Towards a semantics and pragmatics of the Javanese speech level system

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November 17, 2021 UQÀM

A little background

- A lot of the basic ideas and analysis in today's talk are based on previous work that I presented at the Austronesian Formal Linguistics Association (AFLA). Full disclosure: I am recycling some of the slides from that talk.
- That talk/paper is focused on capturing the syntagmatic and paradigmatic properties of the Javanese speech level system, which I will summarize today.
- That talk/paper also proposes a diachronic account of how the system might have evolved, which I will not discuss today.
- Today's talk is instead focused on various issues that have arisen in my attempts to model the semantics and pragmatics of the system in more detail.

Javanese sentences can be sorted into one of three levels, called *Ngoko, Krama*, and *Madya*, whose choice is conditioned by *status*, *age*, and *intimacy*, with the following canonical contexts of use:

- Ngoko: low status addressee, not older than the speaker, intimate relationship
- Krama: high status addressee, older than the speaker, non-intimate relationship
- Madya: a "halfway house" (Wolff & Poedjosoedarmo 1982) between Ngoko and Krama, canonically used in situations where the factors determining the choice of speech level are in conflict.

Javanese sentences can generally be unambiguously assigned to one of the three levels (N, M, K) on a purely formal basis. The following example is from Clynes (1989):

(1) "Bu Siti has already eaten that one."

Krama	Bu	Siti	sampun	nedha	ingkang	menika.
Madya	Bu	Siti	mpun	nedha	sing	niku.
Ngoko	Bu	Siti	wis	mangan	sing	kuwi.
	Ms.	Siti	already	eat	REL	that

Speech level is encoded by the choice between otherwise synonymous lexical alternants whose only difference is their (in)compatibility with particular speech levels.

 "Bu Siti has already eaten that one."
 Krama Bu Siti sampun nedha ingkang menika.
 Ngoko Bu Siti wis mangan sing kuwi. Ms. Siti already eat REL that

- The blue alternants are compatible with Krama, but not with Ngoko.
- The red alternants are compatible with Ngoko, but not with Krama.

(1) "Bu Siti has already eaten that one."

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Madya	Bu	Siti	mpun	nedha	sing	niku.
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	Ms.	Siti	already	eat	REL	that

Madya is characterized by a <u>mixture</u> of Ngoko and Krama forms...

Krama	Bu	Siti	sampun	nedha	ingkang	menika.
Madya	Bu	Siti	mpun	nedha	sing	niku.
Ngoko	Bu	Siti	wis	mangan	sing	kuwi.
	Ms.	Siti	already	eat	REL	that

- Madya is characterized by a *mixture* of Ngoko and Krama forms,
- ▶ and some forms that are <u>only</u> compatible with Madya.

Krama	Bu	Siti	sampun	nedha	ingkang	menika.
Madya	Bu	Siti	mpun	nedha	sing	niku.
Ngoko	Bu	Siti	wis	mangan	sing	kuwi.
	Ms.	Siti	already	eat	REL	that

- Madya is characterized by a *mixture* of Ngoko and Krama forms,
- and some forms that are only compatible with Madya.
- Similarly, some forms are <u>only</u> compatible with Ngoko...

Krama	Bu	Siti	sampun	nedha	ingkang	<u>menika</u> .
Madya	Bu	Siti	mpun	nedha	sing	niku.
Ngoko	Bu	Siti	wis	mangan	sing	kuwi.
	Ms.	Siti	already	eat	REL	that

- Madya is characterized by a *mixture* of Ngoko and Krama forms,
- and some forms that are only compatible with Madya.
- Similarly, some forms are only compatible with Ngoko,
- while others are only compatible with Krama.

Analysis: Lexical classes and speech levels

Krama	Bu	Siti	sampun	nedha	ingkang	menika.
Madya	Bu	Siti	mpun	nedha	sing	niku.
Ngoko	Bu	Siti	wis	mangan	sing	kuwi.
	Ms.	Siti	already	eat	REL	that

Analysis: Lexical classes and speech levels

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	Ms.	Siti	already	eat	REL	that

- ► Words like **sampun**:
- ► Words like *nedha*:
- ► Words like **mpun**:
- Words like sing:
- Words like wis:

Krama only Krama or Madya Madya only Ngoko or Madya Ngoko only

Analysis: Lexical classes and speech levels

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Krama	Bu	Siti	sampun	nedha	ingkang	menika.
Madya	Bu	Siti	mpun	nedha	sing	niku.
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	Ms.	Siti	already	eat	REL	that

- Words like sampun:
- ► Words like *nedha*:
- Words like mpun:
- Words like sing:
- Words like wis:

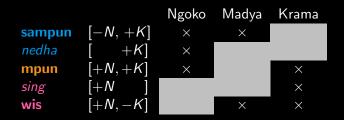
[-N, +K][+K][+N, +K][+N][+N, -K] Speech Levels:

- Krama is signaled by -N, +K
- Madya is signaled by +N, +K
- **Ngoko** is signaled by +N, -K

Combinatoric (Syntagmatic) Constraint: Feature values must be consistent.

