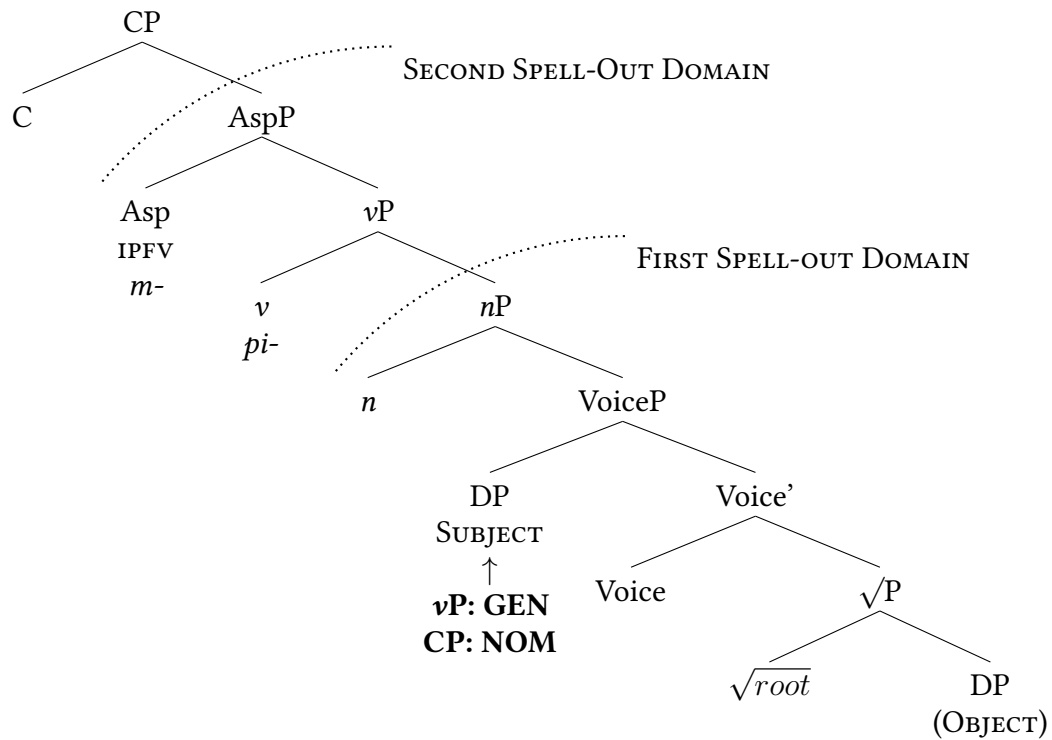
In a neutral context, only nominative is pronounced, given the *One Case Constraint*. When the subject is a contrastive topic, however, both cases surface as a result of the *CT Case Preservation Constraint*. Two examples are given in (23)-(24). Note that as discussed in the previous sections, having a preceding question in a certain form facilitates the contrastive

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[13]Following the proposal in Chapter 3, case assignment rules are rules for spelling out K and K is added to a DP when a φ probe without an EPP feature agrees with the DP.

topic interpretation. In addition, case-stacking tends to be more natural on non-initial alternative clauses.[14] Since, to my knowledge, case-stacking in Amis has never been reported before, I have included the entire question-answer set used in the actual elicitation for all the examples that follow. Therefore, the sentence that is of more interest will often (but not always) come in the second half of a dataset.

In (23)**A**, the subject in the second clause, *wawa* 'child,' appears with nominative stacked on top of genitive. Case-stacking (i.e CT-marking) on the subject in (23)**A** indicates that the speaker is addressing a series of contrasting yes/no-questions of the form: *Is Panay sleeping? Is that child sleeping? Is Mayaw …?* This is an example of lone CT assertion.

(23)   *Lone CT: imperfective subjects*

    Q: Ma-foti'   ci   Panay ato ya wawa i matini?
         IPFV.STAT-sleep NOM PN   and that child P now
         'Are Panay and that child sleeping now?'

    A: Ma-foti'   ci   Panay.
         IPFV.STAT-sleep NOM PN
         Kirami, caay ho ka-foti'   **ko-no-ya**   **wawa**.
         but   NEG still STAT-sleep **NOM-GEN-that child**
         'Panay is sleeping, but [that child]$_{CT}$ is not sleeping yet.'

An example of CT+Exʜ assertion is given in (24)**A1/A2**. Stacking nominative on top of genitive case in (24)**A1/A2** indicates that the speaker is addressing a series of contrasting wh-questions: *What is Panay cooking? What is Nakaw cooking? What is Mayaw …?* In (24)**A1**, the case-stacked subject remains in situ. In (24)**A2**, it is topicalised to the left edge of the clause.[15] When overt topicalisation takes place, a resumptive pronoun with matching cases is optional. See 3.4 in the previous chapter for more discussion about case-stacking on resumptive pronouns. I will assume that this topicalisation is essentially the same as *o*-topicalisation. Both are driven by a [ᴛᴏᴘ] probe (or just [ᴇᴘᴘ]). The contrastive topic interpretation results from a CT operator in the same position (cf. CT operator in

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[14]For some examples, the consultants also seemed to prefer topicalised case-stacked DP over in situ case-stacked DP.

Constant 2014). I will in addition assume that case-stacked DPs that stay in situ on the surface undergo covert topicalisation to the same position.

(24)   *CT+EXH: imperfective subjects*

    Q: Mi-tangtang ci   Panay ato ci   Nakaw to   máan i matini?
       IPFV.AV-cook NOM PN   and NOM PN   ACC what P now
       'What are Panay and Nakaw cooking now?'

    A1: Mi-tangtang **ko-ni**/*****ko-no**   **Panay** to   kalang.
       IPFV.AV-cook **NOM-GEN**/*******NOM-GEN** PN   ACC crab
       '[Panay]$_{CT}$ is cooking [the crabs]$_{EXH}$.'

       Mi-tangtang **ko-ni**   **Nakaw** to foting.
       IPFV.AV-cook **NOM-GEN** PN   ACC fish
       '[Nakaw]$_{CT}$ is cooking [the fish]$_{EXH}$.'

    A2: … **Ko-ni**   **Nakaw** i, mi-tangtang **(ko-no**   **nira)**   to foting.
       NOM-GEN PN   TOP IPFV.AV-cook **(NOM-GEN** **POSS.3SG)** ACC fish
       '…[Nakaw]$_{CT}$, (she) is cooking [the fish]$_{EXH}$.'

Observe also in (24)**A1/A2**, the form of the outer nominative case is *ko* instead of *ci* in (24)**Q**. I propose that this is a result of morphological locality. The contextual allomorphy rules for case (repeated in (25)) apply only when a K immediately c-commands a DP. This is true for all the following examples. When multiple cases are attached to a DP, only the innermost case is sensitive to contextual allomorphy.[16]

(25)   a.   *Contextual allomorphy of NOM*

       NOM ↔ *ci*/ ___ {personal name, kinship term}, e.g. *ci Panay*

       NOM ↔ *ko* (elsewhere), e.g. *ko wawa*

---

[15]The topic marker *i* might be an overt realisation of this operator, although *i* also occurs in *o*-topicalisation. This marker seems mostly optional in both environments.

[16]There are reasons one might not want to treat *ci* as nominative case or part of accusative case on a personal name/kinship term. I describe the relevant data at the end of this chapter and offer an alternative which treats *ci* as a marker of personal names/kinship terms. This does not change any other part of the proposal.

b. *Contextual allomorphy of GEN*

GEN ↔ *ni*/ ___ {personal name, kinship term}, e.g. *ni Panay*

GEN ↔ *no* (elsewhere), e.g. *no wawa*

c. *Contextual allomorphy of ACC*

ACC ↔ *ci...-an*/ ___ {personal name, kinship term}, e.g. *ci Panayan*

ACC ↔ *to* (elsewhere), e.g. *to wawa*

Previous studies on case-stacking in Korean reported similar licensing contexts (Gerdts and Youn 1999, 1988; Schütze 2001a; Yoon 2004; Chung 2013), so comparing with Korean can be informative. It has been observed that in Korean, case-stacked DP must be interpreted as specific. For example, in (26a), the dative-marked subject can be interpreted as specific or non-specific. However, when an additional nominative is attached to the dative, as in (26b), the subject must be interpreted as specific. Based on this, Levin 2017 proposed that the subject has moved out of *v*P. This is why it must be specific and also why it receives a second case.[17]

(26)   *Korean: case-stacked DP must be specific*

a. *No case-stacking: specific, non-specific*
Etten-salam-**hanthey** Yenghi-ka coha.
some-person-**DAT**   PN-NOM   likes
'Some person likes Yenghi.'

b. *Case-stacking: specific, *non-specific*
Etten-salam-**hanthey-ka** Yenghi-ka coha.
some-person-**DAT-NOM**   PN-NOM   likes
'Some person likes Yenghi.'   (Levin 2017 (20a-b))

In Amis, case-stacked DPs do tend to take wide scope over negation. An example is given below. The case-stacked subject in both (27)**A1** and (27)**A2** must scope over negation.

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[17]According to Levin 2017, a DP that has been assigned two cases can also surface with either the inner case or the outer case. This is reflected in the ambiguity in (26a). In one structure, the subject in (26a) stays within *v*P and receives only dative case. In another, the subject moves out of *v*P and receives an additional nominative case, but only the inner case is pronounced.

Thus, continuing either (27)**A1** or (27)**A2** with (27)**B** is contradictory.[18]

(27)   *Case-stacked DP: wide scope only*

   Q: Ma-tolo'   ko emin a   ising ato emin a   wawa?
   IPFV.STAT-fall NOM all   LNK doctor and all   LNK child
   'Did all of the doctors and all of the children trip over and fall?'

   A1: Ma-tolo'   ko-no   emin a   ising.
   IPFV.STAT-fall NOM-GEN all   LNK doctor
   '[All]$_{CT}$ of the doctors tripped over and fell.'

   Caay ka-tolo' **ko-no   emin a   wawa**.
   NEG   STAT-fall **NOM-GEN all   LNK child**
   '[All]$_{CT}$ of the children didn't trip over and fall.'   (*$\neg > \forall, \forall > \neg$)

   A2: … Kirami, **ko-no   emin a   wawa** i,   caay ka-tolo'.
   but   **NOM-GEN all   LNK child** TOP NEG STAT-fall
   '([All]$_{CT}$ of the doctors, (they) tripped over and fell.) But [all]$_{CT}$ of the chil-

   dren, (they) didn't trip over and fall.'   (*$\neg > \forall, \forall > \neg$)

   B. #Ma-tolo'   ci Panay. Caay ka-tolo' ci   Nakaw ato ci   Sawmah.
   IPFV.STAT-fall NOM PN   NEG   STAT-fall NOM PN   and NOM PN
   'Panay tripped over and fell. Nakaw and Sawmah didn't trip over and fall.'

However, the wide scope reading of case-stacked DP can be attributed to their contrastive topic reading. Specifically, as we mentioned before, according to Constant 2014, when a quantificational DP is CT-marked, the most accessible reading is one where we are contrasting pluralities. The quantificational DP in these examples have a type <e> reading. This explains why CT-marking on right downward entailing quantifiers (e.g. *few*) is ruled out in the same context, because a referential reading (type <e>) is not possible with DP modified by these quantifiers. Given this, the case-stacked subject in (27)**A1** and (27)**A2** in fact have a type <e> reading and is therefore scope-less. The wide scope reading is a result of the type <e> reading.[19]

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[18]For some examples, the narrow scope reading seems possible when the case-stacked DP stays in situ, but the wide scope reading is still the salient one.

[19]This is not to be confused with the inverse scope interpretation often discussed in the literature on contrastive topics (Büring 1997, 2003). In (i), the CT-marked *alle* 'all' can only scope below negation. This is the opposite of (27)**A1/A2**. However, (i) is an example where we are contrasting proportions instead of pluralities of entity. This is made clear by the preceding question. The reason why only inverse scope is

Another difference between Amis and Korean offers additional support for this. First, in Korean, whenever overt case-stacking is allowed, the same DP can also be marked with just the inner case or the outer case. When it appears with only the outer case, the DP also must be interpreted as specific, identical to its case-stacked counterpart.

For example, in (26b) above, the subject is marked with dative and nominative case. This subject can also surface with just nominative case, as in (28). As discussed above, the same subject with only dative case, as in (26a), can be interpreted as specific or non-specific. When the subject surfaces with only nominative case, however, it must be interpreted as specific, in parallel with its case-stacked counterpart. This is consistent with Levin's 2017 proposal, according to which, the nominative case is assigned to the subject only when it has moved out of *v*P. This is true whether or not the inner dative case is pronounced.

(28)   *Korean: DP with only outer case still must be specific*
       Etten-salam-**i**   Yenghi-ka coha.
       some-person-**NOM** PN-NOM   likes
       'Some person likes Yenghi.'   (Levin 2017 (44))

However, when the case-stacked DP in (27)**A1** appears with just the outer nominative case, as in (29a), it can scope above or below negation. Therefore, continuing (29a) with (29b) is consistent. This is in clear contrast with (27)**A1**, where the subject appears with nominative and genitive case. This suggests that the reason why the case-stacked subject in (27)**A1/A2** must scope above negation has to do with its contrastive topic interpretation. Therefore, the "wide scope" interpretation of case-stacked DP should not by itself be treated as evidence for positing movement as a precondition on additional case assignment.

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available is because the wide scope interpretation entirely resolves the preceding question. That is, this reading is ruled out for the same reason CT-marking is incompatible with thoroughly exhaustive answers.

(i)   **Q:** How many politicians are corrupt?/Are all politicians corrupt?

      A: [ALLE]$_{CT}$ Politiker   sind [NICHT]$_{EXH}$ corrupt.
              all   politicians are   not   corrupt
              '[All]$_{CT}$ politicians are [not]$_{EXH}$ corrupt.'   ($\neg > \forall$, *$\forall > \neg$; Büring 2003 534: footnote 16)

(29) *DP without case-stacking: ambiguous*

    a. Caay ka-tolo' ko emin a wawa.
        NEG STAT-fall NOM all LNK child
        'All of the children didn't trip over and fall '   ($\neg > \forall, \forall > \neg$)

    b. Ma-tolo' ci Panay. Caay ka-tolo' ci Nakaw ato ci Sawmah.
        IPFV.STAT-fall NOM PN   NEG STAT-fall NOM PN   and NOM PN
        'Panay tripped over and fell. Nakaw and Sawmah didn't trip over and fall.'

Case-stacked DPs in Amis do topicalise overtly. I also assumed above that in situ case-stacked DPs undergo covert topicalisation. Thus, we might expect to find some common correlates of Ā-movement. (30) shows that case-stacking is sensitive to the Coordinate Structure Constraint. In (30)**A1/A2**, in principle either the entire DP conjunction or just the second conjunct can be CT-marked. The interpretation is identical either way. However, case-stacking on the second conjunct is ruled out whether or not it has topicalised.[20] Case-stacking on the first conjunct is possible, as in (30)**A3**, but this potentially can be interpreted either as case-stacking on the entire DP conjunction or as an indication that there is less restriction on moving the first conjunct.

(30) **Q:** Ma-la-palo ca Calaw, ci Mayaw aci Sawmah?
           IPFV.STAT-LA-hit NOM.PL PN   NOM PN   and.NOM PN
           'Did Calaw, Mayaw, and Sawmah fight with each other?'

---

[20](30)**A2** is acceptable without *ato* 'and.' (30)**A2** also improves but is still not perfect with a case-stacked resumptive pronoun in situ. I do not have an explanation for these.

In addition, judgment on complex DP islands varied. For example, case-stacking on *Nakaw* in (i) was accepted whether the case-stacked DP stays in situ or is topicalised. However, in the same example except that the verb in the relative clause is changed to *pohpohen* 'touch.PV,' case-stacking on *Nakaw* is bad when it stays in situ. I also cannot account for these data right now, partially because we do not know how relative clauses with an AV verb suffixed by *-an* should be analysed. Nonetheless, independently, *o*-topicalisation is also possible in the same configuration, but again, judgment varied. Thus, (i) might reflect a more general pattern that applies to (one type of) topicalisation in Amis.

(i) a. … Caay pi-kalat ko-ra mi-pohpoh-an **ko-ni** **Nakaw** a waco to tamdaw.
           NEG AV-bite NOM-that IPFV.AV-touch-OREL **NOM-GEN PN**   LNK dog ACC person
           '(That dog that Panay touched bites people.) That dog that Nakaw touched doesn't bite people.'

    b. … **Ko-ni** **Nakaw** i, caay pi-kalat ko-ra mi-pohpoh-an **(ko-no** **nira)**
        NOM-GEN PN   TOP NEG AV-bite NOM-that IPFV.AV-touch-OREL **(NOM-GEN POSS.3SG)**
        a waco to tamdaw.
        LNK dog ACC person

A1: Ma-la-palo   ci   Mayaw ato ci/*__ko-ni__   __Calaw__.
IPFV.STAT-LA-hit NOM PN   and NOM/*__NOM-GEN PN__
'Mayaw and Calaw fought with each other.'

Caay ka-la-palo ci   Mayaw ato ci/*__ko-ni__   __Sawmah__.
NEG STAT-LA-hit NOM PN   and NOM/*__NOM-GEN PN__
'Mayaw and Sawmah didn't fight with each other.'

A2 … *__Ko-ni__   __Sawmah__ i ma-la-palo   ci Mayaw ato.
*__NOM-GEN PN__   TOP IPFV.STAT-LA-hit NOM PN   and

A3 … Caay ka-la-palo __ko-ni__   Mayaw ato ci   Sawmah.
NEG STAT-LA-hit __NOM-GEN__ PN   and NOM PN
'…Mayaw and Sawmah didn't fight with each other.'

4.3.2 Imperfective objects: accusative-accusative stacking

In the proposed case assignment model, the object of an imperfective clause receives two accusative cases, as in (31).

(31)　*Case derivation: imperfective objects*
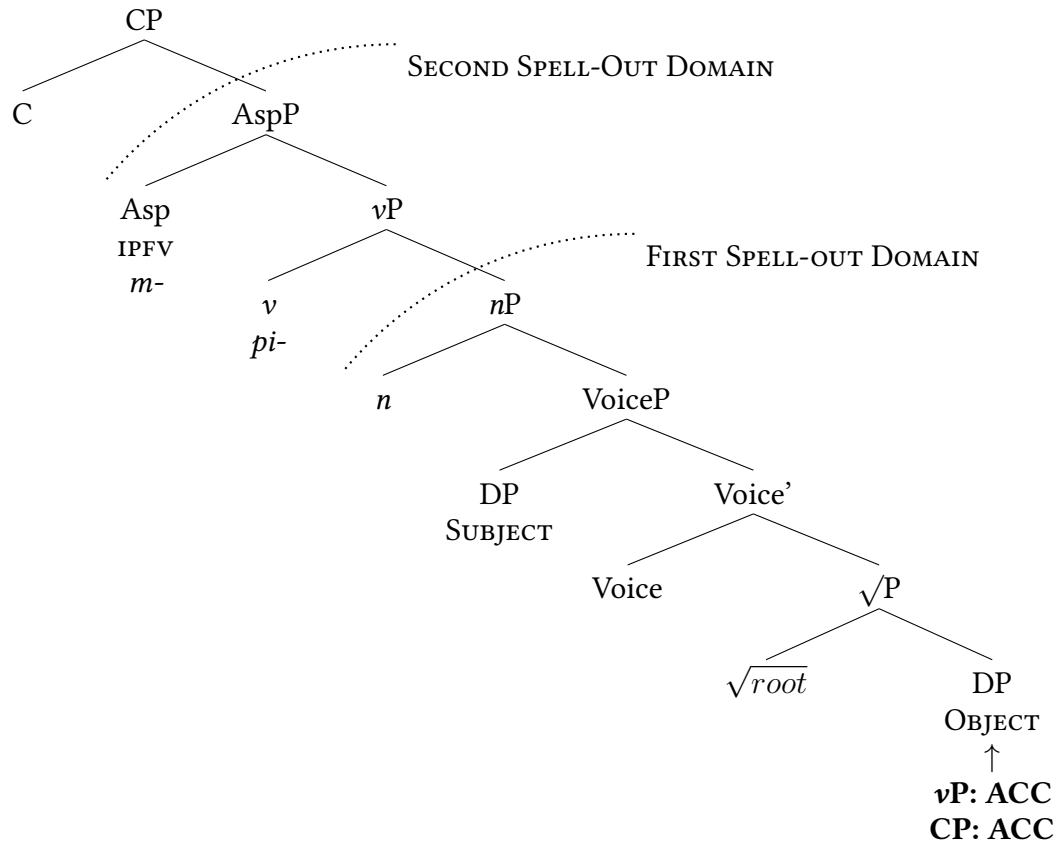
Only one accusative case is pronounced in a neutral context. When the object is a contrastive topic, it appears with both accusative cases. An example is given in (32). Stacking two accusative cases on the object in (32)**A'-A"** indicates that the speaker is addressing a series of contrasting questions: *Where did Lekal touch that horse? Where did Lekal touch that goat? Where did Lekal touch Grandfather? Where did Lekal …?*[21] (32)**A"** in addition shows that only the inner accusative changes when the DP is a personal name/kinship term. Moreover, the case-stacked object can be topicalised. When this happens, a resumptive pronoun with two accusative cases is optional.

(32)   *CT+Exh: imperfective objects*

    Q: Icówa ci Lekal a mi-tefing   to-ya   efa, to-ya   siri ato ci
          P.where NOM PN   LNK IPFV.AV-touch ACC-that horse ACC-that goat and ACC
          akong-an?
          grandfather-ACC
          'Where did Lekal touch that horse, that goat and Grandfather?'

    A: Itiraw cingra a   mi-tefing   to-ya   efa.
          there   NOM.3SG LNK IPFV.AV-touch ACC-that horse
          'He touched that horse over there.'

    A': ?Mi-tefing   ci Lekal **to-to-ya**   **siri** i rengo-rengos-an.
          IPFV.AV-touch NOM PN   **ACC-ACC-that goat** P RED-grass-LV
          'Lekal touched [that goat]$_{CT}$ [on the meadow]$_{EXH}$.'

    A": **To-ci**   **akong-an**   i, mi-tefing   ci Lekal (**to** **cingraan**)
          ACC-ACC grandfather-ACC TOP IPFV.AV-touch NOM PN   (**ACC ACC.3SG**)
          i loma'.
          P home
          '[Grandfather]$_{CT}$, Lekal touched (him) [at home]$_{EXH}$.'

Stacking two accusatives of the same form, as in *to-to* in (32)**A'**, is degraded. This

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[21] (32)**A-A"** are part of one single answer. For ease of reference, I will indicate part of the same answer as A, A', A", …, and alternative answers to the same question as A1, A2, A3, …. Also, given that Amis is a *pro*-drop language, repeating the subject more than once, as in (32) and similar examples, may sound redundant, but they are grammatical. In addition, some of the scenarios might seem odd (e.g. touching Grandfather). This is mainly due to my lack of imagination when constructing the context, but also due to two constraints. First, third person pronouns can only refer to animate (preferably human) DP. Second, to see whether only the inner case is sensitive to contextual allomorphy, a DP needs to be a personal name or a kinship term.

improves when an additional demonstrative is added, as is done in (32)**A'** and/or when the two cases are pronounced with a brief pause in between. The same issue also arises for gerund subjects, to be discussed in the next section.

This can be attributed to a phonological haplology rule. It applies to environments not limited to stacked cases. The rule can be informally stated as: when two identical CV syllables are linearly adjacent and the two syllables belong to separate functional morphemes, delete one of the two syllables. I will indicate this deletion by a strikethrough over the second syllable, but we cannot tell which syllable is deleted.

Three examples are given below. In (33a), the accusative case marking *waco* 'dog' is not pronounced when preceded by the conjunction *ato*, which ends in an identical syllable. This contrasts with (33b). The accusative case marking *Lekal*, a name, is pronounced in the same environment. Second, *no kohetingay* in (33c)-(33d) is an example of what I will refer to as genitive modifiers.[22] In (33d), it modifies a nominative subject and appears in its full form. However, in (33c), *no kohetingay* modifies a genitive subject. As a result, one of the two *no*'s is deleted. (33e) in addition shows that when genitive case *no* follows *ano* 'if,' the haplology also applies.[23]

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[22]These might be comparable to phrases such as *words of intelligence* or what is sometimes called the *N-of-N Construction*, e.g. *a fool of a president* (cf. den Dikken 2006). Two more examples are given below. Some of the genitive modifiers can follow or precede the head, as in both (i)-(ii), but colour terms, such as *no kohetingay* in (33c)-(33d), can only precede the head.

(i) a. Ma-olah   kako   to demak **no liteng-an/liteng-ay**.
         IPFV.STAT-like NOM.1SG ACC thing **GEN old-AN/old-SREL**

     b. Ma-olah   kako   to **no liteng-an/liteng-ay a**   demak.
         IPFV.STAT-like NOM.1SG ACC **GEN old-AN/old-SREL**   **LNK** thing
         'I like old things.'

(ii) a. Mi-asip   kako   to codad **no amilika-an/amilika-ay**.
         IPFV.AV-read NOM.1SG ACC book **gen America-AN/America-SREL**

     b. Mi-asip   kako   to **no amilika-an/amilika-ay**   **a**   codad.
         IPFV.AV-read NOM.1SG ACC **gen America-AN/America-SREL LNK** book
         'I'm reading English books.'

[23]Some speakers seem to have higher tolerance for environments that would trigger vowel deletion for other speakers. The same speakers also accepted stacking two identical accusative cases (or two identical genitive cases on a gerund subject) more easily.

