Expressing and Categorizing Motion in French and English: Verbal and Non-Verbal Cognition across Languages

Maya Hickmann, Helen Engemann, Efstathia Soroli, Henriëtte Hendriks, Coralie Vincent

To cite this version:


HAL Id: halshs-01068334
https://halshs.archives-ouvertes.fr/halshs-01068334
Submitted on 10 Mar 2019

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L’archive ouverte pluridisciplinaire HAL, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d’enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.
INTRODUCTION
Crosslinguistic differences in spatial expression have been shown to influence speakers' focus on particular event components in discourse (Slobin 2004, Talmy 2000). For example, Satellite-framed languages express Manner of motion in verb roots and Path in satellites (English 1), whereas Verb-framed languages lexicalize Path in the verb leaving Manner implicit or peripheral (e.g., French 2):
1. He walked into the room
2. Il est entré dans la pièce [en marchant].
A debated question is whether typological differences also influence non-verbal cognition (Gennari et al., 2002; Paparagou & Selimis 2010). The present study addresses this question by comparing verbal and non-verbal responses produced by adult native speakers in two language groups, English and French, differing with respect to motion expression.

METHOD
To measure the relative role of language-independent and language-specific factors, we compared the verbal and non-verbal performance of adult English and French native speakers. Subjects (16 per language) performed three tasks involving motion events (Fig. 1).

(1) Categorization, non-verbal condition: Participants saw a target cartoon (e.g. a cat walking up a hill), then two variants that differed from it with respect to Manner or Path (walking down vs. jumping up). They then had to choose which variant best matched the target, while simultaneously performing a syllable repetition task that prevented them from internally verbalizing the stimulus.

(2) Categorization, verbal condition: The target was a sentence presented orally (There’s a cat walking up a hill), rather than a video (no interference task).

(3) Production: Participants were asked to describe the target cartoons.

Stimuli were controlled for left-Verbal Conditions (Fig. 3) and analyses for categorization examined interaction Path x Condition Manner types (Fig. 3b).

RESULTS

Stimuli:
Short cartoons showing voluntary motion varying in terms of:
- Manners: RUN, JUMP, WALK
- Paths: ACROSS, ALONG, INTO, OUT-OF, UP, DOWN.

The production task (Fig. 2) shows crosslinguistic differences in the structures used by speakers in the two language groups. Production was not significantly different in language groups, English and French:

- In English: Manner verbs with Path adjuncts (ex. 1).
- In French: Path verbs, less frequent Manner (ex. 2 & 3).

In addition, other interactions show that:

- INTO/OUT-OF elicits most manner choices in both conditions and in both languages.
- ALONG elicits most manner choices in the verbal condition.
- UP/DOWN elicits manner choices in English in both conditions but only in the verbal condition in French.

Both groups rely more on Manner when the Path in the stimulus is INTO/OUT THAN with other paths.

CONCLUSIONS AND PERSPECTIVES

(1) Language properties influence verbal cognition, but do not seem to impact non-verbal cognition:
- Language differences occur in the production task that explicitly implies language use, but not in the categorization tasks (neither in verbal nor in non-verbal conditions).

(2) Manner and Path components are differentially accessible:
- Path is the main criteria chosen for categorization in both groups and in both conditions.
- However, relative focus on Manner depends on event type (boundary crossing > vertical; M salience)
- Interactions also occur between event type, condition, and language.

(3) Methodological issues to take into account when testing language effects on non-verbal cognition (in progress):
- Stimuli: It is necessary to use more ecological motion (humans, videos) and to balance the salience of Path and Manner.
- Measures: It is necessary to test on-line processes of attention allocation (eye-tracking).

REFERENCES