- A single sentence cannot contain both +N and -N items.
- A single sentence cannot contain both +K and -K items.

Krama	Bu	Siti	sampun	nedha	ingkang	menika.
Madya	Bu	Siti	mpun	nedha	sing	niku.
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Clynes (1989) uses the features \pm INTIMATE and \pm STATUS for our $\pm N$ and $\pm K$:

- ► [+INTIMACY]: I want to speak to you the way people speak to people whom they know well.
- [-INTIMACY]: I want to speak to you the way people DON'T speak to people whom they know well.
- [+STATUS]: I want to speak to you the way people speak to people whom they think of as the kind of people who can do what they want.
- [-STATUS]: I want to speak to you the way people DON'T speak to people whom they think of as the kind of people who can do what they want.

Usage patterns (Wolff and Poedjosoedarmo)

CHART THREE

The Pragmatics of the Speech Level System

			Receiver										
			pri	yayi		non-priyayi							
	not older speak					not older than speaker		older than speaker					
		intimate	not intimate	intimate	not intimate	intimate	not intimate	intimate	not intimate				
	priyayi	M, N	к	к, м	к	N	м	N	м				
Giver	non-priyayi	N, (K)*	(K)	(K)	(K)	N	м	N, M	м				

* We put parentheses around these symbols because generally non-priyayi do not control Krômô (Sec. 2.2.2, 4.4.1), and in these cases they use the closest to Krômô that they can muster. The symbol (K) represents Krômô or the nearest approximation to Krômô available to the speaker.

Another approach: intervals on an honorific continuum

- A number of researchers (Potts and Kawahara 2004, McCready 2019, Oshima 2019) argue that honorific meanings should be modeled continuously.
- One implementation: "speech level" corresponds to three sub-intervals of [0,1]; for example:
 - ▶ Ngoko = [0,.1],
 - ▶ Madya = [.1,.9],
 - ▶ Krama = [.9, 1]
- The location on this interval is given by SL, a function from ordered pairs of entities to points on this interval.
- The value returned by this function depends (in some nebulous way) on relevant properties holding between these entities; in particular, their level of intimacy, relative status, relative age, etc.

One implementation

This idea could be implemented as follows:

- ▶ [+N] requires that SL(s, h) < 0.9
- ▶ [+K] requires that SL(s, h) > 0.1
- ▶ [-N] requires that $SL(s,h) \neq 0.9$ (i.e. $SL(s,h) \ge 0.9$)
- ▶ [-K] requires that $SL(s,h) \neq 0.1$ (i.e. $SL(s,h) \leq 0.1$)

The features are now understood as making requirements (perhaps presuppositions, perhaps conventional implicatures) on the speech level holding between the speaker and the addressee, which is modeled as a point (or a sub-interval) of the real interval [0,1].



One implementation

Of course, the precise boundaries between levels can be left open:

- ▶ [+N] requires that SL(s, h) < k
- [+K] requires that SL(s, h) > n
- ▶ [-N] requires that $SL(s, h) \neq k$ (i.e. $SL(s, h) \geq k$)
- ▶ [-K] requires that $SL(s, h) \neq n$ (i.e. $SL(s, h) \leq n$)

The features are now understood as making requirements (perhaps presuppositions, perhaps conventional implicatures) on the speech level holding between the speaker and the addressee, which is modeled as a point (or a sub-interval) of the real interval [0,1].



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 - ▶ +K and -K make contradictory requirements of SL(s, h).
 - Same for +N and -N.

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 - Same for +N and -N.
- ▶ The non-existence of [-N, -K] lexical items is also explained:
 - ▶ -N requires $SL(s, h) \ge k$.
 - -*K* requires $SL(s, h) \leq n$.
 - But k > n.
 - So -N and -K cannot be simultaneously satisfied.

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 - ▶ -N requires $SL(s, h) \ge k$.
 - -K requires $SL(s, h) \leq n$.
 - But k > n.
 - So -N and -K cannot be simultaneously satisfied.
- The SL function returns values on a continuum; the speech level system is a categorical means for signaling a location on this continuum.
- The continuous nature of the SL interval, though, should in principle allow for "fine-tuning" of the signal, beyond the categorical distinctions provided by the three-way speech level system.

