Question Intonation and Lexicalized Bias Expression

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Intonation

• Many languages express question meanings morpho-syntactically and prosodically.

• In English, Subject-Aux inversion renders a statement into an interrogative, which is often accompanied by a rising contour.

• Question meanings can be expressed by morpho-syntax alone.

• A declarative sentence can be interpreted as a question solely by a rising intonation.

(1) a. Is John coming↑  R.Interog
b. Is John coming↓  F.Interog
c. John is coming↑  R.Decl

Utterance types

• Although all of these utterance types express some kind of question meanings,

• Previous analyses agree upon that they are not completely interchangeable:

  • Bartels (1997) and Merin and Bartels (1997) for distinctions between rising interrogatives and falling interrogatives;
  • Gunlogson (2003) and Nilsenova (2002) for distinctions between falling declaratives and rising declaratives.

Japanese

• Similarly, in Japanese, a question particle ka marks a sentence as interrogative,

• Which is sometimes accompanied by a rising contour.

• A question meaning can also be expressed by a declarative sentence with a rising intonation.

(2) a. John-ga kuru ka↑
    John-Nom come Q
    ‘Is John coming?’  RI
b. John-ga kuru ka↓
    F.I
b. John-ga kuru↑
    R.D
This paper examines the interaction between these utterance types and the Japanese modal particle *darou*.

(3) John-ga kuru *darou*↓
   ‘John is coming (I bet)’

It offers an interesting test case

(4) a. *John-ga kuru *darou* ka↑
   ‘I wonder whether John is coming.’/*Let’s think about the question whether John is coming.’

b. John-ga kuru *darou* ka↓
   ‘John is coming, right?’

c. John-ga kuru *darou*↑
   ‘John is coming (I bet)’

It sheds new light on the ongoing discussion of the interpretations of each utterance type.

**Probability adverbs and *darou***

- Sugimura (2004) observes that *darou* can co-occur with high-probability adverbs, *tabun* ‘probably’ and *kitto* ‘certainly’
- but cannot co-occur with a low-probability adverb, *moshikasuruto* ‘maybe’.

(6) a. kare-wa tabun/kitto kuru *darou*.
   he-Top probably/certainly come DAROU
   ‘Probably/Certainly, he will come.’

b. *kare-wa moshikasuruto kuru *darou*.
   he-Top pmaybe come DAROU
   (Sugimura, 2004)

**Darou**

- *Darou* is a sentence-final particle that has a modal-flavor.
- When *darou* is used in a plain declarative, it expresses the speaker’s bias toward the content of the prejacent proposition.

(5) John-ga kuru *darou*.
   Jonn-Nom come DAROU
   ‘John is coming (I bet).’
   ‘≈’*Probably, John is coming.’

**Bias**

- *Darou* semantically indicates a high probability,
- namely a bias (more than 50 %) toward the event denoted by the proposition,
- hence *darou* is not compatible with a low-probability adverb (see Hara, 2006, for details).
Speaker-oriented

- The agent of the bias expressed by *darou* needs to be the speaker.

(8) a. *boku*-wa *ame*-ga *furu* *darou* kara
   *I*-Top *rain*-Nom fall *DAROU* because
   *kasa*-o *mot-te* *it-ta*
   *umbrella*-Acc have-and go-Past
   ‘Because it will rain (I bet), *I* took an umbrella with me.’

b. *John*-wa *ame*-ga *furu* *darou* kara *kasa*-o *mot-te* *it-ta*
   ‘Because it will rain (I bet), *John* took an umbrella with him.’

- The speaker’s bias toward ‘it will rain’ does not cause
  *John* to bring an umbrella.

Property of *darou*

- The properties of *darou* are summarized as follows:
  - *Darou* indicates a bias (more than 50%) toward the
    embedded proposition, i.e., $\theta$ is more likely than $\neg\theta$.
  - The agent of bias is the agent of the local speech act.

F0 analysis

- *Darou* exhibits interesting and subtly distinct
  interpretations when it is used with
  - different sentence types (Declarative or Interrogative)
  - different intonations (Falling or Rising).
- The F0 Contour was measured by an autocorrelation
  analysis of the PRAAT program (Boersma and Weenink, 2006).

rising interrogative without *darou*

- A high boundary tone is found at the end of the
  interrogative sentence (see also Venditti, 1995).

