

A Cognitive Discourse Analysis of task participant behaviour in elicitation situations

Laurits Stapput Knudsen¹, Tom Ennever², Eleanor Yacopetti², Joe Blythe³, Maïa Ponsonnet⁴,
Alice Gaby² & Bill Palmer¹

¹University of Newcastle, Laurits.knudsen@uon.edu.au, ²Monash University, ³Macquarie University,
⁴Centre National de la Recherche Scientifique, Dynamique Du Langage

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Spatial Frames of Reference (FoR) are conceptual representations of spatial relations between objects separated in space. FoRs have played a prominent role in cognitive linguistics and have proved a fruitful area for enquiries into the relationship between culture, language, and cognition (e.g. Bohnemeyer et al. 2015; Levinson 2003; Majid et al. 2004; Palmer et al. 2017). Data for these studies are often elicited using director-matcher games such as the various iterations of the “Man and Tree” (M&T) game (Levinson et al. 1992) and “Ball and Chair” game (Bohnemeyer 2008). Results from these tasks have contributed greatly to our understanding of spatial language and cognition, but there are also issues with this type of elicitation tool.

The influence of contextual factors on people’s preferred FoR has been explored elsewhere across task-type (Bohnemeyer 2011), scale and audience design (Cialone 2019; Edmonds-Wathen 2022), arrangement of participants (Li et al. 2011) and socio-pragmatic factors such as alignment and priming (Dobnik, Kelleher & Howes 2020; Johannsen & De Ruiter 2013). However, the consequences of the social, cognitive, and communicative artefacts of the specific director-matcher-type games themselves have not been explicitly explored, and especially in terms of the effect they might produce on the results – and on which quantitative and large-scale comparisons are made.

Using a qualitative approach (Cognitive Discourse Analysis, Tenbrink 2015) we analyse participants’ strategies in solving the artificial task at hand. We present data from a small sample of M&T games conducted in four Indigenous Australian languages: Wik Mungkan (Pama-Nyungan, Cape York); Kune (Gunwinyguan, Central Arnhem Land); Kukatja (Pama-Nyungan, Great Sandy Desert); and Murrinhpatha (Southern Daly, Kimberley). We focus on how participants establish interpersonal connections and anchor deictic expressions, without visual contact due to the task setup.

For example, we investigate how ambiguities in anchoring of observer-based landmarks, also referred to as ‘speech act participant landmarks’ (Polian & Bohnemeyer 2011; Palmer et al. 2021), are negotiated and resolved. Speakers have various options for using both director and matcher as anchor points for spatial reference and for organising deictic space. A simple example of this is in example (1) from Kukatja. In this example the matcher interprets the anchoring of the deictic system differently than the intended anchoring by the director. The matcher interprets the 2nd person form to mean closest to the matcher on the sagittal axis as shown on figure 1. However, the director intended to use the 2nd person form to divide the table horizontally. This pair of participants do not find a common ground for how this deictic system is anchored in this setup, and thus revert to another strategy for solving the game. An ambiguity in the spatial system such as this would normally be resolved by different types of joint attention behaviours but are constrained by the setup of the game.

Through analysis of strategy choice, gesture, and metacommunication about the task, we investigate what social, cognitive, and communicative factors influence the results of different pairs in different language communities, and what artefacts in the data result. These artefacts are important to consider for two reasons: [1] they might influence the macro-level results in language and/or culturally specific ways; and [2] the constraints placed on participants by the task, and the way participants respond to these constraints, are themselves a rich source of data on the individuals’ spatial cognitive systems, in addition to the intended purpose of quantification of spatial frame choices. Through our analysis, we demonstrate the types of effects that interaction and artificial constraints can have on macro-scale comparisons. The large-scale patterns indicated by the tasks cannot be fully understood without consideration and analysis of cultural, linguistic, and even idiosyncratic factors influencing the data. As these studies are often conducted with small numbers of participants, the way a small number of games are run and “solved” by the participants can have massive effects on ensuing research generalisations, and it is therefore important to know what these effects are.

