Aspect in Indonesian:
free markers versus affixed or clitic markers

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Introduction

The expression of aspect in Indonesian relies mainly on aspect markers like *sudah, akan, pernah, sedang*… Most of these markers indicate not only an aspect, but also a modality. There are around fourteen free preverbal morphemes in Indonesian, which in some cases form compounds of two or even three markers that convey a wealth of meanings.

Indonesian clitics are traditionally described according to their role in terms of transitivity or diathesis. The lexical affixes are commonly depicted either as classifiers or in relation to other semantic features. This labelling is effective, but conceals aspectual features possibly specified by the Indonesian clitics/affixes. I will examine the aspectual features of the verbal prefix *ter-* (so called "accidental passive") as opposed to the passive prefix *di-*. I will also deal with the aspectual outcomes of a less studied deverbal nominalisation, using the enclitic *=nya*. Finally, the interactions between free aspect markers and affixed or cliticized markers will be described.

1. Indonesian preverbal aspect markers

I intend by "markers" a category grammatical morphemes which express aspect and/or modality, e.g. *sudah*, *akan*, *masih*… There is no final inventory of aspectual or modal markers. The semantic features prove unreliable, not only because modality and aspect are entangled, but also because in certain contexts a marker may be aspectual, in other contexts modal, or both. The lexical approch does not help much, because most of the aspect/modality markers originate from various other grammatical classes: adverbs, verbs… Finally, I propose two simple syntactic criteria to define this class of markers.
- a preverbal free morpheme;
- which can combine with some other aspect markers, in first or second position in a combination of two markers.

For this reason, I left aside *habis* "finished, over" *berhasil* "succeed, achieve", *selesai* "completed", *usai* "after" *mau* "want/will" for they never occur in the first place within a string of two markers, which leads to label them as auxiliary verbs.
I will examine 14 preverbal aspect markers (*sedang, tengah, lagi, semakin, terus, masih, tetap, sempat, sudah, telah, pernah, belum*[1], *akan, bakal*). Most of the data was collected from various web pages in Indonesian.

1.1 Aspect and/or modality

Some of these markers are not only aspectual, but also modal; whether they express mainly aspect or modality depends on the context. The most striking example of this flexibility is provided by the marker *sudah*.

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[1] *Belum* is apart from the other markers because of its negative meaning. Besides, there is only one combination of markers where *belum* appears in second position : *masih belum*.

(1) *Pak   Sutanto   sudah   berangkat.*
Mister   PNoun   *sudah*   leave
'Mr Sutanto has left / Mr Sutanto left already.'

(2) *Mobil ₌ku   sudah   di-   reparasi.*
car   ₌1SG.POSS   *sudah*   UV-   repair
'My car has been repaired. / My car is already repaired.'

In example (1), *sudah* indicates a perfect aspect[2]. In example, (2), as is often the case with verbs at the undergoer voice, the aspect endowed by *sudah* is more specifically a resulting state. This is what COMRIE (1976: 56-58) calls the 'perfect of result': "a present state is referred to as being the result of some past situation". This 'perfect of result' does not exclude verbs at the actor voice, for instance in example (1), where we could interpret that for the speaker, only the present state ('Mr Sutanto is not there') matters, not the process which entails the absence of Mr Sutanto. In sum, the preverbal marker *sudah* does not allow a clear cut distinction between 'perfect' and 'perfect of result'.

(3) *Aku   sudah   tua,   tenaga ₌ku   sudah   berkurang.*
1SG   *sudah*   be.old   strength ₌1SG.POSS *sudah*   lessen
'I am already old, my strength has already lessened.'

When *sudah* marks a stative verb, as in example (3), the aspect can be labelled as 'ingressive'[3]. This feature as been described by TADJUDDIN (1993: 174-175, 183) who argues that *sudah* can convey "keingresifan" (ingressivity or inceptivity) or "kekompletifan" (completion). In Tadjuddin's terminology, *keingresivan* refers to a "situation whose beginning and continuation forms a whole, or in other words, a situation that stresses its beginning and also its further realization" (our translation). In other words, the speaker reports an entry into a state; *sudah* in example (3) means that at some point of the time axis, an entity acquired a new property, 'being expensive', and at the moment of reference, this property is still valid. This property is of course highly subjective, as we will comment on below. However, this is still an aspectual feature[4], leading to an interpretation of the process span and setting on the time axis.

Nevertheless, in many cases the marker *sudah* can be completely deprived of its aspect meaning:

(4) *Sudah   muda,   berprestasi   lagi.*
Sudah   be.young   perform   more
'Not only (is she) young, (but she) gets good results.'

In example (4), it is doubtful that, at an initial state, someone was "not young" then became "young"; no reference to the temporal constituency of the process appears through

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[2] According to COMRIE (1976: 62) there is a "tendency to confuse perfect and perfective. The perfect links a present state to a past situation, whether this past situation was an individual event, or a state, or a process not yet completed [...]" while (p. 21) "perfectivity involves lack of explicit reference to the internal temporal constituency of a situation [...] subsumed as a single whole." In Indonesian, the perfective is generally not marked, except in the traditional literature where the *-lah* and/or the *di- -nya* pattern predominates.

[3] COMRIE (1976: 20) proposes that the ingressive aspect is produced by the perfective applied to a state: "there is some functional value in utilising the perfective forms of stative verbs to denote the event of entry into the appropriate state, since otherwise there would be little use for the perfective forms of these verbs, but such an explanation is at present speculative."

[4] "Aspect is not concerned with relating the time of the situation to any other time-point, but rather with the internal temporal constituency of the one situation." COMRIE (1976: 5)

this use of *sudah*, which conveys only the speaker's subjectivity, thus indicates a plain modality. We will label this modality a 'valuation': the speaker estimates that a property has become true.

Moreover, *sudah* in examples (1) to (3) is not purely aspectual, it expresses a modality as well: the event is expected or feared by the speaker, and/or the speaker presupposes that the addressee expects or fears this event[5]. We propose to label this modality 'expected'. We will return to this modal feature of *sudah* when comparing it to *telah*.

This flexibility of many preverbal markers (more or less aspectual, more or less modal) will have to be kept in mind when classifying it. For instance, a rigid classification which would label *sudah* as a 'perfective aspect marker' only would prove inaccurate in many contexts.

1.2 Inventory of the preverbal markers

In this section, I propose a rapid inventory of the 14 aspect and/or modality preverbal markers.

1.2.1 *sudah*, *telah*

The preverbal marker *telah* indicates a perfect aspect, but (as opposed to *sudah*), it does not convey modality. Furthermore, the essential feature of *telah* is an explicit neutrality of the speaker, who presents himself as objective and unconcerned by the event[6]. Compare the following examples:

(5) a. *Gunung   Merapi   me- letus   kemarin.*
     Mount   PNOUN   AV-   erupt   yesterday
     'Mount Merapi erupted yesterday'

(5) b. *Gunung   Merapi   telah   me- letus.*
     Mount   PNOUN   *telah*   AV-   erupt
     'Mount Merapi has erupted.'

