On the typology and syntax of TAM in Indonesian

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This paper discusses Indonesian tense-aspect-modality (TAM): its typology as well as its structural and semantic properties. It is demonstrated that Indonesian TAM is of the morphosemantic and contextual type. While having no grammatical TAM, Indonesian shows a finiteness constraint. Certain control verbs such as *ingin* 'wish' take truncated complements where finite auxiliaries *akan*/*sudah*/*sedang* 'will/already/in the process of' are not allowed. The paper discusses the morphosemantic TAM associated with *=nya* nominalisation. It is argued that this nominalisation is one of the constructional resources used to imply a past temporal axis. There is evidence that certain structures involved in *=nya* nominalisation are of the equational-identificational type, while others are of the adjunct type.

1. Introduction*

There has been work on tense-aspect-modality (TAM) in Indonesian, mainly focusing on aspect and modality issues (Alwi 1992, Grangé 2006, 2011). The precise syntactic status of TAM in Indonesian (in particular, in relation to the tense issue) situated in a larger typological and theoretical context has not been discussed at considerable depth. In this paper, I discuss Indonesian TAM within the theoretical framework of Lexical-Functional Gammar (LFG) (Bresnan 2001, Dalrymple 2001, Falk 2001). The Indonesian TAM system is quite different from the English one in a number of important ways. Typologically, I propose three kinds of TAM categories by which the nature of Indonesian TAM can be discussed in a meaningful way: morphosyntactic, morphosemantic, and contextual. Indonesian TAM is demonstrated to show the characteristics of morphosemantic and contextual TAM. However, while the Indonesian TAM system is not grammatical in nature, there is a certain syntactic restriction in relation to finiteness.

I begin with the definition of the three TAM categories. By 'morphosyntactic' or 'grammatical' TAM, I mean the obligatory presence of regular and productive morphological inflectional TAM distinctions in certain elements (typically, the verbal one, either the main or auxiliary verb, or both). English TAM is of this type. English makes a clear grammatical distinction between present, past, and future tenses. These tense categories are realized in the grammar as part of an integrated agreement system involving dedicated morphological exponence. For example, the verb *come* has its own paradigm. For the simple present tense, the form *comes* must be used when the subject is in third-person singular, as required by the syntactic agreement system. The suffix -s on the verb is a dedicated agreement morpheme with a TENSE feature (in addition to the PERSON and NUMBER features). By 'morphosemantic' TAM, I mean there is

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morphological marking of some sort that expresses TAM distinctions, although the morphology is not necessarily a dedicated TAM morphology. This is the case with Indonesian aspect, where voice morphology also encodes TAM meaning, in addition to its grammatical-linking function. Morphosemantic TAM in Indonesian is discussed in Section 4.

Included in the morphosemantic TAM is the semantic TAM type: TAM that is encoded by morphologically simple (lexical or particle) items of different categories; e.g., auxiliaries, or adverbs. In Indonesian, these include *akan* 'FUT,' *sedang* 'PROG,' and *sudah*/*telah* 'PERF'; see Grangé (2011) for a long list of TAM items in Indonesian.

Finally, by 'contextual TAM,' I mean there is no TAM marking whatsoever and a particular TAM interpretation is fully dependent on context. I assume that all languages have semantic/contextual TAM, but differ in the precise nature of the available resources and their organisation in the grammar.

By making the distinction of morphosyntactic, (morpho)semantic, and lexical TAM explicit, I argue that some progress can be made in the analysis of TAM in Indonesian.

The paper is structured as follows. Section 2 provides a brief outline of Reichenbach's theory of tense, followed by a discussion on the status of Indonesian TAM within the proposed TAM typology. Section 3 discusses the contextual and semantic TAM in relation to finiteness in Indonesian. Section 4 discusses morphosemantic TAM in Indonesian, focussing on *=nya* nominalisation. The conclusion is given in Section 5.

2. Tense Theory and the status of Indonesian TAM

Following the Reichenbacian two-dimensional theory of tense, I represent the meaning of tense-aspect in the pairing of three primitives: E, R, and S. The definition of these primitives is given in (1). For example, a past tense meaning of the English sentence in (2) can be represented as having two dimensions that include the deictic temporal point (S) and event (E)/reference (R) point: E-R<S. This means that the temporal location of the event of 'coming' (E) overlaps with (or is contained within) that of 'yesterday' (R), and they were both in the past, taking place before the deictic centre, S ('now'). The overlapping temporal relations are indicated by E-R, and the precedence relation is indicated by <.

(1) Reichenbach's (1947) primitives:
E: Event time,
S: Speech/utterance time, and
R: Reference time.

(2) He came in yesterday. (E-R<S)

Note that the verbal form *came* in English encodes the simple past tense meaning of (E-R)<S, and that the presence of the clausal adjunct *yesterday* simply makes the past R explicit. Its presence is in a way redundant. The obligatoriness of the right verbal form to encode TAM in English provides clear evidence that TAM is grammatical in this language. This is in line with Comrie's (1985: 1, 6) definition of tense as 'grammaticalisation of location in time' and of aspect as 'grammaticalisation of expression of internal temporal constituency' (of events, processes, etc.). This is a morphosyntactic category of TAM.

Indonesian TAM is surely not of this category. Indonesian has no grammatical tense and aspect, even though it can express equally rich tense-aspect meanings. The essential

defining properties of a grammatical TAM are morphosyntactic opposition and obligatoriness. Indonesian TAM lacks these two key properties of morphosyntactic TAM. There is no TAM-related inflectional morphology as part of grammatical agreement in Indonesian. For example, the same bare verb *datang* in sentence (3) can express the event of 'coming' anchored at different temporal points (past, present, or future), as seen from the translation. Of course, in a given context, only one of the meanings is typically selected. This means that the correct interpretation of the sentence TAM is contextually determined. This is a clear example of contextual TAM in Indonesian.