(33)   *Phonological haplology*

 a. ***ato to waco*** → ***ato waco***

  Ma-olah kako to posi **ato ~~to~~ waco**.
  ɪᴘꜰᴠ.ѕᴛᴀᴛ-like ɴᴏᴍ.1ѕɢ ᴀᴄᴄ cat **and ᴀᴄᴄ dog**
  'I like cats and dogs.'

 b. Ma-olah kako to posi **ato ci Lekal-an**.
  ɪᴘꜰᴠ.ѕᴛᴀᴛ-like ɴᴏᴍ.1ѕɢ ᴀᴄᴄ cat **and ᴀᴄᴄ ᴘɴ-ᴀᴄᴄ**
  'I like cats and Lekal.'

 c. ***no no kohetingay*** → ***no kohetingay***

  Kaen-en **no ~~no~~ koheting-ay** a waco ko hemay i honi.
  eat-ᴘᴠ **ɢᴇɴ ɢᴇɴ black-ѕʀᴇʟ** ʟɴᴋ dog ɴᴏᴍ rice ᴘ moment
  'The black dog ate rice just now.'

 d. K<om>aen **ko no koheting-ay** a waco to hemay i matini.
  <ᴀᴠ>eat **ɴᴏᴍ ɢᴇɴ black-ѕʀᴇʟ** ʟɴᴋ dog ᴀᴄᴄ the rice ᴘ now
  'The black dog is eating the rice now.'

 e. ***ano no ising*** → ***ano ising***

  Ano ~~no~~ ising i, o maa-maan ko mi-nanom-an   i, …
  if ɢᴇɴ doctor ᴛᴏᴘ ᴘʀᴇᴅ ʀᴇᴅ-what ɴᴏᴍ ɪᴘꜰᴠ.ᴀᴠ-water-ᴏʀᴇʟ ᴛᴏᴘ
  'The doctor, whatever (s/he) drinks, (I like it).'

In (32)**A'-A"**, the contrastive topic object can also surface with accusative case stacked on top of genitive case. This is not predicted by the current proposal, since transitive objects are not assigned genitive case anywhere in the derivation. I discuss this unexpected pattern in 4.3.5.

4.3.3 Subjects of gerunds: genitive-genitive stacking

The subject of a gerund receives two genitive cases in the proposed model, as in (34).

(34)   *Case derivation: gerund subjects*

```
                    DP
                   /  \........................  SECOND SPELL-OUT DOMAIN
                  /    \
                 D      nP
               (ya)    /  \
              'that'  n    vP
                          /  \
                         v    nP ........................  FIRST SPELL-OUT DOMAIN
                        pi-  /  \
                            n    VoiceP
                                /    \
                              DP      Voice'
                            SUBJECT   /    \
                              ↑    Voice    √P
                           vP: GEN        /    \
                           DP: GEN    √root     DP
                                            (OBJECT)
```
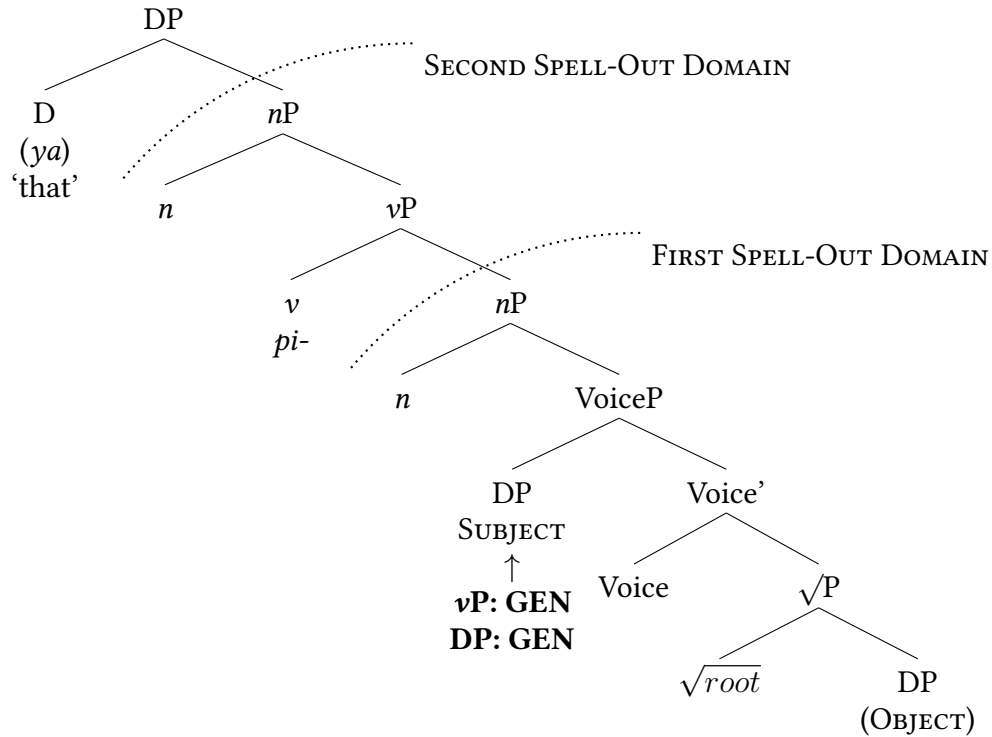
The two genitive cases are pronounced when the gerund subject is a contrastive topic, as in (35)**A'-A"**. In (35)**A'**, stacking two identical genitives (i.e. *no-no*) is degraded. As discussed above, this can be attributed to phonological haplology. Likewise, having two identical genitives improves when a demonstrative is added and/or there is a brief pause between the two genitive cases. This contrasts with stacking two genitives on *Lekal*, a personal name, as in (35)**A"**. Here, the inner genitive is realised as *ni*, following the contextual allomorphy. As a result, the haplology does not apply and a pause between the two genitive cases is also not necessary.

However, in (35)**A"**, the resumptive pronoun also appears with two genitives. In this example, deletion of one of the two genitives on the pronoun is strongly preferred.[24] I do not know enough about Amis' prosody to give a more systematic description of how stacked cases are pronounced. When two identical cases or three cases are assigned to a single DP, quite often they are not pronounced together. Speakers have intuition about when and where a pause is preferred. These seem to reflect what is considered an optimal foot in Amis, where degenerate foots are tolerated, and how these interact with the

phonological haplology described above.

(35) *CT+Exh: gerund subjects*

Q: Faheka kiso   [to pi-tefing ni Panay, ni Lekal ato no-ya   wawa
    surprised NOM.2SG ACC AV-touch GEN PN   GEN PN   and GEN-that child
    to   máan]?
    ACC what
    'You're surprised at Panay, Lekal and that child's touching what?'

A: Faheka kako   [to pi-tefing ni Panay to efa   ].
    surprised NOM.1SG   ACC AV-touch GEN PN   ACC horse
    'I'm surprised at Panay's touching the horses.'

A': ?Faheka kako   [to pi-tefing **no-no-ya**   **wawa** to kolong].
    surprised NOM.1SG   ACC AV-touch **GEN-GEN-that child** ACC ox
    'I'm surprised at [that child's]$_{CT}$ touching [the oxen]$_{EXH}$.'

A": Faheka kako   [to **no-ni**   **Lekal** a[25] pi-tefing (**no-~~no~~   nira**)
    surprised NOM.1SG   ACC **GEN-GEN PN**   LNK AV-touch (**GEN-GEN POSS.3SG**)
    to   siri].
    ACC goat
    'I'm surprised at [Lekal's]$_{CT}$ touching [the goats]$_{EXH}$.'

4.3.4 Raising-to-object: triple case-stacking

In (36b), an object thematically connected to the embedded verb linearly precedes the embedded verb. This is an example of what I have been referring to as raising-to-object. In Chapter 5, I will show that in Amis, raising-to-object can be derived by either prolepsis or topicalising the embedded object to the left edge of the embedded clause.

(36) *Raising-to-object out of an embedded clause*

a. Ma-fana'   kako   mi-tefing   **ko wawa** to siri.
   IPFV.STAT-know NOM.1SG IPFV.AV-touch **NOM child** ACC goat
   'I know that that child is touching the goats.'

---

[24]When the object of a gerund is a contrastive topic, initial data from one speaker show that it can be marked with two accusative cases or accusative case on top of genitive case. This parallels CT-marked objects in imperfective clauses.

[25]When a gerund subject is topicalised (to the left edge of the gerund), it is followed by *a* instead of the topic marker *i*, although one speaker did accept having *i* in this example and similar examples.

b. Ma-fana'　　　kako　**to-ya**　**wawa** mi-tefing　　to siri.
IPFV.STAT-know NOM.1SG **ACC-that child** IPFV.AV-touch ACC goat

When the raised DP is a contrastive topic, it surfaces with three cases: accusative-nominative-genitive, as in (37)**A1-A2**. This is predicted by the current proposal. The raised DP receives two cases in the embedded clause: genitive first and then nominative. By moving to the edge of the embedded clause, it becomes visible when case assignment applies in the matrix clause. As a result, it receives an additional accusative case.[26]

(37)　　*Lone CT: raising-to-object*

Q: Ma-fana'　　　kiso　　to tawki ato ising mi-tangtang to kalang?
IPFV.STAT-know NOM.2SG ACC boss　 and doctor IPFV.AV-cook ACC crab
'Do you know that the boss and the doctor are cooking the crabs?'

A1: Ma-fana'　　　kako　**to-ko-no**　　**tawki** mi-tangtang to kalang.
IPFV.STAT-know NOM.1SG **ACC-NOM-GEN boss**　 IPFV.AV-cook ACC crab
'I know that [the boss]CT is cooking the crabs.'

A1': Caay ka-fana'　kako　**to-ko-no**　　**ising** mi-tangtang to kalang.
NEG　 STAT-know NOM.1SG **ACC-NOM-GEN doctor** IPFV.AV-cook ACC crab
'I don't know that [the doctor]CT is cooking the crabs.'

A2: To-ko-no　　**tawki** i,　ma-fana'　　　kako　　mi-tangtang to kalang.
ACC-NOM-GEN boss　 TOP IPFV.STAT-know NOM.1SG IPFV.AV-cook ACC crab
'[The boss]CT, I know that (s/he) is cooking the crabs.'

Another example is given in (38). (36)**A2** above[27] and (38)**A"** below both show that this triply case-marked DP can further topicalise to the edge of the matrix clause. The optional resumptive pronoun can also surface with the same three cases.

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[26]Depending on how raising-to-object should be analysed, the raised DP might receive two accusatives in the matrix clause, instead of one. This should happen if the raised DP is agreed with by both the matrix v and C/T. I do not have the relevant data at this point unfortunately. The same issue also applies to raising-to-object out of a gerund, as in (39b) and (40)**A'-A"**.

[27]As mentioned before, multiple cases on a DP are not always pronounced together. In (36)**A2**, for example, consultants sometimes had a brief pause between the first case *to* and the other two *ko-ni*.

(38)　*CT+Exн: raising-to-object out of an embedded clause*

Q:　Ma-fana'　　　kiso　　mi-tefing　　ci　Panay, ci　Lekal ato ya
　　　IPFV.STAT-know NOM.2SG IPFV.AV-touch NOM PN　　NOM PN　and that
　　　wawa to　máan?
　　　child　ACC what
　　　'What do you know that Panay, Lekal and that child are touching?'

A:　Ma-fana'　　　kako　　ci　Panay-an mi-tefing　　to　efa.
　　　IPFV.STAT-know NOM.1SG ACC PN-ACC　IPFV.AV-touch ACC horse
　　　'I know that Panay is touching the horses.'

A':　Ma-fana'　　　kako　　**to-ko-no-ya**　　**wawa** mi-tefing　　to　kolong.
　　　IPFV.STAT-know NOM.1SG **ACC-NOM-GEN-that child** IPFV.AV-touch ACC ox
　　　'I know that [that child]_CT is touching [the oxen]_EXH.'

A":　**To-ko-ni**　　**Lekal** i,　ma-fana'　　　kako　　(**to-ko-no**　　**nira**)
　　　ACC-NOM-GEN PN　　TOP IPFV.STAT-know NOM.1SG (**ACC-NOM-GEN POSS.3SG**)
　　　mi-tefing　　to　siri.
　　　IPFV.AV-touch ACC goat
　　　'[Lekal]_CT, I know that (he) is touching [the goats]_EXH.'

Raising-to-object can also take place out of a gerund, as in (39b). (39b) can be derived by prolepsis or topicalisation to the edge of the gerund, as demonstrated by the same diagnostics that we will see in Chapter 5.

(39)　*Raising-to-object out of an embedded gerund*

　　a.　Faheka kako　　to pi-tefing **no-ya**　　**wawa** to siri.
　　　surprised NOM.1SG ACC AV-touch **GEN-that child**　ACC goat
　　　'I'm surprised at that child's touching the goats.'

　　b.　Faheka kako　　**to-ya**　　**wawa** to pi-tefing to siri.
　　　surprised NOM.1SG **ACC-that child**　ACC AV-touch ACC goat
　　　'I'm surprised at that child's touching the goats.'

When the raised DP is a contrastive topic, the DP appears with three cases: accusative-genitive-genitive. This also follows from the present proposal. The inner two genitive cases are assigned when the DP is still inside the gerund. After it moves to the edge of the gerund, it becomes visible to case assignment in the matrix clause and receives an

additional accusative case. Similarly, this triply case-marked DP can also further topicalise to the edge of the matrix clause, as in (40)**A"**. The optional resumptive pronoun can also appear with the same three cases, although this is another example where deletion of one of the two string-adjacent genitives is strongly preferred, as indicated by the strikethrough (cf. (35)**A"**).

(40) *CT+Exh: raising-to-object out of an embedded gerund*

    Q: Faheka kiso ci Panay-an, ci Lekal-an ato ya wawa to pi-tefing
        surprised NOM.2SG ACC PN-ACC ACC PN-AC and that child ACC AV-touch
        to máan?
        ACC what
        'You're surprised at Panay, Lekal and that child's touching what?'

    A: Faheka kako ci Panay-an to pi-tefing to efa.
        surprised NOM.1SG ACC PN-ACC ACC AV-touch ACC horse
        'I'm surprised at Panay's touching the horses.'

    A' Faheka kako **to-no-no-ya** **wawa** to pi-tefing to kolong.
        surprised NOM.1SG **ACC-GEN-GEN-that child** ACC AV-touch ACC ox
        'I'm surprised at [that child's]$_{CT}$ touching [the oxen]$_{EXH}$.'

    A": **To-no-ni** **Lekal** i, faheka kako (**to-no-~~no~~** **nira**)
        ACC-GEN-GEN PN TOP surprised NOM.1SG (**ACC-GEN-GEN POSS.3SG**)
        to pi-tefing to siri.
        ACC AV-touch ACC goat
        '[Lekal]$_{CT}$, I'm surprised at (his) touching [the goats]$_{EXH}$.'

4.3.5 Case impoverishment

When the object of an imperfective clause is a contrastive topic, it can surface with two accusatives, as discussed before in 4.3.2. However, the same object can also appear with accusative stacked on top of genitive, as in (41)-(42). This is not predicted by the current proposal, as transitive objects are not assigned genitive case anywhere throughout the derivation.

(41)   *Lone CT: imperfective objects*

Q: Mi-tangtang ko   tawki to   kalang ato 'afar   i matini?
    IPFV.AV-cook NOM boss ACC crab   and shrimp P now
    'Is the boss cooking the crabs and the shrimps now?'

A: Caay pi-tangtang cingra   to   kalang.
    NEG AV-cook   NOM.3SG ACC crab
    'S/he is not cooking the crabs.'

    Kirami, mi-tangtang cingra **to-no**   **'afar**   i matini.
    but   IPFV.AV-cook NOM.3SG **ACC-GEN** **shrimp** P now
    'But s/he is cooking [the shrimps]$_{CT}$ now.'

Moreover, these objects otherwise behave in parallel with other case-stacked DP. For example, (42)**A** shows that the object can also topicalise and the optional resumptive pronoun appears with accusative case on top of genitive case.

(42)   *Lone CT: imperfective objects*

Q: Mi-cikeroh   kiso   ci Panay-an ato ci Nakaw-an i honi?
    IPFV.AV-push NOM.2SG ACC PN-ACC   and ACC PN-ACC   P moment
    'Did you push Panay and Nakaw just now?'

A: Mi-cikeroh   kako   ci Panay-an.
    IPFV.AV-push NOM.1SG ACC PN-ACC
    'I pushed Panay.'

    To-ni   **Nakaw**[28] i,   caay pi-cikeroh i honi   **(to-no**   **nira)**.
    ACC-GEN PN   TOP NEG AV-push   P moment **(ACC-GEN POSS.3SG)**
    '[Nakaw]$_{CT}$, (I) didn't push (her) just now.'

One possible account might be that the subject of an imperfective clause is sometimes excluded from the first case assignment. As a result, the object (in a transitive clause) is

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[28]Having an extra *-an* on an accusative-genitive object is grammatical, but the meaning changes and in this particular example, having an extra *-an* is odd. Based on (i), volunteered by one of the consultants as a natural example with an accusative-genitive object suffixed by *-an*, it seems that these objects might be derived by ellipsis of part of a (headless) relative clause.

(i)   Ma-olah   kako   to-ni   Panay-an. Kirami, caay ka-olah kako   to-ni   Nakaw-an.
       IPFV.STAT-like NOM.1SG ACC-GEN PN-AN   but   NEG STAT-like NOM.1SG ACC-GEN PN-AN
       'I like what Panay made, but I don't like what Nakaw made.'

the only DP visible at this stage. Therefore, it receives genitive case. This predicts that, whenever a contrastive topic object is pronounced with accusative case on top of genitive case, if the subject is also a contrastive topic, genitive case should not be possible on the subject. This is not borne out, however. As we will see in the next section, when both the subject and the object are contrastive topics, the subject still appears with nominative on top of genitive and the object can still surface with either of the two options discussed above.

I propose that this unexpected pattern is a result of *Dependent Case Impoverishment*, as in (43).[29] This is a repair for a markedness constraint, such as (44), which bars DPs containing two valued case features.

(43)   *Dependent Case Impoverishment Rule:*

         When a DP contains two K assigned with dependent case feature [DEP], delete the [DEP] on the inner K.[30]

(44)   *Syntagmatic Dependent Case Markedness:*

         A given DP cannot contain two K assigned with dependent case feature.

This is implemented in a more fine-grained case assignment model: at each Spell-Out, a K on a DP is either assigned a [DEP] feature, to be written as [K: DEP] or is not assigned anything. This will be written as [K: ___] (cf. Preminger 2011). Following Levin 2017, I further posit that each time a DP is not assigned [DEP] at the end of a Spell-Out, this absence of assignment is recorded. Case assignment rules are revised accordingly, as in (45).

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[29]Impoverishment is not as commonly posited for morphological case, but this has been proposed in several studies (e.g. McFadden 2004; Caha 2009; Keine 2010).

[30]This should not be seen as an endorsement for "Case features." I use [DEP] as a shorthand for certain φ feature(s) on the DP or a feature that is copied from the agreeing probe. I do not have data at the moment to make this more specific. Also, in an earlier version of this work (Chen to appear), (43) was written as a case valuation rule. In the present proposal, K is only a structural holder for what may be spelled out as morphological case. It does not come with a Case feature. Talking about Case valuation is therefore inconsistent with the proposal.

(45) *Amis case assignment rules (final)*

    a.   *Rule D:*

       If there are two distinct DPs with a K added in the same phase such that DP_1 c-commands DP_2, assign [DEP] to K on DP_2.

    b.   *Rule U:*

       Each time a K on a DP is not assigned [DEP] according to *Rule D*, the absence of assignment is recorded.

Whether an unmarked case (K without [DEP]) is realised as genitive or nominative is now determined at Vocabulary Insertion, as in (46).

(46) *Spell-Out of K*

    a.   [K: DEP] $\leftrightarrow$ ACC (dependent case)

    b.   [K: ___] $\leftrightarrow$ NOM if *v* is the highest category-determining head; GEN elsewhere.

In addition, I will assume that Vocabulary Insertion applies upon completion of CP or DP. Moreover, I posit that the *One Case Constraint* and the markedness constraint in (44) are equally ranked. This yields optionality between stacking two accusative cases and stacking accusative on top of genitive.

    I illustrate in (47) how this system derives accusative-genitive marking on a contrastive topic object. Following the discussion in 3.2, a K is added to the object when it is agreed with by *v*. Another K is added when the object is agreed with by C/T. I will assume that *v* and C/T both initiate Agree before its domain undergoes Spell-Out. Given this, the object's first K is assigned [DEP] when the first Spell-Out happens. The second K is also assigned [DEP] when the second Spell-Out happens. Given that the object is a contrastive topic, both K's are retained. (43) applies and deletes the value of the inner K. This is realised as accusative-genitive at Vocabulary Insertion.[31]

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[31] According to the current proposal, case realisation is derived following the four steps below:

Step1: Agree between a φ probe without EPP and a DP.

(47) *Case derivation: contrastive topic imperfective objects*

Derivation	Case Value
*v*P Spell-Out	[K: DEP]
CP Spell-Out	[K: DEP] [K: DEP]
Dep. case impoverishment	[K: DEP] [K: ___]
VI	ACC-GEN

Claiming that Vocabulary Insertion occurs upon completion of CP or DP is not conventional. Typically, Vocabulary Insertion is taken to apply at each Spell-Out. The present claim is motivated by two observations. First, it allows the inner K in (47) to remain visible when C is merged and creates an environment where dependent case impoverishment applies. In addition, the claim about the timing of Vocabulary Insertion is also consistent with the discussion in 2.6.2, according to which, multiple case assignment does not apply to DPs embedded in a CP or DP, unless they move to at least the edge of the CP or DP. This is what happens in raising-to-object.

4.3.6   Multiple CT

One possible account of accusative-genitive objects, as mentioned above, might posit that in these examples, the subject for some reason is not present in the first case assignment. The object (in a transitive clause), being the only DP in the domain, receives genitive case. This predicts whenever the object surfaces with accusative on top of genitive, genitive case should not appear on the subject. However, below I discuss examples where both the subject and the object are contrastive topics. In these examples, the subject still surfaces with nominative and genitive case, and the object can either appear with two accusatives or with accusative on top of genitive. This rules out the alternative just outlined.

Assertions containing more than one contrastive topic are attested in other languages. I briefly discuss what these examples mean. The Amis data were elicited in similar con-

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Step2: K added.

Step3: Case assignment rules apply at each phase.

Step4: Vocabulary Insertion applies at each DP or CP.

texts.

First, to illustrate, we will assume the context in (48) and the person who adopts this diet varies the order of A, B, C every day for every meal. For example, on Sunday, s/he could have B for breakfast, A for lunch, and C for dinner.

(48)   *The ABC Diet*
         Every day, eat the following three meals, in any order you like:

         A: one avocado

         B: one burrito

         C: one cheesecake   (Constant 2014 76: (25))

A curious friend who would like to find out what the dieter had this past week might make the request in (49)**Q**. S/he could then reply (49)**A**. The friend could also make a slightly different request, as in (50)**Q**. This would naturally prompt a different response, as in (50)**A**.

(49)   *CT+CT+Exh: Day of the week > Food*
         Q: For each day of the week, tell me what time you have each food.
         A: On **[Sundays]$_{CT}$**... **[the burrito]$_{CT}$**... I have for **[lunch]$_{EXH}$**.

(50)   *CT+CT+Exh: Food > Day of the week*
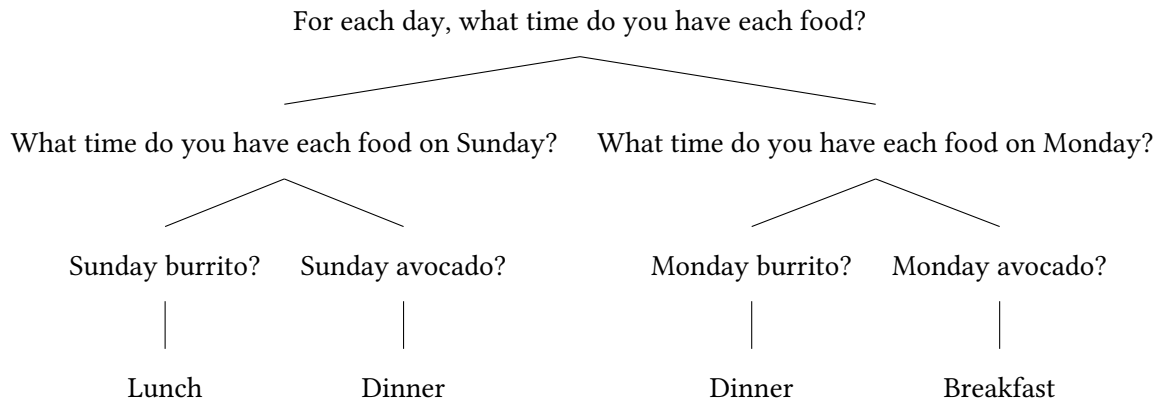   **Q:**   For each food, tell me what time you have it on each day.
         A: **[The burrito]$_{CT}$**... on **[Sundays]$_{CT}$**... I have for **[lunch]$_{EXH}$**.

The two Q-A pairs in (49) and (50) are the most natural ones. Replacing the answer in (49) with the answer in (50) is degraded, as is the other way around. As Constant 2014 argued, this is because assertions containing two contrastive topics, as in these two examples, indicate that the contrasting questions generated by one of the two contrastive topics are further divided into subquestions, based on the other contrastive topic.

Moreover, the order of the two contrastive topics in (49)**A** is reversed in (50)**A**. These

two orders correspond to two ways of organising the contrasting questions and subquestions. We can visualise this with a D-tree, as in (51). The order in (49)**A** indicates that the "bigger" question is first divided into a set of contrasting questions by "day of the week." This set of questions is further divided into another set of subquestions by "food." We can call this particular organisation as sorting "day of the week" over (>) "food." The order of the two contrastive topics is reversed in (50)**A**. This indicates a different organisation: sorting "food" over "day of the week." How the dieter's friend's request is formed helps make one of the sortings salient.

(51)   *D-tree for (49)*

For each day, what time do you have each food?

What time do you have each food on Sunday?   What time do you have each food on Monday?

Sunday burrito?   Sunday avocado?   Monday burrito?   Monday avocado?

Lunch   Dinner   Dinner   Breakfast

The above discussion provides some background for making sense of similar data in Amis, but we will only focus on case marking in these examples.

First, in (52), given the context and the question, (52)**A1-A2** indicates that the speaker is addressing a set of contrasting questions that vary only on the subject. This set of questions is further divided into a set of subquestions that vary on the object. The D-tree in (53) illustrates this organisation. In (52)**A1**, the subject is marked with nominative on top of genitive and the object is marked with accusative on top of genitive. (52)**A2** further shows that the case-stacked subject and object can be topicalised at the same time.[32]

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[32] As discussed in 3.4, a case-stacked DP can appear with just the inner case when it is topicalised. Also, in (52)**A2**, consultants found having a second topic marker *i* after the topicalised object redundant. This is what the question mark indicates.