(5) c. *Gunung   Merapi   sudah   me- letus.*
     Mount   PNOUN   *sudah*   AV-   erupt
     'Mount Merapi has already erupted.'

In (5)b, with *telah*, the way of recounting the event is detached and impersonal[7]. On the other hand, in (5)c, the marker *sudah* leads to interpret that the speaker knew this eruption would happen, or was probable, or assumed that the addressee would expect this event too. Considering these examples from a pragmatics perspective, one could imagine that (5)a is a hearsay account; (5)b is quoted from a journalist report; while (5)c could be asserted by a volcanologist or a farmer living nearby the volcano and capable of reading some warning signs[8]. For a detailed discussion of the opposition between *sudah* and *telah*, see GRANGÉ (2010).

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[5] KASWANTI PURWO (1984: 231) writes that *sudah* indicates the speaker's subjectivity, and that "the feeling depicted by *sudah*, either positive or negative, depends on what was previously expected by the speaker" (our translation).

[6] One could argue, however, that if the speaker presents himself as unconcerned by an event, he manifests linguistically an attitude towards his utterance, hence a kind of modality.

[7] ALWI (1992: 58) noticed that "in the utterances that do not reflect any subjective criteria, *telah* can be employed." (our translation)

[8] We are grateful to Bernd Nothofer (personal communication) for suggesting this example.

1.2.2   *sedang*, *tengah*, *lagi*

These markers indicate the imperfective aspect. They are compatible with a past reference, as in example (6).

(6) *Nina   sedang   mem- baca   ketika   di- panggil.*
     PNOUN   IPFV   AV-   read   when   UV- call
     'Nina was reading when she was called.'

Beside marking dynamic verbs, *sedang* can mark stative verbs, a feature that would be impossible for the *be …-ing* structure in English : **he is being sad,* see example (7) However, the stative verbs that can be preceded by *sedang* refer to non-permanent or reversible states. Additionnally, *sedang* is compatible with the iterative aspect, see example (8).

(7) *Nina   sedang / lagi / tengah   sedih.*
     PNOUN   IPFV /   IPFV / IPFV /   be.sad
     'Nina is sad.'

(8) *Iwan   sedang   men-   cium   cium   Nina.*
     PNOUN   IPFV   AV   kiss   kiss   PNOUN
     'Iwan is/was kissing again and again Nina.'

Sedang originates from a stative verb meaning 'mid, middling, passable, lukewarm', *tengah* means originally 'center, middle' and *lagi* is also an adverb meaning 'still, again'. This illustrates the fact that almost all the aspect markers in Indonesian derive from various morpheme classes. Two other imperfective aspect markers can be heard in Indonesia : *pada* in colloquial Indonesian and *ada* in Malay dialects of Eastern Indonesia.

1.2.3   *semakin, terus, masih*, *tetap*

These markers indicate an imperfective aspect too, along with additional information on the processes' internal constituency. *Semakin* (and its cognates *kian*, *makin*) conveys a gradual aspect to stative verbs, see (9), but also dynamic verbs (10). When *semakin* precedes a dynamic verb, it leads to an iterative interpretation too: the event is repeated with a growing intensity.

(9) *Bensin   semakin   mahal.*
     gasoline   GRAD   be.expensive
     'Gasoline is more and more expensive.'

(10) *Semakin   pergi   ke   luar   negeri,   semakin   cinta   negeri   ini.*
      GRAD   go   to   out   country   GRAD   love   country DET
      'The more (I) go abroad, the more (I) like this country.'

The preverbal markers *terus*, *masih*, *tetap* express broadly a continuative aspect: an event is presented as lasting longer than expected. In other term, the speaker asserts that there is a gap between the 'pre-build' span of the event (its expected duration), and its actual span which proves longer. However, there are syntactic differences in their use: *terus* marks dynamic processes, *masih* is normally applied to states, or series of processes described as a state of affairs, while *tetap* can be used with any kind of process.

(11) *Dia   terus   meng-   ejek   -ku.*
     3SG   CONT   AV-   mock   -1SG
     'He/She keeps on laughing at me.'

(12) *Iwan   masih   capek.   Iwan   masih   bekerja   di   Bandung.*
     PNOUN   CONT   be.tired   PNOUN   CONT   work   DET   PNOUN
     'Iwan is still tired.' 'Iwan still works in Bandung.'

Like *sudah*, the marker *masih* can express a pure and plain modality. In that sense, these two markers are perfectly symmetrical. Let us figure that a boundary delineates either a time span or a property (for instance 'be tired'). The speaker distinguishes the 'prebuild' boundary (what was expected) and the actual boundary (what happened, or what property was reached in effect). *Sudah* indicates that the 'prebuild' boundary corresponds to the actual boundary, while *masih* means that the 'prebuild' boundary is overstepped and the actual boundary is not reached. For this reason, there is a slight nuance between the two following examples.

(13) a. *Sudah   untung   Iwan   me-   raih   juara   ketiga.*
        already   profit   PNOUN   AV   obtain   prize   third
        'It is already a chance that Iwan won the 3^d prize."

(13) b. *Masih   untung   Iwan   me-   raih   juara   ketiga.*
        still   profit   PNOUN   AV   obtain   prize   third
        'Still glad that Iwan won the 3^d prize."

In (13)a, the subject has reached a satisfactory level of performance, in the opinion of the speaker. The sentence (13)b is less complimentary: the result could have been worst, considering that Iwan was expected to perform poorly. His performance is beyond expectations, in other words *masih* means that the prebuild boundary is overstepped.

1.2.4   *pernah, sempat*

The preverbal marker *pernah* indicates a perfect aspect, more precisely the semelfactive aspect. It means that a completed event happened once only for the subject. A modal meaning is entangled with this aspect, because the speaker highlights the experience gained by the subject more than the event itself.

(14) *Kami   pernah   singgah   di   Larantuka.*
     2PL   SEMF   stop.over   PREP   PNOUN
     'We have stopped over (once) in Larantuka.'

Two syntactic features of *pernah* are noticeable. When *pernah* marks a transitive verb, the object is almost always indefinite (if it is not a proper noun). In effect, only the experience matters, thus any occurrence of the event would provide the subject with this experience. If the subject recounts that he saw a tiger once, there is no need to define which tiger it was [9]. In example (14), one could comment on that the date and the circumstances of the stop over in Larantuka are not relevant, as only the fact that it happened once (or a very few times) is of interest. Thus *pernah* may be compatible with an

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[9] A sentence like *Saya pernah melihat harimau ini.* "I saw once this tiger" is of course possible. It could be an account by a nature reserve's ranger who is used to spot tigers. In this case, the indefiniteness pertains to the (many) occurrences of spotting tigers, not to the spotting of this particular tiger.

adverbial phrase indicating an interval of time (e.g. *selama dua tahun* 'during two years'), but not with fixed references on the time line (dates).