(3) *Dia datang.*
3s come
'S/he came.', 'S/he is coming.', 'S/he will come.'

An explicit temporal reference (R)—e.g., *besok* 'tomorrow' or *kemarin* 'yesterday'—can be present to flag a temporal point. This R item is typically an adjunct, and its presence in the clause is optional, indicated by putting it in brackets in (4).

(4) a. *Dia datang (besok).* (S<E-R)
3s come tomorrow
'S/he will come tomorrow.'

b. *Dia datang (kemarin).* (E-R < S)
3s come yesterday
'He came in yesterday'

c. *Dia datang (sekarang).* (E-R-S)
3s come now
'She is coming now.'

Further evidence that Indonesian TAM is not a grammatical category comes from the difference in how perfect is expressed in Indonesian and English. English present perfect raises a puzzle, formulated by Klein (1992):

In *Chris has left York*, it is clear that the event in question, Chris leaving York, has occurred in the past, for example yesterday at ten. Why is it impossible, then to make this event time more explicit by such an adverbial, as in **Yesterday at ten, Chris has left York*?

According to Kibort (2009), the puzzle ceases to exist if we properly analyse the semantics of tense and the various ways languages differ in their grammaticalisation of complex tense meanings. Out of the large range of possibilities of the configurations of E, R, and S along the temporal line, different languages grammaticalise different sets of value/meaning distinctions. The present perfect in English grammaticalises E < R-S; that is, R must be temporally located at the deictic centre S ('now, the moment of speaking') while E is the past. Hence, the explicit past R *yesterday* modifying the sentence in the present perfect will result in a semantic clash associated with the temporal location of R, a clash between past R (E-R <S) and present R (E<R,S).

The Indonesian perfect, however, does not have the same problem of perfect in English. The R meaning of the perfective auxiliary *sudah*/*telah* is by default the same as S, and it is often left unexpressed. This is indicated by putting *sekarang* 'now' within brackets in (5)a. In this case, the perfect meaning is just like the English present perfect (E < S,R). However, *sudah*/*telah* is also compatible with a specific past reference such as *kemarin* 'yesterday', as shown in (5)b.

(5) a. *Dia sudah pergi (sekarang).* (E < S,R)
3s PERF go now
'S/he has left (now).'

b. *Dia sudah pergi kemarin.* (E<R <S)
3s PERF go yesterday
'S/he (had) already left yesterday.'

It can be concluded from the facts in (5) that *sudah*/*telah* in Indonesian basically expresses E≠R, with R not necessarily at the same temporal location as S. This flexibility suggests that aspect in Indonesian is purely a semantic category. English aspect, in contrast, is a grammatical category: the present perfect obligatorily requires that R be at the same temporal location as S.

Further evidence for aspect as a semantic category in Indonesian comes from the expression of progressive/durative aspect in Indonesian: there is more than one way of expressing it, and that there is flexibility and optionality in expressing it. For example, in addition to the auxiliary *sedang*, progressive/repetitive meaning can be also expressed by the suffix *-i* on the verb as in (6)a, or by reduplication as in (6)b (or possibly a combination of these). In either case, *sedang* is optionally used.

(6) a. *Ali (sedang) me-mukul-i kepala=nya sendiri.*
A. PROG AV.hit-I head=3sg.poss self
'Ali is beating his own head.'

b. *Ali (sedang) me-mukul-mukul kepala=nya sendiri.*
Ali PROG AV.hit-RED head=3sg.poss self
'Ali is beating his own head.'

Reduplication does not, however, always express progressive aspect. With negation, for example, it expresses modality showing a speaker's evaluation of unrealised expectation:

(7) *Ali tidak masuk-masuk ke rumah.*
Ali NEG enter-RED to house
'Ali didn't enter the house (while he's expected to do so).'

Moreover, progressive aspect may have no marker at all, i.e., it is a contextual category. The progressive aspect is fully inferred from the context at the moment of speaking, as seen in example (4)c, or it is determined by a larger structural context, e.g., the presence of a clausal adjunct, as in 0, where the event of 'eating' expressed by the bare verb *makan* in the main clause is interpreted as being in the progressive aspect.

(8) *Dia makan sambil menonton TV.*
3s eat while AV.watch TV
'He was/is eating while watching TV.'

To conclude, Indonesian does not have a grammatical TAM. Indonesian TAM is of the contextual and (morpho)semantic TAM. These TAM types are further discussed and exemplified in the ensuing sections.

3. Finiteness and contextual/semantic TAM

There is good evidence for finiteness in Indonesian: clauses can be finite or non-finite. The evidence comes from the restriction of clauses with contextual TAM in having the TAM particle overtly coded. I use the term 'TAM particles' as a general term to include a range of TAM coding items. Of particular interest in this paper are TAM particles

classified as auxiliaries: *sudah*/*telah*, *mau*, *sedang*, and *akan*. They are morphologically simple and are syntactically important, because they are the items associated with clausal finiteness, structurally occupying the I(NFL) position. Thus, the restriction of the distribution of the TAM particles provides us with a test for the existence of finiteness in Indonesian, despite the fact that the (auxiliary) verb lacks inflectional coding and grammatical TAM.