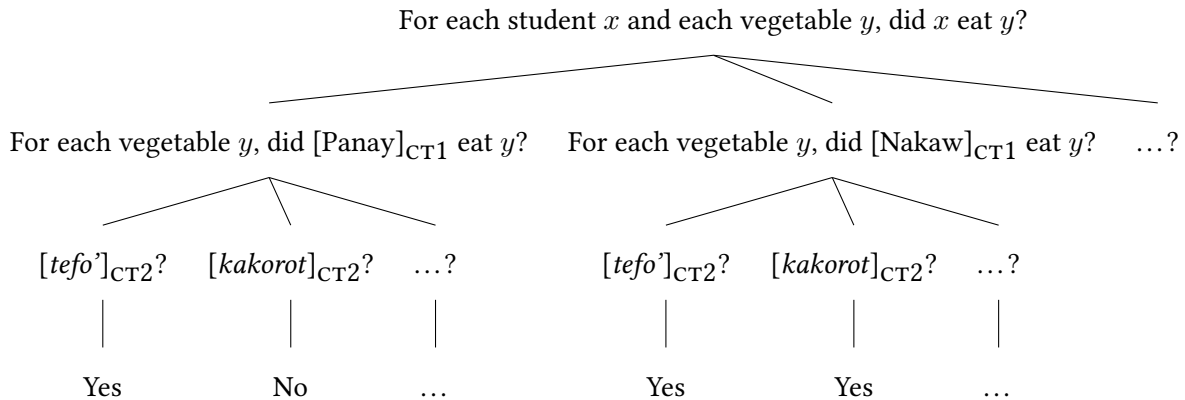(52)   *CT+CT: imperfective subjects and objects*

    a.   **Context:** Panay and Nakaw go to the same school. Two kinds of vegetable were served at lunch today: bamboo shoots and bitter melons.

    Q: Anini a   romi'ad k\<om\>aen ci   Panay aci   Nakaw to tefo'
        current LNK day   \<AV\>eat NOM PN and.NOM PN   ACC bamboo.shoot
        ato kakorot?
        and bitter.melon
        'Did Panay and Nakaw eat the bamboo shoots and the bitter melons today?'

    A1: K\<om\>aen **ko-ni**   **Panay** to tefo'.   Caay ka-k\<om\>aen **to-no**
        \<AV\>eat **NOM-GEN PN**   ACC bamboo.shoot NEG KA-\<AV\>eat   **ACC-GEN**
        kakorot.   …
        bitter.melon
        '[Panay]$_{CT}$ ate [the bamboo shoots]$_{CT}$. (She) didn't eat [the bitter melons]$_{CT}$.

        (Nakaw ate them all.)'

    A2: **Ni** **Panay** i,   **to-no**   **kakorot**   (?i),   k\<om\>aen **(ko-no**
        GEN PN   TOP **ACC-GEN** bitter.melon (?TOP) \<AV\>eat   **(NOM-GEN**
        nira).
        POSS.3SG)
        '[Panay]$_{CT}$, [the bitter melons]$_{CT}$, (she) ate (them).'

        To-no **tefo'**   i, caay ka-k\<om\>aen.
        ACC-GEN **bamboo.shoot** TOP, NEG KA-\<AV\>eat
        '[The bamboo shoots]$_{CT}$, (she) didn't eat (them).'

(53)   *D-tree for (52)*

<div align="center">

For each student x and each vegetable y, did x eat y?

For each vegetable y, did [Panay]$_{CT1}$ eat y?   For each vegetable y, did [Nakaw]$_{CT1}$ eat y?   …?

[*tefo'*]$_{CT2}$? [*kakorot*]$_{CT2}$? …?   [*tefo'*]$_{CT2}$? [*kakorot*]$_{CT2}$? …?

Yes   No   …   Yes   Yes   …

</div>

When both the subject and the object are contrastive topics, the object can also be marked by two accusatives, as in (54)**A'-A'''**. (54)**A'''** is another example where both the case-

stacked subject and the case-stacked object are topicalised.

(54)   *CT+CT+EXH*

    a. **Context:** Christmas was just over. Panay, Nakaw and Lekal gave each of their mother, father, and grandmother a gift. You want to know what they gave to them.

    Q: Pa-feli   ko-ya   ta-tolo   a   wawa ci ina-an,   ci mama-an
         CAUS-give NOM-that RED-three LNK child   ACC mother-ACC ACC father-ACC
         ato ci   mamo-an   to máan?
         and ACC grandmother-ACC acc what
         'What did those three children give to Mother, Father and Grandmother?'

    A: Pa-feli   ci   Panay ci ina-an   to codad.
         CAUS-give NOM PN   ACC mother-ACC ACC book
         'Panay gave Mother books.'

    A': Pa-feli   cingra **to-ci**   **mama-an** to hana.
         CAUS-give NOM.3SG **ACC-ACC father-ACC** ACC flower
         'She gave [Father]$_{CT}$ [flowers]$_{EXH}$.'

    A'': **To-ci**   **mamo-an**   i, pa-feli   cingra to cangaw.
         ACC-ACC grandmother-ACC TOP CAUS-give NOM.3SG ACC necklace
         '[Grandmother]$_{CT}$, she gave (her) [necklaces]$_{EXH}$.'

    A''': **Ko-ni**   **Nakaw** i,   **to-ci**   **ina-an**   i,   pa-feli   **ko-no**
         NOM-GEN PN   TOP **ACC-ACC mother-ACC** TOP CAUS-give **NOM-GEN**
         nira   to kaysing …
         POSS.3SG ACC bowl
         '[Nakaw]$_{CT}$, [Mother]$_{CT}$, she gave (her) [bowls]$_{EXH}$ …'

When both the subject and the object are topicalised, the subject can precede the object, as in (52)**A2** and (54)**A'''**, but it can also follow the object. Initial data suggest that the two orders correspond to different discourse organisations, similar to the English examples in (49)-(50). I will use the context in (54) to illustrate quickly how the two discourse organisations can be probed, but these are subtle judgments and should be situated in more naturalistic dialogues, so I will not include the actual data elicited here.

In (54) , if the person who answers starts with 'Panay…, Mother…, she gave her books.

(As for) Father..., she gave him flowers' and continues immediately with '(As for) Nakaw...,
she gave Mother bowls,' this should sound odd, because the person has not addressed all
of the subquestions associated with Panay. That is, we do not yet know what Panay gave
to Grandmother. This indicates a discourse structure in which the subject is sorted over
the object. Likewise, we can also construct a similar dialogue to probe into a discourse
structure where the object is sorted overt the subject, but I will have to leave this for later.

4.3.7 Perfective subjects: a repair that results in additional case

In a perfective (PV/LV) clause, the subject is marked with genitive case. In the previous
chapter, I posited that the perfective subject becomes φ-defective after agreeing with per-
fective Asp and does not undergo additional case assignment. As a result, genitive case,
the first and the only case it receives, is pronounced. This is shown schematically in (55).[33]

(55)   *Case derivation: perfective subjects*

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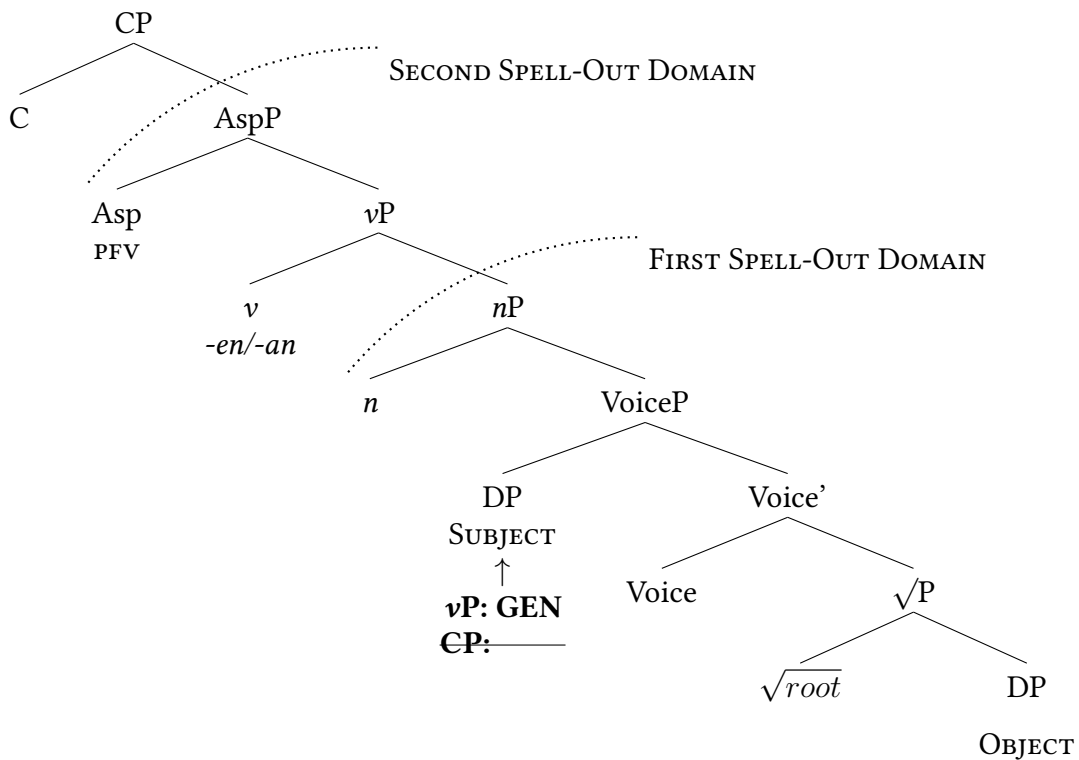
[33]Details including Agree with perfective Asp and raising, as discussed in Chapter 3, are omitted.

Given this, we predict that when a perfective subject is a contrastive topic, it should still be marked with the same case. Surprisingly, however, when a perfective subject is a contrastive topic, it appears with an additional nominative case attached to the genitive case, as in (56a).[34] At the same time, the object is marked with accusative case.[35] This contrasts with perfective clauses in a neutral context. As (56b) shows, marking the object with accusative case is ungrammatical.

(56) *Lone CT: perfective subjects*

    a. Mi-tatoy   ci Mayaw to kaysing.
        IPFV.AV-hold NOM PN   ACC bowl
        'Mayaw is holding the bowl (that he has).'

        'ari-en **ko-no**   **tawki to kaysing**.
        break-PV **NOM-GEN boss   ACC bowl**
        '(But) [the boss]_CT broke the bowl (that s/he has).'

    b. 'ari-en **no tawki ko/*to   kaysing**.
        break-PV **GEN boss   NOM/*ACC bowl**
        'The boss broke the bowl.'

Case-stacked perfective subjects otherwise behave in parallel with other case-stacked DP. First, as (57)**A** shows, only the inner case is sensitive to contextual allomorphy.

(57) *CT+EXH: perfective subjects*

    Q: Asip-en no-ya ta-tolo-ay   a wawa ni Panay ko máan inacila?
        read-PV GEN-that RED-three-SREL LNK child GEN PN   NOM what yesterday
        'What did Panay's three children read yesterday?'

    A: Caay asip-en ni Nakaw ani   Mayaw ko maán inacila.
        NEG read-PV GEN PN   and.GEN PN   NOM what yesterday
        'Nakaw and Mayaw didn't read anything yesterday.'

        Kirami, asip-en **ko-ni**   **Kolas to codad ni   mama nira**.
        but   read-PV **NOM-GEN PN   ACC book GEN father GEN.3SG**
        'But [Kolas]_CT read [her/his father's books]_EXH.'

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[34]This particular example was volunteered spontaneously, so it is not presented as part of a question-answer pair, as in most of the other examples.

[35]Judgment on whether the object in these examples can also be marked with nominative case varied. I do not have an account for this.

Second, the case-stacked perfective subject can topicalise overtly, as in (58)**A**. When this happens, the optional resumptive pronoun also appears with nominative case on top of genitive case.

(58)   *CT+Exh: perfective subjects*

    Q: O   máan ko tangtang-en no tawki ato no ising ano honi?
           PRED what NOM cook-PV   GEN boss and GEN doctor P.FUT moment
           'What will the boss and the doctor cook later?'

    A: Tangtang-en no tawki ko   kalang.
         cook-PV   GEN boss NOM crab
         'The boss will cook the crabs.'

         Ko-no   **ising** i, tangtang-en **(ko-no**   **nira)**   to foting.
         NOM-GEN doctor TOP cook-PV   **(NOM-GEN POSS.3SG)** ACC fish
         '[The doctor]$_{CT}$, s/he will cook [the fish]$_{EXH}$.'

Relatedly, the word order constraint found only in perfective clauses still applies. As (59)**A2** shows, the accusative object still cannot precede the case-stacked perfective subject.

(59)   *Lone CT: perfective subjects*

    Q: Tangtang-en no tawki ato no ising ko kalang ano honi?
         cook-PV   GEN boss and GEN doctor NOM crab   P.FUT moment
         'Will the boss and the doctor cook the crabs later?'

    A1: Tangtang-en **ko-no**   **tawki** to kalang ano honi.
         cook-PV   **NOM-GEN boss** ACC crab   P.FUT moment
   '[The boss]$_{CT}$ will cook the crabs later.'

         Caay tangtang-en **ko-no**   **ising** anini a   romi'ad **to** **kalang**.
         NEG cook-PV   **NOM-GEN doctor** current LNK day   **ACC crab**
         '[The doctor]$_{CT}$ will not cook the crabs today.'

    A2: … *Caay tangtangen **to kalang** anini a romi'ad **kono ising**.

I propose that the additional nominative case on the perfective subject when it is a contrastive topic is a result of a Last Resort repair strategy. Specifically, I posit that for a DP to

be interpreted as a contrastive topic, it must be agreed with by C/T and raised to (at least) SpecC/TP.[36] When nothing extra applies, the perfective subject becomes defective after agreeing with perfective Asp. Thus, it cannot be agreed with by C/T or be interpreted as a contrastive topic. Only in this situation can a repair strategy be applied to satisfy the interpretational need. This repair adds a full set of φ feature to the subject, as in (60) (R for "repair"). This neutralises the effect of perfective Asp. As a result, the perfective subject, when it is a contrastive topic, can be agreed with by C/T. A second K is added to the subject. This is realised as nominative. The extra K at the same time can condition dependent case assignment on the object. That is, the additional case is only a side effect of the repair. This may sound like an extravagant step, but repairs of this sort are in fact attested in other languages. I discuss these below.

(60)   *Contrastive topic perfective subjects: a repair strategy*
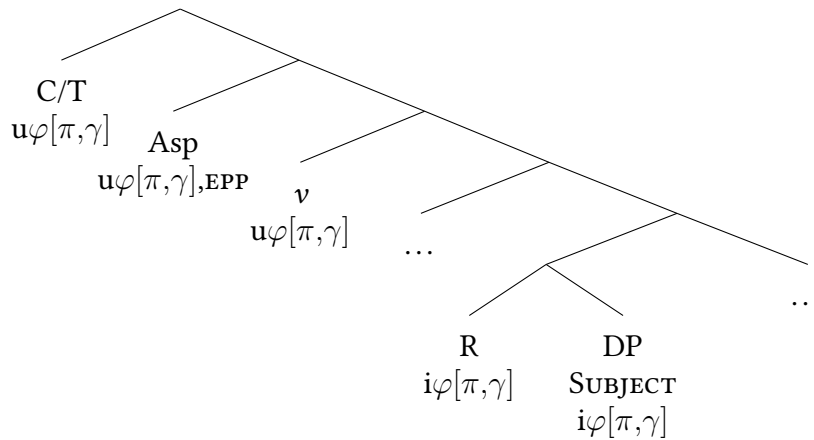
A repair that is similar to the proposal above is found in some varieties of Western Basque and Chinook when the Person Case Constraint (PCC) would otherwise be violated. PCC is attested in many languages. Descriptively, the PCC refers to a ban on certain person combination(s) when two (weak) arguments are in the same domain.[37] For example, in French, a dative clitic can co-occur with an accusative clitic when the accusative clitic is

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[36]This is consistent with proposals such as Wagner 2012; Constant 2014. In particular, in Constant 2014, raising a DP (or other constituent) to a position right above where the CT operator is merged is necessary for deriving the contrastive topic interpretation. Accordingly, CT raising is posited as a semantically driven movement.

third person, as in (61a). The same sentence with a first or second person accusative clitic is ungrammatical, as (62a) shows.

In languages that exhibit the PCC, quite often when a PCC configuration appears, a structure that is otherwise not allowed becomes not only acceptable but also the only grammatical way to express the intended reading. Illustrating with French again, when the PCC is not violated, the dative clitic in (61a) cannot be expressed with a PP, as in (61b). This structure is acceptable only when the dative object is focused, as in (61c).

(61)   *French: dative cliticisation is obligatory when PCC is not violated*

    a.   Lucille **la**   **leur**   présentera.
           PN   **3SG.F.ACC 3PL.DAT** will.introduce

    b.   *Lucille **la**   présentera   **à elles**.
           PN   **3SG.F.ACC**   will.introduce **to 3PL.F**

    c.   Lucille **la**   présentera   **à [elles]$_\mathbf{F}$**.
           PN   **3SG.F.ACC**   will.introduce **to 3PL.F**
           'Lucille will introduce her to *them/[them]$_\mathrm{F}$.'   (Rezac 2011 93:(1a-c))

When the PCC is violated, however, the dative object can be expressed with a PP, as in (62b).

(62)   *French: PCC repair*

    a.   *Lucille **te**   **leur**   présentera.
           PN   **2SG.ACC 3PL.DAT** will.introduce

    b.   Lucille **te**   présentera   **à elles**.
           PN   **2SG.ACC**   will.introduce **to 3PL.F**

    c.   Lucille **te**   présentera   **à [elles]$_\mathbf{F}$**.
           PN   **2SG.ACC**   will.introduce **to 3PL.F**
           'Lucille will introduce you to them/[them]$_\mathrm{F}$'   (Rezac 2011 93:(1d-e))

In some varieties of Western Basque, the PCC repair has a very different effect on the surface. With certain psyc-verbs, such as *gustatu* 'please,' the experiencer is a dative in-

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[37]Weak arguments here refer to clitics (and/or certain types of pronoun) and agreement.

troduced by an applicative head. The entire sentence is an applicative unaccusative. An example is given in (63a). In this example, the third person theme *liburu* 'books' is marked with absolutive case and the verb shows absolutive agreement.[38] Ergative case on the theme or ergative agreement is ungrammatical. However, when the theme is second person, as in (63b), absolutive case on the theme (unmarked) and absolutive agreement are ungrammatical. Instead, the theme appears with ergative case and the verb shows ergative agreement. This also happens when the theme is first person, as in (63c). Independently, it can be shown that ergative case is the "higher" case in Basque (associated with T) and absolutive case is the "lower" case (associated with *v*). In Rezac's 2011 words, the repair "looks like the addition of an Agree/Case relation ordinarily unavailable to a structure." That is, a higher case that is otherwise unavailable on the theme becomes grammatical when the PCC would otherwise be violated.

(63)   *Basque: absolutive displacement in applicative unaccusatives*

    a.   [Itxaso-ri]$_7$ **[liburu-ak/*ek]**$_8$ gustatzen zai-**zki**$_8$-o$_7$/*di-o$_7$-**te**$_8$.
        PN-DAT   **books-ABS/*ERG** liking   R.**3PL.ABS**$_8$.3SG.DAT$_7$/*R.3SG.DAT.**3PL.ERG**$_8$
        'Itxaso likes books.'   (Rezac 2008b (27b); Rezac 2011 227:(73a))

    b.   [Itxaso-ri]$_7$ **[zu-*∅/k]**$_8$ gustatzen *z$_8$-atzai-**zki**$_8$-o$_7$/di-o$_7$-**zu**$_8$.
        PN-DAT   **2PL-*ABS/ERG** liking   *R.**2PL.ABS**$_8$.3SG.DAT$_7$/R.3SG.DAT.**2PL.ERG**$_8$
        'Itxaso likes you.'   (Rezac 2008b (28a); Rezac 2011 227:(73b))

    c.   Miren-i$_7$ **([nik]**$_8$**)** gustatzen di-o$_7$-**t**$_8$.
        PN-DAT   **1SG.ERG** liking   R.3SG.DAT$_7$.**1SG.ERG**$_8$
        'Miren likes me.'   (Rezac 2011 194:(26c))

A similar repair is also found in Chinook. With certain unaccusative verbs, such as 'smell,' an experiencer can be added by an applicative head. In (64a), the verb shows absolutive (unmarked) agreement with the third person theme. When the theme is first or second person, absolutive agreement is ungrammatical, as in (64b). Instead, ergative agreement must be used, as (64c) shows. This pattern parallels the Basque examples in (63). An Agree relation that is otherwise unavailable becomes grammatical only when the PCC would otherwise be violated. This extra Agree relation may be instantiated as a higher

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[38] A separate dative agreement tracks the dative experiencer.

case and/or agreement.

(64) *Chinook: ergativisation in unaccusative applicatives*

    a. **i**-n-l-√ła
        3SG.M-1SG-APPL-√stink
        'I smell him. (He wafts towards me.)'

    b. *nš-**i**-l-√ła
        1PL.EXCL-**3SG.M**-APPL-√stink
        Intended: 'He smells us.'

    c. **č**-nš-l-√ła
        3SG.M.ERG-1PL.EXCL-APPL-√stink
        'He smells us.'   (Rezac 2011 230(81a-c); citing Silverstein 1976)

Rezac 2011 posited that an uninterpretable feature (e.g. [uCASE]) may enter the numeration only if it is needed for Full Interpretation of a syntactic structure. In the present terms, [uCASE] can be understood as φ features on a DP that remain visible to Agree. The repair I posited above adds a full set of φ feature to the perfective subject only when it is a contrastive topic. This is similar in nature to the repairs found in Basque and Chinook. The observable effect of these repairs is an additional case and/or agreement. Amis just happens to be able to show that this case is "additional" since the language permits overt case-stacking. Repairs of this sort seem less common across languages[39] (or perhaps the phenomenon is often not thought about in this way). Sakha might be another one of these languages. In (65), when the object follows the manner adverbial, accusative case on the object is infelicitous. However, as Baker and Vinokurova 2010 noted, accusative case is acceptable when the object is a contrastive focus, even when the object still follows the manner adverbial.

(65) *Sakha: additional accusative case when contrastive focus*
Masha türgennik salamaat**(#-y)**   sie-te.
PN   quickly   porridge**(#-ACC)** eat-PST.3SG
'Masha ate porridge quickly.'   (Baker and Vinokurova 2010 (10b))

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[39]Rezac 2011 discusses similar phenomena in a few other languages.

Given the current proposal, one might predict that the case-stacked perfective subject should be able to undergo operator movement, which is otherwise only available to nominative DP, as discussed in Chapter 3. However, it is unclear to me what kind of structure relativising a contrastive topic DP would create and what this would mean semantically/pragmatically. Moreover, since operator movement involves a null operator, we cannot ensure the contrastive topic interpretation by having overt case-stacking on the subject. This prediction is therefore difficult to verify.

The proposal also has an implication on objects of imperfective clauses. Previously, I assumed that in an imperfective clause, the subject and the object both enter into φ Agree twice, introducing two instances of K to the subject and the object. In a neutral context, the subject appears in nominative, the case assigned in the second Spell-Out. This is observably different from the inner genitive case that only surfaces when the subject is a contrastive topic. However, in a neutral context, the object appears with accusative case. When it is a contrastive topic, the additional case is still accusative (putting aside case impoverishment for now). That is, in a neutral context, we cannot tell whether the accusative case is a result of two case assignments followed by deletion or just one case assignment. If the repair posited above is available to subjects of perfective clauses and has the effect of adding an extra case, in principle, stacking an additional case to the object of an imperfective clause can also be accounted for in the same way. That is, it is consistent with the rest of the current proposal if only one instance of K is added to the object in a neutral context. This removes one stipulated Agree relation with the object.[40]

4.3.8   Interim summary

Summing up briefly before I discuss alternative accounts of case-stacking. I showed first that case-stacked DPs in Amis are contrastive topics. Next, we looked at a variety of environments where overt case-stacking is possible. The case-stacking pattern found in

[40]The same reasoning also applies to gerund subjects, since in a neutral context, gerund subjects surface with genitive case. When they are contrastive topics, the additional case is also genitive. Thus, in a neutral context, we cannot tell whether the genitive case is a result of two case assignments followed by deletion or just one case assignment. Therefore, it is also consistent if only one instance of K is added to gerund subjects in a neutral context.

these environments is by and large predicted by the proposed case assignment model.[41] There were two exception. First, a contrastive topic object in an imperfective clause can surface with two accusatives or accusative on top of genitive. The latter was attributed to case impoverishment. Second, when the subject of a perfective clause is a contrastive topic, an additional nominative case is added to the subject. I posited that this is a result of a repair strategy that adds a full set of φ feature to a DP when the interpretational need cannot otherwise be satisfied.

Early on in Chapter 2, I introduced bare root DPs, DPs headed by an unaffixed root, such as *o leneng noya tolo a tamina'* in (66)Q. I posited that one case assignment applies in a bare root DP. Moreover, the unmarked case is realised as genitive in a bare root DP. I attributed this to the nominal properties of roots in Amis. Given this, we predict that when a DP inside a bare root DP is a contrastive topic, it should still appear with only one case. This turns out to be not entirely true. In (66)A, *tamina'* 'boat,' the subject inside the bare root DP, surfaces with two genitive cases.

(66)   *Case-stacking in bare root DP*

Q: Ci-nanom   ko-ya   tolo a   tamina' i,   o   leneng no-ya   tolo
        have-water NOM-that three LNK boat   TOP PRED sink   GEN-that three
        a   tamina'?
        LNK boat
        'There's water in those three boats. Will those three boats most likely sink?'

A: Caay ka o[42]   leneng no-ya   tosa a   tamina' ni Panay.
        NEG KA PRED sink   GEN-that two LNK boat   GEN PN
        'Those two boats of Panay's will most likely not sink.'