(9) *Yurie*-wa *wain-o* nomu-ka?
    *Yurie*-Top *wine*-Acc drink-Q
    ‘Does *Yurie* drink wine?’
**Intonation and Lexicalized Bias Expression**

*Yuri Hara*

**Introduction**

**Data**

Japanese 'darou'

**Previous Studies**

Merin 1994

Merin and Bartels (1997) on Intonations

Nilsenova (2002) on Rising Declaratives

**Lexical Specification**

References

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**Darou with a rising interrogative**

- *Darou* cannot be used in an interrogative construction with a rising intonation.
- The speaker is asked to pronounce (10) with a final high boundary tone, which is reported as ungrammatical by the speaker.

(10) *Yurie-wa wain-o nomu darou-ka†*

Yurie-Top wine-Acc drink DAROU-Q

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**Darou within a rising declarative**

- *Darou* with a rising declarative appears to function as a tag question.

(12) *Yurie-wa wain-o nomu darou-ka†*

Yurie-Top wine-Acc drink DAROU-Q

*Yurie drinks wine, right?*

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**Darou within a falling interrogative**

- If *darou* occurs within a falling interrogative, it is interpreted as a self-addressing question.

(11) *Yurie-wa wain-o nomu darou-ka†*

Yurie-Top wine-Acc drink DAROU-Q

*I wonder if Yurie drinks wine.*

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**Summary**

The influence of the boundary tone on interpretation is summarized in the following table.

<table>
<thead>
<tr>
<th></th>
<th>Interrogative</th>
<th>Declarative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rising</td>
<td>ungrammatical</td>
<td>tag question ('right?')</td>
</tr>
<tr>
<td>Falling</td>
<td>self-addressing question ('I wonder'/‘Let’s think’)</td>
<td>statement ('I have a bias'/‘I bet’)</td>
</tr>
</tbody>
</table>
Conversation as a negotiation game

- Each negotiation is executed by an Elementary Social Act
- An Elementary Social Act is a transition from one negotiation state to another:
  1. Claim
  2. Concession
  3. Retract
  4. Denial

Example

(13) Ego: The bridge is closed. (Merin, 1994)

- Discourse Participants: Ego (the speaker), and Alter (the hearer)
- The proposition at issue: ‘The bridge is closed’
- Ego prefers the proposition ‘The bridge is closed’ to enter the Common Ground.
- The claim for credibility is supported by Ego’s evidence or Ego’s social power.
- The game of whether ‘The bridge is closed’ should enter the Common Ground is initiated by Ego.

Parameters

(13) Ego: The bridge is closed. (Merin, 1994)

- Each negotiation state is instantiated by a 5-tuple, $<S, O, P, D, I>$.  
  - $S$: Actor-role
  - $O$: Issue orientation
  - $P$: Preference
  - $D$: Dominance
  - $I$: Initiator-role

Ego’s Concession

(14) a. Alter CLAIMs $\theta$ ‘the bridge is closed’.
    b. Ego CONCEDEs $\theta$ ‘the bridge is closed’.

Merin (1994)

The default for ‘concession’ is of something granted reluctantly in response to a claim.

- Actor-role: Ego
- The proposition at issue: ‘The bridge is closed’
- Alter prefers the proposition $\theta$. (Ego prefers $\neg\theta$)
- Dominance is set to Alter.
- The game of whether $\theta$ should enter the Common Ground is initiated by Alter.
- Concession: $<E_S, \theta_O, A_P, A_D, A_I>$
The parameter setting of each Elementary Social Act is summarized in the following table (simplified from Merin (1994)):

<table>
<thead>
<tr>
<th></th>
<th>S</th>
<th>O</th>
<th>P</th>
<th>D</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Claim</td>
<td>E</td>
<td>θ</td>
<td>E</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>Concession</td>
<td>E</td>
<td>θ</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Denial</td>
<td>E</td>
<td>θ</td>
<td>A</td>
<td>E</td>
<td>A</td>
</tr>
<tr>
<td>Retraction</td>
<td>E</td>
<td>θ</td>
<td>E</td>
<td>A</td>
<td>E</td>
</tr>
</tbody>
</table>

Employing Merin’s (1994) model, Merin and Bartels (1997) characterize intonation as “(re-)allocation of [D]-parameter value”:

(15) Final Rise (Merin and Bartels, 1997) in asking, Ego is alienating choice among alternatives (sets of possible worlds) to Alter i.e. making a Concession.

(16) Final Fall (Merin and Bartels, 1997) in requiring an answer from Alter, Ego is forcing Alter to commit himself to one mutually binding alternative (thus banning others from inclusion in the CG) and is thereby making a Claim.

