

Pantomime Strategies: On Regularities in How People Translate Mental Representations into the Gesture Modality

Karin van Nispen, Mieke van de Sandt-Koenderman, Lisette Mol¹ & Emiel Krahmer
Tilburg center for Cognition and Communication (TiCC), Tilburg University, k.vannispent@uvt.nl

Introduction

- Gesture research focusses on gesticulation, pantomime remains understudied.
- Pantomimes = gestures in absence of speech + no conventional meaning (McNeill, 2005).
- For the representation of an object in pantomime, people have to rely on their mental representation.
 - Depicting spatial and/or physical information
 - Selection of distinctive features of an object.



How do people construct pantomime?
To what extent is pantomime idiosyncratic?

Method

- 20 participants
- Depicted 30 pictures of objects from the Boston Naming Test (Kaplan et al., 1983) by using pantomimes only.
- 'What' Analysis: the different representations techniques used. If >80% of the participants used a technique for a specific item, this was labelled as a default technique.
- 'Why' Analysis:
 - Relation use of techniques to naming difficulty; imageability, nameability and age of acquisition (of verbal names)
 - Relation distinctive features based on McRae et al. (2005) for a subset of 24 items.

Results

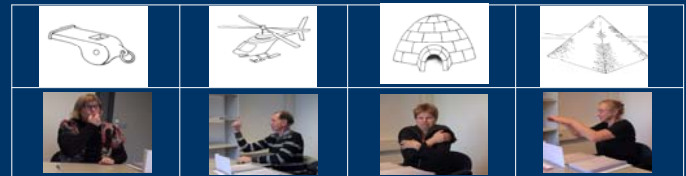
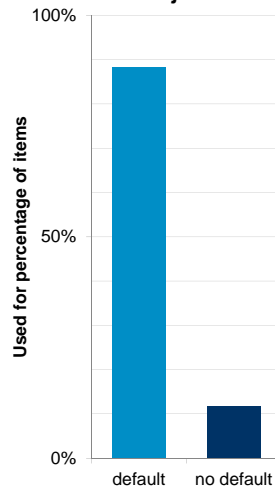
What?

- For 52 out of 60 objects >80% of participants used the same technique.
- 59 default techniques in total

Why?

- Nameability:**
 - No correlation for use of technique and 'imageability', 'nameability' or 'age of acquisition'
- Distinctive features**
- Function:** Objects that have vs. do not have 'function' as a distinctive feature:
 - Object ($p < .01$)
 - Handling (trend; $p < .09$)
- Shape:** Objects that have vs. do not have 'shape' as a distinctive feature:
 - No significant differences

Default technique used for depicting objects

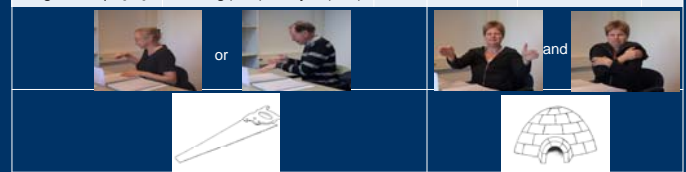


Pantomime techniques, 'defaults', used by 80% or more of the participants for a certain object.

Handling	Object	Enact	Shape
Accordion [47]	100%	Helicopter [11]	100%
Broom [12]	100%	Bed [1]	90%
Dart [25]	100%	Compasses [50]	90%
Harp [38]	100%	Muzzle [44]	85%
Pallet [58]	100%	Snail [22]	90%
Pencil [3]	100%	Pelican [41]	90%
Racket [21]	100%	Volcano [23]	85%
Scroll [53]	95%	Mask [18]	80%
Comb [7]	95%	Octopus [13]	80%
Door knocker [40]	95%	Sphinx [55]	80%
Harmonica [30]	95%		
Stethoscope [42]	95%		
Toothbrush [10]	95%		
Whistle [5]	95%		
Wheelchair [16]	95%		
Abacus [60]	90%		
Canoe [26]	90%		
Cactus [36]	85%		
		Igloo [33]	90%
		Cactus [36]	85%
		Acorn [32]	100%
		Globe [27]	100%
		Plants rack [57]	100%
		Pyramid [43]	100%
		Camel [17]	95%
		Funnel [46]	95%
		Igloo [33]	95%
		Mushroom [14]	95%
		Rhino [31]	95%
		Cactus [36]	90%
		Unicorn [45]	90%
		Wreath [28]	90%
		Yoke [56]	90%
		Abacus [60]	85%
		Asparagus [49]	85%
		Bench [20]	85%
		Hangman's rope [48]	85%
		House [4]	85%
		Snail [22]	85%
		Protractor [59]	85%
		Tripod [52]	85%
		Coat Hanger [15]	85%
		Pelican [41]	80%
		Tree [2]	80%

Combination of pantomime techniques used by 80% or more of the participants for a certain object

Either/Or	Combination
Saw [9]	Handling (65%) or Object (40%)
Scissors [6]	Handling (35%) or Object (70%)
Sugar Tongs [54]	Handling (40%) or Object (65%)
Bolt [51]	Handling (90%) or Object (35%)
Hangman's rope [48]	Handling (50%) or Object (45%)
Cactus [36]	Shape + Handling
Igloo [33]	Shape + Enact



Discussion & Conclusion

- Regularities in the use of pantomime; similar techniques are used for objects across individuals.
 - Pantomime is not fully idiosyncratic.
 - Result of people's (intrinsically similar) mental representation of objects
- First database of pantomimes.
 - Pantomime 'norms'
 - Baseline for clinical groups (e.g. people with aphasia)