Encoding and Decoding Motion Events in English and French: Comparative Case-Studies in Agrammatism and Anomia

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Background

Languages encode space onto lexical and syntactic structures in strikingly different ways (Talmy, 2000). With respect to the expression of motion, some languages (Satellite-framed) express Manner in verb roots and Path in satellites (English), whereas others (Verb-framed) lexicalize Path in the verb, leaving Manner implicit or peripheral (French). Such typological properties strongly constrain how speakers encode motion in speech, raising questions concerning the relation between language and thought. Linguistic diversity is of great interest for the study of speakers with aphasia who typically present dissociations between lexical/syntactic knowledge. Despite some cross-linguistic studies of aphasia (Menn & Obler, 1990), little is still known about universal vs. language-specific aspects of encoding and decoding processes across aphasic syndromes.

Methods

Our study aims to determine the relative role of two factors on language comprehension and production in fluent and non-fluent aphasia: language-independent (syndrome-related) factors, expected to result in greater differences across syndromes than across languages; and language-specific (typological) factors, expected to result in greater differences across languages than across aphasia types. We compared how different types of English and French speakers, agrammatic and anomic (N=4) as well as controls (N=40), performed two tasks: a comprehension task, in which they had to choose which of two video clips best corresponded to a sentence presented auditorily (measures: accuracy and reaction times); and a production task, in which they described motion-event-clips (measures: density, focus and locus of information).

Results

In comprehension, individuals with aphasia showed slower performance as compared to controls, but no difficulties in correctly interpreting target sentences. Productions, however, showed significant language and group effects. Utterances were semantically denser among controls in English than in French, and were overall less dense among individuals with aphasia than among controls. Furthermore, apart from partially similar syndrome-related symptoms (e.g., vulnerability of morphology in agrammatism), the ‘same’ syndromes looked quite different across languages. In French, the speaker with agrammatism mostly used light verbs with either no functional words or source/goal devices, whereas the speaker with anomia mostly produced Path verbs, either alone or with prepositions. In English, individuals with aphasia systematically used Path devices, in agrammatism sometimes with Manner or light verbs and in anomia with Path verbs. Overall, typological factors accounted for more variance than syndromes: in English, Path satellites provided core information, notwithstanding variations in the verb; in French Path verbs provided the core with only optional peripheral devices.

Discussion

In conclusion, the aphasic data first show dissociations between relatively spared comprehension and significant difficulties in production. Second, although syndromes account for some results among individuals with aphasia, language properties have a strong impact on the verbalizations of both control speakers and speakers with aphasia. Thus, typology must be taken into account in aphasia research, and in the study of the language-thought interface more generally, as a factor that can affect performance in significant ways.

References
