

# MISMATCHES BETWEEN INFORMATION STRUCTURE AND PROSODY: CONTRAST-MARKING IN SPOKEN BRITISH ENGLISH

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## A- / B-accent distinction: (cf. Jackendoff, 1972)

- A-accent ( $H^* L-L^0$ ) → Focus accent
- B-accent ( $((L+)H^* L-H^0)$ ) → (Contrastive) Topic accent (i.a. Büring, 2003; Pierrehumbert & Hirschberg, 1990; Steedman, 2000)

## H\* vs. L+H\*: (Arvaniti et al., 2022; Ladd, 2008)

- H\* and L+H\* different realizations of same accent category
- H\* - L+H\* → emphasis continuum
- L+H\* marks (Arvaniti et al., 2022, p. 840)
  - emphasis
  - Contrast

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## Complex parallelism: prototypical cases of Contrast

- two (or more) assertions contrasted at two positions
- two potentially contrastive sets of alternatives created
  - $M_1 = \{John, Peter\}$
  - $M_2 = \{chicken, veal\}$

(1) [John]<sub>contr.1</sub> bought [chicken]<sub>contr.2</sub> and [Peter]<sub>contr.1</sub> (bought) [veal]<sub>contr.2</sub>.

(Repp, 2010, p. 1339)

- RQ1: Can a refined analysis of natural data using QUDs contribute to our understanding of Contrast (-ive Topic/Focus) and its prosodic features?
- RQ2: What is the nature of the interaction between Contrast (-ive Topic/Focus) and prosody? Does a contrastive pitch accent exist or is the interface characterized by mismatches?
- RQ3: How can the information structure–prosody interface be accounted for in Functional Discourse Grammar (FDG)?

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- RQ3: How can the information structure–prosody interface be accounted for in Functional Discourse Grammar (FDG)?

## ICE-GB: (Nelson et al., 2002)

- covers a wide variety of genres (private conversations, interviews, etc.)
- includes audio files

## Data collection & analysis:

- 24 parallel structures
  - 22 parallel structures with two assertions
  - 2 parallel structures with three assertions
- Prosodic analysis in ToBI (e.g. Silverman et al., 1992)
- QUD analysis of (Riester et al., 2018)
  - information structure
  - discourse relations (following Brunetti, 2024; Repp, 2016)

## Question-under-discussion approach: (cf. Riestler et al., 2018)

- each assertion comes with an implicit question-under-discussion
- QUD determines which part of assertion is in Focus
- parallelism reflects question/sub-question strategy (cf. Büring, 2003)
  - involves a CT-F structure
  - CT background w.r.t. sub-question, but focus w.r.t. super-question

(2) John was mowing the lawn, but Pete was pruning the roses.

$Q_1$ : {Were John and Pete mowing the lawn?}

>  $Q_{1.1}$  {What was John doing?}

> >  $A_{1.1}$  [[John]<sub>CT</sub> [was mowing the lawn]<sub>Foc</sub>]~

>  $Q_{1.2}$  {What was Pete doing?}

> >  $A_{1.2}$  [[Pete]<sub>CT</sub> [was pruning the roses]<sub>Foc</sub>]~.

(Brunetti, 2024, p. 200)

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> > A<sub>1.2</sub> [[Pete]<sub>CT</sub> [was pruning the roses]<sub>Foc</sub>]~.

(Brunetti, 2024, p. 200)

## (Contrastive) discourse relations: (Repp, 2016)

- SIMILAR: “[T]he proposition associated with  $d_1$  and the proposition associated with  $d_2$  can both be true in the evaluation world;  $d_1$  and  $d_2$  make the same kind of contribution to the current question under discussion”

(3) John was mowing the lawn. Pete was too.

(Repp, 2016, p. 277)

- OPPOSE: “[T]he proposition associated with  $d_1$  and the proposition associated with  $d_2$  can both be true in the evaluation world;  $d_1$  and  $d_2$  make opposing contributions to the current question under discussion”

(4) John was mowing the lawn, but Pete was pruning the roses. (Repp, 2016, p. 277)

$d_{1/2}$  = *discourse segments*

## (Contrastive) discourse relations: (Repp, 2016)

- CORRECTION: “ $d_1$  rejects  $d_2$  because certain background assumptions for the felicitous use of  $d_1$  are not met, or because the propositions associated with  $d_1$  and  $d_2$  cannot both be true in the evaluation world”

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### Contrastive discourse relations:

- **CONTRADICTION**: “[...] the propositions associated with  $d_1$  and  $d_2$  cannot both be true in the evaluation world”
- (5) The organisation ARK has said that sea-level will rise by one metre, [...] but the Government of the UK has said twenty centimtres sea-level rise [...]