A finite clause is a clause that expresses an SOA (State of Affairs) independently anchored to a particular temporal axis. We model the temporal axis in this paper in terms of Reichenbach's (1947) primitives of E, R, and S. In languages with grammatical TAM like English, the finiteness coding is overtly expressed by verbal inflection. A non-finite clause, in contrast, signifies an SOA without such an independent temporal anchor, and the verb is not inflected. For example, sentence (9) has a finite matrix clause with the verb inflected in the past tense (E-R<S). The purposive clause (underlined) is non-finite; the verb to come is in the infinitive, expressing no independent temporal reference.

(9) John wanted *to come over here for the weekend.*

While having no grammatical TAM, Indonesian does show finiteness. Evidence for this comes from the unacceptability of semantic TAM particles in certain dependent clauses. Before coming to this evidence, first consider the independent clause exemplified in (10) with the future tense meaning of (S<E-R) expressed by *akan*. (R is implicit, but it can be made explicit, e.g., *besok* 'tomorrow.') This main clause is a finite clause because it allows a semantic TAM particle, even though the TAM particle is not obligatory.

(10) *Mereka (akan) datang.* (S<E-R)
3p FUT come
'They will come.'

Now, consider (11) where the clause with datang appears as a truncated/controlled subordinate clause. The subordinate clause is non-finite. It does not allow the TAM particle akan, hence the unacceptability of (11)b. The full (non-truncated) dependent clause in (11)c is finite and, therefore, allows the TAM particle *akan*.

(11) a. *Mereka ingin [datang besok].*
3p want come tomorrow
'They want to come tomorrow.'

b. * *Mereka ingin [**akan** datang besok].*
FOR: 'they want to come tomorrow.'

c. *Saya tahu [bahwa mereka akan datang].*
1s know that 3p FUT come
'I know that they will come.'

The following are more examples showing finiteness constraints. The units placed within square brackets are non-finite clauses. None of them allows the TAM particles *akan*/*sudah*/*sedang*.

(12) a. *Dia akan/sudah/sedang makan.* (finite clause)
3s FUT/PERF/PROG eat
'S/he will eat/has eaten/is eating.'

b. *Saya menyuruh dia [makan].*
1s AV.ask 3s eat
'I asked him to eat.'

c. * *Saya menyuruh dia [akan/sudah/sedang makan].*

(13) a. *Orang itu mendorong saya [_ jatuh].*
person that AV.push 1s fall
'The person pushed me (and as a result I) fell off.'

b. * *Orang itu medorong saya [_ akan/sedang/sudah jatuh].*

(14) a. *Dia datang (sambil) menangis.*
3s come while AV.cry
S/he came while crying.

b. ?* *Dia datang [(sambil) sedang menangis].*

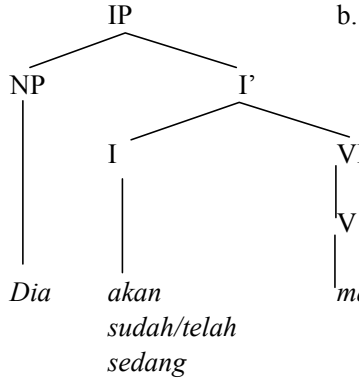
(15) a. *Saya belajar [menembak].* (object/complement clause)
1s study AV.shoot
I'm learning to shoot.

b. ?* *Saya belajar bisa [menembak].*

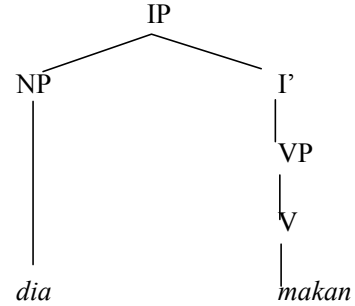
c. *Saya belajar agar (bisa) menembak.* (purposive finite clause)
1s study so.that able AV.shoot
'I am learning so that I can shoot.

By capturing the functional similarity and constraint of inflectional elements in languages with grammatical TAM categories, we can represent a finite clause in Indonesian by having an IP structure projected from I(NFL). [1] The node I is the position of the TAM auxiliaries *akan*/*telah*/*sudah*/*sedang*. Thus, sentence (12) can be represented as (16) with the node I occupied by a TAM coding auxiliary. In the absence of an overt auxiliary, a finite sentence, therefore, also should be represented as an IP because the sentence is contextually anchored to temporal points. This is exemplified in (16)b.

(16) a.



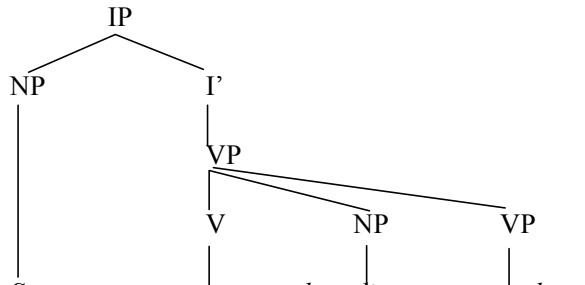
b.



[1] In the lexically-based framework assumed in this paper (Bresnan 2001), I(NFL) and its projection in the phrase structure tree constitute a 'surface' constituency whose terminal nodes (I, N, V, etc.) are (fully inflected) words. We do not adopt a 'deep' structure tree where I(NFL) is further decomposed into different nodes for affixes that carry aspect or tense information, as is commonly adopted in the Chomskyan minimalist model of grammar.

A non-finite clause does not allow a TAM particle and therefore is represented as having no I(P) unit. Thus, sentence (12)b can be represented with the structure in (17), where the embedded non-finite clause headed by *makan* 'eat' is realised by a VP, not an IP.

