Blazing the narrative path:
Motion events and narrative structure in the English pear stories

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ICLC -12 23-28 June 2013
The narrative path

• **Narrative as Source-Path-Goal schema**
  – Many studies have explored the metaphorical realizations of S-P-G in narrative (e.g., Johnson, 1993; Talmy, 2000)
    • **Plot**: overarching trajectory of characters/events; ‘the hero’s journey’
  – Bamberg (1994): motion event as an **“integrated link”** used to construct a **“narrative unit”** across different scenes
    • German
    • Developmental (children vs. adults)
    • Static stimuli (frog story)
The narrative path

• **Narrative as Source-Path-Goal schema**
  
  – **Narrative Units**: mental scenes consisting of spatial arrangements and manipulable figures
    
    • **centers of interest** (Chafe, 1980/1994)
    • **mental models** (Johnson-Laird, 1983)
    • **situation models** (Zwaan & Radvansky, 1998)
The narrative path

- **Narrative as Source-Path-Goal schema**
  - Progression through narrative = transitioning between NUs via the motion of a selected Figure (F)

![Diagram showing progression through narrative units](image)
The narrative path

- **Narrative as Source-Path-Goal schema**
  - **Source/Goal** = narrative units
  - **Path** = volitional motion event

```
The narrative path
```
```
Narrative Unit 1
SOURCE
```
```
Narrative Unit 2
GOAL
```
```
PATH
```
```
Narrative Unit 1
F
```
```
Narrative Unit 2
F
```

```
Time course of narrative
```
The narrative path

- **Narrative as Source-Path-Goal schema**
  - Transition between the narrative units = crossing an **episode boundary** (Chafe, 1994; p. 138)
The pear film (Chafe, 1980)

- **Basic experience**: linear sequence of distinct events, perspectives, etc.
The narrative path

• **Transforming experience**: carving out narrative units

*Time course of narrative*
The narrative path

- Transforming experience: carving out narrative units

Time course of narrative
The narrative path

- Narrative as Source-Path-Goal schema

Time course of narrative
Current study

• Research question
  – How do we construct narratives online by means of the narrative path?
    – Do the motion predicates themselves exhibit any systematic tendencies with respect to narrative function?
      » deictic motion predicates (COME and GO)
Data

• **Original English pear stories** (Chafe, 1980)
  – 20 narratives
  – Approx. 19,000 words
  – Transcribed and segmented into *intonation units*

*Thanks to Jack Du Bois for contributing his revised version.*
Data

• **Original English pear stories** (Chafe, 1980)
  – **413** translational motion events
    • Only human themes
    • Coded for
      – **Verb Lemma** (COME, GO, etc.)
      – **First Mention** of a character (yes, no)
        » Is the first mention of a character accomplished with a motion predicate?
      – **First Motion** of a character (yes, no)
        » What type of motion verb is used to start treating characters as motile figures?
      – **Path Function**
        » Is the character entering, exiting, or moving within an NU?
Method

- **Distinctive Collexeme Analysis (DCA)**
  (Gries & Stefanowitsch, 2004)
  
  - **Association strength** of a level of IV (e.g., Verb Lemma) to the levels of a DV (e.g., Path Function: enter, exit, and internal)
  - Can be positive (attraction) or negative (repulsion)
  - Helps us to determine the functions of a verb given the overall distribution of motion predicates

*DCA carried out with Coll.Analysis 3.2 (Gries, 2007)*
Method

• **Distinctive Collexeme Analysis (DCA)**

(Gries & Stefanowitsch, 2004)

• Three Distinctive Collexeme Analyses

  1. **Path Function ~ Verb Lemma**
     » Are certain verbs more likely to be used as NU-entering/exiting/internal motion?

  2. **First Mention (of a story character) ~ Verb Lemma**
     » Are certain verbs more likely to be used to introduce characters into the narrative?

  3. **First Motion (of a story character) ~ Verb Lemma**
     » Are certain verbs more likely to be used to initiate the motile status of a character?

*DCA carried out with Coll.Analysis 3.2 (Gries, 2007)*
Results

- **DCA 1: Path Function ~ Verb Lemma**

<table>
<thead>
<tr>
<th></th>
<th>ENTER</th>
<th>EXIT</th>
<th>INTERNAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLIMB</td>
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<td>**</td>
</tr>
<tr>
<td>COME</td>
<td>***</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>GO</td>
<td>*</td>
<td>***</td>
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<tr>
<td>HAPPEN</td>
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<tr>
<td>HEAD</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>PASS</td>
<td></td>
<td>*</td>
<td>**</td>
</tr>
<tr>
<td>RIDE</td>
<td></td>
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</tbody>
</table>