        Kirami, o   leneng **no-no-ya**   **tamina' ni   Nakaw**.
        but   PRED   sink   **GEN-GEN-that boat**   GEN PN
        'But that boat of Nakaw's will most likely sink.'

        Nawhani, sa-kareteng-ay ko   tamina' ni   Nakaw.
        because SA-heavy-SREL NOM boat   GEN PN
        'Because Nakaw's boat is the heaviest.'

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[41]I do not have much data on objects of perfective clauses right now. One consultant accepted stacking nominative on top of accusative when the object of a perfective clause is a contrastive topic and is topicalised. The in situ counterpart was rejected. In addition, the same consultant also accepted stacking nominative on top of genitive on the same object. The second pattern is not predicted by the current proposal, but I will have to leave this as it is for now.

[42]In natural speech, *ka o* are often contracted to *ko*. This has the same pronunciation as the nominative

There are two possible explanations for this. First, at least some bare root DPs contain a more complex internal structure. As a result, a second case assignment applies in these bare root DPs. This seems possible, since some bare root DPs contain covert (epistemic) modality, as the translation in (66) indicates. Second, the additional genitive might again be a result of the repair strategy posited above. I do not know how to distinguish these two possibilities right now. If we understand better the type of modality present in some bare root DPs, we might be able to separate out bare root DPs that do not contain covert modality. Then we can see whether case-stacking is still available. If it is, then perhaps it is the work of the repair strategy.

4.4 Alternative accounts of case-stacking

I consider three alternative accounts of case-stacking below and show that they cannot account for the entire range of case-stacking possibilities in Amis. The first one treats the outer case on a case-stacked DP as a focus marker that happens to be homophonous with case (Schütze 2001a). The other two are Amis-specific. These involve two environments where on the surface we seem to have a case followed by genitive case. This looks identical to some of the case-stacking patterns discussed above, but I will show that they involve different structures.

4.4.1 Outer case marks focus

Previous studies on case-stacking in Korean reported overt case-stacking is licensed only when a DP is a focus and/or topic of some sort (Gerdts and Youn 1988, 1999; Schütze 2001a; Yoon 2004; Chung 2013). Based on this, Schütze 2001a proposed that the outer case of so-called case-stacking should be treated as a focus marker that happens to be homophonous with case. Chung 2013 went one step further and argued that all instances of case markers should be treated as focus particles, including DPs that are marked by just one case. I describe some of the data that motivated this line of analysis. I will in

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ko. They can be distinguished easily. The nominative *ko* cannot be "turned back" into *ka o.* In addition, *ka o* only occurs when an *o*-marked predicate is negated.

addition discuss data that seem to suggest that case-stacked DPs in Korean might also be contrastive topics. These are not counter-arguments against treating case-stacked DP as focused elements.[43] I will also not attempt to address whether at least some instances of case markers in Korean should be analysed as focus markers. More importantly for our purpose, there are multiple reasons why in Amis at least, the outer case on a case-stacked DP should not be treated as a focus marker.

First, as often noted in previous studies on Korean case-stacking, judgment varied. Some speakers do not accept case-stacking at all. For most speakers, case-stacking is felicitous only in focus contexts. For example, in (67), the case-stacked DP is associated with -*man* 'only.'

(67) Sensayng-nim-tul-**kkeyse**-man-**i** kulen   il-ul   hasipnita.
      teacher-HON-PL-**H.NOM**-only-**NOM** that.kind work-ACC do
      'Only teachers do such work.'   (Levin 2017 (2))

Case-stacking is also possible in corrections, as in (68).[44]

(68) *Case-stacking in correction contexts*

      A: Swunhi-eykey Cehlswu-ka cohunkapwa.
              PN-DAT   PN-NOM   likes.seems
              'Swunhi seems to like Chelswu.'

      B: Aniya, Yenghi-**eykey-ka** Chelwsu-ka coha.
              no   PN-**DAT-NOM**   PN-NOM   likes
              'No, Yenghi likes Chelswu.'   (Schütze 2001a (15))

Moreover, case-stacking can attach to wh-words and to answers to wh-questions, as in (69). Interestingly, Schütze 2001a in addition noted that "some speakers accept stacking on a wh-phrase more readily in a context where the possible answers have been enumerated

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[43]Tomioka 2010; Wagner 2012; Constant 2014 all offered a formal semantic analysis entirely in line with treating contrastive topics as focused elements. The contrastive topic interpretation results from using the alternatives of the F-marked element in a particular way.

[44]One Amis consultant accepted case-stacking in correction contexts, but another one rejected the same examples. In addition, case-stacking on alternatives in an alternative question seems possible when the alternatives are fronted.

or are already contextually salient." An example is given in (69). This suggests that case-stacking on wh-words is not acceptable in any wh-question. Instead, it is felicitous on D-linked wh-questions. This would be unexpected if the outer case on a case-stacked DP is just a focus marker and nothing extra is involved.[45]

(69) *Case-stacking on wh-words and answers to wh-questions*

    Q: Chelswu, Yenghi, Swunhi cwung-ey nwukwu-**eykey-ka** ton-i   manhni?
          PN   PN   PN   among-LOC who-**DAT-NOM** money-NOM has.much.Q
          'Among Chelswu, Yenghi and Swunhi, who has a lot of money?'

    A: Chelswu-**eykey-ka** ton-i   manha.
          PN-**DAT-NOM**   money-NOM has.much
          'Chelswu has a lot of money.'   (Schütze 2001a footnote 11)

Schütze 2001a also mentioned that case-stacked DPs must be interpreted either as specific or generic, whereas their counterparts without stacking are ambiguous between an existential reading and a specific/generic reading. He pointed out this is a property commonly associated with topics. However, he rejected treating case-stacked DPs as topics given that case-stacking is possible on wh-words and answers to wh-questions. This conclusion is perhaps too hasty. CT-marking is in fact not incompatible with wh-words. Applying the CT operator proposed by Constant 2014 creates a question that denotes the entire discourse strategy (the entire D-tree we saw before). For example, *[What]$_{CT}$ did you buy?* would make salient a series of yes/no-questions: *Did you buy x? Did you buy y? . . . ?*

This is not obvious in English, but intuitively, this is close to how (70)**Q1** differs from (70)**Q2**. On the surface, (70)**Q1**-(70)**Q2** only differ in the position of the object wh-word. It precedes the verb in (70)**Q1**, but follows the verb in (70)**Q2**. However, (70)**Q1** is a more natural follow-up question in this context. Moreover, it has a contrastive reading that is absent in (70)**Q2**. Asking (70)**Q1** suggests that the speaker is not only interested about what is asked literally. S/he would also like to find out, minimally, which books Panay did not like.[46]

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[45]Moreover, if focus is the only licensing condition for case-stacking, it should be relatively easy for speakers to accept case-stacking on answers to wh-questions, but as Schütze 2001a noted, some speakers find these odd.

[46]I argued elsewhere that a preverbal object of this sort is always a contrastive topic in Mandarin.

(70)   *Mandarin: preverbal wh-questions and wh-in-situ*

    a.   **Context:** You gave Panay a few books to read last month. You just met a common friend. The friend said that Panay has finished those books and said that she really liked a couple of them but absolutely hated a couple of the others. The rest was just ok. You're curious about which ones she liked or hated and which ones were just ok.

    Q1: Ta shuo ta **nǎ-ji-ben** hen xihuan?
         3SG say 3SG **which-several-CL** very like
         'Which ones did she say she liked a lot?'

    Q2: ?Ta shuo ta hen xihuan **nǎ-ji-ben**?
         3SG say 3SG very like **which-several-CL**
         'Which ones did she say she liked a lot?'

This contrasts with a context where an exhaustive answer is expected. An example is given in (71). As **A** already makes it clear that there is just one classmate that **A**'s kid punched. A preverbal wh-question, such as (71)**Q2**, is odd in this context. (71)**Q2** suggests that there are at least two classmates that are relevant and **A**'s kid punched one of them and didn't punch the other one. This is very similar to the sort of wh-questions Schütze 2001a described (cf. (69)).

(71)   *Mandarin: preverbal wh-questions and wh-in-situ*

    A: My kid punched a classmate in school yesterday. The teacher just called.

    Q1: Ta zou-le **nǎ-ge tongxue**?
         3SG punch-PFV **which-CL classmate**
         'Which classmate did s/he punch?'

    Q2:#Ta **nǎ-ge tongxue** zou-le?
         3SG **which-CL classmate** punch-PFV
         'Which classmate did s/he punch?'

Schütze 2001a discussed another property of case-stacked DP that is suggestive of contrastive topics. He first showed that nominative case can mark locative adjuncts, as in

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(72a). Moreover, more than one adjunct can be marked by nominative case in the same clause, as in (72b). This is unexpected if *-ka* in these examples is just nominative case. In footnote 13, he further added that "the most felicitous prosody for this sentence involves intonation phrase boundaries following each of the stacked constituents." This is typical behaviour of contrastive topics. In English, for example, a brief pause is usually preferred after a (fronted) contrastive topic.

(72)   *Case can mark adjuncts*

    a.   Cip-aneyse-**ka** Swunhi-eykey namphyen-i   mwusepta.
           house-in-**NOM** PN-DAT   husband-NOM fearful
           'In the house Swunhi fears her husband.'   (Schütze 2001a (7))

    b.   Cip-aneyse-**ka** kyewul-ey-**ka** Swunhi-eykey nampyen-i   mwusepta.
           house-in-**NOM** winter-in-**NOM** PN-DAT   husband-NOM fearful
           'In the house in winter Swunhi fears her husband.'   (Schütze 2001a (18))

Moreover, (73) gives two examples where nominative case is marking a DP that has a topic-type interpretation, at least given the translation.[47]

(73)   a.   Pihayngki-**ka** 747-i   khu-ta.
           airplane-**NOM** 747-NOM big-DECL
           'As for airplanes, the 747 is big.'

    b.   Pihayngki-**ka** etten kicong-i   ceyil khu-ni?
           airplane-**NOM** which model-NOM most big-Q
           'Among airplanes, which model is the largest?'   (Yoon 2004 (26))

The discussion above illustrated that case-stacking in Korean is licensed in certain type of focus contexts. The data seem compatible with treating these case-stacked DPs as contrastive topics.

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[47]Without a more elaborated context, I cannot tell whether *pihayngki* in (73) should be interpreted as a contrastive topic or an aboutness topic. This in addition raises a separate question: how do nominative-marked topics (73) differ from topics marked by (contrastive) *-nun*, as in (i).

(i)   O   hakkyo-**nun** enehak.kwa-**nun**   coh-ta.   (Yoon 2004 (40))
        this school-TOP   linguistics.dept-**TOP** good-DECL
        'As for this university, the linguistics department is tops (but psychology is so-so).'

Turning back to Amis, I give a few reasons for why a focus marker analysis is insufficient for case-stacking in Amis.

First, when the subject of a perfective clause is a contrastive topic, an additional nominative case is added to the subject. At the same time, the object is marked with accusative case. (74) repeats an example from before. If the additional nominative case is a focus marker, we do not expect it to affect case marking on the object.

(74)   *Additional case on CT perfective subjects can condition dependent case*
Kirami, asip-en **ko-ni**   **Kolas to**   **codad ni**   **mama nira**.
but   read-PV **NOM-GEN PN**   **ACC book**   **GEN father GEN.3SG**
'But [Kolas]$_{CT}$ read [her/his father's books]$_{EXH}$.'

Second, triple case-stacking is possible when a DP is raised out of an embedded clause or gerund. An example is repeated in (75). Following the focus marker analysis, not only the outermost case but also the middle case would be focus markers. It is unclear what a doubly focused DP would mean and how it differs from a DP that is focused just once (i.e. a DP with two cases).

(75)   *Triple case-stacking*
Ma-fana'   kako   **to-ko-no-ya**   **wawa** mi-tefing   to   kolong.
IPFV.STAT-know NOM.1SG **ACC-NOM-GEN-that child**   IPFV.AV-touch ACC ox
'I know that [that child]$_{CT}$ is touching [the oxen]$_{EXH}$.'

Third, treating the outer case as a focus marker leaves case-stacking on resumptive pronouns unexplained. An example of case-stacked resumptive pronoun is repeated in (76). If the outer case is a focus marker, (76) would contain two focused DPs that have the same referent. It is not clear what kind of meaning this creates.

(76)   *Case-stacking on resumptive pronouns*
Ko-ni   **Nakaw** i,   mi-tangtang **(ko-no**   **nira)**   to   foting.
NOM-GEN PN   TOP IPFV.AV-cook **(NOM-GEN POSS.3SG)** ACC fish
'[Nakaw]$_{CT}$, (she) is cooking [the fish]$_{EXH}$.'

Fourth, as illustrated in 4.2, case-stacking on thoroughly exhaustive answers is infelicitous. This is unexpected if the outer case is a focus marker.

Finally, the case-stacked DPs we saw in previous sections include examples where the inner case is genitive, accusative, or nominative (as the middle case in triple case-stacking). We also saw examples where the outermost case is genitive, accusative, or nominative. A focus marker analysis will need to posit three accidental homophonies. This is not ideal.

The discussion above illustrated the motivation behind positing the outer case on a case-stacked DP as a focus marker. I explained why a focus marker analysis is not feasible for case-stacking in Amis.

4.4.2   NP deletion in possessive DP

Many of the case-stacked DP illustrated in previous sections contain an inner genitive case. String-identical structures (i.e. some case followed by genitive case) can be derived by deleting NP in a possessive DP.[48] An example is given in (77).[49]

(77)   Mi-kapa-ay-to   kako   to posi ni Panay.
        IPFV.AV-pet-AY-ASP NOM.1SG ACC cat   GEN PN
        'I have pet the cats of Panay's.'

        Kirami, caay pi-kapa kako   **to   ni   Nakaw**.
        but   NEG AV-pet NOM.1SG **ACC GEN PN**
        'But I didn't touch the ones(/cats) of Nakaw's.'

One might wonder whether the two cases on some case-stacked DPs are just a case (the "outer" case) marking what remains of NP ellipsis. To illustrate, let's assume that stacking nominative-genitive on a contrastive topic subject in an imperfective clause is in fact nominative marking a fronted possessor with the rest of the DP elided. The meaning of the elided possessee could be something like *reference*, as in *in reference to Panay*. I explain below why even though NP deletion is independently available and that structures which

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[48]This was discussed in more detail in 3.4. I showed that a possessor can survive NP deletion only if it fronts.

[49]A similar structure can also be derived by first fronting the genitive-marked subject of a non-AV relative clause to the left edge of the relative clause, followed by deleting the rest of the relative clause.

on the surface contain a case followed by genitive case are well attested in Amis, this cannot be the whole story for case-stacking. For the purpose of illustration, we will put aside triple case-stacking and stacking two accusative cases for now. These cannot be derived by possessee ellipsis. We will also neglect how exactly this kind of ellipsis is licensed. In (77), the elided possessee *posi* 'cat' can be retrieved from the first clause. Nothing comparable exists in the case-stacking examples.

First, the subject of a perfective clause surfaces with an additional nominative on top of genitive case. If the inner genitive case is actually marking a fronted possessor with the rest of the possessive DP deleted, we would expect to find instead genitive followed by another genitive on the perfective subject. This is possible of course, when the perfective subject contains a fronted possessor with the rest of the DP elided[50], but this cannot explain the additional nominative case on a contrastive topic perfective subject, let alone accusative case on the object in the same clause.

Second, if the nominative-genitive subject is actually nominative marking something that roughly means 'reference of s.o.', when the whole subject is topicalised, the resumptive pronoun should always be third person. This is not true. As (78) and (79), when the nominative-genitive subject is topicalised, the resumptive pronoun needs to match in person and number with the fronted subject.[51]

(78) **Q:** Mi-tefing   ci Panay, ci Lekal ato kiso   to máan?
             IPFV.AV-touch NOM PN   NOM PN   and NOM.2SG ACC what
             'What are Panay, Lekal and you touching?'

      A1: Mi-tefing   cangra to efa.
            IPFV.AV-touch NOM.3PL ACC horse
            'They're touching the horses.'

      A1': **Ko-no**   **mako** i, mi-tefing   **(ko-no**   **mako)** to siri.
            NOM-GEN POSS.1SG TOP IPFV.AV-touch **(NOM-GEN POSS.1SG)** ACC goat
            'Me, (I)'m touching the goats.'

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[50]One of the two genitives may be deleted by the phonological haplology described before if they have the same form.

[51]In addition, third person pronouns in Amis cannot have inanimate referents.

A2: *__Ko-no__   __mako__   i,   mi-tefing   __ko-no__   __nira/cingra__   to
    __NOM-GEN__ __POSS.1SG__ TOP IPFV.AV-touch __NOM-GEN__ __POSS.3SG/NOM.3SG__ ACC
    siri.
    goat

(79) **Q:** Mi-tefing   ci Panay, ci Lekal ato kiso   to máan?
         IPFV.AV-touch NOM PN   NOM PN   and NOM.2SG ACC what
         'What are Panay, Lekal and you touching?'

   A1: Mi-tefing   kako   to siri.
         IPFV.AV-touch NOM.1SG ACC goat
         'I'm touching the goats.'

   A1': __Ko-no__   __nangra__   i,   mi-tefing   (__ko-no__   __nangra__)   to efa.
         __NOM-GEN__ __POSS.3PL__ TOP IPFV.AV-touch (__NOM-GEN__ __POSS.3PL__) ACC horse
         'Them, (They)'re touching the horses.'

   A2: *__Ko-no__   __nangra__   i,   mi-tefing   __ko-no__   __nira/cingra__   to
         __NOM-GEN__ __POSS.3PL__ TOP IPFV.AV-touch __NOM-GEN__ __POSS.3SG/NOM.3SG__ ACC
         efa.
         horse

I illustrated above how case-stacking cannot be reduced to possessor fronting followed by NP ellipsis. Nevertheless, this latter structure is possible, so one still needs to be careful before accepting a structure that on the surface contains two linearly adjacent case markers as an example of case-stacking.

4.4.3   Inner genitive is a demonstrative

When a case marker is followed by the demonstrative *nini* 'this,' this case-demonstrative string is often reduced to a form that is identical on the surface to the same case marker followed by genitive case. For example, *konini a wawa* in (80a) can be reduced to *koni a wawa*, *koni wawa*, or *kona wawa*. Genitive case on a personal name/kinship term is *ni* and a third form for plural associates, which we haven't seen much of, is *na*. Therefore, when either of these two genitive allomorphs is preceded by nominative case, we will also see *koni* or *kona* on the surface. I explain below why the inner genitive case on case-stacked DP is not a demonstrative. For the purpose of illustration, we will neglect *no,*

the elsewhere allomorph of genitive case. Unless an exceptional phonological rule applies only when a case is followed by the demonstrative *nini* 'this,' there is no reason to think *no* in all the nominative-genitive subjects we saw before is a demonstrative.

(80) a. Mi-asip   ko-nini a   wawa to-nini a   codad no-nini a   tamdaw
          IPFV.AV-read NOM-this LNK child   ACC-this LNK book   GEN-this LNK person
          i matini.
          P now
          'These children are reading these books of these people's.'

    b. *konini a wawa* → *koni (a) wawa, kona wawa*

       tonini a wawa → *toni (a) wawa, tona wawa*

       nonini a wawa → *noni (a) wawa, nona wawa*

Amis has three demonstratives, as listed in (81).

(81) *Amis demonstratives*

    nini   'this'

    ra   'that (visible)'

    ya   'that (invisible)'

The most straightforward argument against treating the inner genitive case on a case-stacked DP as a demonstrative comes from examples such as (82). The nominative-genitive subject is additionally marked by a demonstrative.[52]

(82) *Case-stacked DP can be marked by a demonstrative*
      Kirami, caay ho ka-foti'   **ko-no-ya   wawa**.
      but   NEG still STAT-sleep **NOM-GEN-that child**
      'Panay is sleeping, but [that child]$_{CT}$ is not sleeping yet.'

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[52] Stacking two demonstratives is not possible, as (i) shows.

(i) a. *Mi-nengneng ko-**ra-ya**   wawa to   codad.
          IPFV.AV-watch NOM-**that-that** child   ACC book

    b. *Mi-nengneng kako   to-**ra-ya**   codad.
          IPFV.AV-watch NOM.1SG ACC-**that-that** book

In addition, we have seen case-stacked DP with two inner genitive cases. This happens when a DP is raised out of an embedded gerund, as in (83). Since stacking two demonstratives is not possible (see footnote 52), even if we treat one of the two genitives as a demonstrative, the other one still must be genitive case. This makes positing the inner genitive case in double case-stacking as a demonstrative redundant.

(83)   *Triple case-stacking with two inner genitive cases*
       Faheka   kako   **to-no-no-ya**   **wawa** to pi-tefing to   kolong.
       surprised NOM.1SG   **ACC-GEN-GEN-that child** ACC AV-touch ACC ox
       'I'm surprised at [that child's]_{CT} touching [the oxen]_{EXH}.'

Second, case-stacking is possible in a variety of environments that in general are incompatible with demonstratives. These include personal names[53], pronouns, and generic nouns. (84) gives an example of case-stacking on generic nouns. Moreover, the form of the inner genitive is sensitive to contextual allomorphy. Demonstratives in Amis do not have allomorphs.

(84)   *Case-stacking on generic nouns*
       Q: K<om>aen ko   pina'orip to   maa-máan?
              <AV>eat   NOM animal   ACC RED-what
              'What do animals eat?'

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[53]The head of non-restrictive relative clauses can be marked by a demonstrative, as in (ia)-(ib), but the demonstrative is not directly attached to the personal name in either example. ((ia)-(ib) were elicited based on Wu 2016 (14-5).)

(i)   a. Ma-olah   ci Aki **to-ra**   *(ci) **Panay-an**, [to-ra   maro'-ay   i fiyaw
          IPFV.STAT-like NOM PN **ACC-that** *(ACC) **PN-ACC**   ACC-that IPFV.live-SREL P neighbour
          nira].
          GEN.3SG
          'Aki likes Panay_7, [the one who lives next door]_7.'
      b. Ma-olah   **ko-ra**   *(ci) **Aki** ci Panay-an, [ko-ra   ma-palo-ay   ako].
          IPFV.STAT-like **NOM-that** *(NOM) **PN** ACC PN-ACC   NOM-that IPFV.STAT-hit-SREL GEN.1SG
          'Aki_8 likes Panay, [the one who was hit by me]_8.'

A: K<om>aen ko lokedaw to titi. Kirami, k<om>aen **ko-no   siri**
<AV>eat   NOM leopard ACC meat but   <AV>eat **NOM-GEN goat**
to   rengos.
ACC grass
'Leopards eat meat, but goats eat grass.'

Last, a demonstrative can be followed by the linker a[54], but the linker cannot separate the two cases and the DP in a case-stacked DP, as (85) shows. In addition, in some of the examples we saw before, a brief pause between the two cases on a case-stacked DP is preferred. A brief pause between a case and a demonstrative is not accepted (data omitted).

(85)   *Linker a follows case marker*
Mi-asip   **ko-nini/*-no   a   wawa** to   cecay a   codad i matini.
IPFV.AV-read **NOM-this/*GEN LNK child** ACC one   LNK book   P now
'These children are reading a book now.'

When a case marker is followed by the demonstrative *nini* 'this,' the surface string may look identical to the same case marker followed by genitive. However, I demonstrated above that the inner genitive case on case-stacked DP does not behave like the demonstrative *nini* syntactically, semantically, or phonologically.

4.5   *Ci* as a personal name/kinship term marker

I have been treating *ci* on the subject in (86) as nominative case (one of the nominative allomorphs) and *ci* on the object as part of accusative case (*ci...an*). However, *ci* does not entirely parallel *ko*, the elsewhere nominative form. Neither does *ci...an* entirely parallel *to*, the elsewhere accusative form. I describe their differences below and offer an alternative description of Amis' case morphology. This does not change any other part of the current proposal.

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[54]The linker might also follow the other two demonstratives, *ra* and *ya*, but since they end in *a*, one of the vowels is deleted.

(86) Mi-komimit ci Mayaw ci Lekal-an.
     IPFV.AV-pinch NOM PN   ACC PN-ACC
     'Mayaw is pinching Lekal.'

First, when a common noun is predicative, it is marked by *o*. A personal name or kinship

term that is predicative is still marked by *ci*, as in (87).

(87) a. **O** **wawa** ni Panay cingra.
          PRED child GEN PN   NOM.3SG
          'S/he is Panay's child.'

      b. **Ci Panay** ko-ra   tamdaw.
          CI PN   NOM-that person
          'That person is Panay.'

Second, when two nominative DPs are conjoined, *ko* cannot follow the conjunction *ato*,

but *ci* can and must still precede a personal name or kinship term, as (88) illustrates.

(88) a. Tahira-to ko-ya   singsi **ato (*ko)-ya   sito**.
          arrive-ASP NOM-that teacher **and (*NOM)-that student**
          'Those teachers and those students have arrived.'

      b. Tahira-to ko-ya   singsi **ato *(ci) Panay**.
          arrive-ASP NOM-that teacher **and *(CI) PN**
          'Those teachers and Panay have arrived.'

Third, a common noun in a PP is simply unmarked, but a person name or kinship term in

a PP appears in the "accusative" form, as in (89).

(89) a. Pa-feli   kako   to codad **i sito**   inacila.
          CAUS-give NOM.1SG ACC book   **P student** yesterday
          'I gave the books to the students yesterday.'

      b. Pa-feli   kako   to codad **i *(ci) Panay*(-an)** inacila.
          CAUS-give NOM.1SG ACC book   **P *(CI) PN*(ACC)**   yesterday
          'I gave the books to Panay yesterday.'

I will not try to account for the distributional differences (87)-(89) illustrate, but given these data, it is unlikely that *ci* is nominative case or part of accusative case. Instead, it is a marker of personal names or kinship terms.[55] I posit that case markers in Amis have the morphology in (90) instead. Nominative case on personal names/kinship terms is simply unmarked. Genitive case for personal names/kinship terms can be either *n-* or *no*, identical to genitive case on common nouns. (Vowel deletion followed by) consonant substitution turns *n(o)+ci* into *ni*.[56] In the following chapters, I will continue to gloss case markers in the same way as before, so it is easier to tell which DP bears which case.