(17)



'I asked him to eat.'

4. Morphosemantic TAM

There is certain morphology, not dedicated to TAM, which carries TAM meanings. We saw in Section 2 that the applicative *-i* (example(6)) and reduplication can encode a progressive/iterative aspect. It has also been shown in the literature that voice contrast, which is verbally marked by specific affixes, is associated with tense-aspectual contrast (Grangé 2006, 2011, Purwo 1989, among others). Thus, the verbs *memakan* 'AV.eat' vs. *dimakan* 'DI.PASS.eat' differ not only in terms of argument-linking patterns but also tense-aspectual properties. A quick Google search reveals sentences like (18) showing a clear pattern that the AV *memakan* shows up with *sedang* (E=R; i.e. in progress E) and *dimakan* with *sudah* (E<R; i.e. past E).

(18) a. *...di jalan banyak sapi yang sedang memakan rumput.*
at road plenty cow REL PROG AV.eat grass
'...along the way many cows that eat grass.'

b. *Dari salah satu swalayan, petugas menemukan*
from one of supermarket official AV.find

makanan jenis roti yang kemasan dan
food kind bread REL package and

isi=nya telah rusak dan diduga sudah dimakan tikus.
content-POSS PERF damaged and considered PERF eat rat

'in one of the supermarkets, the officers found kind of bread/biscuits in boxes whose packages had been tampered and contents were already eaten by mice.'

Voice in Indonesian has been well described (e.g. Purwo, 1989; Arka & Manning 2008, Cole, Hermon, & Yanti 2008). In what follows, I focus on TAM meanings associated with *=nya* DEF/POSS nominalisation. The *=nya* nominalisation is of note, as it carries subtle complex TAM semantics. While *=nya* has been discussed before (Grangé 2011, Sneddon et al. 2010), no precise analysis has been proposed until now. Its structural properties are discussed first, followed by its TAM related semantics.

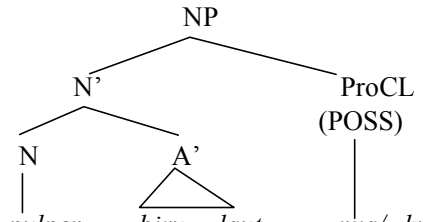
4.1 Kinds of *=nya*

The bound form *=nya* has three functions: as a third-person possessive marker (3sPOSS), as a ligature (LIG), and as a definite marker (DEF). Each is briefly discussed below.

4.1.1 On the structural status of =*nya*

In this subsection, I present evidence on the status of =*nya* (and also the corresponding bound forms =*ku* and =*mu*) as a clitic, not a suffix. The bound form =*nya* is a clitic because it is not necessarily attached to a noun. An affix is a morphological entity and is affixed to a stem. A close inspection of the distribution of =*nya* within NP suggests that, in its function as a possessor (POSS), its position is outside the noun head of the NP. There can be modifier material modifying the noun head in between =*nya* and the noun head. This analysis of =*nya* as a clitic accounts for the fact that =*nya* can be hosted by the material of the modifier. For example, =*nya* can be attached to *terbaru* 'newest,' as seen in (19)b.

(19)



a. *pulpen* *biru* *laut* *=nya/=ku/=mu*
pen blue sea =3s / =1s / =2s
'her/ my/ your navy blue pen'

b. *pulpen* *terbaru* *=nya/=ku/=mu*
pen TER-new =3s / =1s/ =2s
'his / my/ your newest ballpoint pen'

c.. *pulpen* *paling baru* *=nya/=ku/=mu*
pen most new =3s / =1s/ =2s
'her/ my/your newest pen'

d. **pulpen* *baru sekali* *=nya/=ku/=mu*
pen new very =3s / =1s/ =2s
FOR: 'his/ my / your very new pen'

e. * *pulpen* *yang baru* *=nya/=ku/=mu*
pen REL new =3s / =1s/=2s
FOR: 'her/ my/ your new pen'

There is a restriction on the intervening adjective modifier, represented as A' in (19) above. The modifier cannot be an AP (i.e., a full adjectival phrase). That is, it must be a restricted sub-phrasal unit A'. For example, a relative clause cannot come in this position, as shown in (19)e. This is not just a property of the clitic =*nya*, but a general constraint within NPs: a relative clause cannot come before the POSS NP even when the POSS is not a clitic:

(20) a. *Pulpen* *saya/Ali* *itu*
pen 1s A. DET
'the pen of mine/Ali's'

b. * *pulpen* *[yang baru]* *saya/Ali]* *itu*
pen REL new 1s/ A. DET

c. *pulpen* *saya/Ali* *[yang baru]* *itu*
pen 1s/ A. REL new DET
'the pen of mine/Ali's which is new'

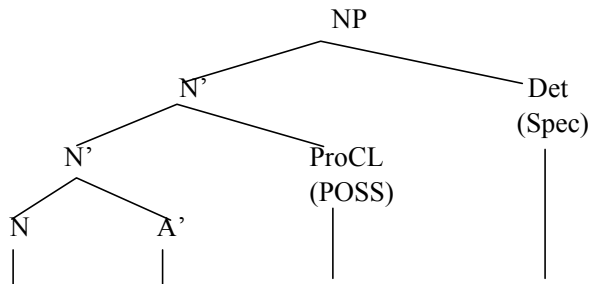
Unacceptability of (19)d can also be analysed as having to do with the structural status of *sekali* 'extremely, very.' Unlike *paling* 'most, very,' which is a pre-modifier forming A' with *baru* 'new,' *sekali* is an adverbial/adjunct outside A' creating an AP. It is therefore barred from appearing in this position.