Besides, *pernah* is compatible with non-permanent states, indicating their reversion: *Agus pernah kaya/ marah.* "Agus was (once) rich/ angry" implies that he is not rich/ angry any more at the moment of reference. *Pernah* is obviously incompatible with permanent or non-reversible states like *tua* 'be old'.

In addition to its perfect, semelfactive aspect, *pernah* signals the speaker's subjectivity, expressing an 'Experiential' modality. "The experiential perfect indicates that a given situation has held at least once during some time in the past leading up to the present." (COMRIE 1976: 58). He adds a convincing example that matches well the difference between *sudah* and *pernah*:

> «the distinction between the experiential perfect and the perfect of result. *Bill has gone to America* is a perfect of result, and implies that Bill is now in America, or is on his way there […] In *Bill has been to America*, however, there is no such implication; this sentence says that on at least one occasion (though possibly more than one) Bill did in fact go to America.» (COMRIE 1976: 59)

The modal meaning of *sempat* is close to that of *pernah*, but it signals that the speaker does not focus on the property gained by the subject, but instead on the low probability that such an event happened. In sum, in addition to a semelfactive aspect, *sempat* indicates a modality that we could label 'unexpected', as opposed to *sudah*'s 'expected' modality. This marker can be used either at the Actor Voice, see example (15) or at the Undergoer Voice, see example (16).

(15) *Saya sempat ber- pikir untuk men- (t)inggal -kan agama.*
     1SG   SEMF   IPFV- think PREP   AV-   leave   -CAUS religion
     'I happened to think about leaving the religion.'

(16) *Di Dahran, saya sempat mau di- perkosa anak majikan.*
     PREP PNOUN   1SG   SEMF   will UV- rape   child boss
     'In Dahran, I happened to be almost raped by the boss' son.'

1.2.5 *belum*, *akan*, *bakal*

GONDA (1954/1975: 248-249) remarked that "the oft-recurring statement is that, in a particular [Indonesian] idiom, the 'future tense' is also used to express wishes, intentions, requests, obligations." It is true that the markers *belum*, *akan*, and *bakal* should not be labelled as future tense morphemes, but as aspect and modality markers. In effect, *akan* can be used in narrative speeches located in the past. The marker *bakal* is far less frequent.

(17) *Mobil Proton akan di- rakit di Indonesia.*
     car   PNOUN will UV- assemble PREP PNOUN
     'The car Proton will be assembled in Indonesia.'

KRIDALAKSANA (1986) considers that *belum* is a "penanda modalitas" ('modality marker'). SNEDDON (1996: 202) classifies *belum* among the 'modals' as well: "*Belum* 'not yet' combines the meaning of *bukan/ tidak* [negation] plus temporal marker *sudah*." *Belum* means that the expected event is not completed at the moment of reference, or that the aimed property is not reached. Moreover, *belum*, *sudah* and *masih* seem complementary to each other. They have in common the expression of the speakers' expectation, but they differentiate the points of view over an event (or property). The figure below illustrate

these different points of view; | represents an 'expected boundary', and] stands for 'actual/ asserted boundary'.

$$— \ sudah \rightarrow |]$$
$$| — masih \rightarrow$$
$$— belum \rightarrow |$$

1.3 Summary of the preverbal markers' aspect and modality meanings

MARKERS	ASPECT	MODALITY
sudah	With dynamic verbs: perfect/ perfect of result With stative verbs (and series of events): ingressive	expected
	With stative verbs in certain contexts: Ø	valuation
telah	With dynamic verbs: perfect/ perfect of result With stative verbs: ingressive	Ø
sedang, tengah, lagi	imperfective	Ø
semakin	imperfective	gradual
terus	imperfective, continuative	Ø
tetap	imperfective, continuative	expected
masih	imperfective, continuative	unexpected
	With stative verbs in certain contexts: Ø	valuation
pernah	perfect, semelfactive	experiential
sempat	perfect, semelfactive	unexpected
akan, bakal	Ø	uncertain
belum	Ø	expected
	With stative verbs in certain contexts: Ø	valuation

2. Combinations of preverbal aspect markers

Combinations of preverbal aspect markers are not unusual in written contemporary Indonesian, e.g.

(18) *Saya   sudah   pernah   ke-   tipu.*
    1SG   PRF   SEMF   DETR- lie
    'I have made the experience of being cheated.'

Of course, not all the concatenations of the 14 markers may produce grammatical combinations. Using the internet as a corpus, we collected many instances of such

combinations [10]. After having filtered our corpus, we arbitrarily considered that a combination of markers that appears at least 100 times is grammatical. Yet, it does not prove that all the native speakers would agree on its grammaticality and meaning, or that more combinations could not be created. The combinations that we identified are displayed in the table below.

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[10] We kept in account only the first 100 sentences produced by each query. Yet, we obtained a huge corpus which had to be filtered ; in some cases, it was helpful to apply automatic filters (e.g. for erasing sentences containing *seakan-akan sedang* after a query of the character string *akan sedang* "will be V-ing"). But still, the collected sentences had to be 'filtered' through a watchful reading.
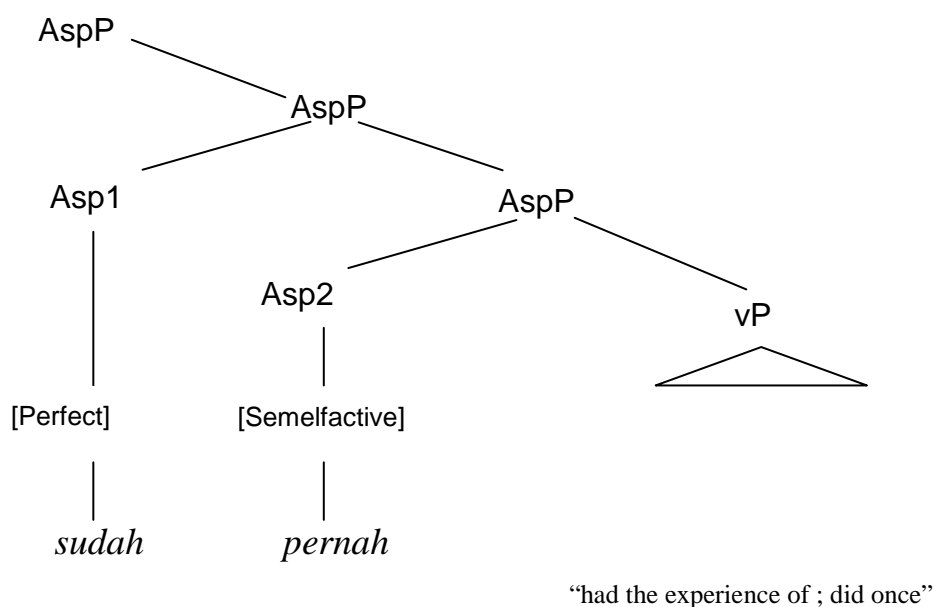
Inventory of the combinations of two preverbal aspect markers

