VerbCorner: Testing theories of argument structure through crowdsourcing

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Background
Variation in argument structure

The Semantic Consistency Hypothesis
Verb argument structure is reliable function of described event (e.g., Levin, 1993).

Limitation:
• Little systematic data.
• 10,000ish verbs X 100ish frames X 10ish event features
  => massive coding project

Solution: Crowdsourcing with Citizen Scientists

Data
• 1,962 verbs (of 8,000 planned)
• 10,904 verb/frame combinations
• 10,413 annotators
• 526,670 annotations

Effect of Animacy
Does it matter whether arguments are animate?
• Abigail hit Beatrice vs. The ball hit the wall.
• Calculated K-L Divergence between animacy variants.
• Bipolar distribution => subset of items care about animacy.

Calculating Semantic Consistency
• Restrict to 'completed' items
• Verb-frame combinations with low entropy annotations (ask for details)
• Exclude items labeled 'ambiguous' or 'ungrammatical'.
• Analyzed in terms of Levin/VerbNet verb classes (classes of verbs with identical argument realizations).

Tasks (semantic predicate explored)
• A Good World (positive/negative valence)
• Equilibrium (application of force)
• Change mind (change of mental state)
• Pickle Folk (change of mental state)
• Philosophical Zombie Hunter (mental state)
• Simon Says Freeze (change of location)

http://GamesWithWords.org/VerbCorner/