

# On the (non)rareness of egocentric spatial encoding

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It is widely held that numerous languages do not encode egocentric extrinsic spatial frames. E.g. Majid et al (2004) classify 30% of surveyed languages as lacking relative, the best-known egocentric frame. Egocentric extrinsic frames are perspective-dependent involving a third argument (viewpoint/observer) in addition to figure and ground. In relative frame, pseudo-intrinsic facets such as front and back are assigned to a ground: (1a) assigns a 'front' facet with reference to the location of viewpoint. Less well-known, the observer-landmark frame (Palmer et al. 2022; Polian & Bohmeyer 2011:878; Romero-Méndez 2011:930–933) assigns to the ground facets towards or away from an observer: (1b) projects a domain off the facet closest to the observer.

A significant minority of languages, particularly Australian and Meso-American, have been treated as lacking egocentric encoding due to a claimed absence of relative frame, particularly on the transverse (left-right) axis. However, while not displaying a differentiated transverse, most do display relative on the sagittal (front-back) axis. E.g. Warrwa is described as not encoding relative frame (Levinson & Wilkins 2006b:542,545,567; Majid et al 2004:112; McGregor 2006:148,156), but does encode relative on the sagittal (McGregor 2006:130; Palmer et al 2022) (2a-b). It also encodes an undifferentiated transverse axis (2c). Both facts reflect a general weaker transverse human asymmetry evident in later acquisition of the transverse (Shusterman & Li 2016), difficulty in left-right discrimination among adults (van der Ham et al 2021), and lower transverse frequencies in languages encoding it (Palmer 2021). The traditional relative typology (Levinson 2003:84–89) treating sagittal and transverse as a unitary system cannot classify languages only encoding one axis, such as Warrwa, prompting a new typology separating the two axes (Palmer 2022; Palmer et al 2022). This paper presents data showing relative on the sagittal in five of Majid et al's (2004) six languages classified as lacking relative: Warrwa, Central-Eastern Arrernte, Tenejapan Tzeltal, Mopan, Totonac. The few Australian languages not encoding relative even on the sagittal employ egocentric encoding of the observer-landmark type, e.g. Ngan'gityemerri (Palmer et al 2022) (4).

Encoding egocentric frames does not equate to usage frequency. Indeed, it is precisely the widespread distribution of egocentric frames that supports a shift of focus away from which frames are encoded in languages to speakers' frame choice from the resources available to them, following the theory of sociotopography (Lum et al 2022; Palmer 2022; Palmer et al 2017). The issue with relative frame is less that languages vary in whether they encode it, and more with why speakers may prefer or disprefer that conceptual strategy, and how variation in habitual usage relates to group-level factors ranging from environment to dominant subsistence mode; individual diversity in occupation, gender, age, literacy, bilingualism etc, often a proxy for engagement with landscape or with egocentric spatialised behaviour such as reading; and intra-speaker variation relating to task, interlocutor, speech location, etc. Recognition that most or all conceptual strategies are available to speakers of most languages brings into sharp focus the need to investigate diversity in the usage of linguistic resources by speakers.

- (1) a. *the ball is in front of the tree*  
 b. *the ball is on this side of the tree*
- (2) a. *Ngi-rr-wani-na nyink-an, baywarra kank-an larrkardi baalu.* [Warrwa]  
 3AUG.NOM-sit-IMP this-LOC behind that-LOC boab tree  
 'they were sitting there, over there **behind** the boab trees' (McGregor nd)
- b. *Juwa yardayi-wudany mi-nga-n ngulumba.*  
 2MIN north-ASSOC 2MIN.NOM-be-PRES in.front  
 'You are to the north, **in front** (of it [the tree]).' (McGregor nd)
- b. *Rirrbān yi-nga-n baalu, baanu-wudany.*  
 side 3MIN.NOM-be-PRES tree east-ASSOC  
 'The tree is **beside** it, to the east.' (McGregor nd)
- (3) a. *Mudiga madi-kin=ninggi ngariny-fi-tyat.* [Ngan'gityemerri]  
 car chest-PROX=INSTR 1SG.SUBJ.PFV.poke[3SG.OBJ]-manipulate-place  
 'I put it down **on this side of** the car.' (Reid 1990:369)
- b. *Fepi minbadi=nide madi-wun=ninggi fepi wagarri widdibemgu.*  
 hill big=LOC chest-FRDIST=INSTR hill two  
 3SG.SUBJ.PRES.stand.DU.SUBJ  
 '**On the other side of** Peppimenarti hill ["big hill"], there are two (other) hills.'  
 (Reid 1990:369)

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