aspect	Marker 1 / Marker 2	imperfective			imperf gradual	imperfective continuative			perfect or ingressive		perfect, semelfactive		uncertain		
		sedang	*tengah*	*lagi*	*semakin*	*terus*	*masih*	*tetap*	*sudah*	*telah*	*pernah*	*sempat*	*belum*	*akan*	*bakal*
imperfective	*sedang*					sedang terus	sedang masih							sedang akan	sedang bakal
	tengah														
	lagi	lagi sedang	lagi tengah												
imperfective gradual	*semakin*					semakin terus								semakin akan	
imperfective continuative	*terus*				terus semakin			terus tetap						terus akan	
	masih	masih sedang	masih tengah			masih terus		masih tetap				masih sempat	masih belum	masih akan	masih bakal
	tetap				tetap semakin	tetap terus	tetap masih						tetap belum	tetap akan	tetap bakal
perfect or ingressive	*sudah*	sudah sedang		sudah lagi	sudah semakin	sudah terus					sudah pernah	sudah sempat		sudah akan	sudah bakal
	telah				telah semakin	telah terus					telah pernah	telah sempat		telah akan	
perfect, semelfactive	*pernah*											pernah sempat		pernah akan	pernah bakal
	sempat					sempat terus		sempat tetap			sempat pernah			sempat akan	sempat bakal
uncertain	*belum*										belum pernah	belum sempat		belum akan	belum bakal
	akan	akan sedang	akan tengah		akan semakin	akan terus	akan masih	akan tetap	akan sudah	akan telah	akan pernah	akan sempat	akan belum		akan bakal
	bakal				bakal semakin	bakal terus	bakal masih	bakal tetap	bakal sudah	bakal telah	bakal pernah	bakal sempat	bakal belum	bakal akan	

We found 72 different combinations of two aspect markers. Some are quite unusual and some, like *sudah pernah* are very frequent: more than 4.480.000 occurrences can be collected on the internet[11]. Nevertheless, this approach cannot claim statistical validity; I only wish to find out under what conditions these markers can combine.

We can learn much from the agrammatical markers combinations; not surprisingly, the imperfective markers (*sedang, tengah, lagi*) are not compatible with the perfect ones (*sudah, telah*) nor with the semelfactive (*pernah, sempat*). A perfect marker can stand in the first position when combined with a semelfactive marker, but the reverse is not true. More generally, switching the position of the markers in a combination will evince another meaning, i.e. *x y* is in principle[12] not synonymous with *y x*. The negation morpheme affects the whole verbal syntagm; the typical order of the elements is {negation, marker 1, marker 2, marker 3, modal auxiliary, verb}, while they are unlikely to occur altogether. "In general the first to occur modifies the meaning of everything which follows within the predicate" noticed Sneddon (1996: 201).
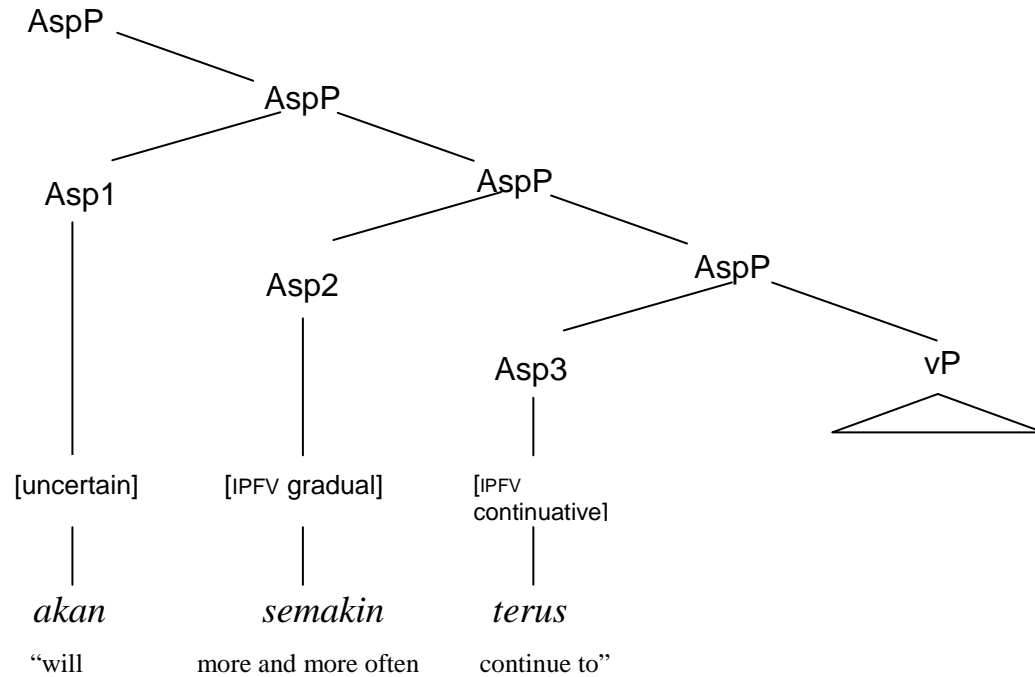
This remark leads to the 'rule of hierarchy'. In a combination, the first marker indicates the general aspect of the combination as a whole, while the second aspect brings a more specific aspect and/or modality. In other words, the second marker is ruled by the first. The last marker of the combination interacts with the inherent aspect of the verb. It can be represented as follows :

"had the experience of ; did once"

The rule of hierarchy applies as well to the combinations of three aspect markers:

Tree diagram:

AspP → AspP → Asp1 [uncertain] — *akan* "will"; AspP → Asp2 [IPFV gradual] — *semakin* "more and more often"; AspP → Asp3 [IPFV continuative] — *terus* "continue to"; vP

Beside the 'rule of hierarchy', we notice that an aspect is expressed only once in a combination. This is a plain application of the linguistic principle of economy: avoiding pleonasm. The third rule is quite obvious: within a combination, the aspects of the markers cannot be contradictory. For instance, perfect and imperfective markers cannot occur within a combination. Yet, some combinations seem to break this rule, for instance *masih sempat* [IPFV.continuative [PRF.semelfactive]]: but it is not the case if we consider that *masih* expresses modality, not aspect.

In sum, we propose that the combinations of markers obey the following construction rules:
  ▪ rule of hierarchy: the first marker of the combination has scope over the second item.
  ▪ rule of concision: an aspect and/or a modality is indicated only once in the combination; there is no redundancy.
  ▪ rule of coherence: the aspects of the two markers cannot be contradictory (e.g. perfective and imperfective cannot be combined).