Example: Final Rise

The Final Rise indicates shift of the authority of choice from Ego (the speaker) to Alter (the hearer).

(17) I didn’t know John took a job all the way over in Redwood City. Does he have a car now? H* H-H% (Merin and Bartels, 1997)

• Concession: \(<E_S, \theta_O, A_P, A_D, A_I>\)

Example: Final Fall

the Final Fall in (18) indicates Ego’s demand to Alter for commitment:

(18) John did good work for us last year. But I doubt that we could still have him going round on his bicycle. Does he have a car now? H* L-L% (Merin and Bartels, 1997)

• Claim: \(<E_S, \theta_O, E_P, E_D, E_I>\)
Summary

- Intonation sets Dominance value.

<table>
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<tr>
<td>Rising $&lt;E_S, \theta_O, A_P, A_D, A_I&gt;$</td>
</tr>
<tr>
<td>Falling $&lt;E_S, \theta_O, E_P, E_D, E_I&gt;$</td>
</tr>
</tbody>
</table>

Example

- The game of whether a proposition $\theta$ should enter the common ground is initiated by Ego (the speaker).
- Dominance is set to Alter. This is either
  - because Ego does not have necessary information to make a commitment or
  - because Ego gives up the authority of choice to Alter in order to indicate his politeness.

(19) a. At Tim’s graduation. Tim is standing next to a woman in her sixties.
    Jack: You are Tim’s mother? (Nilsenova, 2002)
    b. Waiter (to customer): My name is Carl? I’ll be your waiter tonight? (Gussenhoven and Chen 2000)
default parameter settings

- Integrating Merin and Bartels (1997), and Nilsenova (2002):
  - Intonation allocates Dominance value.
  - A rising declarative specifies Initiator-role as E (the speaker), and Dominance as A (the addressee)
- the classification of utterance types in terms of default parameter settings of Elementary Social Acts:

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<td>(&lt; E_S, \theta_O, A_P, A_D, E_I &gt;)</td>
</tr>
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<td>Falling: (&lt; E_S, \theta_O, E_P, E_D, E_I &gt;)</td>
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Assumption
Preference is defeasible within morphosyntactic and prosodic classification of utterance types (i.e., without darou).

rising interrogative

(21) *Yurie-wa wain-o nomu darou-ka*↑
Yurie-Top wine-Acc drink DAROU-Q

- a rising interrogative is not compatible with darou.
- Merin and Bartels (1997) define a rising interrogative as a Concession:
  - Ego (the speaker/the questioner) is ready to accept Alter’s Claim to be in Common Ground.
- Therefore, the Initiator-role of a rising interrogative is Alter, which conflicts with the meaning of darou:
  - RI: \(< E_S, \theta_O, A_P, A_D, A_I >\)
  - darou: \(< E_S, \theta_O, E_P, (\cdot)_D, E_I >\)
The interaction between the lexical specification of `darou` and the meaning of utterance types is summarized below:

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<td><code>&lt; E_S, θ_O, E_P, A_D, E_I &gt;</code></td>
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<td><code>darou</code>↓ statement (<code>'I have a bias'</code>)</td>
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<td>self-addressing question (<code>'I wonder'/'Let's think'</code>)</td>
<td><code>&lt; E_S, θ_O, E_P, E_D, E_I &gt;</code></td>
</tr>
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- The falling interrogative is compatible with `darou`, which results in the interpretation that Ego is demanding commitment from himself:
  - FI with `darou`: `< E_S, θ_O, E_P, E_D, E_I >`

- The rising declarative is also compatible with `darou`
- the combination yields the interpretation of a tag question,
- since `darou` indicates that Ego (the speaker) prefers the adoption of the proposition:
  - RD with `darou`: `< E_S, θ_O, E_P, A_D, E_I >`

We have looked at the influence of intonation and sentence types on interpretation of sentences with the Japanese modal particle `darou`.

I integrated two previous studies on English intonation, Merin and Bartels (1997) and Nilsenova (2002), in order to provide parameter settings of different utterance types.

I propose that `darou` lexically specifies the values of Preference and Initiator-role as the speaker.

my proposal correctly predicts the infelicity of the use of `darou` in rising interrogatives and distinct interpretations observed in rising declaratives, falling interrogatives and falling declaratives.
Remaining Questions

- there is no distinction between falling interrogative and falling declarative.
  - Merin and Bartels (1997): “choice-related aspects inherent to questions”
- Preference is defeasible. Conversational implicature?

References


