

# Center for Cognitive Science

University at Buffalo, State University of New York

## Wednesday, February 23, 2005

280 Park Hall  
North Campus  
2:00 pm –4:00 pm

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### "Manner and path in nonlinguistic cognition"

*(Joint research with S. Eisenbeiss (U. of Essex) & B. Narasimhan (Max Planck Institute for Psycholinguistics))*

In this paper, we present findings from a wide crosslinguistic survey, designed to investigate whether language-specific patterns of motion event encoding along the lines of Talmy's (1985, 2000) typology of verb-framed vs. satellite-framed languages (1, 2 below) influence nonlinguistic cognition.

#### 1. Verb-framed languages:

The ball entered the cave rolling PATH encoded in main verb, MANNER in dependent

#### 2. Satellite-framed languages:

The ball rolled into the cave MANNER encoded in main verb, PATH in dependent

Slobin (1996) and Berman & Slobin (1994) suggest that differences in linguistic event descriptions can result in differences in "thinking for speaking". Gennari et al. (2002) and Papafragou et al. (2002) found that performance in nonlinguistic categorization tasks does not reflect language-specific influences, although Gennari et al.'s study reveals an effect of prior verbal encoding of the motion event. Finkbeiner et al. (2002) found a language-specific effect on similarity judgments only in case memory recall was involved in the task. However, these studies only pit speakers of two languages against each other (three in the case of Finkbeiner et al.), and variables such as manner and path are treated as monolithic concepts, ignoring finer-grained distinctions (e.g. path expressions vary in terms of directionality, boundary crossing, etc.; manner expressions vary in whether they imply translational motion (e.g., slide, walk vs. spin, bounce), whether the motion is self-propelled (walk vs. slide), etc.).

In order to further investigate these issues, we conducted a nonlinguistic similarity judgment task which systematically varies types of manners and paths in a range of typologically diverse languages (12 V-framed languages: Basque, Catalan, Hindi, Italian, Jalonke, Japanese, Lao, Spanish, Tamil, Turkish, Tiriyo, Yukatek; 3 S-framed languages: Tidore, Dutch, German). Twelve native speakers of each language viewed a target motion event (e.g. ball rolling up a ramp) followed by two events which varied from the target in its manner of motion (e.g. ball sliding up the ramp) or path of motion (e.g. ball rolling down the ramp). Participants judged which of the two variants was more similar to the target. It was hypothesized that speakers of S-framed languages would prefer the event which had the same manner of motion as the target (even though the path of motion is different).

Our findings reveal a significant effect of language. However, the effect is not based on the S-framed versus V-framed distinction. Rather, we find intra-typological variation. V-framed languages fall into two groups, one whose speakers strongly prefer to categorize the stimuli on the basis of manner of motion, and one whose speakers show a weak preference for categorization by path. Speakers of S-framed languages do not differ significantly from either group. Further, there are significant effects of finer-grained contrasts in path and manner. The observed effects of path type are language-independent: triads which involved a vertical (up-down) path elicited a significantly lower manner preference overall than triads with a horizontal (left-right) path. The effects of particular manner contrasts, however, vary according to language: for instance, Spanish speakers are more likely than German speakers to accept a sliding display as a variant of a rolling display, whereas German speakers are more likely than Spanish speakers to accept a sliding display as a variant of a spinning display. The implications of our findings, their relation to existing work on these issues, and lines of future research will be discussed.

**Refreshments will be available; Open to the public!**

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