3. Voice morphemes and aspect: the prefix *ter-*

Most of the Indonesian verbal affixes are described according to their features in terms of transitivity or diathesis. The lexical affixes are commonly depicted either as classifiers or in relation to other semantic features. This labelling is effective, but conceals aspectual features possibly specified by the Indonesian affixes. Such is the case of the *ber-* and the 3[d] person narrative pattern *di- -nya*, but place lacks here to describe these affixes, of which a description has been proposed by GRANGÉ (2006). In this section, I examine the aspectual features of the verbal prefix *ter-* (so called "accidental passive") as opposed to the passive prefix *di-*.

The verbal prefix *ter–* is traditionally classified as a "passive voice" morpheme, more accurately the Undergoer Voice[13]. As noticed by VERHAAR (1984: 60), "Because the *ter-*

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[13] See the definitions of Actor Voice and Undergoer Voice by HIMMELMANN (2002 ; 2005)

construction is low in transitivity, an Agentive is often absent because there is no apparent Agent. However, if there *is* an Agentive, the Agent is typically not in control of the event signified by the *ter-* verb." Considering the diathesis, the main difference with the alternative Undergoer Voice proclitic *di-* is that with *ter-*, the grammatical subject is shown as absolutely deprived of volition, even if animate. Compare the following examples:

(19) a. *Jari   =nya   ter- potong (oleh)   gergaji*
         finger =3SG.POSS UV-   cut   (by)   saw
         'His finger has been cut with a saw.'

(19) b. **Jari   =nya   di- potong (oleh)   gergaji*
         finger =3SG.POSS UV-   cut   (by)   saw
         'His finger has been cut by a saw.'

(20) a. *? Rambut =ku   ter- potong (oleh)   ibu   =ku.*
         hair   =1SG.POSS UV-   cut   (by)   mother =1SG.POSS
         'My hair have been (accidentally) cut by my mother.'

(20) b. *Rambut =ku   di- potong (oleh)   ibu   =ku.*
         hair   =1SG.POSS UV-   cut   (by)   mother =1SG.POSS
         'My hair have been cut by my mother.'

The example (19)b is rejected by native speakers because it seems absurd to affirm that a tool intentionally wounds someone[14]. Besides, through a query on internet[15], I could not find any example of the string *terpotong oleh* "involuntarily cut by", where the actor is human as in (20)a, but rather than a logical impossibility, this may indicate that this kind of accident is very unlikely to happen or to be reported. The Undergoer Voice indicated by *ter-* is often labelled as 'accidental passive'.

Describing sketchily *ter-*, WINSTEDT (1916: 17) began with a concise remark: this prefix denotes "the accomplished act or realized experience and state"[16]. Since then, this aspectual feature of *ter-* has attracted far less attention than its syntactical and semantic particularities[17]. But in effect, beside its role in diathesis, the prefix *ter-* expresses aspect: the perfect of result, defined by COMRIE (1976: 56-58) as "a present state is referred to as being the result of some past situation".

The contrast between the undergoer voice prefixes *di-* and *ter-* regarding aspectuality is clear-cut when we examine dynamic verbs:

(21) a. *Buku   ini   ter- tulis   dalam   bahasa   Indonesia.*
         Book   DET   UV-   write   into   language PNoun
         'This book has been written in Indonesian.'

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[14] Nevertheless, some other verbs at the *di-* Undergoer Voice may be followed by a prepositional phrase (optionally introduced by *oleh*), where the head-noun refers to an inanimate. For instance: *Tanah kami terpotong/ dipotong oleh jalan yang baru.* "Our land happened to be cut/ has been cut by a new road". *Mereka tertangkap/ ditangkap oleh kamera/ polisi.* "They have been caught (by chance)/ have been caught on a camera/ by the police." *Rumah itu dirusak (oleh) angin.* "This house has been damaged by the wind."

[15] Using Google, query restricted to Indonesian. Accessed 01-01-2011.

[16] See also WINSTEDT (1913: 86) about the prefix *ter-* which "denotes the perfected act. [...] it emphasizes not a process in which an agent takes part but a result – absolutely complete, sometimes sudden and due not to conscious activity on the part of the subject but to external compulsion or accident".

[17] A detailed analyse of *ter-* in Malay by CHUNG (2011: 809) 'rehabilitates' somehow its aspectual role: "we found that some grammaticalized forms [with *ter-*] are gradually losing their perfectivity."

(21) b. *Buku   ini   di-   tulis   dalam   bahasa   Indonesia.*
      Book   DET   UV-   write   into   language   PNoun
      'This book is written in Indonesian (currently being written or has been written)'

The prefix *di-*, as in (21)a, does not convey any aspectual information: the process may, or may not, be completed. On the other hand, the prefix *ter-* entails a perfect aspect (perfect of result): the process of writing must be completed. It is always the case independently of the agent (human, inanimate, etc.), even if no agent is mentioned or envisioned. In the following example, only *dibuka* "UV-open" may be still in progress at the moment of reference.

(22) *Tiba-tiba,   jendela   ter-   buka   /   di-   buka.*
    suddenly   window   UV-   open   /   UV-   open
    'Suddenly, the window opens / is (intentionally) open.'

Logically, an imperfective marker like *sedang* is compatible with *di-*, but not with *ter-*. The few example of *sedang ter-*V that I found do not concern the process itself, but the state of affairs that results from this process, as in the following example.

(23) *Di-   banding   Jerman,   industri   Prancis   sedang   ter-   tinggal   jauh.*
    UV-   compare   PNOUN   industry   PNoun   IPFV   UV-   leave   be.far
    'Compared to Germany, the French industry is left far behind.'

When the reduplication of the verb stem means iterativitiy, for instance *tergoyang-goyang* "strirred and moved", the process is still viewed as completed. The same remark is relevant for Kupang Malay, in which STEINHAUER (1983: 46) notices that *ta-* (a reflex of *ter-*) can be reduplicated along with the stem, for instance *ta-robek – ta-robek* "torn here and there"[18].

With the abilitative *ter-*, the perfect aspect may be less obvious. However, again, it is the state (or property) reached at the completion of the process which is assumed as 'possible', see (24), or more frequently as 'impossible' (at the negative form), see (25).

(24) *Titik   api   diam   ter-   lihat   di   sisi   gunung   Merapi.*
    point   fire   still   UV-   see   PREP   side   mount   PNOUN
    'Static fire spots can be seen on the side of the volcano Merapi.'

(25) *Tetapi   nyawa   ₌nya   tidak   ter-   tolong.*
    But   soul   ₌3SG.POSS   NEG   UV-   help
    'but his soul could not be saved.'

Finally, this is also the case for the superlative *ter-*, as in *tertinggi* "the tallest". The process that has lead to a property (for instance 'be tall') is not mentioned, but its completion has reached to the essence of the property, hence the superlative meaning. Here, the perfect of result fades away, leaving place to a more stative process. This has been recently underlined by CHUNG (2011:809): "The most significant change from perfected to imperfected is seen when the stative status of the superlative is reached, referring to the adjectival attribute of a noun (e.g., *Budak yang ter-tinggi itu* 'That tallest child.')."

