INTRODUCTION

Certain complex linguistic constructions, such as object relatives, require linking the verb and an earlier part of the sentence to be interpreted:

The man saw the boy that the crowd accused of the crime.

Interpretation:

The crowd accused [the boy] of the crime. The man saw [the boy].

Unimpaired listeners readily and unambiguously understand these constructions. Adults with anterior lesions to the left hemisphere show difficulties comprehending relatives.

Verb-Phrase Ellipsis (VPE) is another type of construction that requires a similar coreference between elements of the sentence:

The pharmacist bought a house and the teacher did too.

Interpretation:

The pharmacist [bought a house] and the teacher [bought a house].

Due to the different nature of its internal linking, VPE may help shed light on the impairment of anterior-lesion patients.

VERB-PHRASE ELLIPSIS

Object Relative Constructions

The man saw the boy that the party accused 1 of the crime 2.

The otter followed the lobster, and the funny 1 architect did 2 too, according to the anxious housekeeper.

Uninterrupted, auditory presentation of sentences

Interpretation: [the boy] are accused of the crime. The man saw [the boy].

Binary decision about pictures: Is it alive?

Reaction times and accuracy recorded

Participants

All participants were pre-morbidly right-handed.

METHODS

Cross-Modal Picture Priming

The otter followed the lobster, and the funny architect did too, according to the anxious housekeeper.

PRIMING EFFECTS PER PROBE POSITION

Uninterrupted, auditory presentation of sentences

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All participants were pre-morbidly right-handed.

RESULTS (PRELIMINARY ANALYSES)

Offline VPE comprehension overall better than for relatives.

Interestingly, if patients are grouped based on behavioral performance on assessment tests (i.e. following clinical diagnostic) and not lesion site, different patterns emerge:

- Anomic patients appear to show immediate, on time priming for the antecedent of the VPE (normal pattern).
- Broca’s aphasics appear to show early (pre-ellipsis) priming that decays by the elision site.

This early priming effect may reflect the protracted access to the overt direct object (lobster; ‘Slow-Rise Hypothesis’, see Prather et al, 1997)

The interpretation of VPE seems unlikely to rely on the same processes that underlie the on-line processing of relatives. These results suggest the disruption of online processes following anterior lesions may only pertain to specific syntactic constructions and/or that VPE is more ‘temporally forgiving’, perhaps because of a reliance more on semantics and/or discourse.

FUTURE DIRECTIONS

Examine individual variability by correlating online performance with factors such as offline performance, lesion site and extent, perfusion data.

Investigate the processing of other ellipsis types (gapping, sluicing) to better understand the processes involved in VPE and/or in relative constructions.

REFERENCES


ACKNOWLEDGEMENTS

We would like to thank the patients for participating in this study. We are also grateful to the assistants, Chelsea Sars, Lynsey Gebelin, Rebecca Roffman, Elisabeth Vrance-Trop, Nicole Beifino, Vickie Koehly, Danielle Durham and Lauren Hollingsworth, and to Dr. Andrew Kehler for his valuable help and comments.

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INTERACTIVE PATTERN IN PROCESSING

Object Relative Constructions

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The pharmacist bought a house and the teacher did too.

Verb Phrase Ellipsis

The otter followed the lobster, and the funny architect did too, according to the anxious housekeeper.

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