(90)   *Case markers in Amis*

	COMMON NOUNS		NAMES/KINSHIP TERMS	
NOM	*ko*	*ko wawa*	∅	*ci Panay*
GEN	*no*	*no wawa*	*n(o)*	*ni Panay*
ACC	*to*	*to wawa*	*-an*	*ci Panayan*

Note that to account for why only the innermost case on a case-stacked DP changes when the DP is a personal name or kinship term, morphological locality still needs to be posited. Unattested case pattern would be predicted otherwise. For example, when the subject of an imperfective clause is a personal name and a contrastive topic, without positing morphological locality, we predict that the subject should surface with just *ni* since nominative case for personal names is unmarked. Likewise, when the object of an imperfective clause is a personal name and a contrastive topic, without morphological locality, we predict it should appear as, for example, *ci Panay-an-an* instead of *to ci Panay-an*.

4.6   Implications

This chapter has a few implications on how we should think of genitive case on perfective (PV/LV) clauses and also what role information structure plays in determining case morphology.

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[55]Cognates of *ci* with similar distributions are widespread in Austronesian languages.
[56]Similar changes are also found in *ato* 'and' +*ci* > *aci* and *ato*+*ni* > *ani*.

First, in some previous studies (e.g. Aldridge 2004, 2008 a.o.), genitive case on the subject of PV and LV clauses is treated as an inherent case assigned by (transitive) v to the external argument in its specifier. I have proposed instead that genitive case on perfective (PV/LV) subjects is just one of two realisations of unmarked case. Genitive case on any DP has the same source: the DP is part of a non-verbal Spell-Out domain when case assignment applies. A DP surfaces with genitive case in a neutral context when it is assigned in the final case assignment. There are more than one environment where this happens (e.g. possessive DP, gerunds).

In Chapter 3, I showed that the genitive-marked perfective subject remains active for raising-to-object and *o*-topicalisation. Treating genitive case on subjects of perfective clauses as an inherent case and claiming that DPs with inherent case become syntactically inactive under-predicts. Moreover, in this chapter, we saw that genitive case can in fact appear on subjects of imperfective (AV) clauses, too. Reserving genitive case for subjects of perfective clauses is therefore too strict.

Second, one approach to overt case-stacking (e.g. Levin 2017) argued that case-stacking supports that a DP can receive case more than once when certain conditions are met. Overt pronunciation of multiple cases, however, is subject to focus-related constraints. Informally speaking, overt realization of multiple cases is costly and is typically banned, but focused elements, across languages, need to be prominent in some way. In Korean, this extra requirement of focus defeats the constraint on overt realization of multiple cases. Therefore, only focused DPs can surface with case-stacking. In other words, this approach claims that multiple case assignment is independent of overt realization of case assignment. In addition, focus only interacts with the latter component. However, we saw before that when a perfective subject is a contrastive topic, an additional case is added. Moreover, this case can condition dependent case assignment on the object. This suggests that focus in fact interacts directly with case assignment.

A separate issue concerning whether case assignment takes place in narrow syntax or after is more difficult to ascertain (cf. McFadden 2004; Bobaljik 2008). It is true that case assignment interacts with information structure or perhaps interpretation in general. However, this interaction is indirect in the current proposal. It is mediated by φ agreement

and whether K is added to a DP. Moreover, whether or not a DP can be agreed with by a (movement) probe is also determined by the φ specification on the DP. The case assignment rules are now Vocabulary Insertion rules. Unless we can find a process that is clearly part of narrow syntax and is affected by case assignment directly or a process that is clearly post-syntactic and precedes case assignment, treating case assignment as either part of narrow syntax or a process that happens post-syntactically is consistent with the current proposal.

Finally, overt case-stacking that is related to information structure seems rare across languages. To my knowledge, case-stacking has not been systematically documented in any Formosan language. However, case-stacking might in fact exist in other Formosan languages, based on some preliminary data. An example from Paiwan is given in (91).[57] In (91), the subject can appear with both nominative case and genitive case in the same type of context where case-stacking is licit in Amis.

(91) *Case-stacking in Paiwan (Formosan; Central dialect)*

    Q: 'What are the doctor and the teacher eating?'

    A: '<em>an **a**   **kuisang** ta ciqaw.
         <AV>eat **NOM doctor** OBL fish
         'The doctor is eating fish.'

         a-na   **sinsi**, '<em>an ta veljvelj.
         NOM-GEN teacher <AV>eat OBL banana
         'The teacher, (s/he) is eating bananas.'

Chapter 5

Raising-to-Object

Raising-to-object, sometimes under the name *exceptional case marking (ECM)*, is the topic in numerous previous studies, starting from Chomsky (1973); Postal (1974). The phenomenon is also found in many Austronesian languages (e.g. Cebuano/Kapampangan: Sells 2000; Malagasy: Paul and Rabaovololona 1998; Pearson 2001; Madurese: Davies 2005; Niuean: Massam 1985; Béjar and Massam 1999; Sundanese: Kurniawan 2011; Tagalog: Kroeger 1993; Law 2011; a.o.). One recurring question concerns whether the raised DP originates inside the embedded clause or is base-generated in the matrix clause.

Raising-to-object is also attested in Amis. We have seen it multiple times in previous chapters. Another example is given below. Descriptively, the accusative DP in (1b) looks as if it is raised from where the nominative DP in (1a) occupies. In (1b), the accusative-marked DP is thematically related to the embedded verb, but the DP precedes the embedded verb and its case is determined by the matrix verb.

(1) *Raising-to-object out of a finite clause*

    a.   Ma-fana'   kako   mi-liyas-to   **ko-ya**   **tamdaw** inacila.
            IPFV.STAT-know NOM.1SG IPFV.AV-leave-ASP **NOM-that person**   yesterday
            'I know that that person left yesterday.'

    b.   Ma-fana'   kako   **to-ya**   **tamdaw** mi-liyas-to   inacila.
            IPFV.STAT-know NOM.1SG **ACC-that person**   IPFV.AV-leave-ASP yesterday

In Amis, raising-to-object can also apply to the subject of an embedded gerund, as (2a)-

(2b) illustrate. For ease of reference, I will refer to the DP that is thematically related to the embedded verb but linearly precedes the verb as "the raised DP."

(2)   *Raising-to-object out of a gerund*

   a.   Ma-fana'   kako   to pi-liyas-to   **no-ya**   **tamdaw** inacila.
         IPFV.STAT-know NOM.1SG ACC AV-leave-ASP **GEN-that person** yesterday
         'I know that that person left yesterday.'

   b.   Ma-fana'   kako   **to-ya**   **tamdaw** to pi-liyas-to   inacila.
         IPFV.STAT-know NOM.1SG **ACC-that person**   ACC AV-leave-ASP yesterday

In previous chapters, I posited that φ-defectiveness in Amis is manifested in two ways. First, there are more restrictions on moving φ-defective DPs. Second, φ-defective DPs receive one less case (in a neutral context).

Specifically, in Chapter 3, I showed that raising-to-object can apply to the genitive subject of a perfective (PV/LV) clause. This suggests that subjects of perfective clauses, though φ-defective, are not entirely inactive. The availability of raising the genitive subject in addition blocks the nominative object in the same clause from raising. The behaviour of raising-to-object contrasts with operator movement. The latter is restricted to nominative DP in any clause. In this sense, there are more restrictions on moving a φ-defective DP.

In Chapter 4, we saw that when the subject of a perfective clause is a contrastive topic, it appears with an additional nominative case. I attributed the additional case to a repair strategy that applies to satisfy the interpretational need. In a neutral context, the perfective subject surfaces with just genitive case. The exceptional case pattern when the subject is a contrastive topic supports treating this genitive case as a result of receiving one less case than the subject in an imperfective clause.

In addition, in Chapter 4, we also saw that when the subject of an embedded clause or gerund is raised and when it is a contrastive topic, it can surface with three cases.

Part of these claims requires that raising-to-object do in fact involve movement. In this chapter, I will show that raising-to-object in Amis can be derived by either movement or base-generation. Phenomena supporting reconstruction distinguish the two structures

once the raised DP sits unambiguously outside the embedded clause. Moreover, I will show that raising-to-object derived by movement is topicalisation to the left edge of the embedded clause/gerund. That is, when movement underlies raising, the raised DP never actually crosses the embedded CP/DP boundary, although once raised (topicalised) to the edge of the embedded CP/DP, the DP can further topicalise to the edge of the matrix clause.

The rest of this chapter is oraganised as follows: in 5.1, I show that raising-to-object in Amis can be derived by either movement or base-generation. I discuss diagnostics that distinguish the two structures. In 5.2, I show that raising-to-object by movement involves topicalisation. Specifically, the raised DP exhibits properties typical of topics. Finally, I lay out the proposal in 5.3.

5.1 Distinguishing movement and base-generation

What is called raising-to-object, such as (3), in principle can correspond to two structures, as (4) illustrates schematically.

(3) Ma-fana'   kako   **to-ya   tamdaw** mi-liyas-to   inacila.
     IPFV.STAT-know NOM.1SG **ACC-that person**   IPFV.AV-leave-ASP yesterday
     'I know that that person left yesterday.'

In (4a) , the raised DP originates inside the embedded clause and arrives at the surface position by movement. In (4b), the raised DP originates in the matrix clause and is associated with the embedded clause through a silent element (e.g. *pro*). Since *pro*-drop is possible in Amis, this structure is in potential available, too.

(4)   a.   *Movement:*
           I know [$_{\text{RAISED DP}}$ that person]$_7$ [$_{\text{XP}}$ <that person>$_7$ left yesterday].

      b.   *Base-generation (prolepsis):*
           I know [$_{\text{RAISED DP}}$ that person]$_7$ [$_{\text{XP}}$ *pro*$_7$ left yesterday].

I illustrate below that both (4a)-(4b) are available in Amis. Phenomena that require the raised DP be interpreted in the embedded clause (e.g. licensing of an existential wh-indefinite by the embedded negation) disambiguate the two structures once the raised DP sits unambiguously outside the embedded clause/gerund. There are at least two environments that ensure this.

First, a raised DP is unambiguously outside the embedded clause/gerund when the DP precedes a matrix (high temporal) adjunct, as in (5b). (6a)-(6b) give two real examples that correspond to (5a)-(5b). High temporal adjuncts, such as *anini* 'today,' most naturally attach at the end of a clause, but they can also appear at the beginning of a clause. Therefore, to ensure that *anini* 'today' in (5) is interpreted as modifying the matrix clause, another temporal adjunct *inacila* 'yesterday' is added at the end of the (embedded) clause.[1] In the following examples, I will refer to a raised DP as a "low raised DP" when it follows a matrix adjunct, and as a "high raised DP" when it precedes a matrix adjunct.[2]

(5)   *Position of matrix temporal adjuncts*

    a.   *Low raised DP:*

       I know ⎡today⎤ [RAISED DP **that person**] left yesterday.

    b.   *High raised DP:*

       I know [RAISED DP **that person**] ⎡today⎤ left yesterday.

(6)   a.   Ma-fana'   kako   ⎡anini⎤ **to-ya**   **tamdaw** mi-liyas-to   inacila.
            IPFV.STAT-know NOM.1SG today **ACC-that person** IPFV.AV-leave-ASP yesterday
            'I know today that that person left yesterday.'

    b.   Mafana' kako **toya tamdaw** ⎡anini⎤ miliyasto inacila.

Second, a raised DP is outside the embedded clause/gerund when the DP has scrambled across the subject, as in (7b). I will also refer to this raised DP as a "high raised DP." The

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[1]In principle, the first adjunct should be able to be associated with the embedded clause and the second one with the matrix clause. However, if this is possible, it is a very marked interpretation that did not interfere with the diagnostics as intended.

[2]In the following examples, raised DPs are bolded and the item that helps disambiguate the two structures are framed.

raised DP in (7a), on the other hand, is ambiguous between the two structures. (8a)-(8b) give two actual examples.

(7)   *Scrambling across matrix subject*

    a.   *High or low raised DP:*
        Know ⟨I⟩ [RAISED DP **that person**] left yesterday.

    b.   *High raised DP:*
        Know [RAISED DP **that person**] ⟨I⟩ left yesterday.

(8)   a.   Ma-fana'   ⟨kako⟩   **to-ya   tamdaw** mi-liyas-to   inacila.
        IPFV.STAT-know NOM.1SG **ACC-that person**   IPFV.AV-leave-ASP yesterday
        'I know that that person left yesterday.'

    b.   Mafana' **toya tamdaw** ⟨kako⟩ miliyasto inacila.

The data below will show that phenomena that require a raised DP be interpreted in the embedded clause/gerund are possible only when the DP is a low raised DP, but not when it is a high raised DP. Based on these, I will posit that low raised DPs arrive at the surface position by movement. I will refer to examples with a low raised DP as raising by movement. In 5.2, I show that this movement is topicalisation. On the other hand, high raised DPs are base-generated in the matrix clause and are associated with an embedded silent *pro*. Presence of this *pro* will be supported by reflexive binding. I will refer to examples with a high raised DP as raising by base-generation.

5.1.1   Connectivity

The first diagnostic examines whether an idiomatic interpretation is preserved after "raising." Assuming that an idiomatic interpretation of a phrase XP[X YP] is possible only when X and YP are merged together initially, we predict that when the embedded clause is an idiom, if a raised DP originates inside the embedded clause, the idiomatic reading should still be available, as the raised DP can be reconstructed back into the embedded clause. The data below demonstrate that an idiomatic reading is preserved only with a

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low raised DP (raising by movement).

First, the embedded clause in (9a) has an idiomatic reading, as the translation indicates. This idiomatic reading is preserved with a low raised DP but not a high raised DP, as (9b)-(9c) illustrate.[3]

(9)   *Idiom preservation: raising out of a finite clause*

a.   Ma-fana'   kako   anini o   fali **ko   sowal no-ra   tamdaw**
IPFV.STAT-know NOM.1SG today PRED wind **NOM word GEN-that person**
inacila.
yesterday
'I know today that that person's words yesterday are meaningless/bluffing (lit. are wind).'

b.   Ma-fana'   kako   ⎢anini⎥ **to sowal no-ra   tamdaw** o   fali
IPFV.STAT-know NOM.1SG today   **ACC word GEN-that person**   PRED wind
inacila.
yesterday

c.   #Mafana' kako **to sowal nora tamdaw** ⎢anini⎥ o fali inacila.

The same pattern is found when raising takes place out of an embedded gerund. The idiomatic reading is preserved with a low raised DP, as in (10b), but not with a high raised DP, as in (10c).

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[3]Using another idiom ((i) below) for this diagnostic gives the same results. (i) is recorded as *aoto' ko pasela' nira* in the online dictionary published by the Council of Indigenous Peoples. The idiom in (9) is recorded in Namoh Rata 2013 111. The meaning listed for this idiom in the dictionary is 'that person's words are meaningless/empty.' Not every speaker consulted knows these two idioms. The one who uses them changed *aoto' ko pasela' nira* to (i). She also commented that *o fali ko sowal nora tamdaw* in (9) can also mean 'that person is bluffing/boasting.'

(i)   Apoto' ko   sasela'an nira.
short NOM breath   GEN.3SG
'S/he gets angry easily (lit. her/his breath is short).'

(10)   *Idiom preservation: raising out of a gerund*

    a.   Ma-fana'   kako $\boxed{\text{anini}}$ to-ya   o   fali **no sowal no-ra**
        IPFV.STAT-know NOM.1SG today ACC-that PRED wind **GEN word GEN-that**
        tamdaw inacila.
        person   yesterday
        'I know today that that person's words yesterday are meaningless/bluffing
        (lit. were wind).'

    b.   Ma-fana'   kako $\boxed{\text{anini}}$ **to   sowal no-ra   tamdaw** to-ya
        IPFV.STAT-know NOM.1SG today **ACC word GEN-that person**   ACC-that
        o   fali   inacila.
        PRED wind yesterday

    c.   #Mafana' kako **to sowal nora tamdaw** $\boxed{\text{anini}}$ toya o fali inacila.

The contrast between (11a) and (11b) also supports the observation above. When a raised DP is scrambled across the subject (i.e. an instance of a high raised DP), the idiomatic reading of the embedded clause is not possible. This reading is available in (11a) since the raised DP in (11a) can be interpreted as a low raised DP.

(11)   *High raised DP is incompatible with embedded idiom*

    a.   Ma-fana' $\boxed{\text{kako}}$ **to sowal no-ra   tamdaw** o   fali.
        IPFV.STAT-know NOM.1SG **ACC word GEN-that person**   PRED wind
        'I know that that person's words are meaningless/bluffing (lit. are wind).'

    b.   #Mafana' **to sowal nora tamdaw** $\boxed{\text{kako}}$ o fali.

The second diagnostic looks at whether or not a raised DP that is a wh-word can be interpreted under the embedded negation and as result, has an existential wh-indefinite reading. In Amis, wh-words with penultimate stress can only be interpreted as interrogative wh-words.[4] Non-reduplicated wh-words with final stress are ambiguous between an interrogative reading and an existential reading in environments that license the existential reading.[5] The licensing environments of existential wh-indefinites in Amis can be described as polarity-sensitive (Hengeveld et al. 2018). A list of these environments is

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[4]In general, (exhaustively) focused elements in Amis have penultimate stress. Stress otherwise falls on the final syllable.

given in Appendix D. We will only look at one of them below.

The existential interpretation is licensed when a wh-word with final stress takes scope under negation, as (12) illustrates.[6]

(12)   *Existential wh-indefinites are licensed under negation*

    a.   *Mi-asip   **ko** **cimá** to   codad ni   Panay i matini.
          IPFV.AV-read **NOM who** ACC book GEN PN   P now
          Intended: 'Someone is reading Panay's books now.'
          (* for the existential reading only)

    b.   Caay pi-asip **ko** **cimá** to   codad ni   Panay i matini.
          NEG AV-read **NOM who** ACC book GEN PN   P now
          'No one (¬>∃) is reading Panay's books now.'

Based on (12), we predict that if a raised DP originates in the embedded clause, when the raised DP is a wh-word with final stress and the embedded clause contains a negation, the existential reading should remain available. The data below show that this reading is available only with a low raised DP (raising by movement).

First, (13a) establishes that when the embedded subject scopes under negation, the existential reading is possible. This reading is available with a low raised DP but not a high raised DP, as (13b)-(13c) illustrate.[7]

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[5]Reduplicated wh-words often have an additional universal/FCI-like interpretation. Unlike typical free choice items, this reading remains available in episodic contexts (cf. Giannakidou 2001). However, in those examples, the wh-words also appear with (optional) relativisation morphology. Wh-words in the same form are used to form free relatives. Given that free relatives typically come with a maximality interpretation, it is possible that the universal-like reading is a result of interpreting these wh-words as (part of) a free relative.

[6] It is possible to interpret the wh-word in (12a) as an existential wh-indefinite. This happens when (12a) is an answer to a question that contains the same wh-word and the wh-word has an existential reading in the question. Both yes/no-questions and multiple wh-questions license existential wh-indefinites in Amis. See Appendix D for an illustration.

[7]Relatedly, applying the same diagnostics to *o*-topics shows that they can reconstruct for idiomatic interpretation but not existential wh-indefinites. That *o*-topics can reconstruct for idioms is evidence for treating *o*-topicalisation as movement. As for why they cannot reconstruct for wh-indefinites might have to do with the contrastive interpretation sometimes required by *o*-topics (see footnote 34 in Chapter 3) or how existential wh-indefinites are licensed, which is not very well understood.

(13) *Wh-indefinite reconstruction: raising out of a finite clause*

    a.   Ma-fana'   kako   anini caay pi-liyas **ko cimá** inacila.
            IPFV.STAT-know NOM.1SG today NEG AV-leave **NOM who** yesterday
            'I know today that no one left yesterday.'

    b.   Ma-fana'   kako   anini **to cima-án** caay pi-liyas inacila.
            IPFV.STAT-know NOM.1SG today **ACC who-ACC** NEG AV-leave yesterday

    c.   *Mafana' kako **to cimaán** anini caay piliyas inacila.
            (* for the existential reading only)

Likewise, when raising takes place out of an embedded gerund, a low raised DP that is a wh-word with final stress can have the existential reading, as (14a) shows. This reading is not available with a high raised DP, as in (14b).

(14) *Wh-indefinite reconstruction: raising out of a gerund*

    a.   Ma-fana'   kako   anini **to cima-án** to caay pi-liyas inacila.
            IPFV.STAT-know NOM.1SG today **ACC who-ACC** ACC NEG AV-leave yesterday
            'I know today that no one left yesterday.'

    b.   *Mafana' kako **to cimaán** anini to caay piliyas inacila.
            (* for the existential reading only)

Examples with a raised DP scrambled across the matrix subject offer additional support. As (15b) shows, the existential reading is not possible when a raised DP is in this position.[8]

(15) *High raised DP cannot be interpreted under embedded negation*

    a.   Ma-fana'   kako   **to cima-án** caay pi-liyas-to   inacila.
            IPFV.STAT-know NOM.1SG **ACC who-ACC** NEG AV-leave-ASP yesterday
            'I know that no one left yesterday.'

    b. ??Mafana' **to cimaán** kako caay piliyasto inacila.
            (?? for the existential reading only)

In addition, as mentioned in previous chapters, some speakers (Amis II) allow the genitive

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[8]Consultants found some of the examples that we predict to be bad marginal. The ?? on (15b) indicates that at least one speaker found the intended reading vaguely available but very difficult to access.

subject of an embedded perfective clause to raise. To see whether these examples also involve movement (as one of the derivational options), the idiom diagnostic discussed above is not applicable, because having extra PV or LV morphology on the predicate of these idioms, if grammatical at all, makes the idiomatic reading unavailable. However, reconstruction of existential wh-indefinites and the third diagnostic to be discussed below both suggest that when the genitive subject of an embedded perfective clause is raised, movement is (/can be) involved.

As (16a) demonstrates, the embedded genitive subject that is a wh-word with final stress can have an existential reading when it scopes under negation. (16b) shows that when this subject is raised, this reading is still possible.

(16)   *Wh-indefinite reconstruction: raising out of a perfective clause*

    a.   Ma-fana'   kako   caay asip-en **no nimá**   ko codad inacila.
        IPFV.STAT-know NOM.1SG NEG read-PV **GEN who.GEN** NOM book yesterday
        'I know that no one read the books yesterday.'

    b.   Ma-fana'   kako   **to cima-án** caay asip-en ko   codad inacila.
        IPFV.STAT-know NOM.1SG **ACC who-ACC** NEG read-PV NOM book yesterday

Given the two structures posited in (17), repeated from above, one might expect that in principle an overt pronoun in the embedded clause that co-refers with the raised DP should be possible in either structure. That is, it should be possible for an embedded pronoun to refer to either a low raised DP or a high raised DP.

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[8]As mentioned above, existential wh-indefinites are not licensed in affirmative contexts (but see footnote 6). This explains (i). However, for reasons I do not understand right now, when the same DP is raised out of an embedded clause, as in (iia), it can be interpreted as an existential indefinite. This reading seems available with a high raised DP, too (when the DP precedes *anini*), as in (iib).

(i)   *Ma-fana'   kako   **to cima-án**.
         IPFV.STAT-know NOM.1SG **ACC who-ACC**
         Intended: 'I know someone.'

(ii)   a.   Ma-fana'   kako | anini | **to cima-án** mi-liyas-to   inacila.
            IPFV.STAT-know NOM.1SG today   **ACC who-ACC** IPFV.AV-leave-ASP yesterday
            'I know today that someone left yesterday.'

       b.   ?Mafana' kako **to cimaán** | anini | miliyasto inacila.

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(17) a. *Movement: low raised DP*

  I know [$_{\text{RAISED DP}}$ that person]$_7$ [$_{\text{XP}}$ <that person>$_7$ left yesterday].

  b. *Base-generation (prolepsis): high raised DP*

  I know [$_{\text{RAISED DP}}$ that person]$_7$ [$_{\text{XP}}$ *pro*$_7$ left yesterday].

This turns out to be only half correct. It is true that an embedded pronoun can co-refer with a low raised DP, as (18a) and (19a) demonstrate. As I will show later, the low raised DP in examples such as (18a) is derived by topicalisation. As topicalisation in Amis freely permits resumption[9], (18a) and (19a) are expected.

(18) *Embedded co-referential pronouns: raising out of a finite clause*

  a. Ma-fana'   kako   anini [**to-ya   tamdaw**]$_7$ mi-liyas-to   (**cingra**$_7$)
      IPFV.STAT-know NOM.1SG today ACC-**that person**   IPFV.AV-leave-ASP (**NOM.3SG**)
      inacila.
      yesterday
      'I know today that [that person]$_7$, (s/he$_7$) left yesterday.'

  b. Mafana' kako [**toya tamdaw**]$_7$ anini miliyasto (*__cingra__*$_7$) inacila.

(19) *Embedded co-referential pronouns: raising out of a gerund*

  a. Ma-fana'   kako   anini [**ci Panay-an**]$_7$ to pi-liyas (**ningra**$_7$)
      IPFV.STAT-know NOM.1SG today ACC **PN-ACC**   ACC AV-leave (**GEN.3SG**)
      inacila.
      yesterday
      'I know today that Panay$_7$, (she$_7$) left yesterday.'

  b. Mafana' kako [**ci Panay-an**]$_7$ anini to piliyasto (**%ningra**$_7$) inacila.

However, an embedded pronoun that co-refers with a high raised DP is ruled out, as in (18b)-(19b).[10] It is unclear why a co-referential pronoun in the embedded clause is not acceptable with a high raised DP. However, data on reflexive binding, to be discussed below, suggest that a *pro* is present syntactically in the embedded clause. I tentatively attribute the badness of (18b)-(19b) (with an embedded co-referential pronoun) to constraints on

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[9]Operator movement disallows resumption unless it extracts out of an island.

when *pro* can be pronounced in Amis.

Nevertheless, given the discussion above, availability of an embedded co-referential pronoun offers the third diagnostic that can distinguish raising by movement and raising by base-generation. (20b) is an example of raising the genitive subject out of an embedded perfective clause. An embedded co-referential pronoun is possible. This supports that raising of the genitive subject can involve movement.