4. Aspectual features of the ₌*nya* nominalisation

Some of the Indonesian lexical affixes convey an aspectual information, for instance the suffix *-lah*, see GRANGÉ (2006) or the deverbal nominaliser ₌*nya*. The ₌*nya* nominalisation

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[18] The example given by Steinhauer is: *Su ta-robek – ta-robek dia pung sisi.* "its side is already torn in various places".

pattern occurs increasingly in written contemporary Indonesian[19]. In the present workshop, ARKA (2011) describes convincingly the "structural and semantic complexities of =nya nominalisation in Indonesian", and there is no need to duplicate his findings. I will therefore concentrate on the aspectual features of this nominaliser, which appear clearer when compared to the deverbal nominalization confix *peN- -an*.

The =*nya* deverbal nominalisation pattern consists generally in the fronting (a position at the beginning of the sentence) of a verb, nominalised by the enclitic =*nya*. This deverbal noun becomes the head of the subject noun phrase, hence focalised or topicalised. ARKA (2011) remarks that "nominalising the predicate [with =*nya*] is one way out to satisfy the structural categorial constraint of having the predicate in the DF (discourse function) position, typically for nominal arguments." However, the =*nya* nominalisation occurs also, less frequently, within object noun phrases and prepositional phrases.

The fact that =*nya* is an enclitic, not a suffix, originates from the compulsory possessive/genitive link between the cliticised head noun and its complements. In other words, a noun formed with =*nya* must be a head noun accompanied by complement(s). Thus, the nominaliser =*nya* shows no morphological difference with the 3[d] person possessive enclitic.

4.1   Nominalisation of intransitive verbs with =*nya*

The nominalisation of stative verbs is bounded to gradable verbs[20], as pointed out by STEINHAUER (2008). We found no examples of deverbal nominalisations like **betulnya*, **berkeluarganya* or **baharinya* formed respectively on the non-gradable stative verbs *betul* "be exact", *berkeluarga* "be married" and *bahari* "be maritime".

The deverbal nouns derived from a gradable stative verb suffixed with =*nya* generally appear as the head of a subject Noun Phrase[21].

(26) *Mahal   =nya   pendidikan me- rupa -kan   dampak dari pasar   bebas.*
   be.expensive =NML   education   AV- form -CAUS   impact PREP market free
   'The expensiveness of education represents an impact from the free market'

These deverbal nouns retain the stative feature of the verbal stem. In other words, they refer to a "state of affairs", that can be paraphrased, for example (26) above, as "the fact that the education is expensive".

The intransitive dynamic verbs that usually appear as bare verbs (unaffixed stems) can be nominalised directly from their stem:

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[19] As noticed by KASWANTI PURWO (2008), deverbal nominalisation with =*nya* is one of the salient innovations in standard Indonesian nowadays. ENGLEBRETSON (2003) is, to our knowledge, the first linguist to propose a detailed analysis of '*nya*', highly frequent in his colloquial Indonesian corpus. He deals mainly with the "epistemic -*nya* constructions", and the deverbal nominalizations are evoked in a few lines (op.cit:168), letting room for the present work.
[20] In the traditional Indonesian grammar terminology, the stative verbs are labelled *adjektiva*.
[21] This is probably because "In terms of the information structure, the =*nya* unit is analysed as bearing FOCUS" (see ARKA 2011). Other syntactic contexts where a deverbal noun cliticized with =*nya* can appear are head of an object Noun Phrase or head of a Prepositional Phrase.

(27) *turun* "to descend"   > *turun-nya* "the decrease"

     bangun "to raise, to build"   > *bangun-nya* "the raise"

     masuk "to go in"   > *masuk-nya* "the entry (the fact that X came in)"

     jatuh "to fall"   > *jatuh-nya* "the fall, the drop"

     datang "to come"   > *datang-nya* "the arrival"

     mati "to die, to be died"   > *mati-nya* "the death (the fact that X is dead)"

     lahir "to be born, to appear"   > *lahir-nya* "the birth (the fact that X was born)"

     timbul "to appear, to arise"   > *timbul-nya* "the apparition, the emergence"

     padam "to switch off, to extinct"   > *padam-nya* "the extinction (of fire, lights…)"

The nominalisation of an intransitive dynamic verb occurs mostly with verbs whose inherent aspect is bounded or punctual[22]. In other words, with verbs that are generally seen as a whole, not encompassing other process, unless additional aspect morphemes contradict this assumption.

There are very few examples of intransitive dynamic verbs whose inherent aspect is durative and which can undergo nominalisation with ₌*nya*[23]. This may be because of the ₌*nya* "finiteness constraint" (after ARKA 2011), which hardly accords with processes that are generally seen as durative or unbounded.

All the deverbal nouns in the table above can be interpreted as referring to completed or stabilized processes (entailing a resulting state). At first view, one could believe that the nominalisation morpheme ₌*nya* implies that the process which is referred to bears a perfect aspect.

(28) *Warga   Larantuka   keluh   -kan   padam   ₌nya   listrik.*
     people   PNOUN   complain -APPL   switch.off   ₌NML   electricity
     'The people of Larantuka complain (about) the power cut.'

Example (28) can be interpreted as "they complain that the power has been cut off", reflecting default a perfect aspect of the original process (*padam* "switch off"). However, this is the case only by default, if no other aspectual information is available. An additional preverbal aspect markers will lead to an imperfective interpretation: *sering padamnya listrik* "frequent power cuts" or *masih padamnya listrik* "still ongoing power cut".

Dynamic intransitive verbs that can be nominalised not (or not only) from their bare form, but from an affixed form, also retain aspectual features throughout the ₌*nya* nominalisation. Let us compare various 'competing' nominalization patterns, from the intransitive verb *turun* "to descend, to decrease":

     turun₌nya "the decrease" (something has decreased, and is seen as stable now)
     men-(t)urun₌nya "the decrease" (something has decreased, and may be still decreasing)[24]

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[22] In VENDLER's (1967) terminology, 'accomplishments' or 'achievements'.

[23] One of this rare examples is the nominalisation of *tidur* "to sleep", for instance *Tidurnya orang yang berpuasa adalah ibadah* 'The sleep of people who are fasting is worship.'

[24] We found no example of intransitive verb stems suffixed by the causative -*kan* (therefore transitivised) and further undergoing a nominalisation. For instance, from *menurunkan* "send down, bring downstair", *menurukannya* does not signify "the fact of having sent down", but means "send it down", because in this case the ₌*nya* is inevitably a 3ᵈ person object pronoun. As an intransitive verb, *turun* cannot be at the undergoer voice. A query on Internet shows that *diturunnya* frequently means 'revelation' in a religious register. Nevertheless, this seems to be the nominalization of a transitive *turun 'send (something) down', which in fact should be formed *turunkan* (causative -*kan*), and nominalised as *diturunkannya* "the fact that (something) was sent down". This correct form is hopefully far much frequent.

pen-(t)urun-an "the decrease" (something has decreased, is decreasing or may decrease)

All these deverbal nouns [25] could be translated "the fall, the drop, the descent, the decrease"; their difference in meaning reflects the aspect of the process they refer to, as we tried to illustrate by the paraphrases.