(adapted from ICE-GB S1B-007 #199/204)

## Overview:

- 24 parallel structures (= 50 individual utterances)
  - 22 parallel structures with two assertions (= 44 individual utterances)
  - 2 parallel structures with three assertions (= 6 individual utterances)
- distribution of relations as expected (see also Brunetti, 2024, on French/Italian)

| Discourse relation | #  |
|--------------------|----|
| SIMILAR            | 19 |
| OPPOSE             | 4  |
| CONTRADICTION      | 2  |

Table 1: Distribution of discourse relations

**Contr.1 position:**

- in Riester et al. (2018) → Contr.1 position associated with CT
- CT assumed to be B-accented (cf. Büring, 2003)
  - consistent CT-marking (L+(!)H\*) in prosody expected
  - results indicate relevance of discourse relations

| Contr.1       | (!)H* | L* | L+(!)H* | L*+ H | o |
|---------------|-------|----|---------|-------|---|
| SIMILAR       | 21    | 1  | 15      | 1     | 1 |
| OPPOSE        | 4     | 1  | 2       | 0     | 0 |
| CONTRADICTION | 0     | 0  | 4       | 0     | 0 |

Table 2: Pitch accents on Contr.1 position

Results indicate some amount of mismatch between pragmatically-defined Contrast in terms of complex parallelism & prosodic Contrast-marking

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## Basic argument:

- no consistent CT-marking → not all parallel structures involve CT
- discourse relations relevant (cf. Brunetti, 2024; Repp, 2016)
  - SIMILAR: non-contrastive, i.e. no CT-marking
    - both H\*/L+H\* mark different degrees of emphasis
    - intuitive contrastiveness inferential (i.e. addressee-bound interpretative effect)
  - OPPOSE: can, but need not, be contrastive
    - depending on context, L+H\* marks emphasis or Contrast
    - contrastiveness either inferential or implicational
  - CONTRADICTION: always contrastive
    - L+H\* always marks CT rather than emphasis
    - contrastiveness implicational (i.e. speaker-bound implicature)

## SIMILAR relation:

- (6) So the first thing I wanted to do was to have rabbis and teachers who could really challenge and stimulate **and** the second thing I wanted to do was to spread a sense of that challenge and excitement to the wider Jewish community.

Q<sub>1</sub>: {How can you make Judaism intellectually stimulating and challenging?}

> Q<sub>1.1</sub>: {What was the first thing you wanted to do?}

> > A<sub>1.1</sub>: [The **FIRST** thing I wanted to do]<sub>Top</sub> was to have rabbis and teachers who could really challenge and stimulate.

> Q<sub>1.2</sub>: {What was the second thing you wanted to do?}

> > A<sub>1.2</sub>: [The **SECOND** thing I wanted to do]<sub>Top</sub> was to spread a sense of that challenge and excitement to the wider Jewish community.



## OPPOSE relation:

(7) Well certainly some hedgerows are very old indeed, **but** an awful lot of hedgerows were created in the late th late eighteenth and nineteenth centuries.

