Verb Adverb Modification: Why *lightly* isn’t *playfully*, yet *playfully* can be *lightly*

Anja Goldschmidt, UiL OTS

A.Goldschmidt@uu.nl

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The phenomenon

**Observation**: The use of certain modifiers in adverbial modification of hit-verbs triggers an inference on the force component of the verb.

For example:

(1) Nancy hit Oliver playfully/friendly on the shoulder.

→ she hit him lightly

Evidence:

- playfully and friendly are compatible with hard in contrastive construction, meaning they have a contrastive meaning.
- (2) Nancy hit Oliver playfully/friendly, but still rather hard, on the shoulder.

The sentence in (2) also shows that the "lightly" reading of playfully and friendly can be cancelled: but is a contrastive conjunction.

An inference in the "opposite" direction can be observed with e.g. angrily.

This is not an individual occurrence, but can be found with many adverbials, cross-cutting traditional distinctions listed in e.g. Schäfer (2006).
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**Table:** format and predictions of the questionnaire study
A pilot questionnaire study: results

The Data

Anja Goldschmidt (A.Goldschmidt@uu.nl)
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- 3 participants had to be excluded on the basis of answering the controls wrong.
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- 1 item of the type “playfully, but hard” had to be excluded on the basis of the sentence having no truth value.
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- 1 item of the type “playfully, but hard” had to be excluded on the basis of the sentence having no truth value.
- Based on a score calculated per participant (over all items) we concluded that we have solid evidence for the phenomenon and could start working on a self-paced reading study to see if the inference is strong enough to show up in online processing.
The self-paced reading experiment: the set-up

30 stimuli plus 30 controls in Latin square design

stimuli example:

1) Jet sloeg Jan speels, en tegelijk vrij hard, op zijn schouder.

≈ Jet hit Jan playfully, and at the same time rather hard, on his shoulder.

corresponding control example:

2) Jet sloeg Jan boos, en tegelijk vrij hard, op zijn schouder.

≈ Jet hit Jan angrily, and at the same time rather hard, on his shoulder.

critical area: hard, on his shoulder (target plus spill-over)

60 fillers (so in total 90 items per list)

control question after about 20% of the items

same 4-point Likert scale rating after every item

46 participants per list (92 in total), of which 34 participants for list 1 and 38 participants for list 2 remained after exclusion (< 70% of the control questions correct)
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Another approach - Frame Semantics

Frame Semantics as coined by Barsalou (1992) and e.g. Petersen (2007) models concepts as recursive attribute-value structures.
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For example, *to hit*:
Hitting playfully - the idea

The semantics of playfully (Oxford English Dictionary): “intended for one’s own or others’ amusement rather than seriously: he gave me a playful punch on the arm” → no damage intended
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2 The Data

3 Analysis

4 Concluding remarks

5 Appendix
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References


Thanks to:

- my student Suzanne Dekker for help with the empirical/experimental part of this project,
- the members from the research group B09 from the SFB 991 in Düsseldorf for the fruitful discussions and many ideas,
- NWO - Promoties in de Geesteswetenschappen and STToRE, SFB 991, HHU for financing (parts of) this project,
- you, for listening.
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Questionnaire items

Nancy hit (*verb*) Oliver playfully (*adverb 1*), but still rather hard (*adverb 2*), on the arm.

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<td>hard (hard)</td>
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<tr>
<td>kussen (to kiss)</td>
<td>vrolijk (cheerfully)</td>
<td>hard (hard)</td>
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<tr>
<td>gooien (to throw)</td>
<td>speels (playfully)</td>
<td>hard (hard)</td>
</tr>
<tr>
<td>vallen laten (to drop)</td>
<td>wild (wildly)</td>
<td>zachtjes (softly)</td>
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<tr>
<td>slaan (to hit)</td>
<td>boos (angrily)</td>
<td>zachtjes (softly)</td>
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<tr>
<td>drukken (to press)</td>
<td>agressief (aggressively)</td>
<td>zachtjes (softly)</td>
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<tr>
<td>grijpen (to grab)</td>
<td>scherp (sharply)</td>
<td>zachtjes (softly)</td>
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<td>hameren (to hammer)</td>
<td>losjes (loosly)</td>
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<td>woest (wildly)</td>
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Experimental items - force increase inference

Nancy hit (verb) Oliver angrily (adverb 1/control), and at the same time rather lightly (adverb 2), on his arm.