***p<0.001   **p<0.01   *p <0.05  (Fisher-Yates exact test)

Only significantly attracted/repulsed verbs are shown
## Results

### DCA 1: Path Function ~ Verb Lemma

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<tr>
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<td>**</td>
</tr>
<tr>
<td>RIDE</td>
<td></td>
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**Strongest ENTER**

**Strongest EXIT**

***p<0.001   **p<0.01   *p <0.05  (Fisher-Yates exact test)

Only significantly attracted/repulsed verbs are shown
**Results**

- **DCA 2: First Mention ~ Verb Lemma**

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
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<tbody>
<tr>
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<tr>
<td>GO</td>
<td></td>
<td>**</td>
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<td>HAPPEN</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>WALK</td>
<td></td>
<td>*</td>
</tr>
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***p<0.001   **p<0.01   *p <0.05  (Fisher-Yates exact test)

Only significantly attracted/repulsed verbs are shown
## Results

- **DCA 2: First Mention ~ Verb Lemma**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>COME</strong></td>
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<td>***</td>
</tr>
<tr>
<td><strong>GO</strong></td>
<td>**</td>
<td>**</td>
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<td>**</td>
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</tr>
<tr>
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Only significantly attracted/repulsed verbs are shown

***$p<0.001$    **$p<0.01$    *$p<0.05$ (Fisher-Yates exact test)
## Results

- **DCA 3: First Motion ~ Verb Lemma**

<table>
<thead>
<tr>
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<tbody>
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<td>COME</td>
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</tr>
<tr>
<td>HAPPEN</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>PASS</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>RIDE</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>WALK</td>
<td></td>
<td>*</td>
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</tbody>
</table>

***p<0.001  **p<0.01  *p <0.05 (Fisher-Yates exact test)

Only significantly attracted/repulsed verbs are shown
## Results

### DCA 3: First Motion ~ Verb Lemma

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
<th>Strongest YES</th>
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</thead>
<tbody>
<tr>
<td>COME</td>
<td>***</td>
<td></td>
<td>***p&lt;0.001</td>
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<tr>
<td>HAPPEN</td>
<td>*</td>
<td></td>
<td>**p&lt;0.01</td>
</tr>
<tr>
<td>PASS</td>
<td></td>
<td>*</td>
<td>*p &lt;0.05</td>
</tr>
<tr>
<td>RIDE</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>WALK</td>
<td></td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

***p<0.001  **p<0.01  *p <0.05 (Fisher-Yates exact test)

Only significantly attracted/repulsed verbs are shown
Results

• Discourse functions of deictic predicates
  – COME
    • introduces entities
      – Entering the narrative (presentative function)
        » a guy comes by leading a goat. (Speaker 1)
Results

• Discourse functions of deictic predicates
  – COME
    • introduces entities
      – Entering the narrative (presentative function)
      – Entering a narrative unit (first time in a particular scene)
        » and .. just when he realizes that one basket is .. gone,
        the three boys come along,
        eating their pears. (Speaker 3)
Results

• Discourse functions of deictic predicates
  – COME
    • introduces entities
      – Entering the narrative (presentative function)
      – Entering a narrative unit (first time in a particular scene)
    • initiates entities as motile figures (first motion)
      » the first scene is about ... there's a man up in the tree.
      (lines omitted)
      he comes down with a load of pears, (Speaker 2)
Results

• Discourse functions of deictic predicates
  – COME
    • introduces entities
      – Entering the narrative (presentative function)
      – Entering a narrative unit (first time in a particular scene)
    • initiates entities as motile figures (first motion)
  – GO
    • Dismisses entities from the scene (exit function)
      » A:nd u:h then he goes off,
      .. and that's the end of that story,  (Speaker 9)
Results

• Discourse functions of deictic predicates
  – COME
    • introduces entities
      – Entering the narrative (presentative function)
      – Entering a narrative unit (first time in a particular scene)
    • initiates entities as motile figures (first motion)
  – GO
    • Dismisses entities from narrative units (exit function)
    • Disprefers introductions
Discussion

• COME: First Mention
  – Focuses the arrival of a character into the zone of activity
  – Good choice simply because it’s intransitive (e.g., Du Bois, 1987; Cumming, 1994)
    • Introducing characters is cognitively demanding and therefore tends to be realized with simple argument structure
  – Doesn’t overburden the already cognitively demanding task of introducing a new referent with details of manner
    • However, amenable to secondary specifications of manner in the form of participials
      » U::m then u:h a .. girl on a bicycle, comes riding towards him, (Speaker 6)
Discussion

• **COME: First Motion**
  
  – As Bamberg (1994) points out, entities tend to be introduced by means of the *least presupposing form.*
  