If the stem is an intransitive dynamic verb, the Ø- ₌*nya* pattern refers to a completed process, for instance *turun > turun₌nya* "the decrease [stabilised]". The completed process leads to a resulting state (because the process of decreasing is over), similarly to the nouns formed on a stative verb stem, for which the Ø- ₌*nya* pattern indicates a state as in *tinggi-nya* "the height (of)".

However, ₌*nya* by itself does not impose a perfect aspect, for it is compatible with *meN-* prefixing an intransitive verb, a morpheme that indicates imperfectivity, or more precisely a progressive process:

(29) *Men- (t)urun ₌nya ekspor akan mem- per- buruk neraca perdagangan*
AV- decrease ₌NML exports will AV- FACT- be.bad balance commerce
'The decrease in the exports will worsen the commercial balance.'

In example (29), the decrease is seen as uncompleted, still in progress, as opposed to *turun₌nya* that I have commented on above. Moreover, the intransitive stem verbs that can form *meN- ₌nya* nouns are compatible with the aspect marker *semakin* (imperfective, gradual)[26]. On the other hand, *penurunan* "fall, decrease", derived from *turun* using the *peN- -an* nominalisation confix, does not convey aspectual information[27].

The *meN- ₌nya* (AV- ₌NML) nominalisation pattern is restricted to the intransitive verb stems. This is probably because the object position must remain empty with an intransitive verb; ₌*nya* cannot stand for an object 3ᵈ person pronoun, therefore it must be interpreted as a nominaliser morpheme, beside its role of linker between the head noun and its complement. Other examples of *meN- ₌nya* nominalisation are as follows:

(30) *besar* "big, tall"   > *membesar* "to grow"   > *membesarnya* "the growth"
tinggi "tall, high"   > *meninggi* "to increase"   > *meningginya* "the increase"
panas "hot, warm"   > *memanas* "to warm up"   > *memanasnya* "the warming"
buruk "bad"   > *memburuk* "to worsen"   > *memburuknya* "the worsening"
luas "wide"   > *meluas* "to widen"   > *meluasnya* "the extension"
kuat "strong"   > *menguat* "to strengthen"   > *menguatnya* "the strengthening"
lemah "weak"   > *melemah* "to weaken"   > *melemahnya* "the weakening"
tua "old"   > *menua* "to get/grow old"   > *menuanya* "the ageing"

A few verbs prefixed by the stative prefix *ber–* can be nominalised as well, for instance from *kurang* "be few, be less", one can form *ber-kurang₌nya* "the lack of".

4.2   Nominalisation of transitive verbs with ₌*nya*

The nominalisation of transitive verbs with the ₌*nya* enclitic follows a different morphological rule. First of all, this nominalisation pattern cannot apply to transitive verbs at the Actor Voice, for instance *tolak* "to refuse, to reject" cannot form a deverbal noun

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[25] Some other nouns can be formed on this stem verbs, but are not relevant for our present analyse: *turunan* "descent, downward slope", *keturunan* "descendants, lineage, heredity"
[26] The aspect marker, as will be developed below, remains at its preverbal position, left to the nominalised stem. For instance *Semakin menurunnya ekspor ...* "the accelerating decrease of exportation …".
[27] Moreover, it may indicate a nuance of progressivity, e.g. *pendidikan* "education, activity of educating" whenever it is possible to oppose it to Ø- *-an*, e.g. *didikan* "education, acquired knowledge".

menolaknya[28]. This nominalisation pattern is restricted to the Undergoer Voice *di-* and to the "accidental" Undergoer Voice *ter-*. There is a clear-cut aspectual opposition between the nominalisation patterns *di-/ter-* =*nya* and *pen- -an*.

(31) a. *Di- tolak -nya cabai Indonesia mem- (p)ukul pertanian.*
UV- refuse -NML chilli PNNOUN AV- hit agriculture
'The fact that the Indonesian chilli has been rejected hits the agriculture.'

(31) b. *Pen- (t)olak -an cabai Indonesia mem- (p)ukul pertanian.*
NML- refuse -NML chilli PNNOUN AV- hit agriculture
'The rejection of the Indonesian chilli hits the agriculture.'

Our translations aim at showing that with the nominalization pattern *di- -nya*, in (31)a the process is completed and achieved. On the other hand, with *peN- -an* in (31)b we have no indications about the completion of the process; in other words it is "aspect neutral". The same aspectual opposition appears between the nominalisation patterns *ter- -nya* (*ter-*: accidental Undergoer Voice) and *peN- -an*:

(32) a. *Ter- dampar -nya paus di pantai Trisik meng- heran -kan …*
UV- strand -NML whale PREP BEACH PNOUN AV- amaze -APPL
'The fact that a whale is/was aground at the Trisik beach amazes …'

(32) b. *Pen- dampar -an paus di pantai Trisik meng- heran -kan …*
NML- strand -NML whale PREP BEACH PNOUN AV- amaze -APPL
'The stranding of whale(s) at the Trisik beach amazes …'

I have argued above that beside its role in diathesis, the prefix *ter-* expresses the 'perfect of result'. This aspect meaning is not modified by a further nominalisation. On the other hand, the Undergoer Voice prefix *di-* does not indicate by itself the aspect of a process. Hence, I assume that the nominalisation with =*nya* introduces a perfect aspect meaning, as in (31)a. This is also the case for the intransitive dynamic verbs, e.g. *turun* "to decrease" > *turun*=*nya* "the decrease".

Beside the aspectual outcomes of the =*nya* nominalisation pattern, the perfect aspect that remains or originates from this kind of derivation will also lead to the localization of the event in the past, if no other indication of time is available in the context. Considering for instance the stem *mati* "be dead", (33)a will be interpreted "the corals are dead because of this past condition" and (33)b "the corals usually die in this condition".

(33) a. *Perubahan iklim meny- (s)ebab -kan mati =nya terumbu karang.*
change climate AV- cause -APPL be.dead =NML coral reef
'The climate change entailed that corals died / are dead.'

(33) b. *Perubahan iklim meny- (s)ebab -kan ke- mati -an terumbu karang.*
change climate AV- cause -APPL NML- be.dead -NML coral reef
'The climate change entails the death of corals.'