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<td>zwak (weakly)</td>
<td>lieflijk (lovely)</td>
</tr>
<tr>
<td>—&quot;&quot;—</td>
<td>serieus (seriously)</td>
<td>licht (lightly)</td>
<td>vrolijk (cheerfully)</td>
</tr>
<tr>
<td>duwen (to push)</td>
<td>woest (wildly)</td>
<td>zwak (weakly)</td>
<td>lieflijk (lovely)</td>
</tr>
<tr>
<td>gooien (to throw)</td>
<td>boos (angrily)</td>
<td>zwakjes (weakly)</td>
<td>vrolijk (cheerfully)</td>
</tr>
<tr>
<td>knijpen (to pinch)</td>
<td>serieus (seriously)</td>
<td>zacht (softly)</td>
<td>vriendelijk (friendly)</td>
</tr>
<tr>
<td>—&quot;&quot;—</td>
<td>boos (angrily)</td>
<td>zwak (weakly)</td>
<td>lachend (laughingly)</td>
</tr>
<tr>
<td>hameren (to hammer)</td>
<td>kwaad (viciously)</td>
<td>zwak (weakly)</td>
<td>lachend (laughingly)</td>
</tr>
<tr>
<td>—&quot;&quot;—</td>
<td>serieus (seriously)</td>
<td>zwakjes (weakly)</td>
<td>speels (playfully)</td>
</tr>
<tr>
<td>prikken (to prick)</td>
<td>kwaad (viciously)</td>
<td>licht (lightly)</td>
<td>vrolijk (cheerfully)</td>
</tr>
<tr>
<td>trekken (to pull)</td>
<td>woest (wildly)</td>
<td>zacht (softly)</td>
<td>lachend (laughingly)</td>
</tr>
<tr>
<td>stompen (to thump)</td>
<td>serieus (seriously)</td>
<td>zwak (weakly)</td>
<td>speels (playfully)</td>
</tr>
<tr>
<td>wrijven (to rub)</td>
<td>boos (angrily)</td>
<td>zwakjes (weakly)</td>
<td>speels (playfully)</td>
</tr>
</tbody>
</table>
Fillers

20 contradictions with speed and force
a) Jet liep snel, en tegelijk vrij langzaam, naar huis toe.
≈ Jet ran quickly, and at the same time rather slowly, towards home.
b) Jet sloeg Jan hard, en tegelijk vrij zachtjes, op zijn arm.
≈ Jet hit Jan hard, and at the same time rather softly, on his arm.

20 just correct sentences with speed (slow and fast)
a) Jet liep langzaam, en tegelijk vrij rustig, naar huis toe.
≈ Jet ran slowly, and at the same time rather calmly, towards home.
b) Jet liep snel, en tegelijk vrij haastig, naar huis toe.
≈ Jet ran quickly, and at the same time rather hasty, towards home.

20 obviously correct sentences with force and sound
a) Jet sloeg hard, en tegelijk vrij luid, op de muur.
≈ Jet punched the wall hard, and at the same time rather loud.
b) Jet plaatste het kopje voorzichtig, en tegelijk vrij stil, op de tafel.
≈ Jet set the cup carefully, and at the same time rather quietly, onto the table.
Types of adverbials

The following types of adverbials have been identified by Schäfer (2006) (among others). Most of the (German) examples below have been shown to trigger the inference.

<table>
<thead>
<tr>
<th>super-classification</th>
<th>sub-classification</th>
<th>examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>manner</td>
<td>pure manner</td>
<td>leicht (lightly)</td>
</tr>
<tr>
<td>–’–</td>
<td>agent-oriented manner</td>
<td>spielerisch (playfully)</td>
</tr>
<tr>
<td>secondary predicates</td>
<td>resultatives</td>
<td>blutig (bloody)</td>
</tr>
<tr>
<td>–’–</td>
<td>subject depictives</td>
<td>fröhlich (cheerfully)</td>
</tr>
<tr>
<td>speaker oriented</td>
<td>evaluatives</td>
<td>freundlich (friendly)</td>
</tr>
<tr>
<td>other non-manner</td>
<td>mental-attitude</td>
<td>ärgerlich (angrily)</td>
</tr>
<tr>
<td>–’–</td>
<td>subject-oriented</td>
<td>spöttisch (tauntingly)</td>
</tr>
</tbody>
</table>

The tests developed by Schäfer are e.g. the “in an X manner” paraphrase:

- Nancy hit Oliver playfully on the shoulder.
  -→ √ Nancy hit Oliver in a playful manner.
- Nancy hit Oliver angrily on the shoulder.
  -→ # Nancy hit Oliver in an angry manner.

Note: The English examples here are translations from my German data. If you feel that you get different intuitions, and are a (native) speaker of German, try the examples with the German adverbs *hysterisch* and *spielerisch*.
Implicature vs Presupposition

The phenomenon described here is neither an implicature nor a presupposition.

**Implicatures are:**
- either conventional: She is German, therefore she is punctual.
- or conversational: flouting or violating one of Grice’s Conversational Maxims
  
  A: My car broke down.
  
  B: There is a petrol station round the corner.
  
  → The petrol station is open.

**Presuppositions are:**
- presupposed content of the sentence
- e.g. “The farmer stopped beating her donkey.”
  
  → The farmer used to beat her donkey.