  • Deictic predicates are perhaps the **least presupposing motion predicates**
  
  • Encode the least amount of information for both path and manner of motion
    
    – Only the crossing of a deictic threshold
    
    – Compare against ‘walk’ and ‘enter’
Discussion

**COME: Narrative Unit entrances**

- May have something to do with the limitations regarding scope of cognitive awareness
  - Schematic transition from ‘THERE’ to ‘HERE’
    - We don’t need to expend resources to track a **SOURCE**
    - Source-Path-Goal frame invoked, but purely schematically
    - More trans. info on its own than a manner-motion predicate
Discussion

• **COME: Narrative Unit entrances**
  – May have something to do with the limitations regarding scope of cognitive awareness
    • Schematic transition from ‘THERE’ to ‘HERE’
    • **Deictic threshold** reinforces the **emergence** of entities from without the unit to within the unit
Discussion

• GO: Narrative Unit exits
  – May have something to do with the limitations regarding scope of cognitive awareness
  • Schematic transition from ‘HERE’ to ‘THERE’
    – We don’t need to expend resources to track a GOAL
    – Source-Path-Goal frame invoked, but purely schematically
    – More trans. info on its own than a manner-motion predicate
Discussion

• **GO: Narrative Unit exits**
  – May have something to do with the limitations regarding *scope of cognitive awareness*
    • Schematic transition from ‘HERE’ to ‘THERE’
    • **Deictic threshold** reinforces the *removal* of entities
      (from within the unit to without the unit)
Discussion

• **GO: Narrative Unit exits**
  
  – Further, in NU transitions, *frees up resources* involved in the construction of the next NU *(no commitment to 2 NUs simultaneously)*

![Diagram showing the time course of narrative and episodic boundary: Cx of new NU between NU 1 and NOT-NU leading to NU 2.]
Discussion

• The narrative path
  – With deictic motion predicates, anyway

…the boys go .. um .. walking along, ............

CRASH - exit
Discussion

• The narrative path
  – With deictic motion predicates, anyway

...the boys go .. um .. walking along, .......... the three boys come along,

CRASH - exit

TREE - enter (Speaker 3)
Conclusions

• When verbalizing the experience of a non-verbal narrative, we
  – chunk events into broader **narrative units**
  – Transition into and out of these units via a **narrative path**
    • Link NUs with concrete motion events
    • Manipulate figures along this path to serve a number of functions
Conclusions

• Certain verb types cluster around particular functions
  – COME
    • presentative
    • initiation as motile
    • entering narrative units
  – GO
    • exiting narrative units
Conclusions

• Finally, the functions of the deictic predicates
  – reflect **lexical-semantic properties** of the verbs
    • Deictic thresholds; schematicity of sources/goals
  – are tuned to **contain cognitive effort** at crucial points within the online construction of the narrative
    • unspecified goals at NU transitions (episode boundaries)
Thank you.
References


Results: Prepositions

Node 2 (n = 145)

Node 4 (n = 18)

Node 5 (n = 51)

PATH_PREP
p < 0.001

{along, around, by, from, into, out, over, past, through, to, toward, up} {across, away, in, off, on}

PATH_PREP
p = 0.006

{in, on}

{across, away, off}
Results: Prepositions

Proportion of preposition types (function = enter)
Results: Prepositions

• Discourse functions of path-specifying prepositions
  – Entrances

<table>
<thead>
<tr>
<th>Prep</th>
<th>Freq</th>
<th>Verb types</th>
</tr>
</thead>
<tbody>
<tr>
<td>along</td>
<td>14</td>
<td>COME (12), DRIVE (2)</td>
</tr>
<tr>
<td>by</td>
<td>35</td>
<td>COME (17), GO (6), WALK (5), HAPPEN (4), RIDE (2), PASS (1)</td>
</tr>
<tr>
<td>past</td>
<td>10</td>
<td>GO (4), COME (2), WALK (2), DRAG (1), LEAD (1)</td>
</tr>
</tbody>
</table>
Results: Prepositions

Proportion of preposition types (function = exit)
### Results: Prepositions

- **Discourse functions of path-specifying prepositions**

  - **Exits**

<table>
<thead>
<tr>
<th>Prep</th>
<th>Freq</th>
<th>Verb types</th>
</tr>
</thead>
<tbody>
<tr>
<td>away</td>
<td>8</td>
<td>RIDE (5), WALK (3)</td>
</tr>
<tr>
<td>off</td>
<td>41</td>
<td>RIDE (14), GO (12), WALK (7), DRIVE (4), TAKE (2), BICYCLE (1), HEAD (1)</td>
</tr>
<tr>
<td>on</td>
<td>7</td>
<td>GO (6), WALK (1)</td>
</tr>
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</table>
Proportion of deictic predicates by speaker
Frequency of character introductions outside of motion predicates