(20)   *Embedded co-referential pronouns: raising out of a perfective clause*

    a.   Ma-fana'   kako   asip-en **ni Panay** ko   codad inacila.
        IPFV.STAT-know NOM.1SG read-PV **GEN PN**   NOM book   yesterday
        'I know that Panay read the books yesterday.'

    b.   Ma-fana'   kako   **ci Panay-an** asip-en **(ningra)**   ko   codad
        IPFV.STAT-know NOM.1SG **ACC PN-ACC**   read-PV **(GEN.3SG)** NOM book
        inacila.
        yesterday
        'I know that Panay$_7$, (she$_7$) read the books yesterday.'

Another behaviour of high raised DPs supports treating them as base-generated in the matrix clause. The structure that underlies raising by base-generation as posited in (19b) corresponds to what is sometimes called prolepsis. (21) gives an example of prolepsis in English. In (21), the "raised" DP is marked by a preposition.

(21)   I believe about Ellen Loo that she has performed at the Formoz Festival before.

In Madurese and Sundanese, a raised DP can optionally be marked by a preposition, as (22a)- (22b) show. This suggests that raising-to-object in these two languages can or must involve prolepsis (Davies 2005; Kurniawan 2011).[11]

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[10]% on (19b) indicates that consultants' judgment on this particular example varied. It was either rejected or when accepted, clearly worse than (19a).

[11]Kurniawan 2011 demonstrated that both raising by movement and raising by base-generation are available in Sundanese. Davies 2005 on the other hand argued that only raising by base-generation is available in Madurese.

(22)   a.   *Madurese (Davies 2005 (26))*

Siti ngera   **(parkara) Hasan**$_7$ ja'   e-pareksa   dokter juwa.
PN AV.think **(about)   PN**   COMP PV-examine doctor DEM
'Siti thinks about Hasan$_7$ that that doctor examined him$_7$.'

b.   *Sundanese (Kurniawan 2011 (18))*

Hasan nyarita **(ngeunaan) Siti**$_7$ yén   manéhna embungeun di-pariksa
PN   AV.talk **(about)   PN** COMP she   refuse   PV-examine
(ku) paraji
(by) midwife
'Hasan told about Siti$_7$ that she$_7$ refused to be examined by the midwife.'

High raised DPs in Amis can also be marked by a preposition, as in (23b). We know *i ra tamdaw* in (23b) is a high raised DP, because when a raised DP is marked by a preposition, reconstruction for idiomatic interpretation is not possible, as (24b) shows.

(23)   *High raised DP can be marked by a preposition*

a.   Ma-fana'   kako   to-ra   tamdaw mi-liyas-to.
IPFV.STAT-know NOM.1SG ACC-that person   IPFV.AV-leave-ASP
'I know that that person left.'

b.   Ma-fana'   kako   **i ra   tamdaw** mi-liyas-to.
IPFV.STAT-know NOM.1SG **P that person**   IPFV.AV-leave-ASP

(24)   *Preposition-marked raised DP does not reconstruct*

a.   Ma-fana'   kako   to sowal no-ra   tamdaw o   fali.
IPFV.STAT-know NOM.1SG ACC word   GEN-that person   PRED wind
'I know that that person's words are meaningless/bluffing (lit. are wind).'

b.   #Ma-fana'   kako   **i sowal no-ra   tamdaw** o   fali.
IPFV.STAT-know NOM.1SG **P word   GEN-that person**   PRED wind

Based on the discussion in Chapter 4, we expect that stacking three cases should only be possible on a low raised DP but not on a high raised DP, since the latter originates in the matrix clause. Even when a high raised DP is a contrastive topic, it should appear with at most two cases. However, surprisingly, stacking three cases on a high raised DP is not entirely ruled out.

First, as (25)**A1'** shows, a low raised DP can surface with three cases when it is a contrastive topic. (25)**A3** is consistent with this. However, case-stacking on a raised DP is degraded but still acceptable when it precedes a matrix adjunct, as in (25)**A2**, or when it is scrambled across the subject, as in (25)**A4**. This is true for raising out of an embedded gerund, too (data not included).

(25)   *Case-stacking on raised DP*

    Q: Ma-fana'   kiso   mi-'aca   ko-ya   ta-tolo-ay   a   wawa
         IPFV.STAT-know NOM.2SG IPFV.AV-buy NOM-that RED-three-SREL LNK child
         ni   Panay to   máan inacila?
         GEN PN   ACC what yesterday
         'Do you know what those three children of Panay's bought yesterday?'

    A1: Caay ka-fana'   kako   o   máan ko   mi-'aca-an   ni   Nakaw
          NEG   STAT-know NOM.1SG PRED what   NOM IPFV.AV-buy-OREL GEN PN
          ani   Mayaw.
          and.GEN PN
          'I don't know what Nakaw and Mayaw bought.'

    A1': Kirami, ma-fana'   kako | anini | **to-ko-ni**   **Kolas** mi-'aca
           but   IPFV.STAT-know NOM.1SG today **ACC-NOM-GEN PN**   IPFV.AV-buy
           to   cecay a   mali inacila.
           ACC one   LNK ball yesterday
           'But I know today that [Kolas]$_{CT}$, (s/he) bought a ball yesterday.'

    A2 ?Kirami, mafana' kako **tokoni Kolas** | anini | mi'aca to cecay a mali inacila.

    A3 Kirami, ma-fana' | kako | **to-ko-ni**   **Kolas** mi-'aca   to
         but   IPFV.STAT-know NOM.1SG **ACC-NOM-GEN PN**   IPFV.AV-buy ACC
         cecay a   mali inacila.
         one   LNK ball yesterday

    A4 ?Kirami, mafana' **tokoni Kolas** | kako | mi'aca to cecay a mali inacila.

Given the current proposal, (25)**A2** and (25)**A4** are possible only if what has been treated as raising by base-generation is in fact movement into the matrix clause/gerund, whereas what has been treated as raising by movement is movement to only the edge of the embedded clause/gerund. However, if this is true, why high raised DPs can reconstruct for

idiomatic interpretation or existential wh-indefinites is left unexplained. This is not a trivial issue, but I cannot account for it at this time and will have to leave this for later.[12]

5.1.2 Diagnostics where the two structures converge

Two diagnostics do not distinguish raising by movement and raising by base-generation.[13] These involve reflexive binding and syntactic islands. However, even though the behaviour of the two structures converge in these environments, I suggest below that they should nevertheless be accounted for differently.

First, in 2.6, I showed that pronouns suffixed by *to* behave like reflexives in Amis. They must be bound by an antecedent in the local clause. An example is repeated in (26a). That a *-to* reflexive must have a c-commanding antecedent is shown by (26b). In addition, (26c) shows that the antecedent must be a clausemate. Therefore, the embedded subject *Mayaw*, but not the matrix subject *Panay*, can bind the embedded *-to* reflexive.

(26)   a.   Mi-komimit   ci   Mayaw **cingraan-to**   i matini.
            IPFV.AV-pinch NOM PN   **3SG.ACC-REFL** P now
            'Mayaw is pinching himself now.'

        b.   *Mi-komimit   **cingra-to**   ci   Mayaw-an i matini.
            IPFV.AV-pinch **NOM.3SG-REFL** ACC PN-ACC   P now
            Intended: 'Mayaw is pinching himself now.'

        c.   Ma-fana'   [ci   Panay]$_7$ mi-komimit   [ci   Mayaw]$_8$ **cingraan-to**$_{*7/8}$.
            IPFV.STAT-know NOM PN   IPFV.AV-pinch NOM PN   **ACC.3SG-REFL**
            'Panay$_7$ knows that Mayaw$_8$ is pinching himself$_{*7/8}$.'

Next, we want to see whether a *-to* reflexive in the embedded clause can be bound by a low raised DP or a high raised DP. As (27a)-(27b) illustrate, either option is available. That a low raised DP can bind an embedded reflexive is expected, since we posited that a low raised DP arrives at the surface position by movement and it can reconstruct. This is

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[12]An alternative account might be that both low and high raised DPs involve movement but high raised DPs for some reason cannot reconstruct.

[13]To be consistent, I will continue using the terms "raising by movement/base-generation" and "low/high raised DP" as before, despite the unexpected case-stacking examples in (25).

supported by various diagnostics discussed above. That a high raised DP (base-generated in the matrix clause) can bind an embedded reflexive provides evidence for presence of a *pro* in the embedded clause, even though it cannot be pronounced, as (18b) and (19b) above showed.[14]

(27)   *Binding of an embedded reflexive*

      a.   Ma-fana'   kako |anini| **ci Mayaw-an** mi-komimit   cingraan-to
           IPFV.STAT-know NOM.1SG today   ACC **PN-ACC**   IPFV.AV-pinch ACC.3SG-REFL
           inacila.
           yesterday
           'I know today that Mayaw pinched himself yesterday.'

      b.   Mafana' kako **ci Mayawan** |anini| mikomimit cingraanto inacila.

Next, since high raised DPs are base-generated in the matrix clause, we expect that they should not be sensitive to syntactic islands. However, it turns out that both raising by movement and raising by base-generation are constrained by islands.

     For the data below, I did not include a matrix adjunct to distinguish low and high raised DPs. I assume that if either structure is insensitive to islands, then (28)[15] and (29b) should be acceptable. Therefore, the fact that (28) and (29b) are both ungrammatical suggests that both structures are constrained by islands.

(28)   I pa-potal-ay   ho ko-ya   mi-'aca-ay   to ocya a   tamdaw.
        P RED-outside-SREL still NOM-that IPFV.AV-buy-SREL ACC tea   LNK person
        'The person who bought tea is still outside.'

        *Kirami, ma-fana'   kako   **to kafey** mi-liyas-to   [**ko-ya**   **mi-'aca-ay**
        but   IPFV.STAT-know NOM.1SG ACC **coffee** IPFV.AV-leave-ASP **NOM-that IPFV.AV-buy-SREL**
        <**to kafey**> a   tamdaw].
        ACC **coffee**   LNK **person**
        Intended: 'But I know that the coffee, that person who bought (it) left.'
        Or: 'I know *of/??about the coffee that that person who bought (it) left.'

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[14]I do not have the relevant data for raising out of an embedded gerund at the moment.

[15]Since as we will see below, raising by movement is topicalisation, to make sure the reason (28) is ungrammatical is not because the raised DP needs to be contrastive, I included another clause (the first clause) to support a contrastive reading.

In addition, (29b) shows that the illicit raising can be saved by having a resumptive pronoun. This is not available in (28) because third person pronouns in Amis cannot have inanimate referents.

(29) a. Ma-fana'   kako   mi-limek   ko **ni Panay** a   wawa.
          IPFV.STAT-know NOM.1SG IPFV.AV-hide NOM **GEN PN**   LNK child
          'I know that Panay's children are hiding.'

     b. Ma-fana'   kako   **ci Panay-an** mi-limek   ko *(**nira**   a)
          IPFV.STAT-know NOM.1SG **ACC PN-ACC** IPFV.AV-hide NOM *(**GEN.3SG** LNK)
          wawa.
          child

Nevertheless, in English at least, prolepsis does not seem to be uniformly insensitive to islands. For instance, native speakers consulted did not all accept examples such as, *I know of [the coffee]₇ that the person who bought it₇ has left.* In absence of a better understanding of prolepsis and island sensitivity, I will leave this issue aside for now.[16]

5.2   Raising-to-object by movement is topicalisation

I demonstrated above that low raised DPs are derived by movement. Below I show that this movement is topicalisation. That raising-to-object involves topicalisation is also found in Tsez (Polinsky and Potsdam 2001) and Turkish (Wurmbrand 2018).[17]

First, low raised DPs, but not high raised DPs, can be followed by the topic marker *i*, as (30a)-(30b) illustrate.

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[16]Raising out of a coordinate structure is also ruled out, but can be repaired by resumption. V. Chen and Fukuda 2016 reported that raising-to-object in Amis is insensitive to adjunct islands or complex DP islands, and this supports a base-generation analysis. However, their example of raising out of an embedded adjunct island can potentially be interpreted as two separate clauses with the subject (the posited raised DP) in the embedded adjunct *pro*-dropped. (28), on the other hand, would be senseless if the embedded clause is a separate clause and the object in the relative clause is simply dropped. In addition, their example of complex DP islands involves an atypical head-initial relative clause that is usually rejected by my consultants (and the entire complex DP is somehow not case-marked). It is difficult to conclude based on these.

[17]Raised DPs in Passamaquoddy are associated with topicality or focus, according to Bruening 2002, but the nature of this association is not made precise in this study.

(30)   *Topic marker i*

    a.   Ma-fana'   ci Panay ‖anini‖ **to-ya**   **waco i**, mi-limek   inacila.
        IPFV.STAT-know NOM PN   today **ACC-that dog**   **TOP** IPFV.AV-hide yesterday
        'Panay knows today that that dog, (it) hid yesterday.'

    b.   *Mafana' ci Panay **toya waco i** ‖anini‖ milimek inacila.

Second, based on (30), I will assume that whenever a raised DP is followed by the topic marker *i*, it is a low raised DP. Given this, (31b) shows that a low raised DP cannot be associated with a DP introduced by the existential construction. The existential construction is often used to express thetic (topicless) judgments. The incompatibility between low raised DPs and the existential construction supports treating the former as topics.

(31)   *Existential construction*

    a.   Ma-fana'   kako   ira i parad **ko** **codad**.
        IPFV.STAT-know NOM.1SG exist P table   **NOM book**
        'I know that there are books on the table.'

    b.   Ma-fana'   kako   **to** **codad (*i)**   ira i parad.
        IPFV.STAT-know NOM.1SG **ACC book** **(*TOP)** exist P table

Third, low raised DPs, but not high raised DPs, are also incompatible with interrogative wh-words, as (32) illustrates. This is also consistent with treating low raised DPs as topics.[18]

(32)   *Interrogative wh-words*

    a.   *Ma-fana'   kiso   ‖anini‖ **to** **cimá-an** mi-liyas-to   inacila?
        IPFV.STAT-know NOM.2SG today   **ACC who-ACC** IPFV.AV-leave-ASP yesterday
        Intended: 'Who do you know today that left yesterday?'

    b.   Mafana' kiso **to cimáan** ‖anini‖ miliyasto inacila?

Fourth, low raised DPs need to be referential. This is a property typical of topics (Reinhart

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[18]As discussed in 4.4, interrogative wh-words are not incompatible with a contrastive topic interpretation. However, low raised DPs do not seem to require a contrastive interpretation. For example, unlike the case-stacking data, raising-to-object sounds natural without a preceding contrasting clause.

(1981)).[19] As (33a)-(33b) show, a raised DP modified by *mámang* 'few' cannot be followed by the topic marker *i*. This contrasts with (33c). When the quantifier is *roma* 'some/other' or *emin* 'all,' then the raised DP can be followed by the topic marker *i*.

(33)   *Non-referential quantificational DP*

    a.   Ma-fana'   kako   mi-liyas-to   ko **mámang** a   wawa inacila.
        IPFV.STAT-know NOM.1SG IPFV.AV-leave-ASP NOM **few**   LNK child yesterday
        'I know that few children left yesterday.'

    b.   Ma-fana'   kako   to **mámang** a wawa (*i) mi-liyas-to   inacila.
        IPFV.STAT-know NOM.1SG ACC **few**   LNK child (*TOP) IPFV.AV-leave-ASP yesterday

    c.   Ma-fana'   kako   to **roma-ay/emin-ay** a wawa (i) mi-liyas-to
        IPFV.STAT-know NOM.1SG ACC **some-SREL/all-SREL** LNK child (TOP) IPFV.AV-leave-ASP
        inacila.
        yesterday
        'I know that some/all of the children left yesterday.'

5.3   Proposal

Based on the discussion above, I propose that raising by movement is topicalisation to the edge of the embedded clause/gerund. (35) illustrates the derivation schematically for (34b). Following the discussion in Chapter 3, the probe that triggers this topicalisation is a complex A/Ā probe with an underspecified φ feature (for Amis II speakers). This was based on a comparison between raising-to-object and operator movement. In particular, the genitive φ-defective subject of a perfective clause can undergo raising but not operator movement. In addition, as data on existential wh-indefinites and availability of resumption showed above, raising the perfective subject can be derived by movement.

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[19]This is true for both aboutness topics and contrastive topics, even though the latter is treated as focus formally in some studies. The reason why aboutness topics are incompatible with quantifiers such as *few* is presumably the same reason why CT-marking these quantifiers is usually odd. According to Constant 2014, generalised quantifiers formed by right downward entailing quantifiers cannot have a type <e> reading (i.e. cannot be referential).

(34) *Raising-to-object out of a finite clause*

   a. Ma-fana'   kako   mi-liyas-to   **ko-ya   tamdaw** inacila.
       IPFV.STAT-know NOM.1SG IPFV.AV-leave-ASP **NOM-that person**   yesterday
       'I know that that person left yesterday.'

   b. Ma-fana'   kako   **to-ya   tamdaw** mi-liyas-to   inacila.
       IPFV.STAT-know NOM.1SG **ACC-that person**   IPFV.AV-leave-ASP yesterday

(35) *Raising by movement (topicalisation to edge of embedded clause/gerund)*
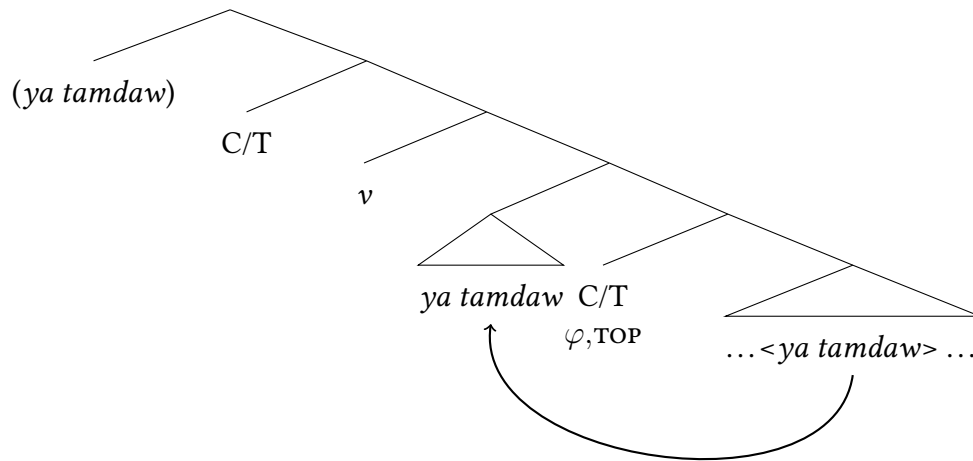
In addition, after topicalisation, the raised DP will not be spelt out together with the complement of C/T.[20] Consequently, it is now in a position accessible to probes in the matrix clause. Matrix v agrees with it and another K is added to the raised DP. This is realised as accusative later (in the examples we have seen).[21]

The raised DP can further topicalise to the edge of the matrix clause, as in (36b) and (37b). In both, a raised DP with case-stacking undergoes another topicalisation.

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[20]This assumes that Spell-Out happens after the subject is topicalised.

[21]We cannot tell whether the raised DP enters another φ Agree with matrix C/T and receives another K based on the data available at the moment. When a raised DP is a contrastive topic, it can appear with three cases. In all of the raising examples we saw before, if the raised DP receives another K, this K will also be realised as accusative. Even if this is true, it is likely that stacking accusative-accusative-nominative-genitive (or accusative-accusative-genitive-genitive) on a raised DP would be rejected given the phonological haplology discussed in Chapter 4.

(36)   *Case-stacking on raised DP*

    a.   Ma-fana'   kako   **to-ko-ni**   **Panay** mi-tefing   to siri.
        IPFV.STAT-know NOM.1SG **ACC-NOM-GEN PN**   IPFV.AV-touch ACC goat
        'I know that [Panay]$_{CT}$ is touching [the goats]$_{EXH}$.'

    b.   **To-ko-ni Panay** i, mafana' kako mitefing to siri.

(37)   *Case-stacking on raised DP*

    a.   Faheka   kako   **to-no-ni**   **Panay** to pi-tefing to siri.
        surprised NOM.1SG **ACC-GEN-GEN PN**   ACC AV-touch ACC goat
        'I'm surprised at [Panay's]$_{CT}$ touching [the goats]$_{EXH}$.'

    b.   **To-no-ni Panay** i, faheka kako to pitefing to siri.

Another issue arises given the structure in (35). Based on the present proposal, raising out of an embedded gerund should look like (38). If morphological case is always a result of spelling out a K added to a DP, then we expect to see the case marking the entire gerund precede the case marking the raised DP. In the examples above, the raised DP in fact precedes the case marking the entire gerund.[22]

(38)   *Raising by movement (topicalisation to edge of embedded clause/gerund)*

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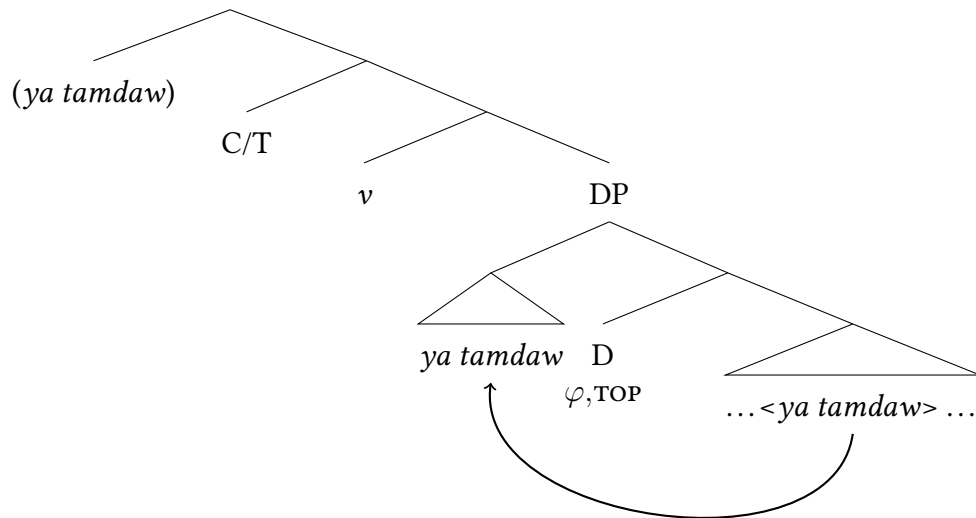
[22] Also, in all of the gerunds we have seen, the accusative case marking the entire gerund can be dropped as long as a demonstrative is present.

However, the order predicted by (38) is in fact possible. An example is given in (39b). Moreover, as (39c) shows, the raised DP (in this example) cannot be marked by genitive case, in contrast with (39a), where the DP remains in situ.[23] I will leave open how the order we saw in the examples above is derived. Given that (39b) is attested, perhaps a short movement applies to the raised DP in (39b) and moves it slightly higher, either attaching it to KP or displacing it outside the entire gerund.

(39)   a.   Ma-fana'   kako   to pi-asip **ni Panay** to-ya   cecay a   codad.
            IPFV.STAT-know NOM.1SG ACC AV-read **GEN PN**   ACC-that one   LNK book
            'I know that Panay read that book.'

         b.   Ma-fana'   kako   to **ci Panay-an** a   pi-asip to-ya   cecay
            IPFV.STAT-know NOM.1SG ACC **ACC PN-ACC**   LNK AV-read ACC-that one
            a   codad.
            LNK book
            'I know that Panay, (she) read that book.'

         c.   *Ma-fana'   kako   to **ni Panay** a   pi-asip to-ya   cecay a
            IPFV.STAT-know NOM.1SG ACC **GEN PN**   LNK AV-read ACC-that one   LNK
            codad.
            book

I will not have much more to say about raising by base-generation. What we have seen so far is compatible with treating it as being base-generated in the matrix clause as an object (except for the case-stacking examples in (25)**A2** and (25)**A4**). How exactly it is associated with an embedded *pro* is still unresolved. The example in (40) seems to suggest that what a high raised DP refers to does not need to be identical to the embedded subject. Descriptively, in (40), the raised DP denotes a superset of the embedded subject 'the black (ones/dogs).' It is possible that the silent *pro* in the embedded clause refers to the same set of dogs as the raised DP *toya waco* and the embedded subject has a partitive reading based on the *pro* (i.e. 'the black ones (of those dogs)'). This is also possible with prolepsis in English, too (e.g. *I know about Ellen's cats that the black one is particularly smart*).

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[23]This is actually surprising. In 4.3.3, we saw examples in which the subject of a gerund is a contrastive topic and therefore, surfaces with two genitive cases. The gerund subject in those examples can topicalise to the same position the raised DP occupies in (39b)-(39c). However, the embedding verb in those examples is *faheka* 'surprised.' We will need to compare different embedding verbs more carefully to know the source of this inconsistency.

(40) Ma-fana’ kako **to-ya** **waco** anini mi-limek-to **ko-ya**
IPFV.STAT-know NOM.1SG **ACC-that dog** today IPFV.AV-hide-ASP **NOM-that**
koheting-ay inacila.
black-SREL yesterday
'I know about those dogs today that (among them) the black one hid yesterday.'

5.4 Summary

Two issues discussed in Chapters 3-4 assumed what was called raising-to-object is indeed derived by movement. First, raising can apply to the genitive subject of a perfective clause. This was taken to indicate that the perfective subject, though φ-defective, is not entirely inactive. The discussion about different movement probes would be incoherent if raised DPs are actually base-generated in the matrix clause. Second, raised DPs that are contrastive topics can surface with three cases, the inner two of which are assigned in the embedded clause/gerund. Thus, it would also be surprising if so-called raising never involves movement.

This chapter demonstrated that both raising by movement and raising by base-generation are attested in Amis. I showed that when a raised DP is unambiguously outside the embedded clause/gerund, it cannot reconstruct for idiomatic interpretation or existential wh-indefinites and resumption is not possible. In addition, I illustrated that low raised DPs exhibit properties characteristic of topics. Based on this, I posited that raising by movement is topicalisation to the edge of the embedded clause/gerund. This chapter provided support for an important assumption previous chapters were based on. It also gave a third answer to the question about whether raising-to-object is derived by movement or base-generation. That is, some languages have both.