Yet, these aspect meanings can be modified by the adjunction of time adverbs and aspect markers. To sum up, I propose the following classification of the nominalisation patterns mentioned above, according to the aspect of the process that is referred to:

peN- -an: aspect neutral
Ø- -nya: states/ resulting states

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[28] Nevertheless, *menolaknya* is a perfectly correct form, which means "reject it". At the Actor Voice, =*nya* is necessarily interpreted as a 3d person object pronoun, as mentioned above.

meN- -nya: imperfective (progressive) aspect
di- -nya, ter- -nya: perfect aspect

4.3   Aspect markers and the ₌*nya* nominalisation

The nominalisation by ₌*nya* retains many predicative features of the stem verb, including its adverbs of degree. The sentence (34), when fronted in its entirety into (35), will maintain the adverb *terlalu* 'too much' left to the deverbal noun.

(34) | *Harga* | *kayu* | *terlalu* | *mahal.* |
|---|---|---|---|
| price | wood | too | be.expensive |

'The price of wood is excessively expensive.'

(35) | *Terlalu* | *mahal* | ₌*nya* | *harga* | *kayu* | *mem-* | *buat* | *orang* |
|---|---|---|---|---|---|---|---|
| too | be.expensive | ₌NML | price | wood | AV- | make | person |

me-	*lirik*	*bahan*	*lain*	*untuk*	*atap*	*rumah.*
AV-	look.at	material	other	PREP	roof	house

'The excessive price of wood makes people consider other materials for the house's roof.'

Another feature showing that deverbal nouns remain highly predicative lays in the fact that the predicate may retain some aspect or mood markers. The continuative aspect marker *masih* remains left to the deverbal noun in (37).

(36) | *Harga* | *suku* | *cadang* | *masih* | *tinggi.* |
|---|---|---|---|---|
| price | piece | reserve | CONT | be.high |

'The price of spare parts is still high.'

(37) | *Masih* | *tinggi* | ₌*nya* | *harga* | *suku* | *cadang* | *men-* | *jadi* | *alasan* | *untuk...* |
|---|---|---|---|---|---|---|---|---|---|
| CONT | be.high | ₌NML | price | piece | reserve | AV- | become | pretext | PREP |

'[The fact that] the price of spare parts is still high becomes the pretext for…'

The perfect aspect markers *sudah* and *telah* can precede a deverbal noun cliticised by ₌*nya*, although it could seem rather pleonastic. Unsurprisingly, the markers *sedang* (aspect 'imperfective'), *akan* (modality 'uncertain'), and *belum* (modality 'expected') are not compatible with most of the deverbal nouns, because they would contradict the perfect / perfect of result aspect retained or conveyed by ₌*nya*.

(38)   **sedang tingginya harga*… "the present height of the price"

  **akan dibunuhnya orang ini*… "the fact that this person will be killed"

  **belum terpilihnya kades*… "the fact that the village head is still not elected"

As could be predicted, the deverbal nouns formed on a prefixed (AV) intransitive verb retain the imperfective aspect, thus are compatible with the imperfective aspect markers, and the 'uncertain' or 'expected' modalities.

(39)   *Sedang menurunnya kurs Euro…* "the present decreasing of the Euro"

  Akan memanasnya iklim… "the forthcoming climate warming"

  Belum meluasnya kota ini… "the fact that this city has still not expand"

However, the perfect aspect markers *sudah* and *telah* can occur as well, to "stabilize" or "freeze" an ongoing process.

(40) *Sudah menurunnya kurs Euro…* "the fact that the Euro has decreased"

In sum, the preverbal morphemes that can be found left to the deverbal noun formed with the enclitic *=nya* are mainly adverbs of high-degree (e.g. *terlalu* "too much") and aspect markers.

These deverbal nouns remain highly predicative. Place lacks here to give a detailed account of their morpho-syntactic constraints. They do not share some essential features of the nouns in Indonesian:

-   these deverbal nouns must be the head of a Noun Phrase or a Prepositional Phrase;
-   they embed the predicative negation[29] *tidak* only, not the nominal negation *bukan*;
-   they cannot be defined by a determiner like *ini* "this", *tiga* "three";
-   they cannot be expanded by a relative clause;
-   at the *di-/ ter-* undergoer voice, they can retain the agent complementation introduced by *oleh* "by";
-   they retain adverbs and aspect markers (under condition of aspect coherence).

On the other hand, throughout this nominalisation, they lose only a few verbal syntactic features. For instance, they become incompatible with the interrogative form (open questions).

Considering that the nominalisation with *=nya* retains so many verbal features, either syntactic or aspectual, an alternative syntactic analysis could be proposed: *=nya* is the trace of the extracting (and often fronting) of a verb, accompanied by its attributive complement. This working hypothesis would need a deeper syntactic analysis, which is out of the scope of this paper.

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[29] Except for nominalisations of prefixed stative verbs like *besar* "be big, tall" > *(tidak) membesar* "(does not) grow" > *membesarnya* "the growth, upsurge" but **tidak membesarnya* "the non-growth"

5. Conclusion

I have examined the aspectual and modal features of 14 Indonesian preverbal aspectual markers. For most of the markers, aspect and modality are entangled. Some markers are quite complex, because their meaning can range from a plain aspect to a pure modality. From this set of markers, at least 72 combinations of two markers can be formed, complying with three rules:

- rule of hierarchy: the first marker of the combination has scope over the second item.
- rule of concision: an aspect and/or a modality is indicated only once in the combination; there is no redundancy.
- rule of coherence: the aspects of the two markers cannot be contradictory (e.g. perfective and imperfective cannot be combined).

The prefix *ter-* may express, beside an Undergoer Voice, a 'perfect of result' aspect e.g. *Buku ini* tertulis *dalam bahasa Indonesia* "this book has been written Indonesian". It implies the completion of an event, while *di-* does not indicate whether the event is completed or not, e.g. *Buku ini ditulis dalam bahasa Indonesia* "this book is written in Indonesian (currently being written or has been written)".

A clear-cut opposition appears between nominalisations of dynamic verbs by *-nya* and by *peN- -an*, e.g. *dibunuhnya Munir* "the murder of Munir, the fact that Munir has been killed" versus *pembunuhan Munir* "the murder of Munir", regardless of whether the event is completed or not. The deverbal nominalization with *=nya* embeds many predicative features, and additionally conveys a perfect aspect. Moreover, the aspect specified by *ter-* or *=nya* will additionally lead to the localization of the event in the past, if no other indication of time is available in the context.

The prefix *ter-* or the enclitic *=nya* (among others) play an important role in expressing the aspect in Indonesian. This aspect meaning may be modified and specified by an additional aspect marker. This overall system of free markers, of affixed and cliticized markers, and their interactions, provide the Indonesian language with a wealth of aspectual and modal means of expression.

6. Glossing abbreviations

APPL: applicative

ASPP: aspect phrase

AV: Actor Voice

CAUS: causative

CONT: continuative

DET: determiner

DETR: detrimental

GRAD: gradual

IPFV: imperfective

NML: nominaliser

PNOUN: proper noun

PREP: preposition

PRF: perfect

SEMF: semelfactive

UV: Undergoer Voice

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