Effects of similarity in the production of VOS word order in Kaqchikel

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Abstract

Many researchers have shown that conceptual accessibility, which is indexed by animacy for instance, affects the choice of sentence structure, but less is known as to how similarity with respect to animacy affects the sentence production. In this study we conducted 2 picture description tasks in Kaqchikel, which is one of the Mayan languages spoken in Guatemala, and we found that similarity between agent and patient affects the choice of word order in Kaqchikel.

Introduction

Animacy effects on sentence production

1. Conceptual accessibility (Animate > Inanimate) [1]
   • The following tendencies are widely observed in many languages.
   • Animate entity tends to be assigned a higher grammatical function [2,3].
   • Animate entity tends to be mentioned earlier in a sentence [3,4].

2. Similarity-based competition [5]
   • When there is a temporal overlap in accessing similar nouns (e.g., animate and animate), a competition occurs.
   • Similar nouns (e.g., animate-animate) tend to be produced apart.
   • This tendency is observed in a limited set of languages and structures (e.g., relative clause).

About our experiments

Target language: Kaqchikel:
• A Mayan language spoken in Guatemala
• An ergative and head-marking language
• Kaqchikel allows not only SVO sentences but also VOS sentences [6]

(1) X-Ø-u-ch'e'y
   ri ak'wa'li ri xt'ān (VOS)
   COM-abs.3s-erg.3s-slap the boy the girl
   ‘The girl slapped the boy.’

Prediction:
• Conceptual accessibility account
• VOS sentences are produced more often when the patient is human.
• Similarity-based competition account
• VOS sentences are produced less often when the patient is human.

Experiment 1

Method
Participants: 60 native speakers of Kaqchikel
Task: Participants verbally described simple transitive events.
Materials: 24 target pictures depicting transitive events manipulating the animacy of the patient. 18 fillers depicting intransitive events.

Procedure: Experiment was conducted by a native Kaqchikel speaker in a quiet room in Antigua, Guatemala.
Analysis: Mixed logistic regression

Results & Discussion

VOS sentences were produced more often when the patient was object than when the patient was human.
• Conceptual accessibility account
  ✓ Similarity between agent and patient affects the choice of word order in Kaqchikel so that two similar (animate) nouns are not adjacent.

Experiment 2

Method
Participants: 31 native speakers of Kaqchikel
Task: Participants verbally described simple transitive events.
Materials: 22 target pictures depicting transitive events in which patients are always plural. 22 fillers depicting intransitive events.

Procedure: Experiment was conducted by a native Kaqchikel speaker in a quiet room in Antigua, Guatemala.
Analysis: Mixed logistic regression

Results & Discussion

VOS sentences were produced more often when the patient was object than when the patient was human, replicating experiment 1.
• The result indicates that semantic ambiguity is not the crucial factor affecting the choice of word order in Kaqchikel and supports the similarity-based competition.

Why similarity-based competition occurred in Kaqchikel?
• Because Kaqchikel is a head-marking language, there may be temporal overlap in accessing two nouns prior to produce VOS sentence.

Conclusion

Throughout 2 experiments, we showed that the similarity between agent and patient affects the choice of word order in Kaqchikel.

We also showed that similarity of nouns affects main clause production in a typologically quite different language, suggesting the similarity effects influence broad aspects of sentence production (cf. Gennari et al. 2012).

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