Continuous properties of the Madya level

 Clynes (p.45), citing Uhlenbeck (1970:452), W&P:17, and Errington (1985:107):
 "In the intermediate madya style, the degree of relative "formality" or "distance" is directly dependent on the relative proportions of ngoko and krama (general lexis) items used."

▶ W&P (p.17):

"Madyô is not a set of fixed forms, but is rather a cline rising from a level very close to Ngoko up to a level very close to Krômô. The height of the M level depends on the mixture of Ngoko and Krômô... The greater the percentage of N forms ... the lower the M level."

- Speech levels are categorically determined, but Madya level allows for both [+K] and [+N] lexical items (of which there are many, something like 500 each).
- Madya speech level utterances sit on a "more Krama-like" to "more Ngoko-like" continuum.
- Analytic intuition: The position of a particular Madya-level utterance along this continuum is (partly) a function of the proportion of [+K] and [+N] lexical items.

(2) Kula saged mendhet pinten saniki?
[+K] [+K] [+K] [+K] [+K] [+N,+K]
1SG can buy how.many now
'How many can I take now?' (Madya speech level)

 (3)
 Mung Mas
 Poino
 niki
 sing
 teka
 dhèk
 wingi.

 [+N]
 [+N]
 [+N]
 [+N]
 [+N]
 [+N]
 [+N]

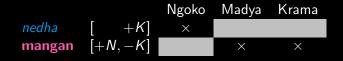
 only
 older.male
 Poino
 here
 REL
 come
 time
 yesterday

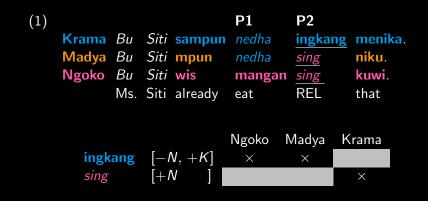
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 here
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Continuous properties of the Madya level

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- Analytic intuition: The position of a particular Madya-level utterance along this continuum is (partly) a function of the proportion of [+K] and [+N] lexical items.
- ▶ Problem: Some paradigms of alternants force the speaker to use a [+N] or a [+K] form in the Madya level.

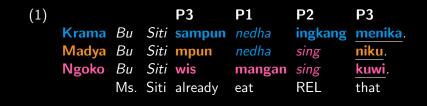


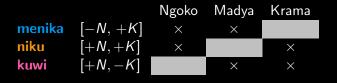










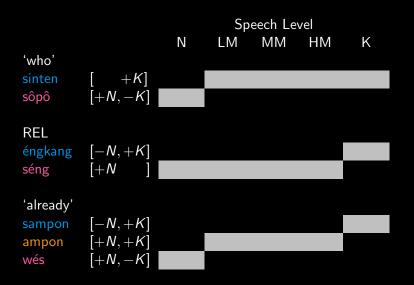


The rest of this talk will be based on data from Wolff and Poedjosoedarmo (1982) (henceforth W&P) which were created as follows:

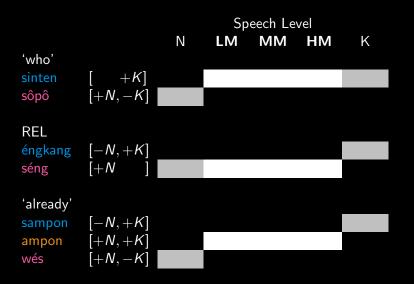
- ► A large natural corpus of Javanese dialogs was recorded.
- Native speakers then assigned utterances from the corpus into speech levels (Ngoko, Madya, Krama).
- They assigned Madya-level utterances to one of three sub-levels: Low Madya (LM), Mid Madya (MM), and High Madya (HM).
- The occurrence or non-occurrence of particular lexical items across these levels was determined, and is presented in a series of tables (pp. 30–35).
- The data from these tables form the basis for the rest of this talk.

W&P (p.29): "How did we determine these speech levels? First, we took a portion of our materials and had native speakers assign a speech level to each utterance: K (Krômô), MT (for Madyô Tinggi, High Madyô), M (Madyô, not high or low), MR (for Madyô Rendah, Low Madyô), and N (Ngoko). We tested these identifications and received nearly 100 percent agreement on assignment into three categories, K, M, and N; but the MT, M, MR distinction was impossible to make consistently, as we ourselves had been unable to specify what the differences were. Thus, the informants distinguished the various kinds of Madyô impressionistically."