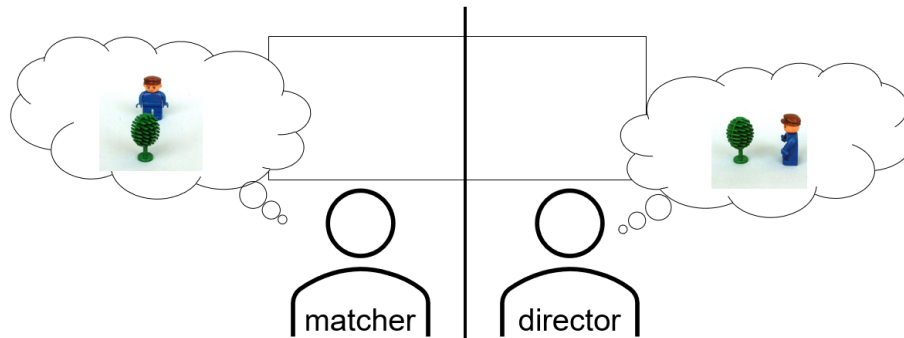


Fig. 1: different interpretations of the expression of an observer-anchored spatial frame (see example 1)

- (1) *Warta tjeja nyuntu-wana and nyanginpa=lu tjii-lu puntu-lu warta-kutu.*
 tree DEM 2SG-PERL and see-PRS=3SG.L PROX-ERG man-ERG tree-ALL

'The tree there is near you and the man is looking towards the tree.'

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References

- Bohnemeyer, Jürgen. 2008. MesoSpace: Spatial language and cognition in Mesoamerica.
- Bohnemeyer, Jürgen. 2011. Spatial frames of reference in Yucatec: Referential promiscuity and task-specificity. *Language Sciences* 33(6). 892–914. <https://doi.org/10.1016/j.langsci.2011.06.009>.
- Bohnemeyer, Jürgen, Katharine T. Donelson, Randi E. Moore, Elena Benedicto, Alyson Eggleston, Carolyn K. O'Meara, Gabriela Pérez Báez, et al. 2015. The Contact Diffusion of Linguistic Practices: Reference Frames in Mesoamerica. *Language Dynamics and Change*. Brill Academic Publishers 5(2). 169–201. <https://doi.org/10.1163/22105832-00502002>.
- Cialone, Claudia. 2019. *Placing spatial language and cognition in context through an investigation of Bininj Kunwok navigation talk*. The Australian National University PhD Thesis.
- Dobnik, Simon, John D. Kelleher & Christine Howes. 2020. Local alignment of frame of reference assignment in English and Swedish dialogue. In *German Conference on Spatial Cognition*, 251–267. Springer.
- Edmonds-Wathen, Cris. 2022. Changes in spatial frames of reference use in Iwaidja in different intergenerational contexts. *Linguistics Vanguard*. De Gruyter Mouton 8(s1). 101–111. <https://doi.org/10.1515/lingvan-2020-0009>.
- Johannsen, Katrin & Jan De Ruiter. 2013. Reference frame selection in dialog: priming or preference? *Frontiers in Human Neuroscience* 7. <https://doi.org/10.3389/fnhum.2013.00667>.
- Levinson, Stephen C. 2003. *Space in language and cognition: explorations in cognitive diversity* (Language, Culture and Cognition; 5.). Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511613609>.
- Levinson, Stephen C., Penelope Brown, Eve Danziger, Lourdes De León, John B. Haviland, Eric Pederson & Gunter Senft. 1992. Man and Tree & Space Games. In *Space stimuli kit 1.2: November 1992*. Nijmegen: Max Planck Institute for Psycholinguistics.
- Li, Peggy, Linda Abarbanell, Lila Gleitman & Anna Papafragou. 2011. Spatial reasoning in Tenejapan Mayans. *Cognition*. Elsevier B.V. 120(1). 33–53. <https://doi.org/10.1016/j.cognition.2011.02.012>.
- Majid, Asifa, Melissa Bowerman, Sotaro Kita, Daniel B.M. Haun & Stephen C. Levinson. 2004. Can language restructure cognition? The case for space. *Trends in Cognitive Sciences* 8(3). 108–114. <https://doi.org/10.1016/j.tics.2004.01.003>.
- Palmer, Bill, Dorothea Hoffmann, Joe Blythe, Alice Gaby, Bill Pascoe & Maïa Ponsonnet. 2021. Frames of spatial reference in five Australian languages. *Spatial Cognition & Computation*. Taylor & Francis 1–39. <https://doi.org/10.1080/13875868.2021.1929239>.
- Palmer, Bill, Jonathon Thomas Stephen Lum, Jonathan Schlossberg & Alice Gaby. 2017. How does the environment shape spatial language? Evidence for sociotopography. *Linguistic Typology* 21(3). 457–491. <https://doi.org/10.1515/lingty-2017-0011>.
- Polian, Gilles & Jürgen Bohnemeyer. 2011. Uniformity and variation in Tzeltal reference frame use. *Language Sciences*. Elsevier 33(6). 868–891.
- Tenbrink, Thora. 2015. Cognitive Discourse Analysis: Accessing cognitive representations and processes through language data. *Language and Cognition: An Interdisciplinary Journal of Language and Cognitive Science*. United Kingdom: Cambridge University Press 7(1). 98–137. <https://doi.org/10.1017/langcog.2014.19>.