Q<sub>1</sub>: {Are all hedgerows very old?}

> Q<sub>1.1</sub>: {What about some of these hedgerows?}

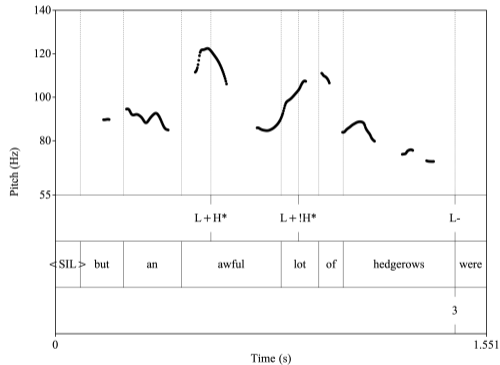
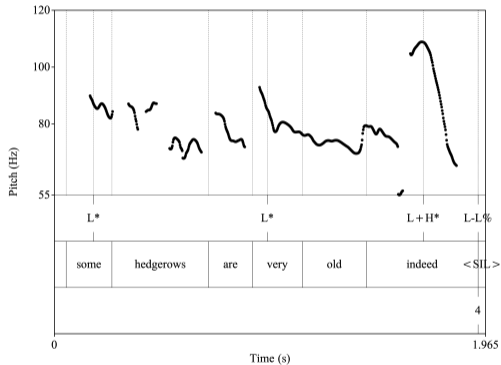
>> A<sub>1.1</sub>: [SOME hedgerows]<sub>CT</sub> are very old indeed.

> Q<sub>1.2</sub>: {What about an awful lot of these hedgerows?}

>> A<sub>1.2</sub>: [An awful LOT of hedgerows]<sub>CT</sub> were created in the late th late eighteenth and nineteenth centuries.

(S1B-037 #048)

- d<sub>1</sub> and d<sub>2</sub> make opposing contributions to QUD (cf. Brunetti, 2024; Repp, 2016)
- violation of expectation present



Play

- L+!H\* on *lot* marks Contrast
- asymmetric marking (→ contrastiveness unplanned)

**CONTRADICTION relation:**

- (8) So a group of Jews say the only way we can protect Judaism is to withdraw.  
Another group of Jews say the only way we can sustain Jewish identity is to  
redefine its terms.

Q<sub>1</sub>: {What do different groups of Jews say is the only way to protect Judaism?}

> Q<sub>1.1</sub>: {What does one group say?}

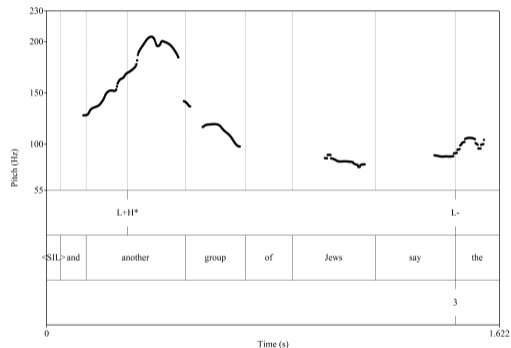
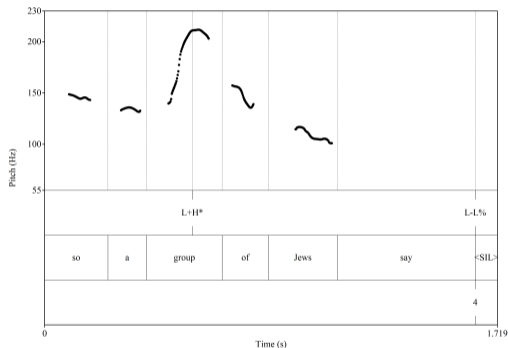
> > A<sub>1.1</sub>: So [a GROUP of Jews]<sub>CT</sub> say the only way to protect Judaism is to  
withdraw.

> Q<sub>1.2</sub>: {What does the other group say?}

> > A<sub>1.2</sub>: [ANOTHER group of Jews]<sub>CT</sub> say the only way we can sustain Jewish  
identity is to redefine its term.

(S1B-047 #095-098)

→ propositions expressed in argument clause of d<sub>1</sub>/d<sub>2</sub> incompatible



Play

- L+H\* on *group* and *another* reflex of Contrast
- CONTRADICTION only type of parallelism that may be realised reliably with contrastive prosody

## Contrastive Focus marked prosodically?

| Contr.2       | (!)H* | L* | L+(!)H* | L*+ H |
|---------------|-------|----|---------|-------|
| SIMILAR       | 29    | 3  | 8       | 1     |
| OPPOSE        | 3     | 1  | 3       | 0     |
| CONTRADICTION | 4     | 1  | 0       | 0     |

Table 3: Pitch accents on Contr.2 position

### Contr.2 position:

- 75% of Focus expressions (!)H\* → no Contrast-marking in Focus position
- L+(!)H\* → emphatic

## SIMILAR/OPPOSE:

- (9) In war, the first casualty is truth. In business and politics, the first casualty of difficult times is the future.

