

Degree Achievements, Telicity and the Verbal Prefix *meN-* in Malay

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1. Introduction

Problem:

Degree achievement sentences are known to be able to describe both telic and atelic situations. The presence of *meN-* restricts the ability of the sentences to describe only atelic situations. This effect is not found in non-degree achievement sentences.

Proposal:

MeN- requires that the situation described in the sentence be one with stages in the sense of Landman (1992, 2008). This requirement explains *meN-*'s apparent effect on telicity in degree achievement sentences, and the absence of such an effect in non-degree achievement sentences.

Evidence:

The proposal receives support from *meN-*'s restricted distribution in stative sentences (Soh and Nomoto 2009), as well as some initial support from (non-degree) achievement sentences.

Implications:

Directed motion verbs/degree achievements are lexically specified as achievements (Rothstein 2008a, contra Hay, Kennedy and Levin 1999).

The prefix *meN-* is likely not a progressive marker (cf. Soh and Nomoto 2009).

2. The Problem

2.1 Degree achievement sentences

Degree achievements are different from regular (non-degree) achievements in that the change events described are not a change from α to $-\alpha$, but a change in values on a scale (Rothstein 2008a: 193).

Degree achievements either specify a change of state in a particular direction (e.g., *cool*, *widen*, *harden*), or a motion in a particular direction (e.g., *descend*, *rise*, *fall*) (Levin and Rappaport Hovav 1995:172-173).

- (1) The soup cooled.

They are known to be able to describe both telic and atelic situations.

They may appear with a *for* temporal adverbial or an *in* temporal adverbial; the former is compatible with an atelic situation and the latter with a telic situation.

- (2) a. The soup cooled for hours.
b. The soup cooled in half an hour. (Rothstein 2008a: 191)

2.2 Degree achievement sentences in Malay

Degree achievement sentences in Malay pattern the same way and are able to describe both telic and atelic situations.

- (3) Harga minyak turun.
price oil fell
'The oil price fell.'

The use of *selama* 'for' and *dalam* 'in' phrase as a test of telicity in Malay:

Like the *for/in* test of telicity in English, a *selama* 'for' phrase in Malay is compatible only with an atelic sentence, and a *dalam* 'in' phrase is compatible only with a telic sentence.

- (4) a. Dia berlari selama 10 minit.
3SG run for 10 minute
'S/he ran for 10 minutes.'
- b. *Dia berlari dalam masa 10 minit.
3SG run in time 10 minute
- (5) a. *Dia berlari 100 meter selama 10 minit.
3SG run 100 meter for 10 minute
- b. Dia berlari 100 meter dalam masa 10 minit.
3SG run 100 meter in time 10 minute
'S/he ran 100 meters in 10 minutes.'

Degree achievement sentences may appear with a *selama* phrase or a *dalam* phrase, indicating that they may describe a telic or an atelic situation.

- (6) a. Harga minyak turun selama tiga hari.
price oil fall for three day
'The oil price fell for three days.'
- b. Harga minyak turun dalam tiga hari.
price oil fall in three day
'The oil price fell in three days.'

2.3 *meN*- in degree achievement sentences

The presence of *meN*- in degree achievement sentences has the effect such that these sentences can only describe atelic situations, but not telic ones.

- (7) a. Harga minyak men-[t]urun selama tiga hari.
price oil MEN-fall for three day
'The oil price was falling for three days.'
- b. *Harga minyak men-[t]urun dalam tiga hari. (cf. (6b))
price oil MEN-fall in three day

Additional support for *meN*-’s effect comes from the use of *mengambil masa x untuk* ‘take x time to’ frame as a test of telicity in Malay.

The *mengambil masa x untuk* ‘take x time to’ frame is restricted to telic situations.

- (8) a. *Dia (hanya) meng-ambil masa 10 minit untuk berlari.¹
3SG only MEN-take time 10 minutes to run
- b. Dia (hanya) meng-ambil masa 10 minit untuk berlari 100 meter.
3SG only MEN-take time 10 minutes to run 100 meters
'He only took 10 minutes to run 100 meters.'

Degree achievement sentences with *meN*- are descriptions of atelic situations as they cannot appear with the *mengambil masa x untuk* ‘take x time to’ frame.

- (9) a. Harga minyak meng-ambil masa tiga bulan untuk turun.
price oil MEN-take time three month to fall
'The oil price took three months to fall.'
- b. *Harga minyak meng-ambil masa tiga bulan untuk men-[t]urun.
price oil MEN-take time three month to MEN-fall

Further support comes from native speakers’ intuition that (10a) implies a fall in oil price from x to y, while (10b) implies a fall with stages, e.g., from x to y to z.