4.1.2. Definite =*nya*, *ini*, and *itu*

The clitic =*nya* can function as a definite marker. It is therefore in a way like the determiners *ini* and *itu*. (According to Sneddon et al 2010, the difference between *ini*/*itu* and =*nya* is that *ini*/*itu* requires an immediate anaphoric whereas =*nya* can be exophoric or shared knowledge.) The determiners *ini*/*itu* come after an adjunct with *yang* (i.e., a relative clause), as seen in (19)c. I adopt a traditional analysis treating the determiner appearing in the specifier of NP rather than a DP analysis. Thus, =*nya* is treated in the same way. This is shown in (21).

In the proposed analysis, =*nya* is multifunctional like *ini* or *itu*. It appears in different structural positions. As a POSS, =*nya* appears in the POSS position before Spec; as a Spec, it appears in the Spec position as the final unit within the NP. Crucially, in the present analysis, *ini*/*itu* is analysed as a DET that can appear in the Spec of NP and the N head position. In contrast, =*nya* cannot be the head of N. We can therefore account for the fact that =*nya* can be encliticised to *ini*/*itu*, as seen in (22).

(21)



a. *pulpen* *biru* *=nya/=ku/=mu* *itu*
pen blue =3s/ =1s/ =2s that

b. *pulpen* *biru* *=nya*
pen blue =DEF

(22) *ini/itu=nya*
'this/that (part of it)'

The analysis treats =*nya* on par with *ini*/*itu*; however, it runs into a problem as it predicts that it can appear with the POSS clitics, which is not acceptable:

(23) *buku saya itu/*=nya*

This could be due to an incomplete grammaticalisation process of =*nya* originating as a POSS. Its POSS property disallows it to appear with another POSS, whereas *ini* or *itu* are genuinely determiners and have no problem appearing with a POSS item.

4.1.3 Ligature =*nya*

It has been noted that =*nya* in a possessive relation functions as a ligature (Sneddon et al. 2010), where =*nya* has no third-person restriction, as seen in (24).

(24) a. *pulpen =nya saya/kamu/mereka*
pen =LIG 1s /2s/3p
'my/ your/ their pen'

b. *pulpen saya/kamu/mereka*
pen 1s/ 2s/3p
'my/ your/ their pen'

As noted from the acceptability of (24)b, the presence of the ligature *=nya* is not obligatory.

It has also been suggested that *yang* could be analysed as a ligature. (*Yang* can be alternatively analysed as a relativiser, and the *yang* phrase is a relative clause structure.) The point is that when there are multiple general modifiers within a NP, only one of them can typically appear immediately following the noun head (i.e., under A' in (21)). Thus, the NP in (25)a is unacceptable because there are two general modifiers, *mahal* 'expensive' and *mewah* 'luxurious,' appearing immediately after the noun head, before the possessor *saya*. In contrast, (25)b is acceptable because one of them (*mewah*) appears immediately after the noun head and the other (*mahal*) comes outside A'/N'. Crucially, when the second modifier appears in this position, it is obligatorily with *yang*, as seen by the contrast between (25)b and (25)c.

(25) a. *#mobil mahal mewah saya itu*
car expensive luxurious 1s DET
'my expensive luxurious car' / 'that expensive, luxurious car of mine'

b. *mobil mewah saya [yang mahal] itu*
car luxurious 1s REL expensive DET
'my luxurious car that is expensive' / 'that luxurious car of mine that is expensive'

c. * *mobil mewah saya mahal itu*
car luxurious 1s expensive DET

Functioning as a ligature, *=nya* and *yang* have a complementary distribution: *=nya* for POSS ligature and *yang* for non-POSS relations. Consider the following phrases.

(26) a. *mobil [=nya saya/kamu]* 'my/your car'
car =LIG 1s/2

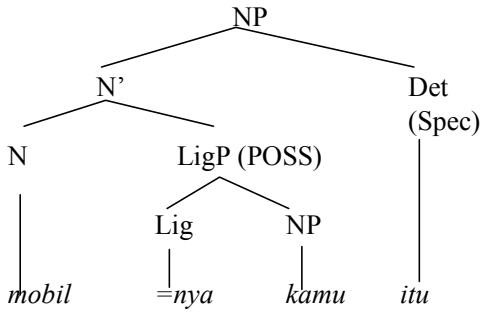
b. * *mobil [yang saya/kamu]*

(27) a. *mobil [yang bagus] itu* 'the good car'
car LIG/REL good that

b. * *mobil [=nya bagus] itu*

Given the property of *=nya* as a clitic, its function as a ligature in relation to POSS can be structurally analysed as a ligature phrase that takes an NP as part of its structure:

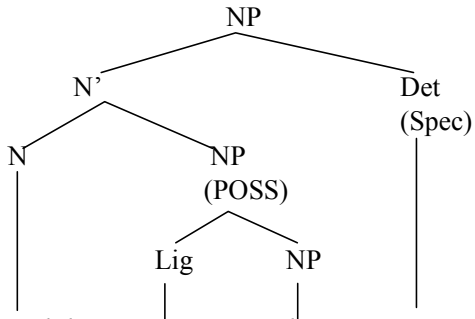
(28)



'your car' / 'that car of yours'

Alternatively, the structure with the ligature can be analysed as an adjunction; that is, the ligature and the NP create a larger NP:

(29)



'your car' / 'that car of yours'

4.2 Nominalisation

In this subsection, I present evidence that *=nya* nominalisation is one of the constructional resources used to imply a past/present temporal axis.