Q<sub>1</sub>: {What is the first casualty where?}

> Q<sub>1.1</sub>: {What is the first casualty in war?}

>> A<sub>1.1</sub>: In war, the first casualty is [TRUTH]<sub>Foc</sub>.

> Q<sub>1.1</sub>: {What is the first casualty in business and politics?}

>> A<sub>1.1</sub>: In business and politics, the first casualty of difficult times is [the FUTURE]<sub>Foc</sub>.

(S2A-023#022-023)

- L+H\* on *truth* and *future*
- emphatic rather than contrastive

## Data:

- analysis of 24 parallel structures; annotated for
  - information structure (Riester et al., 2018)
  - discourse relations (Brunetti, 2024; Repp, 2016)
  - prosody

## Results:

- discourse relations affect information-structural properties of complex parallelism
- not all parallel structures characterised by CT-F structure
  - SIMILAR → no CT; L+H\* related to emphasis
  - OPPOSE → CT possible; L+H\* either emphasis or Contrast
  - CONTRADICTION → CT; L+H\* related to Contrast
- no special prosodic marking on Focus expressions

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## General characterisation:

- "form-oriented function-to-form approach" (Hengeveld & Mackenzie, 2008, pp. 38–39)
  - form-oriented: only systematically coded functional elements represented
  - function-to-form: functions used to explain the form
- hierarchical top-down organisation (i.e. directional)
- four levels of analysis
  - Interpersonal Level (discourse & pragmatics)
  - Representational Level (semantics)
  - Morphosyntactic Level (morphosyntax)
  - Phonological Level (phonology)

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## Contrast and emphasis at the IL: (Hengeveld & Mackenzie, 2008)

- Contrast → pragmatic function, e.g.  $(R_I)_{\text{Contr}}$ .
- Emphasis → interpersonal operator, e.g.  $(\text{emph } R_I)$

## Prosody: (cf. Kojadinović, 2022; Mittendorfer, n.d.)

- pitch accents represented by operators (abstracted away from individual distinctions)
- 2 macro-operators
  - High group **H** →  $H^*$ ,  $!H^*$ ,  $H+!H^*$ ,  $L+H^*$ ,  $L+!H^*$ 
    - $H^F$  (Focus accent)
    - $H^C$  (Contrastive accent)
    - $H^{\text{emph}}$  (Emphatic accent)
  - Low group **L** →  $L^*$ ,  $L^*+H$ ,  $L^*+!H$

- (10) a. [The first thing I wanted to do]<sub>IP</sub> was to have rabbis and teachers who could really challenge and stimulate.
- b. IL: (+id **emph** R<sub>I</sub>: [(R<sub>J</sub>: [+S, -A]) (T<sub>I</sub>)] (R<sub>I</sub>))
- c. PL: (IP<sub>i</sub>: (PP<sub>i</sub>: [(**H<sup>emph</sup>** PW<sub>i</sub>: – the first thing –) (PW<sub>j</sub>: – I wanted to do –)] (PP<sub>i</sub>)) (IP<sub>i</sub>))
- (11) a. [So another group of Jews say]<sub>IP</sub> the only way to protect Judaism is to withdraw.
- b. IL: (-id R<sub>I</sub>: [(T<sub>I</sub>) (T<sub>J</sub>)] (R<sub>I</sub>))<sub>Contrast</sub>
- c. PL: (IP<sub>i</sub>: (**H<sup>Contr.</sup>** PP<sub>i</sub>: [(PW<sub>i</sub>: – another group –) (PW<sub>j</sub>: – of Jews –)] (PP<sub>i</sub>)) (IP<sub>i</sub>))

- (12) a. In business and politics, the first casualty of difficult times can all too easily be the future.
- b. IL: (A<sub>I</sub>: [ ... (C<sub>I</sub>: [... (+id **emph** R<sub>I</sub>)**Foc**] (C<sub>I</sub>))] (A<sub>I</sub>))
- c. PL: (IP<sub>i</sub>: (**H<sup>F</sup>**<sub>PP<sub>i</sub></sub>: [(**H<sup>emph</sup>**<sub>PW<sub>i</sub></sub>: – the future –]) (PP<sub>i</sub>)) (IP<sub>i</sub>))