- (10) a. Harga minyak turun.
price oil fall
'The price of oil fell.'
- b. Harga minyak men-[t]urun.
price oil MEN-fall
'The price of oil was falling.'

¹ For some speakers, the sentence may be acceptable with the meaning ‘he sets aside 10 minutes to run’.

This intuition is corroborated by the contrast in the compatibility of *turun* ‘fall’ and *menurun* ‘*meN*-fall’ with *sekali sahaja* ‘only once’.

- (11) a. Bulan ini, harga minyak turun sekali sahaja.
 month this price oil fall once only
 ‘This month, the oil price fell only once.’
- b. *Bulan ini, harga minyak men-[t]urun sekali sahaja.
 month this price oil MEN-fall once only

2.4 *MeN*- in non-degree achievement sentences

Unlike degree achievement sentences, the presence of *meN*- in non-degree achievement sentences does not restrict their descriptions to atelic situations. Such sentences may also describe telic situations, as evidenced by their compatibility with a *dalam* phrase.

- (12) a. Dia tanam tiga batang pokok dalam masa satu jam.
 3SG plant three CL tree in time one hour
 ‘S/he planted three trees in an hour.’
- b. Dia men-[t]anam tiga batang pokok dalam masa satu jam.
 3SG MEN-plant three CL tree in time one hour
 ‘S/he planted three trees in an hour.’
- cf. (6b) Harga minyak turun dalam tiga hari.
 price oil fall in three day
 ‘The oil price fell in three days.’
- (7b) *Harga minyak men-[t]urun dalam tiga hari.
 price oil MEN-fall in three day

3. The proposal

3.1 Ingredient #1: Rothstein’s (2008a, b) analysis of degree achievements

Minimal (= atomic) versus non-minimal events

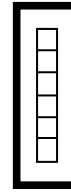
Degree achievements may describe an event that consists of a single “atomic event” or an event that consists of a sum of multiple “atomic events”.

An event that consists of a single atomic event is a minimal event, while an event that consists of a sum of multiple atomic events is a non-minimal event.

(13) a. A minimal event



b. A non-minimal event



□: an atomic (falling) event
bold rectangular: a single event

Thus, *fall* may describe an event that consists of a minimal falling event (= minimal event) or an event that consists of multiple occurrences of minimal falling events, with each fall a development of a previous one (= non-minimal event).

Non-minimal events are derived from minimal ones by the application of the semantic operation ‘S-summing’ (= singular-summing), which sums two temporally overlapping events and forms a new single event (Rothstein 2008a, b).

(14) S-sum_v (= the S-sum operation in the verbal domain) (Rothstein 2008b:46)

$\forall e, e': P(e) \wedge P(e') \wedge R(e, e') : S\text{-sum}(e, e') \rightarrow P(S(e \sqcup e'))$

“For any two events *e* and *e'* in the denotation *P* which stand in the *R* relation, S-sum_v applied to *e* and *e'* yields a singular event formed out of the sum of *e* and *e'* and which is also in the denotation *P*.”

R denotes is a temporal overlap relation between the two events.

Naturally versus non-naturally atomic events and telicity

Telicity is defined using the concept of ‘natural atomicity’.

(15) Natural atomicity (Rothstein 2008b:47)

A predicate *P* is naturally atomic if what counts as one instance of *P* is given as part of the meaning of *P* and is thus not context dependent.

An event that is naturally atomic is telic, while an event that is non-naturally atomic is atelic.

Non-minimal events are atelic.

(16) Relations between types of events and telicity

Types of events	Telicity
Naturally atomic events	Telic
Non-naturally atomic events	Atelic
Non-minimal events	Atelic

The minimal event described by *fall* is telic because it is naturally atomic, with a clearly defined beginning and end point as given by the meaning of the predicate.

The non-minimal event described by *fall* is atelic because what counts as one instance of a non-minimal *falling* event is not given by the meaning of the predicate that has undergone the S-summing operation.

“Degree achievements” are achievements with respect to their minimal events (telic), and activities with respect to their non-minimal events (atelic).

(17) The relation between two interpretations of degree achievements and telicity

Degree achievements	Naturally atomic	Telicity
Minimal events (achievements)	yes	telic
Non-minimal events (activities)	no	atelic

3.2 Ingredient #2: Landman’s (1992, 2008) notion of event stages

A stage of an event is a special kind of part of that event (Landman 1992).