4.2.1 Verbs of saying and feeling

Nominalisation with past reference is typical for verbs of saying (*katanya* 'his/her say/word,' *pintanya* 'his/her request,' *tanyanya* 'his/her question,' *sergahnya* 'his/her snarl,' *perintahnya* 'his/her order), and feeling (*rasanya* 'the feel, *kayaknya* 'the appearance'). In the following examples of verbs of saying, the temporal axis of the SOA depicted by the nominalised structure ('ordering' or 'asking') is in the past.

(30) *'Coba* *semua* *anak-anak* *dan* *cucu* *suruh*
try all child-REDUP and grand.child ask

ngumpul *disini,'* *pinta=nya.*
gather here ask=NYA

'Try (to call) all of the children and grandchildren and ask them to gather here,' he asked.

(31) '*Tolong* *ambil* *cincin* *itu* *untuk* *gadis* *ini,'* *perintah=ku* *pada*
help UV.take ring that for girl this order=1s to

penjaga toko perhiasan itu.
guard shop jewellery that
'Help take the ring for this girl,' I ordered the jewellery shop security guard.

(32) *Perintahku adalah untuk bertahan di posisi ini dan menghadapi*
order-1s be untuk MID-hold in position this and AV.face
musuh, kita tidak boleh meninggalkan kapal !
enemy 1p.in NEG may AV.leave ship
'My order is to keep the current position and face the enemy; we cannot leave the ship!'

(33) *Perintahku padanya untuk tak kemana-mana.*
order-1s to=3s untuk NEG go.anywhere-REDUP
'My order to him is that (he should) not go anywhere.'

The temporal reference of the nominalised verbs in the examples above must be past, as seen in the translation, because the nominalised verbs report things already said. The past temporal reference is, however, the default one. That is, unless it is cancelled by an adjunct specifying otherwise, the past reference is generally understood. For example, the SOA of *tanyanya* 'asking,' as in (34)a, is past. It can, however, be cancelled by a specific adjunct referring to future time, *nanti* 'later,' as seen in (34)b. This property of possible cancelation further confirms that the status of Indonesian TAM is not of a grammatical category. It should be also noted that the nominalised verb cannot take the future auxiliary *akan* (34)c.[2] For this, a non-nominalised predicate must be used (34)d..

(34) a. *'Siapa itu?', tanya=nya .*
who that ask=NYA
'Who is that?', he asked. /#he will ask.

b. *'Siapa itu?', tanya=nya nanti.*
who that ask=NYA later
'Who is that?', he will ask later.

c. * *'Siapa itu?' akan tanyanya (nanti).*

d. '*Siapa itu?', dia akan (ber)tanya (nanti).*
who that 3 FUT BER-ask later
'Who is that?', he will ask later.

Evidence for *=nya* with a default past reference comes from the q(estion word *kapan* 'when.' The definite *=nya* assumes shared knowledge of reference. Hence, in questions with *=nya*, verbs, as exemplified below, and the SOAs are assumed to have taken place. The question *kapan* 'when' therefore asks a past temporal point (i.e., reading (i), and not reading (ii) in (35)a and (36)a below).

(35) a. *Kapan beli=nya?*
when buy =NYA
(i) 'When did you buy it?'
(ii) 'When are you going to buy it?'

2 Any other auxiliary is also not possible; hence, it is a more general constraint that a nominal predicate cannot take an auxiliary. This is associated with the constraint of the equational structure.

b. **kapan akan beli=nya?*
when FUT buy=NYA

c. *Kapan kamu akan beli?*
when 2s FUT buy
'When will you buy?'

(36) a. *Kapan lahirnya?*
when birth =3s
(i) 'When was s/he born?'
(ii) 'When is s/he going to be born?'

b. **Kapan akan lahirnya?*
when FUT birth=3s

Kapan ia akan lahir?
when 3s FUT birth
'When will s/he be born?'

4.2.2 Modal nominalisation

Nominalisation of the modal auxiliary, *harus* 'must' and *bisa* 'able,' implies complex temporal references: the speaker's evaluation in a 'now-and-here' temporal reference about a past/present/future SOA. Consider the following pair with harus:

(37) a. *kamu harus datang.* (deontic: future 'coming')
2 must come
you should come.'

b. *harus=nya kamu datang.* (counterfactual: past 'coming')
must=NYA 2 come
'you should have come'

In (37)a, *harus* 'must' implies deontic modality, signalling the speaker's authority that the addressee, *kamu* 'you,' has the obligation to carry out the SOA (i.e., 'coming'). The obligation (i.e., transfer of authority to the addressee) is anchored to the moment of speaking ('now'), but the actual realisation of the SOA ('coming') is in the future. In (37)b, the nominalised modal *harusnya* 'should' implies a counter-factual evaluation of an expected obligation: the speaker wishes to impose an obligation ('now,' at the moment of speaking) but acknowledges the SOA ('coming') failed to take place.

In (38)a, *bisa* 'able' expresses epistemic modality, the possibility of crying, hence a future reference. The nominalised *bisanya* (38)b, in contrast, expresses the speaker's current report/evaluation of past 'crying,' implying that nothing else has been/was done other than 'crying.'

(38) a. *Ia bisa menangis* (epistemic: future crying)
she can cry
's/he can cry' (it's possibly that s/he would cry)

b. *bisa=nya menangis* (past ability)
can=3s cry
'Crying was/is the thing s/he could do.' (already taking place)

Volitive verbs such as *mau* 'want' or *ingin* 'desire,' if nominalised, can also carry a past/present temporal reference with counter-factual evaluative modal meaning. Consider the following sentences.