Chapter 6

Conclusion and outlook

This dissertation explored a two-part hypothesis: (i) a DP can be agreed with by more than one probe, and (ii) case is a result of φ agreement with certain probes. This predicts that in principle a DP can surface with more than one case. Some version of (i) has been argued for in previous studies (Ura 1995; Carstens 2001; Rezac 2003; Béjar and Rezac 2009 a.o.) and was simply assumed in this dissertation. Reasoning about (ii) was based on examining its prediction.

Specifically, given (ii), we expect that the φ specification of a DP can determine case morphology on the DP. Independently, assuming that movement is premised on successful Agree with a movement probe and that complex A/Ā probes exist, the φ specification of a DP can also determine whether or not a DP can be agreed with by a certain movement probe and be attracted. Given that Amis has limited agreement morphology to substantiate claims about a DP's φ specification, a DP's behaviour with respect to different types of movement was taken as indirect evidence for a DP's φ specification.

I posited that the subject of a perfective clause becomes φ-defective as a result of agreement with perfective Asp. This is supported by the perfective subject's movement profile. It can undergo raising-to-object but not operator movement.

In addition, the perfective subject, being φ-defective, fails to enter another φ agreement. As a result, it receives one less case assignment than the subject of an imperfective clause and surfaces with genitive case, the initial and the only case it has received.

Two facts support treating genitive case on the perfective subject as a result of one

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fewer instance of case assignment. First, when a DP is a contrastive topic, it surfaces with all the cases it has received. We saw that in this context, the imperfective subject appears with nominative case stacked on top of genitive case. This suggests that the imperfective subject is assigned genitive case initially, in parallel with the perfective subject.

Second, when the perfective subject is a contrastive topic, it appears with an additional nominative case stacked on top of genitive case. I attributed this to a repair strategy which adds a full set of φ feature to the perfective subject. The repair applies only when a DP otherwise cannot be agreed with by C/T, a necessary step for a DP to be interpreted as a contrastive topic. Similar repairs are found in other languages. The observable effect of these repairs is an additional case. This is most transparent in Amis, since the additional case stacks on top of the initial case. More importantly for the current discussion, that "adding" an extra case to the perfective subject makes the case marking contrast with the imperfective subject disappear. This also supports that the perfective subject otherwise receives one less case.

These claims will not hold if overt case-stacking is in fact not stacking of multiple cases. For example, Schütze 2001a argued that the outer case on a case-stacked DP in Korean is a focus marker. I offered multiple reasons for why such a treatment is insufficient for Amis in Chapter 4.

In addition, part of the claims assumed that raising-to-object is derived by movement. Chapter 5 argued that raising by movement and raising by base-generation are both available in Amis. The two structures can be distinguished by reconstruction phenomena once the raised DP is unambiguously outside the embedded clause.

Finally, this dissertation also addressed two related questions well-researched in Austronesian linguistics. These concern how the alternation of case marking between clauses with different voice morphology should be analysed, and how genitive case on the external argument in non-AV clauses should be treated. In Chapter 2, I showed that case alternation in Amis correlates with viewpoint aspect. The latter happens to correlate with voice morphology in main clauses. In particular, case marking in gerunds does not alternate with voice morphology.

In Chapters 3-4, we saw that when the subject of an AV clause is a contrastive topic,

it appears with an inner genitive case. In addition, the subject of a non-AV clause is not entirely inactive, as it can still undergo raising. These are incompatible with treating genitive case on the subject of a non-AV clause as an inherent case reserved for non-AV clauses for some reason. Moreover, that non-AV subjects can undergo raising (topicalisation) but not operator movement poses a challenge to treating voice morphology as Ā agreement with nominative DPs.

Many questions remain unresolved. The most important of all is perhaps how we can offer more direct evidence for attributing case to φ agreement. This idea is in fact not entirely new and may be seen as, for instance, a reincarnation of a suggestion made in Rezac 2011. Given certain mismatches between case marking and agreement morphology, it was suggested that not only can a $[u\varphi]$ probe consist of multiple sub-probes (e.g. [uNumber], [uPerson]), but also these sub-probes can each contain an [uCase]. This is not too different from the current proposal, given that unlike φ features, so-called Case features often cannot be traced back to intuitively contentful properties associated with a DP (e.g. number, person).

Overt case-stacking is relatively rare across languages. If this is a result of some version of the *One Case Constraint*, the current proposal risks of being too liberal, allowing multiple φ agreements and/or case assignments that strictly speaking are not incompatible with the observable pattern, but also cannot be independently supported. Whether or not this is feasible in Amis depends on a better understanding of φ-related phenomena in the language (e.g. the animacy/humanhood constraint on topicalisation and the PCC-like phenomenon discussed in Chapter 3). More generally, evidence for multiple case assignment might in fact be more common but has been thought about differently.

For example, in English pseudo-passives, the verb and the stranded preposition typically need to be adjacent, as (1a)-(1b) illustrate. This is similar to the contrast found between (1c)-(1d). In an active clause, the object needs to be adjacent to the verb. Abstracting away from the details, Richards 2017 suggested that that an adverb cannot intervene between the verb and the preposition in (1a) or between the verb and the object in (1c) has the same cause. In both, the object receives accusative case from v and this licensing relationship requires linear adjacency. This entails that the nominative subject

in (1a) is assigned accusative case initially.

(1) a. The song was talked (*casually) about.

     b. The song was talked about casually.

     c. Annie rehearsed (*casually) the song.

     d. Annie rehearsed the song casually.

Another mystery left in this dissertation is why being a contrastive topic (or being focused in a certain way) is related to overt case-stacking. The current literature on either case or contrastive topics/focus does not seem to suggest a solution to this.

The third issue concerns how we should account for instances of genitive case that cannot clearly be categorised into any of the examples discussed in this dissertation. For example, in an object relative clause with an *-an* suffixed verb, the subject needs to be genitive, as in (2a). In (2b), which may be treated as an optative, given the meaning, the subject also needs to be genitive.

(2) a. Mi-asip   kako   to-ya   mi-'aca-an   **ni Panay** a   codad.
         IPFV.AV-read NOM.1SG ACC-that IPFV.AV-buy-OREL **GEN PN**   LNK book
         'I'm reading those books that Panay bought.'

     b. Asip-aw **ako**   ko-ya   codad.
         read-AW **GEN.1SG** NOM-that book
         'Let me read those books first/a little bit.'

In the current proposal, genitive case is assigned to a DP as long as Spell-Out occurs in a non-verbal domain. There are multiple scenarios in which genitive case may surface on a DP. For example, if the relative clause in (2a) is structurally reduced and does not contain C, only one assignment applies within the relative clause and the subject will receive genitive case (cf. reduced relatives in Krause 2001). The same story perhaps cannot be carried over to (2b), but what is important for now is that the present proposal has few restrictions on where genitive case can occur. We predict that as long as genitive case is the only or the last case assigned to a DP, the DP can surface with genitive case. It is left to

a detailed investigation into the structure of examples such as (2a)-(2b) to verify whether or not this is true.

Appendix A

Various uses of *o*

The occurrences of *o* in this thesis can be divided into two groups. It either marks a nominal predicate or a DP that has undergone *o*-topicalisation. These uses of *o* show much resemblance to *ko* in Tongan and its counterpart in many Polynesian languages (Chung 1978; Otsuka 2000; Massam et al. 2006; Potsdam and Polinsky 2011; Hohaus and Howell 2015; Polinsky 2016 a.o.).[1]

Descriptively, *ko* in Tongan marks topics, nominal predicates (in an equative construction), and wh-words, as (1a)-(1c) illustrate. *O* appears in the same environments in Amis, but *o* also appears in contexts that do not clearly fall into these categories. I describe these various uses below. This is mainly for documentary purposes for the moment.

(1) *Tongan ko*

    a. *Ko-topicalisation*

        Ko e tohi na'e 'oange 'e Mele kia Palu.
        KO ABS book PST give ERG PN DAT PN
        'The book, Mary gave (it) to Palu.'   (Polinsky 2016 (167c))

    b. *Equatives*

        Ko e faiako ia.
        KO DET teacher 3SG
        'She is a teacher.'   (Potsdam and Polinsky 2011 (8a))

---

[1]This might be surprising given that in the more common classification of Austronesian languages, Amis (and Formosan languages in general) and Polynesian languages belong to distinct primary branches of the entire language family (Adelaar 2005 a.o.).

c. *Wh-questions*

Ko hai na'e tā 'e Mele?
ko who PST hit ERG PN
'Who did Mele hit?'   ([Potsdam and Polinsky 2011](#) (12))

First, *o* marks DPs that have undergone *o*-topicalisation, as [(2b)-(2c)](#) show.[2]

(2)   *O-topicalisation*

a.   Mi-asip   ko-ya   wawa to-ya   codad i matini.
     IPFV.AV-read NOM-that child ACC-that book P now
     'Those children are reading those books now.'

b.   **O-ya wawa** i,   mi-asip   to-ya   codad i matini.
     o-that child TOP IPFV.AV-read ACC-that book P now
     'Those children, (they) are reading those books now.'

c.   **O-ya codad** i,   mi-asip   ko-ya wawa i matini.
     o-that book TOP IPFV.AV-read NOM   child P now
     'Those books, those children are reading (them) now.'

Second, *o* also marks nominal predicative expressions.[3] These include equatives, as in

[(3a)-(3b)](#), and what I referred to as bare root DP in this thesis. [(4)](#) repeats an example of

bare root DP from before.

(3)   *Equatives*

a.   **O   Pangcah** ko-ya   wawa.
     PRED Amis   NOM-that child
     'Those children are Amis.'

b.   **O   ising** ci Panay.
     PRED doctor NOM PN
     'Panay is a doctor.'

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[2]For all uses of *o*, whenever it marks a personal name or a kinship term, *ci* is used instead of *o*. [(i)](#) gives an example with *o*-topicalisation (cf. [(2b)](#)).

(i)   **Ci Panay** i,   mi-asip   to-ya   codad i matini.
      CI PN   TOP IPFV.AV-read ACC-that book P now
      'Panay, (she) is reading those books now.'

(4) *Bare root DP*

[**O**   **cefos** **ni** **Panay** **to**   **nanom**] ko sa-ka-cepa' no paenan.
  PRED spray GEN PN   ACC water   NOM IV-STAT-wet GEN floor
'Panay's spraying water is why the floor is wet.'

Third, *o* marks wh-words and fragment answers to these wh-questions, as in (5)Q-(5)A.[4]
In addition, *o* also marks phrases that are associated with a focus-sensitive operator, such
as *aca* 'only.' These phrases must be (pseudo-)clefted, as in (6). Depending on how (5)-(6)
should be analysed, this use of *o* potentially can be subsumed under *o* marking nominal
predicates.

(5)   *Argument wh-questions and fragment answers*

  Q: **O**   **máan** ko mi-sawsaw-an   ni Panay inacila?
      PRED **what** NOM IPFV.AV-wash-OREL GEN PN   yesterday
      'What did Panay wash yesterday?'

  A: **O**   **kiyáfes** (ko mi-sawsaw-an   ningra inacila).
      PRED **guava** (NOM IPFV.AV-wash-OREL GEN.3SG yesterday)
      'The guavas (are what she washed yesterday).'

(6)   *Focus construction*

  O   **kiyáfes** aca ko mi-sawsaw-an   ni Panay inacila.
  PRED **guava**   only NOM IPFV.AV-wash-OREL GEN PN   yesterday
  'Panay only washed [the guavas]_F yesterday.'

Finally, there is one use of *o* that cannot be easily subsumed under either *o*-topics or

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[4]Having *o* on fragment answers, as in (5)A, might make one wonder whether *o* should be considered a
default case (Schütze 2001b). However, fragment answers can be marked by other cases. For example, the
answer to (i)Q below can be marked by accusative case or *o*, as in (i)A1-(i)A2.

(i) Q: Mi-'aca   kiso   to máan i honi?
         IPFV.AV-buy NOM.2SG ACC what P moment
         'What did you buy just now?'

  A1: **To** cecay a   codad.
       ACC one   LNK book
  A2: **O**   cecay a   codad.
       PRED one   LNK book
       'A book.'

o-marked nominal predicates. Descriptively, what *o* marks in (7a)-(7d) is either a predicate affixed by *-ay* or immediate future reduplication.[5] In some of these examples, the *o*-marked predicates have an epistemic necessity reading, as in (7a), or a deontic necessity reading, as in (7c)-(7d). It is unclear how this use of *o* should be treated. It partially depends on how we can derive the modality reading that is often found with *-ay* suffixed predicates, as some of the examples in Appendix B illustrate.

(7)   *Necessity modal*

    a.   Caay ka-'araw ako   ko kawas. **O**   **mi-limek-ay**   cingra i
        NEG STAT-see GEN.1SG NOM ghost   **PRED IPFV.AV-hide-AY** NOM.3SG P
        cowa-cowa.
        RED-where
        'I didn't see the ghost. It must have hidden in somewhere'

    b.   **O**   **ma-mi-limek**   cingra i cowa-cowa.
        PRED RED-IPFV.AV-hide NOM.3SG P RED-where
        'It is about to hide in somewhere.'

    c.   **O**   **ca-ci-hilomit**   ko tam<dam>daw.
        PRED RED-have-helmet NOM RED-person
        '(By law, when driving a scooter,) everyone must wear a helmet.'

    d.   Enem-ay ko toki **o**   **ma-mi-liyas-to**   ko mi-liso'-ay
        six-SREL NOM clock **PRED RED-IPFV.AV-leave-ASP** NOM IPFV.AV-visit-SREL
        to   adada-ay.
        ACC sick-SREL
        '(By the hospital's regulations,) those visiting patients must leave by 6 o'clock.'

---

[5]When a predicate is affixed by immediate future reduplication, *-ay* suffixing becomes optional in contexts where *-ay* is otherwise obligatory (e.g. subject wh-questions), even for the most conservative speaker. Therefore, the reduplicated predicate in (7b)-(7d) might potentially have a null *-ay*. If *-ay* uniformly indicates predicate abstraction (over individuals or possible worlds; see Appendix B), these predicates may be interpreted as headless relatives. In this case, this use of *o* can be subsumed under *o*-marked nominal predicates.

[5]Observing that in embedded clauses, *o* is always followed by a predicate that has additional aspectual or modal-related morphology (e.g. immediate future reduplication in (ia)), Y. Chen 2008 posited *o* as a finite complementiser. However, it seems that what (ia) illustrates is the same use of *o* as in (7), except that the entire clause is embedded in this case. We know independently that a clause with an *o*-marked predicate can be embedded, as in (ib). Thus, treating *o* in (ia) as fundamentally different from the other instances of *o* is not motivated.

(i)   a.   Ma-fana'   kako   [**o**   **ma-mi-komimit**   ci   Nakaw ci   Panay-an].
               IPFV.STAT-know NOM.1SG   **PRED RED-IPFV.AV-pinch** NOM PN   ACC PN-ACC
               'I know that Nakaw is going to pinch Panay.'

        b.   Ma-fana'   kako   [**o**   **Pangcah** ci   Panay].
               IPFV.STAT-know NOM.1SG   **PRED Amis**   NOM PN
               'I know that Panay is Amis.'

Appendix B

Various uses of *-an* and *-ay*

This thesis contains multiple occurrences of the suffixes *-an* and *-ay* that are not always glossed in the same way. Below is a brief description of various instances of *-an* and *-ay*, including examples that have not appeared in the main text. As will be shown, some occurrences of *-an* or *-ay*, though intuitively related to one another, cannot be easily collapsed into one meaning. I include these data here for easier reference for future work.

B.1   *-an*

Descriptively, occurrences of *-an* in this thesis can be divided into six uses. First, *-an* marks locative voice, as in (1).

(1)   *Locative voice*

Asip-**an** ni   Panay ko   cecay a   codad.
read-**LV** GEN PN   NOM one   LNK book
'Panay read a book.'

Second, *-an* marks (part of) accusative case on pronouns, personal names, and kinship terms, as (2) shows.

(2) *Accusative case on pronouns, personal names, and kinship terms*

Mi-cikeroh   ci   Panay cingra-**an**/ ci   Kolas-**an**/ ci   mama-**an**.
IPFV.AV-push NOM PN   3SG-**ACC**/   ACC PN-**ACC**/   ACC father-**ACC**
'Panay is pushing her/him/ Kolas/ Father.'

Third, *-an* also indicates object relativisation, as in (3).

(3) *Object relativiser*

Ma-olah   kako   to-ya   [mi-asip-**an**   ni   Panay inacila]   a
IPFV.STAT-like NOM.1SG ACC-that IPFV.AV-read-**OREL** GEN PN   yesterday LNK
codad.
book
'I like those books that Panay read yesterday.'

Fourth, *-an* appears on referential pronouns, such as *konian* in (4) or *koraan* 'that/those.'

(4) *Referential pronouns*

O   codad ako   ko-ni-**an**.
PRED book   GEN.1SG NOM-this-**AN**
'These are my books.'

Fifth, attaching *-an* to an entity-denoting root, as in (5), creates a kind-referring noun. In (5), *siri* 'goat' by itself can only refer to individual goat(s).

(5) *Kind-referring*

O   codad ni   Panay to   siri-**an**   ko-ni-an.
PRED book   GEN PN   ACC goat-**AN** NOM-this-AN.
'This is Panay's book about goats.'

Finally, *-an* also forms part of what I called genitive modifiers, such as *no litengan* in (6a). These are nominal modifiers marked by genitive case. Genitive modifiers can also precede the head, as in (6b). This requires an extra linker *a*.

(6)   *Genitive modifiers*

    a.   Ma-olah   kako   to demak no liteng-**an**.
          IPFV.STAT-like NOM.1SG ACC thing   GEN old-**AN**

    b.   Ma-olah   kako   to no liteng-**an** a   demak.
          IPFV.STAT-like NOM.1SG ACC GEN old-**AN**   LNK thing
          'I like old things.'

B.2   *-ay*

Occurrences of *-ay* can be divided into two groups by meaning. It either indicates subject relativsation or is associated with tense-aspect-modal in some way.

First, (7a)-(7b) show that *-ay* is obligatory in subject relatives.

(7)   *Subject relativiser*

    a.   Ma-fana'   kako   to-ra   [mi-asip*(**-ay**)   to   cecay a
          IPFV.STAT-know NOM.1SG ACC-that   IPFV.AV-read*(**-SREL**) ACC one   LNK
          codad] a   wawa.
          book   LNK child
          'I know that child who is reading a book.'

    b.   Ma-fana'   kako   to-ra   [ma-asip*(**-ay**)   ni   Panay] a
          IPFV.STAT-know NOM.1SG ACC-that   IPFV.STAT-read*(**-SREL**) GEN PN   LNK
          codad.
          book
          'I know those books read by Panay.'

The same suffix also appears on other nominal modifiers, such as *tosaay* 'two' or *kohetingay* 'black' in (8). These potentially can be subsumed under subject relativisation, although *-ay* is optional in this use.

(8)   *Other nominal modification*
    Mi-kapa   kako   to tosa(**-ay**) (a)   koheting(**-ay**) a   posi.
    IPFV.AV-pet NOM.1SG ACC two(**-SREL**) (LNK) black(**-SREL**) LNK cat
    'I'm petting the two black cats.'

The other instances of *-ay* are associated with tense-aspect-modal in some way. First, *-ay* sometimes appears on predicates that have an epistemic modal interpretation, as in (9a), or an interpretation that involves deontic modality, as in (9b). Take (9b) as an example. Interpreting *mitefocay* in the same way as in (7) above yields a reading that is not quite sensible: 'The ones who punish the ones who fart noisily are an Amis custom.'

(9)   *Modal*

   a.   Caay ka-'araw ako   ko   kawas. O   mi-limek-**ay**   cingra   i
        NEG   STAT-see GEN.1SG NOM ghost   PRED IPFV.AV-hide-**AY** NOM.3SG P
        cowa-cowa.
        RED-where
        'I didn't see the ghost. It must have hidden in somewhere.'

   b.   O   likawawa no Pangcah ko-ya   mi-tefoc-**ay**   to
        PRED custom   GEN Amis   NOM-that IPFV.AV-punish-**AY** ACC
        ma-'etot-ay   a   kapah.
        IPFV.STAT-noisy.fart-SREL LNK young.man
        'To punish young men who make noisy farts is an Amis custom.'
                                                        (Namoh Rata 2013 256)

This use of *-ay* is reminiscent of languages where correlatives are ambiguous between what Bittner 2001 called an individual-centered reading and a possibility-centered reading, as (10) illustrates. In Schlenker's 2004 terms, this ambiguity results from interpreting the topic in (10) (in square brackets) as a definite description of individuals or of possible worlds. By analogy, perhaps *-ay* in (9a)-(9b) does still indicate predicate abstraction, except that in these examples, the variable abstracted over ranges over possible worlds. Whether or not this speculation can be formally implemented will have to be left for later.

(10)   *Warlpiri correlatives*

        [Maliki-rli kaji-ngki   yarlki-rni nyuntu] ngula-ju kapi-rna   luwa-rni
          dog-ERG   ST-3SG.2SG bite-NPST 2SG   DEM-TOP FUT-1SG.3SG shoot-NPST
        ngajulu-rlu.
        1SG-ERG
        Reading1: 'As for the dog that bites you, I'll shoot it.'
        Reading2: 'If a dog bites you, then I'll shoot it.'   (Bittner 2001 (7))

The suffix *-ay* also appears in two contexts that are related to the past tense directly or indirectly. First, as (11a)-(11b) illustrate, *-ay* occurs in past habitual sentences or past progressive sentences. Present imperfective clauses do not require *-ay*, as in (12).

(11)   *Past imperfective*

   a.   Yo   kaemang ho k<om>aen-**ay** kako   to piyang to romi'a-mi'ad.
         when childhood still <AV>eat-**AY**   NOM.1SG ACC cookie ACC everyday
         'When I was a kid, I used to eat cookies everyday (but I don't eat cookies anymore now).'

   b.   Pa-tingwa ci Panay inacila, mi-liloc-**ay**   ho kako.
         CAUS-phone NOM PN   yesterday IPFV.AV-shower-**AY** still NOM.1SG
         'When Panay called yesterday, I was taking a shower.'

(12)   *Present imperfective*

   a.   Sa-ro-mi'a-mi'ad-sa ko posi ako   mi-repet   to cecay a   edo'.
         SA-RED-day-SA   NOM cat GEN.1SG IPFV.AV-catch ACC one LNK mouse
         'My cat catches a mouse everyday.'

   b.   Ma-cidal   to ro-mi'a-mi'ad.
         IPFV.STAT-sun ACC RED-day
         'It is sunny everyday.'

Second, *-ay* also marks verbs in a counterfactual conditional antecedent, as (13) shows.[1] Many languages use past tense morphology to mark counterfactual clauses (Iatridou 2000; Bjorkman 2011 a.o.). Having *-ay* in both (11) and (13) is therefore not surprising. What is difficult to explain is why *-ay* also appears in the environments discussed above and the two additional ones to be introduced below.

(13)   *Counterfactual*

   Ano mi-tefing-**ay**   ci Mayaw to-ra   waco i, ma-kalat-to   i matini.
   if   IPFV.AV-touch-**AY** NOM PN   ACC-that dog TOP IPFV.STAT-bite-ASP P now
   'If Mayaw had touched that dog, he would've been bitten by now.'

---

[1]The verb in the consequent clause must be suffixed by *-to* for the counterfactual reading.

First, predicates with an experiential reading are suffixed by both *-ay* and *-to*, as in (14a)-(14b). This reading seems comparable to experiential aspect in Mandarin. As (15) shows, *guo* in Mandarin requires a discontinuity between the final stage of the modified event and the current state of affairs. Thus, in (15), asserting that Annie has been in Taipei since last week is contradictory. We find a similar contrast in Amis, as (14b) shows.

(14)   *Experiential*

      a.   K<om>aen-**ay-to** kako   to   kida.
          <AV>eat-**AY-ASP** NOM.1SG ACC sugar.apple
          'I have eaten sugar apples.'

      b.   Tayra-**ay-to** i Taypak ci   Panay inacila   a   lipay.
          go-**AY-ASP** P Taipei NOM PN   yesterday LNK week
          #I Taypak ho cingra   i matini.
           P Taipei   still NOM.3SG P now
          'Panay has been to Taipei last week. # She's still in Taipei now.'

(15)   *Mandarin experiential*

      Anni shang-libai qu-**guo** Taibei.
      PN   up-week   go-**EXP** Taipei
      #Ta dao   xianzai dou hai zai nali.
       3SG arrive now   DOU still at there
      'Annie has been to Taipei last week. #She's still there now.'

Second, predicates suffixed by *-ay* can additionally have an emphatic interpretation, as in (16a)-(16b). This is not clearly related to the other uses of *-ay* discussed above.[2]

(16)   *Emphatic*

      a.   Accim-**ay** ko-ni   a   talacay.
          sour-**AY**   NOM-this LNK pineapple
          'This pineapple is sour (for sure).'   (Jiang 2011 (5b))

      b.   Mi-tengil-**ay**   kako   to sowal nira.
          IPFV.AV-listen-**AY** NOM.1SG ACC word GEN.3SG
          'I did listen to her/him.'   (Jiang 2011 (7b))

---

[2]Except for perhaps subject relativisation. In English, object wh-questions require *do*-support. *Do*, in addition, is also used in emphatic sentences.

Appendix C

Ma- clauses

This thesis argued that PV (*-en*) and LV (*-an*) clauses are perfective and AV (*mi-*) clauses are imperfective In addition, *m-* marks imperfectivity. Clauses with a *ma-*prefixed predicate show some similarity with PV/LV clauses. For example, in a clause with *ma-* attached to an eventive transitive root, the external argument receives genitive case and the internal argument receives nominative case, as in (1b). This case marking pattern is identical to its PV/LV counterpart, as (1a) shows. Based on this, previous works on Amis often treated *ma-*clauses with this case pattern as a type of PV clauses (Wu 2006; Y. Chen 2008; V. Chen 2017). Moreover, (1b) necessarily entails culmination. Asserting that the table has not been made after (1b) is contradictory. Given this, claiming that *m-* marks imperfectivity might seem inconsistent. I discuss properties of *ma-*clauses below which show that they are syntactically and semantically distinct from PV clauses.