“An event is a stage of another event if the second can be regarded as a more developed version of the first, that is, if we can point at it and say “It’s the same event in a further stage of development.” Thus, not every part of *e* at an interval is a stage of *e*; to be a stage, a part has to be big enough and share enough with *e* so that we can call it a less developed version of *e*.” (Landman 1992:23)

It follows that if *e* is a stage of *e*’, *e* and *e*’ must be qualitatively different (Rothstein 2008a: 178).

States do not have stages (Landman 1992, 2008; Rothstein 2008a). This is because states are homogeneous down to instants. A state cannot be a stage of another state because the second state cannot be regarded as a more developed version of the first, as it is not qualitatively different from the first.

Achievements also do not have stages (Rothstein 2008a). This is because achievements are events of instantaneous change from α to $\neg\alpha$, and thus consist of two instants, the last instant at which α holds and the first instant at which $\neg\alpha$ holds. They are not extended and are not naturally divisible into stages.

Activities and accomplishments have stages (Landman 1992).

Eventualities that have stages are inherently extended in time (Rothstein 2008a).

(18) Relations among situation type, extended events and the stage property

Types of situation	Extended in time	Have stages
States	no	no
Activities	yes	yes
Achievements	no	no
Accomplishments	yes	yes

3.3 Ingredient #3: *meN-* requires events with stages

Proposal: *MeN-* requires the situation described in the sentence to be one with stages.

3.4 Putting the ingredients together: Explaining *meN-*'s apparent effect on telicity in degree achievement sentences

Turun 'fall' may describe an event that consists of a minimal falling event (= minimal event) or an event that consists of multiple occurrences of minimal falling events, with each fall a development of a previous one (= non-minimal event).

Because the minimal event of a degree achievement is an achievement (without stages) and the non-minimal event of a degree achievement is an activity (with stages), *meN-* is compatible only with the non-minimal event interpretation of the degree achievement sentence.

The non-minimal event interpretation of degree achievements is atelic. This explains why degree achievement sentences with *meN-* are incompatible with the *dalam* 'in' phrase.

- (19) (=7)
- a. Harga minyak men-[t]urun selama tiga hari.
 price oil MEN-fall for three day
 'The oil price was falling for three days.'
- b. *Harga minyak men-[t]urun dalam tiga hari.
 price oil MEN-fall in three day

Under our analysis, *meN-* does not have an effect on the telicity of the situation described. The effect on telicity is only apparent, due to *meN-*'s requirement that it occurs in sentences describing situations with stages.

In degree achievements, only the non-minimal event interpretation of the sentence can be characterized as having stages. Because non-minimal events are atelic, *meN-* gives the appearance that it affects the telicity of the sentence.

(20) Summary

Degree achievements	Have stages	Compatible with <i>meN-</i>
Minimal events (achievements)	no	no
Non-minimal events (activities)	yes	yes

Because *meN-* does not have a direct effect on telicity according to our analysis, it is not surprising that its apparent effect on telicity is only found in degree achievement sentences and not in other sentences.

- (21) (=12b) Dia men-[t]anam tiga batang pokok dalam masa satu jam.
3SG MEN-plant three CL tree in time one hour
'S/he planted three trees in an hour.'

Note that the fact that a contrast is found between degree achievement and non-degree achievement sentences in *meN-*'s apparent effect on telicity suggests that *meN-* does not alter the situation to fit the stage requirement, but rather selects from existing options ones compatible with it.

4. Predictions

The proposed analysis predicts that *meN-* may occur in sentences that describe activities and accomplishments, and may not occur in sentences that describe states and (non-degree) achievements.

- (22) Prediction with respect to the occurrence of *meN-* in other situation types

Types of situation	Have stages	Compatible with <i>meN-</i>
States	no	no
Activities	yes	yes
Achievements	no	no
Accomplishments	yes	yes

MeN- may occur in sentences that describe activities and accomplishments.

- (23) a. Aminah sedang me-nyanyi.
Aminah now MEN-sing
'Aminah is singing now.'
- b. Dia telah men-[t]anam tiga batang pokok.
3SG already MEN-plant three CL tree
'S/he planted three trees.'

4.1 *MeN-* in stative sentences

The prefix *meN-* cannot occur in stative sentences (Soh and Nomoto 2009).

- (24) a. Mereka **suka** masakan Jepun.
3PL like cuisine Japan
'They like Japanese cuisine.'
- b. *Mereka **meny-[s]uka** masakan Jepun.
3PL MEN-like cuisine Japan

- (25) a. Ali **hormat** cikgu-nya.
Ali respect teacher-3SG
'Ali respects his/her teacher.'
- b. *Ali **meng-hormat** cikgu-nya.
Ali MEN-respect teacher-3SG

Soh and Nomoto (2009) consider two classes of apparent counter-examples to this generalization, namely (i) *meN-* verbs suffixed with the applicative suffix *-i* and (ii) mental "states" verbs, and argue that these sentences describe eventive rather than stative sentences (see Soh and Nomoto 2009 for details).

