

Asymmetric Brain Damage Effects on Narrative Production

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Background.

This paper continues a series of our experiments studying narrative strategies in brain-damaged patients. It has been repeatedly shown that expressive speech is far more impaired in particular aphasia types, which gives grounds for distinguishing between non-fluent and fluent aphasic speakers (Grodzinsky, 1990). We have shown a double dissociation between micro- and macrostructure of aphasic discourse in fluent and non-fluent aphasia patients (Bergelson, Dragoy 2009). Then the experimental methods typically associated with aphasia studies were used to reveal two strategies used by healthy speakers in order to keep balance between description and narration, as well as between information and interaction (Bergelson et al. 2010).

Aims

In current research the same experimental design is used to further explore differences in brain-damaged individuals' narrative strategies. New aspects and dimensions of the experiment include:

- additional target group - the individuals with the damage to the right hemisphere
- additional dimension of the analysis – interactional component of narration
- additional parameter of the analysis – narrative vs. quasi-narrative genre structure

Methods and Procedures.

In this study we compare four picture-elicited narratives (Olness, 2006): two of the individuals with the damage to the right hemisphere and two of people with non-fluent aphasia after the left-hemisphere damage. The elicited stories were audio-recorded, orthographically transcribed and divided into utterances and clauses, which were annotated by discourse experts in terms of story components and genre structure.

A *microstructure analysis* which included the count of the number of clauses (correct and agrammatic) and utterances was conducted to obtain data for the newly added participant group with damage to the right hemisphere.

Story components annotation included Story Event Clauses (events of the situation as structured by the speaker), Descriptive Clauses (setting for the narrative and specific actions, content of speech predicates), Evaluation Clauses (speaker's opinions and assessments of the events; expressed both by predicate structures or discourse markers), and Other (structural components of the narrative that set up and conclude the story).

Interaction component annotation, which allowed for the analysis of interaction, was added and included non-propositional elements that characterize the situation (world) of narration: fillers, false starts, discourse markers etc.

Story components were annotated on clauses. The interaction component could be combined with other story components within one clause.

Genre Structure annotation was performed on utterances that contained Story Event Clauses and/or Descriptive Clauses by four independent discourse experts. An utterance was considered narrative or quasi-narrative in case of 75% (3 out of 4) inter-annotator agreement.

Narrative genre presumes that the story (its events, participants, the order of events) is mentally recreated by the narrator in his mind, its structure shaped using the story components features, and verbalized. Some formal features of the narrative genre include anaphoric pronouns, verbs in past or historic present tense.

Quasi-Narrative (descriptive) genre emerges when the story structure is set completely by the visual stimulus, without creating a mental mapping of the real events onto cognitive structures. Some formal features include deictic pronouns, discourse markers (*look, as we can see* etc.).

Results

Two discourse strategies were revealed. Patients with frontal right-hemisphere damage produced more quasi-narrative utterances (33.33% and 50.00%) than patients with aphasia (0.00% both). Evaluation clauses were more frequently used by the former than by the latter: 18.18% and 26.32%, vs. 0.00% and 7.14%, respectively. The results support the assumptions that people with frontal right-hemisphere damage have difficulties in maintaining the information structure of the story (Marini, 2012), while people with aphasia, despite the difficulties at the microlevel, maintain the narrative structure, although may have reduced ability for evaluations (Ulatowska et al., 1983).

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