(1) a. Sanga'-**en/-an** ni Panay ko   cecay a   sapad inacila.
         make-**PV/-LV**   GEN PN   NOM one   LNK table yesterday
         'Panay made a table yesterday.'

     b. **Ma**-sanga'   ni Panay ko   cecay a   sapad inacila.
         IPFV.STAT-make GEN PN   NOM one   LNK table yesterday
         'Panay made a table yesterday./ A table was made by Panay yesterday.'

This prefix *ma-* otherwise mostly attaches to statives and psyc/cognitive predicates, as in (2).[1] The discussion below suggests that (1b) is not so different from these other instances

of *ma-* and might be akin to stative passives. For ease of reference, "*ma*-clauses" below refer only to examples such as (1b), where *ma-* attaches to an eventive transitive root and the case marking pattern is identical to its PV counterpart.

(2) a. **Ma**-kapah   ko-ra   posi.
         IPFV.STAT-beautiful NOM-that cat
         'Those cats are beautiful.'

     b. **Ma**-fana'   kako   to-ya   codad.
         IPFV.STAT-know NOM.1SG ACC-that book
         'I know those books.'

A detailed account of *ma-* clauses will have to be left for another occasion, but the data below should be sufficient for establishing that treating *ma*-clauses as a variant of PV clauses is not warranted. Semantically, *ma*-clauses can be but do not need to be agentive. In addition, *ma*-clauses denote states and do not always include an internal process. Syntactically, the word order restriction found in PV/LV clauses, as discussed in Chapter 3, does not hold in *ma*-clauses. Moreover, the genitive DP in a *ma-* clause cannot undergo raising-to-object even for Amis II speakers. At the same time, the nominative DP in the same clause can raise. All of these make *ma*-clauses distinct from PV clauses.

   First, in Chapter 2, I showed that the genitive DP in a PV clause needs to agentive (or self-propelled). As (3) shows, the genitive DP in a *ma*-clause can be agentive, but it can also be an inanimate causer or even a gerund.

(3) *GEN DP in ma-clauses*

     Ma-cedet   **no tawki/ fadisaw/   caay pi-na'on   no   tawki** ko
     IPFV.STAT-burn **GEN boss/   boiled.water/ NEG AV-careful GEN boss** NOM
     kamay ako.
     hand   GEN.1SG
     'My hands were burned by the boss/ boiled water/ the boss's not being careful.'

---

[1]Other instances of *ma*-prefixed predicates can be divided into several groups: (i.) non-agentive perception predicates, e.g. *ma-tengil* 'hear' (cf. *mi-tengil* 'listen'); (ii.) weather predicates, e.g. *ma-fali* 'windy'; (iii.) unaccusatives, e.g. *ma-tefad* 'fall'; (iv.) involuntary actions, e.g. *ma-remes* 'bleed.' There are a few *ma*-predicates that seem agentive, but these are typically high-frequency lexical items, e.g. *ma-tayal* 'work' and *ma-tawa* 'laugh.'

Moreover, the genitive DP in a *ma*-clause also does not need to be a causer. For example, in (4), it is Panay's younger sister/brother, not Panay herself, who is responsible for the necklace's disappearance. Panay is only affected by this event in some way.

(4) *GEN DP in ma- clauses*

Ma-siday **ni Panay** ko cangaw ningra,
IPFV.STAT-leave.behind **GEN PN** NOM necklace GEN.3SG
nawhani ma-falah-to no safa ningra.
because IPFV.STAT-discard-ASP GEN younger.sibling GEN.3SG
'Panay lost her necklace because it was thrown away by her younger sister/brother.'

In fact, the genitive DP in a *ma*-clause does not even to be an argument. In (5), the verb is intransitive, but it is still possible to have a genitive-marked causer.

(5) *GEN DP in ma- clauses*

Ma-tolo' **no fokeloh** kako.
IPFV.STAT-fall **GEN stone** NOM.1SG
'I tripped over and fell because of the stones.'

That a *ma*-predicate does not select for an external argument is consistent with the case marking pattern in gerunds containing a stative verb.[2] In (6a), without an overt external argument, genitive case on the internal argument is strongly preferred. This contrasts with AV gerunds. As (6b) shows, in an AV gerund, the internal argument must still receive accusative case, even when the external argument is not pronounced.

(6) *Gerunds with a stative verb*

a. Faheka kako [to ka-'ari **no/??to kaysing**].
surprise NOM.1SG ACC STAT-break **GEN/??ACC bowl**
'I'm surprised at the bowls' breaking.'

b. Faheka kako [to pi-'ari ***no/to kaysing**].
surprise NOM.1SG ACC AV-break ***GEN/ACC bowl**
'I'm surprised at (someone's) breaking the bowls.'

---

[2]In negative assertions, gerunds, and imperatives, *ka-* is used instead of *ma-*. In the same environments, AV *mi-* also appears as *pi-*.

Assuming imperatives require agentivity, that *ma*-clauses do not select for an agent also explains why they cannot be used as an imperative, as (7c) shows. This is yet another difference between *ma*-clauses and PV clauses.[3]

(7)   *Imperatives*

   a.   **Pi-sawsaw** to-ra   kiyafes!
        AV-wash   ACC-that guava
        'Wash those guavas!'

   b.   **Sawsaw-en** ko-ra   kiyafes!
        wash-PV   NOM-that guava
        'Wash those guavas!'

   c.   ***Ka-sawsaw** ko-ra   kiyafes!
        STAT-wash NOM-that guava

The interpretation of *ma*-clauses when the predicate is pluralised also suggests that these clauses do not select for an external argument.[4] Moreover, the data below also show that *ma*-clauses denote states instead of events.

First, pluralised PV verbs are ambiguous between a distributive reading and an iterative reading, as (8b)-(8c) show. The distributive reading requires that at least one argument be compatible with a plural interpretation. Therefore, when both arguments are unambiguously singular, as in (8a), the distributive reading is not available.[5]

(8)   *-en + pluractional*

   a.   Asi-asip-en ni Panay ko-ya   cecay a   aasipen inacila.
        RED-read-PV GEN PN   NOM-that one   LNK article yesterday
        *Distributive
        Iterative: 'Panay read that article again and again yesterday.'

---

[3]Both AV and PV imperatives are possible, but consultants find PV imperatives more polite.

[4]The data below are only initial, but the range of interpretation found with pluralised predicates in Amis seem comparable to what predicates with pluractional morphology in other languages can mean (e.g. Müller and Sanchez-Mendes 2008; Součková 2011; Lee 2015).

[5]This is likely not accurate. Initial data suggest that this plurality requirement is semantic in nature. It seems that as long as it is possible to imagine a situation where an event can be divided into multiple subparts, the distributive reading is possible. For example, replacing 'one article' in (8a) with *cecay a codad* 'one book' was accepted immediately, because one can read "all of a book." This reading should be possible with 'one article,' too, but was perhaps not the most accessible scenario for the consultants.

b. Asi-asip-en no-ya ta-tosa a wawa ko cecay a aasipen.
   RED-read-PV GEN-that RED-two LNK child NOM one LNK article
   Distributive: 'Those two children each read an article.'
   Iterative: 'Those two children read an article again and again.'

c. Asi-asip-en ni Panay ko-ya tosa a aasipen.
   RED-read-PV GEN PN NOM-that two LNK article
   Distributive: 'Panay read those two articles both.'
   Iterative: 'Panay read those two articles again and again.'

Pluralised *ma*-clauses are different in two ways. First, as (9) shows, the iterative read-
ing does not seem available or at least it is difficult to access.[6] In addition, judgment on
whether the distributive reading's plurality requirement can be satisfied by the genitive
DP varied. In (9a), both the genitive DP and the nominative DP are unambiguously sin-
gular. Therefore, the distributive reading is not available. Given that the iterative reading
is also not possible, (9a) is entirely ruled out. In (9c), the nominative DP is plural. In this
case, the distributive reading is possible. In (9b), it is the genitive DP that is plural. Judg-
ment on whether the distributive reading is possible in this example varied. This not only
contrasts with (9c) but also (8b) above, which contains a pluralised PV verb and a genitive
plural external argument. Lasersohn 1993 observed that implicit arguments in English
do not contribute to distributivity. That the genitive DP in *ma*-clauses cannot satisfy the
plurality requirement of the distributive reading might also indicate that *ma*-clauses do
not select for an external argument.

(9)   *ma- + pluractional*

a. *Ma-asi-asip no-ya cecay a wawa ko cecay a aasipen.
   IPFV.STAT-RED-read GEN-that one LNK child NOM one LNK article
   *Distributive
   *Iterative

b. %Ma-asi-asip no-ya ta-tosa a wawa ko cecay a aasipen.
   IPFV.STAT-RED-read GEN-that RED-two LNK child NOM one LNK article
   %Distributive: 'Those two children each read an article.'
   *Iterative

---

[6]Pluralised causatives behave differently. For example, the iterative reading is possible with *ma-fa-ede-
edet* 'IPFV.STAT-RED-hot' with the causative interpretation of 'heat.'

c. Ma-asi-asip   ni Panay ko-ya   tosa a   aasipen.
   IPFV.STAT-RED-read GEN PN   NOM-that two LNK article
   Distributive: 'Panay read those two articles both.'
   *Iterative

The pluralised *ma*-clauses in (9) lack the iterative reading that is possible in pluralised PV clauses. This parallels other *ma*-predicates. For example, pluralised *makapah* 'beautiful' only has the distributive reading, as (10) shows. Similarly, this reading is not available when the nominative subject is singular.[7] The parallel between (9) and (10) is the first indication that *ma*-clauses denote states instead of events.

(10)   *ma- + pluractional*

   Ma-kapa-kapah   ko-ya   (*cecay a)   posi.
   IPFV.STAT-RED-beautiful NOM-that (*one   LNK) cat
   'Those cats are all beautiful./ *That cat is all beautiful.'

That *ma*-clauses denote states finds additional support in the interpretation of durative temporal adjuncts. A durative temporal adjunct modifying a PV clause, such as *to tosa a tatokian* in (11a), describes the running time of an event. I will call this the process reading. (11a), for example, is more sensible if the bowl Mayaw was trying to break is made of stainless steel. When modifying a *ma*-clause, as in (11b), the same durative describes how long the state resulted from breaking the bowl lasts, instead of the running time of the bowl-breaking event. In fact, durative temporal adjuncts modifying *ma*-clauses are often translated into 'x time ago.' I will call this the state reading. Whether or not the process reading is possible with a *ma*-clause seems to depend on the kind of event involved (accomplishment or achievement) and/or the kind of state created by the event (target state or resultant state, as in Kratzer 2000)[8], but the state reading is not available with PV clauses (or AV clauses) regardless of the type of event or state.

---

[7]For at least one speaker, pluralised states have an additional intensive reading. This reading does not require the subject be plural. That is, (10) can also mean 'those cats are particularly beautiful' or 'that cat is particularly beautiful.'

(11)   *Durative temporal adjuncts*

    a.   ’ari-en   ni Mayaw ko   cecay a   kaysing to tosa a   tatokian.
        break-PV GEN PN   NOM one LNK bowl   ACC two LNK hour
        ‘Mayaw broke a bowl for two hours.’

    b.   Ma-’ari   ni Mayaw ko   cecay a   kaysing to tosa a   tatokian.
        IPFV.STAT-break GEN PN   NOM one LNK bowl   ACC two LNK hour
        ‘A bowl has been broken by Mayaw for two hours.’

The discussion above showed that *ma*-clauses are semantically distinct from PV clauses. Specifically, *ma*-clauses do not select for an (agentive) external argument and they denote states. These clauses are also syntactically different from PV clauses. First, we saw in Chapter 3 that in a PV clause, no other argument DP can intervene between the verb and the genitive subject. Therefore, (12) is ruled out.

(12)   *Perfective (PV/LV): object cannot precede subject*

    a.   Asip-en ni Panay **ko cecay a   codad** inacila.
        read-PV GEN PN   **NOM one LNK book** yesterday
        ‘Panay read a book yesterday.’

    b.   *Asipen **ko cecay a codad** ni Panay inacila.

This word order restriction is relaxed in *ma*-clauses. As (13a)-(13b) shows, even though having the nominative DP follow the genitive DP is preferred, the other order is only slightly degraded.

---

[8]For example, the process reading is not available with hay-binding, as in (ia). This reading is possible with hair-braiding, as in (ib). We will need more data to know what is crucial for the variation. Importantly, in the AV and PV counterpart of (ia)-(ib), only the process reading is possible.

(i)   a.   Ma-falod   ni Panay ko-ya   rengos to tosa a   tatokian.
          IPFV.STAT-bind GEN PN   NOM-that grass ACC two LNK hour
          ‘Panay bound the grass for two hours. ’

      b.   Ma-’opir   ni mama to pangkiw a   tatokian ko   fokes no-ra   wawa.
          IPFV.STAT-braid GEN father ACC half   LNK hour   NOM hair GEN-that child
          Reading1: ‘Father braided that child’s hair for half an hour.’
          Reading2: ‘That child’s hair has been braided by Father for half an hour.’

(13) a. Ma-tangtang ni Panay i honi **ko foting**.
        IPFV.STAT-cook GEN PN   P moment **NOM fish**
        'The fish was cooked by Panay just now.'

    b. ?Matangtang **ko foting** i honi ni Panay.

Second, as discussed in Chapter 3, for some speakers, the genitive subject of a PV clause can undergo raising-to-object and the nominative object in the same clause cannot, as (14b)-(14c) illustrate.

(14) *Raising-to-object out of a perfective clause (Amis II)*

    a. Asip-en ni Panay ko-ya   codad inacila.
        read-PV GEN PN   NOM-that book yesterday
        'Panay read those books yesterday.'

    b. Ma-fana'   kako **ci Panay-an** asip-en ko-ya   codad inacila.
        IPFV.STAT-know NOM.1SG **ACC PN-ACC**   read-PV NOM-that book yesterday
        'I know that Panay, (she) read those books yesterday.'

    c. *Ma-fana'   kako **to-ya   codad** asip-en ni Panay inacila.
        IPFV.STAT-know NOM.1SG **ACC-that book** read-PV GEN PN   yesterday
        Intended: 'I know that those books, Panay read (them) yesterday.'

Ma-clauses are also different with respect to raising. As in (15b), the genitive DP in a *ma*-clause cannot raise, even for Amis II speakers. At the same time, as (15b) shows, the nominative DP in the same clause can raise, though judgment on whether or not this is possible only in absence of an overt genitive DP varied.

(15) a. Ma-fana'   kako   ma-asip   ni Panay ko-ya   codad inacila.
        IPFV.STAT-know NOM.1SG IPFV.STAT-read GEN PN   NOM-that book yesterday
        'I know that those books were read by Panay yesterday.'

    b. *Ma-fana'   kako   **ci Panay-an** ma-asip   ko-ya   codad
        IPFV.STAT-know NOM.1SG **ACC PN-ACC**   IPFV.STAT-read NOM-that book
        inacila.
        yesterday
        Intended: 'I know that Panay, those books were read (by her) yesterday.'

c. Ma-fana'   kako **to-ya** **codad** ma-asip   (%ni   Panay) inacila.
    IPFV.STAT-know NOM.1SG **ACC-that** **book** IPFV.STAT-read (%GEN PN)   yesterday
    'I know that those books, (they) were read (by Panay) yesterday.'

To sum up briefly, previous studies on Amis often treated *ma*-clauses as a variant of PV clauses. *Ma*-clauses in addition often entail culmination of a telic event. This seems inconsistent with claiming that *m*- marks imperfectivity. Moreover, treating *ma*-clauses as a type of PV clauses makes some of this thesis' claim untenable (e.g. genitive subjects of perfective clauses can raise). Above I showed that *ma*-clauses are semantically and syntactically different from PV clauses. Specifically, *ma*-clauses do not select for an (agentive) external argument. They denote states (resulted from an event), and thus, positing *m*- as an imperfectivity marker is still consistent. In addition, the word order restriction found in PV/LV clauses is not as strict in *ma*-clauses. Finally, the genitive DP of a *ma*-clause cannot raise. What remains to be solved is how to account for genitive case in *ma*-clauses. Perhaps this is another example of a case-marked adjunct (cf. accusative-marked duratives), but I will leave this open.

Appendix D

Licensing environments of existential wh-indefinites

Unreduplicated wh-words with final stress in Amis are ambiguous between an existential reading and an interrogative reading in environments that license the existential reading.[1] I describe these environments below, but I will not offer an analysis here.

Existential wh-indefinites are not licensed in affirmative clauses, as (1a)-(1b) show. There are exceptions to this, as we will see below. When an affirmative containing a wh-word is an answer to a yes/no-question or a wh-question which independently licenses the existential reading of the wh-word, then the corresponding wh-word in the affirmative can have the existential reading.

Note that in (1a)-(1b) and the following examples, * indicates that the existential reading is unavailable, but these examples are grammatical when the relevant wh-word is interpreted as interrogative.

(1)   *Existential wh-indefinites are not licensed in affirmative clauses*

    a.   *Mi-asip   **ko cimá** to   codad ni   Panay i matini.
           IPFV.AV-read **NOM who** ACC book GEN PN   P now
           Intended: 'Someone is reading Panay's books now.'
           (* for the existential reading)

---

[1]Wh-words with penultimate stress are unambiguously interrogative. In general, (exhaustively) focused elements in Amis receive penultimate stress. Stress otherwise falls on the final syllable. Reduplicated wh-words often have an additional universal/FCI-like reading. See footnote 5 in Chapter 5.

b. *Mi-asip ci Panay **to maán** i matini.
IPFV.AV-read NOM PN **ACC what** P now
Intended: 'Panay is reading something now.'
(* for the existential reading)

Existential wh-indefinites are licensed in polarity-sensitive environments in Amis. First, as (2a)-(2b) show, the existential reading is possible when a wh-word scopes under negation. Even though nominative DP otherwise can take wide scope over negation, a wh-word with the existential reading cannot scope above negation. For example, (2a) is illicit in a context that supports the wide scope reading of the wh-word.

(2)   *Under negation*

a. Caay pi-asip **ko cimá** to codad ni Panay i matini.
NEG AV-read **NOM who** ACC book GEN PN P now
¬>∃: 'No one is reading Panay's books now.'

*∃>¬: 'Someone is not reading Panay's books.'
(Context: You're standing in the back of the classroom. You see that all the students are reading Panay's books, except for one, but you can't tell who that person is from the back.)

b. Caay pi-asip ci Panay **to maán** i matini.
NEG AV-read NOM PN **ACC what** P now
'Panay isn't reading anything now.'

Existential wh-indefinites are also licensed in questions, including yes/no-questions and wh-questions. Two examples of yes/no-questions are given in (3)Q-(4)Q. Moreover, the corresponding wh-word in the answer to (3)Q-(4)Q can also have the existential reading, even though affirmative clauses otherwise do not license existential wh-indefinites.

(3)   *Yes/no questions*

Q: Mi-asip **ko cimá** to codad i matini haw?
IPFV.AV-read **NOM who** ACC book P now SFP
'Is someone reading the books now?'

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A: Hai, mi-asip   **ko cimá** to codad i matini. Kirami, caay ka-fana'
yes IPFV.AV-read **NOM who** ACC book P now   but   NEG STAT-know
kako   o   címa.
NOM.1SG PRED who
'Yes, someone is reading the books now, but I don't know who.'

(4) *Yes/no questions*

Q: Mi-asip   ci Panay **to maán** i matini haw?
IPFV.AV-read NOM PN   **ACC what** P now SFP
'Is Panay reading something now?'

A: Hai, mi-asip   cingra   **to maán** i matini. Kirami, caay ka-fana'
yes IPFV.AV-read NOM.3SG **ACC what** P now   but   NEG STAT-know
kako   to máan a   codad-an.
NOM.1SG ACC what LNK book-AN
'Yes, she is reading something now, but I don't know what book.'

Existential wh-indefinites are also licensed in wh-questions, as (5)**Q** illustrates. Similarly, as in (5)**A**, the corresponding wh-word in the answer to (5)**Q** can also have the existential reading even though (5)**A** is an affirmative clause by itself.

(5) *Wh-questions: interrogative subject + existential object*

Q: Mi-asip   ko címa **to maán** i matini?
IPFV.AV-read NOM who **ACC what** P now
'Who is reading something now?'

A: Mi-asip   ci Panay **to maán** i matini.
IPFV.AV-read NOM PN   **ACC what** P now
'Panay is reading something.'

Interestingly, an interrogative wh-word must linearly precede an existential wh-word. The other order is ruled out, as (6)**Q1** shows. When the existential reading is not licensed in the question, the corresponding wh-word in the answer also cannot have the existential reading, as in (6)**A1**. Scrambling the interrogative wh-word across the existential wh-word makes the sentence grammatical, as in (6)**Q2**. In this case, the corresponding wh-word in the answer (6)**A2** can have the existential reading. This is reminiscent of the

intervention effects in Korean and German, as discussed in Beck 2006 a.o.. In both languages, an interrogative wh-word cannot scope under another focus-sensitive or polarity-sensitive item.

(6)   *Wh-questions: existential subject + interrogative object*

    Q1: *Mi-asip   **ko cimá** to máan i matini?
          IPFV.AV-read **NOM who** ACC what P now
          Intended: 'What is someone reading now?'
          (* for the existential reading)

    A1: *Mi-asip   **ko cimá** to codad ni Panay i matini.
          IPFV.AV-read **NOM who** ACC book GEN PN   P now
          Intended: 'Someone is reading Panay's books now.'
          (* for the existential reading)

    Q2: Mi-asip   to máan **ko cimá** i matini?
          IPFV.AV-read ACC what **NOM who** P now
          'What is someone reading now?'

    A2: Mi-asip   to codad ni Panay **ko cimá** i matini.
          IPFV.AV-read ACC book GEN PN   **NOM who** P now
          'Someone is reading Panay's books now.'

Existential wh-indefinites are also licensed in (pseudo-)cleft wh-questions, as (7a)-(7b) illustrate.

(7)   **(Pseudo-)cleft wh-questions**

    a.   Címa ko mi-asip-ay   **to maán** i matini?
        who NOM IPFV.AV-read-SREL **ACC what** P now
        'Who is reading something now?'

    b.   O   máan ko asip-an **no nimá**   inacila?
        PRED what NOM read-LV **GEN GEN.who** yesterday
        'What did someone read yesterday?'

It seems that focus constructions in general can license existential wh-indefinites. The (pseudo-)cleft wh-questions in (7a)-(7b) are just a subcase. For example, DPs associated

with *aca* 'only' must be (pseudo-)clefted, as in (8a)-(8b). Existential wh-indefinites are also possible in this environment.

(8)   *Focus construction*

   a.   Ci Pánay aca ko   mi-asip-ay   **to maán** i matini.
        PRED PN   only NOM IPFV.AV-read-SREL **ACC what** P now
        'Only Panay is reading something now.'

   b.   O   fóting aca ko   mi-'aca-an   **no nimá**   inacila.
        PRED fish   only NOM IPFV.AV-buy-OREL   **GEN GEN.who** yesterday
        'Only fish was bought by someone yesterday.'

Conditional antecedents also license existential wh-indefinites, as in (9a)-(9b).

(9)   *Conditional antecedents*

   a.   Ano mi-asip   **ko cimá** to codad ni Panay, lipahak ci   Panay.
        if IPFV.AV-read **NOM who** ACC book GEN PN   happy   NOM PN
        'If someone reads Panay's books, Panay will be happy.'

   b.   Ano mi-asip   ci Panay **to maán**, lipahak ci   ina   nira.
        if IPFV.AV-read NOM PN   **ACC what** happy   NOM mother GEN.3SG
        'If Panay reads something, her mother will be happy.'

In addition, existential wh-indefinites are also licensed in clauses embedded under certain epistemic predicates. These include non-factive predicates, as in (10), and factive predicates, as in (11).

(10)   *Non-factive epistemic predicates*

   a.   Látek[2] a   mi-asip   **ko cimá** to codad ni Panay i matini.
        maybe LNK IPFV.AV-read **NOM who** ACC book GEN PN   P now
        'Maybe someone is reading Panay's books now.'

   b.   Látek a   mi-asip   ci Panay **to maán** i matini.
        maybe LNK IPFV.AV-read NOM PN   **ACC what** P now
        'Panay may be reading something now.'

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c. Mi-asip **ko cimá** to codad ni Panay i matini nasa kako.
IPFV.AV-read **NOM who** ACC book GEN PN P now think NOM.1SG
'I thought someone is reading Panay's books.'

d. Mi-asip ci Panay **to maán** i matini nasa kako.
IPFV.AV-read NOM PN **ACC what** P now think NOM.1SG
'I thought Panay is reading something.'

(11) *Factive epistemic predicates*

a. Ma-fana' kako mi-asip **ko cimá** to codad ni Panay i
IPFV.STAT-know NOM.1SG IPFV.AV-read **NOM who** ACC book GEN PN P
matini.
now
'I know that someone is reading Panay's books now.'

b. Ma-fana' kako mi-asip ci Panay **to maán** i matini.
IPFV.STAT-know NOM.1SG IPFV.AV-read NOM PN **ACC what** P now
'I know that Panay is reading something now.'

Finally, even though existential wh-indefinites are not licensed directly by the existential construction, as (12a)-(12b) show. When a wh-word is inside a gerund introduced by the existential construction, as in (12c)-(12d), the existential reading is available.

(12) *Existential construction*

a. *Ira i sapad **ko maán**.
exist P table **NOM what**
Intended: 'There's something on the table.'
(* for the existential reading)

b. *Ira **ko maán** a ka-kaen-en ni Panay.
exist **NOM what** LNK RED-eat-PV GEN PN
Intended: 'Panay has something to eat.'
(* for the existential reading)

c. Ira ko pi-asip **no nimá** to codad ni Panay.
exist NOM AV-read **GEN GEN.who** ACC book GEN PN
'Someone read Panay's books.'

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[2]*Latek* with final stress has an epistemic necessity reading. The same word with penultimate stress has an epistemic possibility reading. Another epistemic modal, *caay kanca* (*caay ka eca*), shows the same variation.

d. Ira   ko   pi-asip ni   Panay **to   maán**.
   exist NOM AV-read GEN PN   **ACC what**
   'Panay read something.'

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