- (26) a. Mereka **meny-[s]uka-i** masakan Jepun.
3PL MEN-like-I cuisine Japan
'They like Japanese cuisine.'
- b. Ali **meng-hormat-i** cikgu-nya.
Ali MEN-respect-I teacher-3SG
'Ali respects his/her teacher.'
- (27) a. Mereka **meng-anggap** dia orang yang tidak boleh diharap.
they MEN-consider 3SG person that not can be.hoped
'They considered him/her to be a person who cannot be depended on.'
- b. Dari tadi dia **men-duga** bahawa perkara itu akan berlaku.
from just.now 3SG MEN-suspect that incident that will happen
'He/She has suspected that the incident will happen since just now.'

4.2 *meN-* in (non-degree) achievement sentences

Preliminary investigations suggest that the prefix *meN-* also has restricted distribution in (non-degree) achievement sentences.

Most of the achievement verbs we have examined do not have a *meN-* counterpart.

(28)	<u>Bare form of achievement verb</u>		<u><i>meN-</i> form of achievement verb</u>
a.	sampai	'arrive'	*menyampai
b.	henti	'stop'	*menghenti
c.	mula	'start'	*memula
d.	nampak	'see'	*menampak
e.	sedar	'realize'	*menyedari
f.	tahu	'come to know'	*menahu, *mengetahu
g.	jumpa	'found'	*menjumpa
h.	mati	'die'	*memati
i.	jatuh	'fall down'	*menjatuh
j.	lepas	'depart'	*melepas

There are possible exceptions (e.g., *capai* 'reach' - *mencapai*, *kenal* 'recognize, know, get to know' - *mengenal*). We hypothesize that the *meN-*forms of these verbs do not truly describe achievements. We leave the testing of this hypothesis for future work.

5. Implications

5.1 Degree achievements

Whether degree achievements have properties of achievements, activities and accomplishments or only of activities and accomplishments is controversial (Rothstein 2008a, Hay, Kennedy and Levin 1999).

Rothstein (2008a) proposes that degree achievements are lexically specified as achievements. The operation of S-summing derives the activity interpretation, and the accomplishment reading is due to context/implicature.

Hay, Kennedy and Levin (1999) propose that degree achievement/directed motion verbs are activities (atelic), with the accomplishment (telic) reading derived from a conversational implicature. Degree achievements are not considered achievements.

Our analysis provides support for Rothstein's (2008a) analysis of degree achievements. This is because our analysis crucially assumes the existence of achievements in degree achievements.

It is difficult to extend an analysis such as Hay, Kennedy and Levin (1999) to explain *meN*-’s apparent effect on telicity in degree achievement sentences. This is because the presence of *meN*- would somehow affect the availability of a conversational implicature, an analysis that to us seems less desirable.

5.2 Progressives

In Landman (1992, 2008), the semantics of the progressive makes reference to event stages. Because states and achievements do not have stages, they do not occur in the progressive (Rothstein 2008a).

Given that *meN*- has restricted distribution in stative sentences (Soh and Nomoto 2009), and appears to be similarly restricted in achievement sentences, could *meN*- be a progressive marker?

One reason why *meN*- may not be a progressive marker is that its effect on telicity is restricted to degree achievement sentences. This is unlike the English progressive whose effect on telicity appears to be more general (Moens and Steedman 1988; Mittwoch 1988; Krifka 1992; de Swart 1998; Hallman 2009).

For example in Moens and Steedman (1988), the progressive triggers the situation described to be a process (atelic), and it is a function that takes a process as its input and gives as its output a type of state that they call progressive states (atelic).

We suggest that the similarities between *meN*- and the English progressive lies in the fact that both require the situations described to be ones with stages. However, they differ in that while *meN*- does not alter the situation to fit the stage requirement, the progressive appears to do that.

6. Conclusions

MeN- requires that the situation described in the sentence be one with stages. This requirement explains *meN*-’s apparent effect on telicity in degree achievement sentences, and the absence of such an effect in non-degree achievement sentences.

The proposal receives support from *meN*-’s restricted distribution in stative sentences (Soh and Nomoto 2009), as well as some initial support from (non-degree) achievement sentences.

The analysis implies that directed motion verbs/degree achievements are lexically specified as achievements (Rothstein 2008a, contra Hay, Kennedy and Levin 1999), and that the prefix *meN*- is likely not a progressive marker (cf. Soh and Nomoto 2009).

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