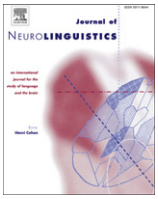
Journal of Neurolinguistics 23 (2010) 44–65

Contents lists available at ScienceDirect

Journal of Neurolinguistics

journal homepage: www.elsevier.com/locate/jneuroling



Comprehension and production of movement-derived sentences by Russian speakers with agrammatic aphasia

Naama Friedmann*, Julia Reznick, Dina Dolinski-Nuger, Katya Soboleva

Tel Aviv University, Tel Aviv, Israel

ARTICLE INFO

Article history:
Received 10 September 2008
Received in revised form 7 August 2009
Accepted 7 August 2009

Keywords:
Agrammatism
Aphasia
Russian
Wh-movement
Verb movement
Morphology

ABSTRACT

This study explored the way Russian speakers with agrammatism understand and repeat movement-derived sentences, and examined whether they use morpho-syntactic cues to assist comprehension. The comprehension of three Russian-speaking individuals with agrammatism was tested, and their performance was compared to 15 matched control participants. In addition, the repetition ability of one of the participants was assessed. The study included topicalization structures, relative clauses, and SVO sentences. The individuals with agrammatism performed at chance level on topicalization structures and object relative clauses, whereas their comprehension of SVO sentences and subject relatives was significantly better and above chance. Their comprehension of topicalization structures was poor although all sentences included morphological cues of case marking on the topicalized object and on the subject. Case and gender morphology on the relative pronoun did not lead to better comprehension of object relative clauses compared to relative clauses in which gender inflection could not be used as a cue for interpretation. The repetition task indicated a considerable difficulty in repetition of sentences that include syntactic movement to high nodes of the syntactic tree.

© 2009 Elsevier Ltd. All rights reserved.

1. Introduction

Many studies indicate that individuals with agrammatic aphasia show difficulties in the comprehension and production of structures derived by syntactic movement. The way Russian individuals with agrammatic aphasia understand and produce movement-derived sentences has not been investigated

* Correspondence to: Naama Friedmann, Language and Brain Lab, School of Education, Tel Aviv University, Tel Aviv 69978, Israel. Tel.: +972 3 6405257; fax: +44 870 1354671.
E-mail address: naamafr@post.tau.ac.il (N. Friedmann).

0911-6044/$ – see front matter © 2009 Elsevier Ltd. All rights reserved.
doi:10.1016/j.jneuroling.2009.08.002

until now. Russian has a relatively free word order, and rich inflection and case morphology that provide cues to healthy speakers about the syntactic role of the constituents in sentences. This characteristic of Russian permits the examination of the ability of individuals with agrammatism to use morphological cues for comprehension of movement-derived sentences. This research focuses on two related issues in the context of agrammatism in Russian: the comprehension and production of movement-derived sentences, and the role of morpho-syntactic cues in the comprehension of these sentences.

Syntactic movement is a movement of a constituent from its base-generated position to some other position in the sentence. When a constituent moves, it leaves a trace (t) in its original position. The verb assigns the thematic role to the trace and the thematic role is transferred from the trace to the moved constituent via a thematic chain (see example (1)).

(1) [Which flower] did you draw t ?

Wh-movement is a type of movement that involves the movement of a phrase to the beginning of the clause (to spec-CP). Wh-movement is crucial for the derivation of relative clauses (such as *I saw the flower that you drew*), topicalization structures in which the object moves to the beginning of the sentence (*This flower, the girl drew*), and Wh-questions (example (1)).

Studies of the *comprehension* of phrasal movement, including Wh-movement, found, in various languages, that individuals with agrammatic aphasia can understand simple sentences without syntactic movement, but have difficulties in the comprehension of semantically reversible movement-derived non-canonical sentences, such as passive sentences, object relative clauses, object clefts, topicalization, and object *which* questions (Friedmann & Shapiro, 2003; Grodzinsky, 1989, 2000, 2006; see Grodzinsky, Piñango, Zurif, & Drai, 1999 for a review, see also O'Grady & Lee, 2005 for a discussion of the definition of canonicity). These findings led Grodzinsky (1990) to suggest the Trace Deletion Hypothesis (TDH), according to which the difficulty in comprehension in agrammatism is caused by a deficit in the representation of movement traces, which results in inability to assign a thematic role to the trace and from there to the moved phrase.

Nevertheless, studies of agrammatic comprehension found that when the sentence in not semantically reversible, it is understood even if it is derived by movement. Furthermore, individuals with agrammatism consistently perform well in movement-derived sentences that keep the canonical structure of the constituents, such as subject relative clauses, subject clefts, and subject questions. If indeed they have a problem in movement, how come they still understand movement-derived sentences that are non-reversible or canonical? Since the pioneering studies of agrammatism (Caramazza & Zurif, 1976; Zurif & Caramazza, 1976), it has become clear that individuals with agrammatic aphasia are able to use cues for the comprehension of movement-derived sentences. One such cue is their lexical-semantic knowledge and world knowledge. Sentences that are semantically irreversible (such as *This is the apple that the boy ate*), allow comprehension on the basis of the comprehension of the words *apple*, *boy*, *eat*, even when the syntactic structure of the sentence is beyond the syntactic ability of the hearer. An additional cue used by individuals with agrammatism is the order of constituents in the sentence. In English and many other languages, the canonical order of sentential constituents is agent, verb, theme. Again, even if a sentence is derived by syntactic movement, individuals with agrammatism can still understand it if it keeps the canonical order of constituents. This is why, although both subject relatives and object relatives are derived by Wh-movement, individuals with agrammatism understand subject relatives, which keep the order agent, verb, theme (*This is the grandmother that t kisses the girl*). However, in object relatives the noun phrase that moves is the object of the embedded sentence, and because it is the theme of the action and it moves to a position before the agent, a non-canonical order is created (as in the sentence *This is the grandmother that the girl kisses t*). Thus, individuals with agrammatism fail to understand object relatives, but perform relatively well in tests of subject relatives. A similar account explains the differences in comprehension of subject and object Wh-questions, and subject and object clefts (Dick et al., 2001; Friedmann & Shapiro, 2003; Grodzinsky, 1989, 2000; Hickok & Avrutin, 1996; see Grodzinsky et al., 1999 for a review). A somewhat similar approach suggests that

Download English Version:

https://daneshyari.com/en/article/911930

Download Persian Version:

https://daneshyari.com/article/911930

Daneshyari.com