(39) a. *Ia mau pulang.* (future)
3s wish go.home
's/he wants/want(ed) to go home.'/
I want(ed) to go home'

b. *mau=nya pulang.* (counterfactual: present/past)
wish=DEF go.home
'the/his/her/my wish was/is to go home
(but for some reason (s)he/I couldn't.)

To conclude, the meaning of *=nya* nominalisation of modal verbs includes a speaker's counter-factual evaluation of SOAs, typically with a past/present temporal reference. Bare modal verbs, in contrast, can only signify a speaker's evaluation of SOAs with a future temporal reference.

4.2.3 Evidentiality

The same *=nya* nominalisation in Indonesian is used to express evidentiality (i.e., reflecting the source of information used by the speaker). The roots of *=nya* for this include those that carry 'visual'/'feeling' evaluative meanings: *tampaknya* 'the appearance', *sepertinya* 'the likeliness', *rasanya* 'the feeling'. In the following example, *tampaknya* (or *nampaknya*) implies that the speaker has some relevant (visual) evidence that people are coming. Note that while evaluation takes place at the moment of speaking ('here and now'), progressive aspect cannot be expressed via *sedang*, as in (40)b.

(40) a. *tampak=nya [ada orang datang]*
appear=DEF exist person come
'It appears that there are people coming.'

b. **sedang tampak=nya [ada orang datang]*.

The *=nya* nominalisation carries epistemic modality with a lower degree of certainty than the meaning of the root. Thus, in contrast to (40)a, the following means that the speaker simply reports what s/he saw:

(41) *Tampak ada orang datang*
appear exist people come
'It is visible that there are people coming.'

When *=nya* occurs with roots of saying, it can be classified as evidential in Indonesian. Thus, in (42)b, the source of the speaker's knowledge of the SOA (*dia sakit* 'he was ill') comes from a third party (i.e., what other people said, possibly from news or rumours). Note that the temporal reference associated with the unit expressing the evidential (*kata=nya*) is past. It appears that, among the words of saying, only *katanya* implies modal evidential meaning, as seen in (42)b. Further evidence comes from (43): only (43)a carries the modal meaning that the speaker considers the addressee a liar on the basis of outside sources. (42)b is simply reported speech and does not imply the speaker's evaluation of the SOA of the addressee being a liar.

(42) a. *Dia sakit.*
3s ill
'She was ill'

b. *Dia sakit kata=nya.*
3s ill word=DEF
'She was ill, I heard.'

(43) a. *Kamu pembohong kata=nya*
2 PEN.lie word=DEF
'you're a liar, I heard.'

b. *Kamu pembohong keluh=nya*
2 PEN.lie word=3POSS
'you're a liar, s/he complained.'

4.3 Equational structure

There is evidence that the nominal *=nya* structure is part of an equational identification structure. It shows similarities with non-derived nominals such as *guru* 'teacher' and the name *Ali*. The first test comes from the copula *adalah*. The copula *adalah* cannot take a verbal predicate, as demonstrated by the following contrast:

(44) a. *Dia tidur.*
3s sleep
's/he is sleeping.'

b. * *Dia adalah tidur.*

However, when the predicate is a (non-derived) nominal such as *guru itu* or *Ali*, the copula *adalah* can be used:

(45) a. *Ali* $_{SUBJ}$ *(adalah) guru itu.*
Ali be teacher the
'Ali is the teacher.'

b. *Guru itu* $_{SUBJ}$ *(adalah) Ali.*
'The teacher is Ali.'

Likewise, *adalah* is acceptable with the nominal *=nya* as a predicate, as seen in (46)a. As noted, the verb *tidur* is treated like a nominal when it is either in the subject position or in the predicate position, as in (46)b. Its unexpressed subject (indicated by an empty slot (_) can be thought of as a zero subject, anaphorically/exophorically understood from the context. Note the contrast between (44)b and (46)b. When the subject is *tidur*, an abstract nominalised noun with = *nya*, the structure is understood as an equational identification structure with *tidur* being nominal, which then allows *adalah*.)

(46) a. *[_ tidur]* $_{SUBJ}$ *(adalah) mau=nya*
sleep be want=DEF
'To sleep was the wish.'

b. *Mau=nya* $_{SUBJ}$ *(adalah) [_ tidur]*
want=DEF be sleep
'The/my wish was to sleep.'

The second test involves negation using *bukan/tidak*. *Bukan* is for nominals, whereas *tidak* is for non-nominals. In (47)a-b, *tidak* cannot be used, because, in both cases, the predicates are nominal.

(47) a. *Ali bukan/*tidak guru itu.*
Ali NEG teacher that
'Ali is not the teacher.'

b. *Guru itu bukan/*tidak Ali.*
'The teacher is not Ali.'

In (48)a below, *bukan* is acceptable, and *tidak* is expected to be unacceptable because *maunya* is a (derived) nominal. In (48)b, both *bukan* and *tidak* are acceptable. The acceptability of *bukan* indicates that the predicate *tidur* is part of a non-verbal structure.

(48) a. *[_ tidur]* $_{SUBJ}$ *bukan/*tidak* *mau=nya*
sleep NEG want=DEF
'To sleep was not the/his/her wish.'

b. *Mau=nya* $_{SUBJ}$ *bukan / tidak tidur*
want=DEF NEG sleep
(i) 'The/his/her/my wish was not to sleep.'
(ii) 'It is the/her/his/your wish that (I/you/(s)he) would not sleep (but I did sleep).'