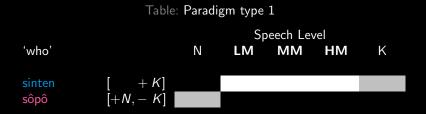
Paradigm types 1, 2, and 3: Observed distributions



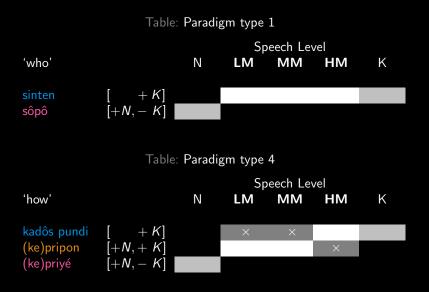
Paradigm types 1, 2, and 3: No effect on Madya sublevel



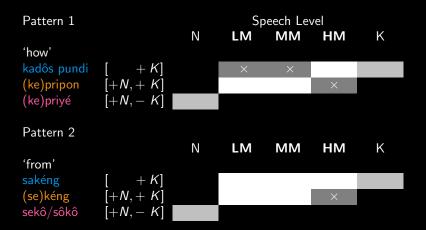
Paradigm type 4: Overlap and competition



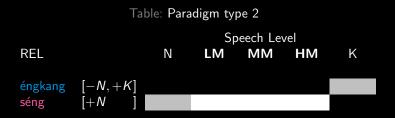
Paradigm type 4: Overlap and competition



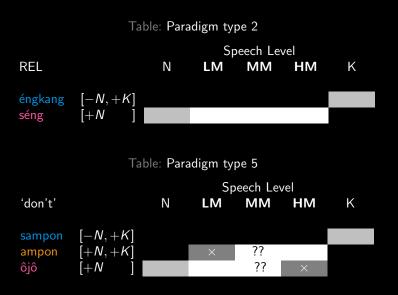
Paradigm type 4: Variation in patterns



Paradigm type 5: Same thing, other direction

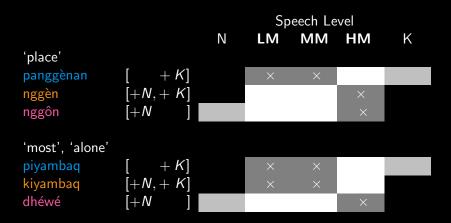


Paradigm type 5: Same thing, other direction



Paradigm type 6: Three-way competition

Table: Paradigm type 6



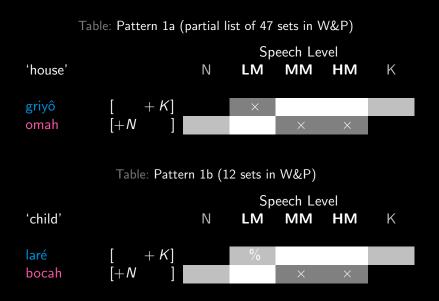
Lexical Classes by Number

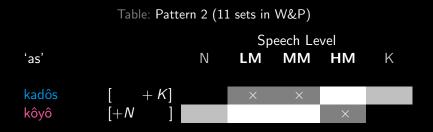
Table: Lexemes	by	class	(From	Clynes))
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	number (approx.)	% of lexicon
ngoko	580	3
krama	580	3
madya	30	< 0.2%
deferential	210	1
neutral	c.20,000	93

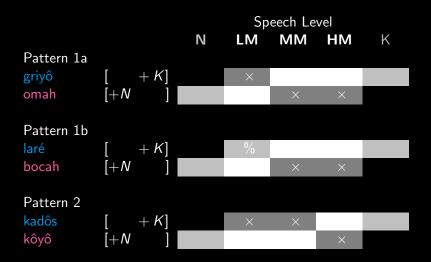
- ▶ About 30 each of the krama and ngoko lexemes are "style-markers", that is, either [+K, -N] or [-K, +N].
- The rest are "general lexis", that is, either [+K] or [+N].
- ► The great majority of lexical alternant sets thus involve a two-way alternation between a [+K] and [+N] forms.
- ▶ I call this "Paradigm type 0".

Paradigm type 0, Pattern 1





Comparison of Paradigm type 0 Patterns



Open issue 2: How to formalize the competition

- Different regions within the Madya sub-interval can be signaled by the choice (within particular paradigms) among competing alternants that are compatible with Madya.
- But how should this intuition be cashed out formally?
- ▶ It's not obvious! Recall that the Madya level is signaled by a sentence whose lexical items collectively specify +N, +K.
- Once we have one +N item, every additional item's semantic contribution will be trivial.
- Similarly for every additional +K item.
- In general, there will be no <u>semantic</u> differences between alternant sentences on which the pragmatic competition can be grounded.