The acceptability of *tidak* in (48)b deserves a comment. It appears that, while *tidur* occupies a nominal slot, it is internally the verbal head predicate of a clausal structure. That is, *tidak* is the negator of this internal clausal structure, which can be made explicit in the following representation:

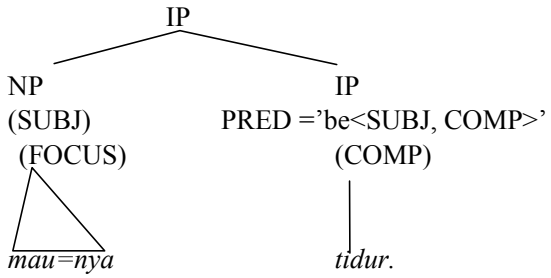
(49) *Mau=nya* $_{NP}$ *(adalah) [tidak tidur]* $_{CLAUSE}$
want=DEF NEG sleep
'The/his/her/my wish was [not to sleep].'

There are two possible analyses for the equational structure above, depending on which nominal unit is analysed as the predicate or the subject. Both are equally plausible, and there is no good reason for favouring one over the other. Each will be outlined below.

In the first analysis, we can posit an abstract copular BE (realised by *adalah*), where the first nominal unit with *=nya* is SUBJ, and the second part is a clausal COMP of the abstract copula BE. That is, the copula carries a subcategorisation frame of <SUBJ, COMP>. To illustrate this, consider (50) where *adalah* is optional, indicated by the brackets. The representation in (50)b shows the structure without *adalah*, but this structure has an underlying copular BE, as seen in the annotation on the node IP. In short, the verb *tidur* is the head of the clausal unit (COMP) while its subject is unexpressed, indicated by a gap (_) in (50)a. This clausal unit is syntactically treated as a nominal, part of an equational structure, hence allowing the copula *adalah*.

(50) a. *Mau=nya (adalah) [_ tidur]*
want=DEF be sleep
'The/my wish was to sleep.'

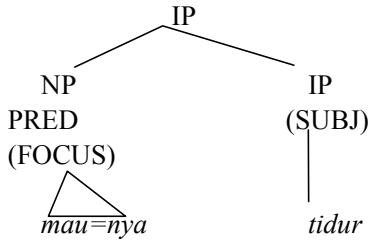
b.



In this analysis, we also want to capture the information structure where the *=nya* nominal is pragmatically focussed. This is, as seen in (50)b, indicated by the annotation of FOCUS on the node associated with *=nya*.

In the second analysis, we treat the structure as having a 'fronted' nominal *=nya* where the first nominal unit with *=nya* is the predicate, and the second part is SUBJ. This is shown in (51). As in the first analysis, the verb *tidur* is arguably a verbal head of a clausal unit, which is itself treated like a nominal occupying the nominal slot of SUBJ. That is, it is a clausal SUBJ with its own unexpressed SUBJ. For simplicity, this unexpressed SUBJ of *tidur* is not represented in (51).

(51)



For certain other *=nya* nominalisations, there is no good evidence to support the equational structure analysis. For example, with the evidential *katanya*, the presence of the copula *adalah* is not acceptable, e.g., as in (52)d–e. Note that the unit *kamu pembohong* 'you're a liar,' indicated by square brackets, is a clausal unit, and that the word order of this clausal unit in relation to the nominalised *katanya* can vary, as seen in (52)a–b. However, the insertion of the copular *adalah* in between them is not allowed, as seen in the unacceptability of (52)d–e. This means that the equational analysis (with an abstract BE) as applied to *maunya* discussed earlier is not applicable.

(52) a. *[Kamu pembohong] kata=nya*
2 peN.lie word=DEF
'You're a liar, I heard.'

b. *Katanya [kamu pembohong]*

d. ?* *katanya adalah [kamu pembohong]*.

e. ?* *[Kamu pembohong] adalah katanya.*

I propose that *katanya* (and any other nominalised modal with the same property) be analysed as an adjunct. Support for the adjunct analysis comes from the fact that, structurally, *katanya* is mobile, appearing in different positions (sentence-final and sentence-initial positions, as shown in (52)a–b), and crucially also in the position between the subject and the predicate:

(53) *[Kamu] katanya [pembohong]*
'You're a liar, I heard.'

5. Conclusion

This paper has discussed the typological, structural, and semantic issues of the expressions of TAM in Indonesian. It has been demonstrated that Indonesian TAM is of the morphosemantic and contextual types. An explicit analysis of the TAM semantics, using Reichenbach's semantic primitives (E, R, S), has been given. Some progress has been made in the understanding of how the underlying semantics of Indonesian TAM is similar to that of English but significantly different in terms of the grammaticalisation of certain sets of their configuration. Furthermore, progress has also been made in terms of the analysis of finiteness in Indonesian and how it is related to certain TAM particles in Indonesian that occupy the I(NFL) position in the clause. Morphosemantic TAM in Indonesian is expressed by verbal affixes (voice and applicative markers) as well as by

nominalisation morphology. The =*nya* nominalisation has been discussed. The proposed analysis captures the key elements involved, namely, the structural and complex TAM-related semantics as well the pragmatic information structure.

Abbreviations

1/2/3	first/second/third person	AV	actor voice
DEF	definite	DET	determiner
FUT	future	LIG	ligature
MID	middle voice	NEG	negator
RED	reduplication	REL	relativiser
PROG	progressive	PERF	perfective
POSS	possessive	P	plural
S	singular.		

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