Example

- Mung Mas
 Poino niki
 sing
 teka
 dhèk
 wingi.

 [+N]
 [+N]
 [+N]
 [+N]
 [+N]
 [+N]

 only
 older.male
 Poino
 here
 REL
 come
 time
 yesterday

 'Only
 Mas
 Poino
 here
 come
 time
 yesterday
 - ▶ [+N] mung 'most' competes with [+K] damung.
 - ► [+N] sing only alternates with the incompatible [-N, +K] ingkang.
 - So mung should signal a "lower" Madya sublevel, while sing should not.
 - ▶ But substituting mung for damung doesn't change the semantics of the sentence (the choice between +N and +K is redundant).
 - How to formalize and ground the competition?

Deferential alternants

(5) Bu Marta sampun dahar ingkang menika. Krama $\begin{bmatrix} -N, +K \end{bmatrix} \overline{DFR} \begin{bmatrix} -N, +K \end{bmatrix} \begin{bmatrix} -N, +K \end{bmatrix}$ Bu Marta mpun dahar sing niku. Madya $\begin{bmatrix} +N, +K \end{bmatrix} \overline{DFR} \begin{bmatrix} +N \end{bmatrix} \begin{bmatrix} +N \end{bmatrix} \begin{bmatrix} +N, +K \end{bmatrix}$ Bu Marta wis dahar sing kuwi. Ngoko $\begin{bmatrix} +N, -K \end{bmatrix}$ Bu Marta already eat REL that 'Bu Marta already ate that one.'

(+ the speaker honors Bu Marta)

- The subject-oriented honorific (deferential) alternant dahar 'eat' is compatible with all three speech levels.
- Argument honorifics (deferentials) are thus orthogonal to calculation of speech level.

Open issue 3: Semantics of deferentials

- Speech-level contrasts signal something about (or, have appropriateness conditions determined by) the relationship between the speaker and the addressee.
- Deferentials signal something about (or, have appropriateness conditions determined by) the relationship between the speaker and some grammatically or lexically determined referent.
- A simple theory: Deferentials rely on the same SL function that speech level features do. The difference is how they are "anchored":
 - Speech level distinctions are anchored to the contextual addressee.
 SL(s, <u>h</u>) > d
 - ► Deferentials are anchored to some grammatically or lexically determined referent.
 <u>\lambda \cdot SL(s, \cdot S) > d</u>

Open issue 4: Interaction between speech level and addressee-oriented deferentials

- I showed above that deferential forms like <u>dahar</u> 'eat' are not restricted in speech level.
- They instead show "deference" toward a grammatically determined referent (here, the agent/subject).
- Simple theory (again): Deferentials rely on the same SL function that speech level features do. The difference is how they are "anchored"
- Question: What happens when the grammatically determined referent is the addressee?

Question: What happens if this sentence is addressed to Bu Marta herself?



'Bu Marta (=the addressee) already ate that one.' (+ the speaker honors Bu Marta) According to Uhlenbeck (1970), the Ngoko and Krama speech levels can be further subdivided by into two sublevels, determined by whether deferentials are used for the addressee.

- Ngoko 1: Ngoko speech level, no use of deferentials targeting the addressee (can be used for third person referents).
- Ngoko 2: Ngoko speech level, regular use of deferentials targeting the addressee.
- Krama 1: Krama speech level, no use of deferentials targeting the addressee.
- Krama 2: Krama speech level, regular use of deferentials targeting the addressee.

If deferentials rely on the same "honorific function" that speech level features do (*SL* in this talk), it isn't clear how (or whether) the pattern described by Uhlenbeck can be modeled!

- The use of addressee-targeting deferentials, under this simple view, should raise the speech level above what it would be without addressee-targeting deferentials.
- For this to work at the Krama speech level, *dahar* should require that SL(s, x) > k', with x resolved to the addressee, and k' > k (where k is the 'floor' for Krama speech level).
- But Ngoko speech level requires SL(s, h) < n. Since n < k, this should make Ngoko speech level incompatible with addressee-targeting deferentials, contrary to fact.

Some ideas

- Maybe speech level features and deferentials rely on different honorific "dimensions"; their use might be at least to some extent orthogonal. ⇒ multiple dimensions of "honorification" picked out by different items.
- Or maybe we need a more dynamic theory, with contextually supplied honorific indices being "bumped up" by the use of particular items.
- The problem here (and its solution) might relate to the problem discussed earlier; namely, that our semantic theory thus far provides no obvious way to ground the effects of paradigmatic competition (since no extra information is conveyed by the use of "redundant" speech level features).

Any other ideas?

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