Body parts in Australian languages

Rachael Skerritt

1 Introduction

Body parts are an ideal way to examine the theory of linguistic relativism, because we all have (roughly) the same body parts, giving us an equivalent point of comparison across languages and cultures. Does the way a language talks about and refers to the body influence the way its speakers conceive of or imagine the body? Are there universals in the way languages refer to the body? Studies in body partonomy – the way languages refer to the body – are only just beginning to answer these questions. So far, relatively little attention has been paid to Australian Indigenous languages and the way these languages refer to the body. In this essay, I will highlight patterns in the way body parts are labelled in Australian languages, a phenomenon also known as body meronomy or partonomy. Australian languages often derive labels for particular body parts from the labels of other body parts. Although not necessarily a typologically rare phenomenon, some Australian languages show higher levels of this kind of compounding than has previously been documented. Additionally, several languages from across the Australian continent have one word for the nose and face – something that previous typological surveys have shown as very rare. In this essay, I will also discuss some previously under-recognised typological diversity present in Australian languages. I will also compare previous partonomy studies with available information from a survey I conducted using grammars of Australian languages, and point to future areas of investigation that may shed light on whether the language we speak constrains the way we see the world.

2 Background

Linguistic relativity, also known as the Sapir-Whorf hypothesis, has generated consistent debate in linguistics over the years. Studies in linguistic relativity are aimed at showing how the language we use shapes the way we think. Body partonomy has received a comparatively small amount of research attention over the past few decades. While it is often assumed that all languages and cultures divide up the body in the same way, there is actually significant diversity cross-linguistically (Majid, 2010). Many languages divide up the limbs by joints, which function as a clear visual boundary between parts of the body. Studies in cognitive neuroscience and behavioural psychology have shown that the joints represent cognitive/perceptual boundaries in the segmentation of the body, and that these perceptual segmentation boundaries appear from a young age (De Vignemont et al., 2009; Le Cornu Knight et al., 2017; Shen et al., 2020; Shen et al., 2018). However, some authors argue that there is more crosslinguistic

diversity in the words used to refer to body parts, as well as in speakers' mental representations of the body, than has previously been recognised (Devylder et al., 2020; Enfield et al., 2006). Although it is very common that languages divide the body up at the joints, this is not always the case. For example, Tidore, a Papuan language spoken in Indonesia, has a word that describes the lower limb from the foot to three-quarters up the thigh (Van Staden, 2006). Many languages have a word that refers generally to the region that covers both the arm and hand, thus ignoring the wrist joint. Similarly, many languages have one word that refers to the lower leg and foot, such as in the Inuit language Iñupiaq, or Purépecha, spoken in the highlands of Mexico (Brown, 1976). Clearly, there is diversity in the way languages refer to the body.

The way languages divide up the body is known as meronomy or partonomy. Initial studies in this area are credited to Brown (1976) and Andersen (1978), who were motivated to find linguistic universals with regards to the way languages refer to body parts. A key concept from Brown (1976) is the concept of 'partonomy', being the hierarchical division of the body into parts, beginning from the body as a whole, which is then subdivided into parts on another level, which are in turn subdivided into more parts. The body is superordinate to its parts (such as the head, torso, and limbs). These parts are themselves superordinate to the next level of parts which are superordinate to the next level of parts – such that the arm is composed of the upper arm and forearm (Brown, 1976). On the basis of his survey of 41 languages, Brown (1976) proposed a number of linguistic universals, all of which rested on the assumption that all languages have a partonomy. Other authors have also argued that the concept of 'having parts' is a universal feature of human language (Goddard & Wierzbicka, 1994; Wierzbicka, 2007). However, other authors have argued that there are languages that do not have a concept of 'part' or that do not have a partonomy (Devylder et al., 2020; Enfield et al., 2006; Gaby, 2006a).

A special issue of Language Sciences (volume 28, issue 2-3, 2006) contained a cross linguistic investigation of body part terms and their conceptualisation in 10 languages of the world (Jahai, Lao, Kuuk Thaayorre, Yélî Dnye, Punjabi, Tiriyó, American Sign Language, Tidore, and Savo Savo). While it was found that several of the languages did indeed have a concept of the body as a whole several languages – Kuuk Thaayorre, Tidore, and Savo Savo – lacked the concept of 'body' and instead had a broader concept of personhood (Enfield et al., 2006). There was also evidence that several languages (such as American Sign Language, Jahai, Savo Savo, and Kuuk Thaayorre) did not have a hierarchical partonomy at all (Enfield et al., 2006), contra the hypothesis that all languages have a hierarchical partonomy.

Additionally, Enfield et al. (2006) make the distinction between morphemes/lexemes on the one hand, and "literally descriptive expressions" on the other. Literally descriptive expressions in the context of body parts are expressions that describe a body part, such as 'the back of the knee' (Majid, 2010). This contrasts with lexemes (and sometimes morphemes) that name a specific referent – such as the word *waraŋgarama* 'lowest rib on a person' in the Australian language Mara (Heath, 1981, p. 509). So, while Mara has the word *waraŋgarama*, an English speaker is equally capable of referring to the same body part, by using a literally descriptive expression. This essay will focus solely on lexemes rather than descriptive expressions.

3 Complex terms for body parts

Australian languages often derive labels for particular body parts from the labels of other body parts. Enfield et al. (2006) use the terms complex and simplex to describe this phenomenon. A simplex term is an unanalysable, monolexemic word that cannot be broken down into smaller meaningful units (Gaby, 2006a). The simplex terms combine together to produce complex terms. The name is often derived from some kind of shared characteristic, whether that be physical shape or function. Other times, the semantic connection between the primary lexeme and the compounded form can be less clear. This kind of compounding in and of itself is not typologically rare; English contains several complex body part labels such as 'eyeball' and 'forehead'. However, Australian languages are notable for the relatively small number of simplex body part terms. The large amount of complex body part labels also contrasts with some of the universals proposed by Brown (1976), who, amongst other things, claimed that all languages should have a simplex term for the face, hand, and foot. In this section, I will explore some Australian languages that show extensive use of complex body part terms, and illustrate points of similarity and difference in the way these compounds are constructed.

3.1 Kuuk Thaayorre

Kuuk Thaayorre is a Paman language spoken in Cape York, QLD, and has many body part labels that are complex (Gaby, 2006b, p. 140). Many body terms are derived from a combination of two other simplex body parts, or sometimes a body part word combined with a term for another object. Notably, Kuuk Thaayorre only has 4 primary lexemes for parts of the face - *koow* 'nose', *meer* 'eye', *thaaw* 'mouth', *therprr* 'chin'. Table 1 below contains examples of complex body part terms.

Thaayorre term	**English term**	**Gloss**
meer-nhapn	'eyeball'	eye-egg
mee-pungk	'eyebrow'	eye-knee
thaa-petan	'lower lip' (also labia)	mouth-skin
koo-ranth	'nostril'	nose-hole
kaal-thamr	'earlobe'	ear-foot
man-werngr	'collarbone'	throat-boomerang
thaathin-meer	'nipple'	breast-eye
thamr-thip	'sole of foot'	foot-liver
yuur-thip	'palm of hand'	hand-liver

Table 1: Kuuk Thaayorre complex body part terms. (Gaby, 2006a, pp. 212–214)

3.2 Mparntwe Arrernte

Complex body part labels are also found in Mparntwe Arrernte, an Arandic language spoken in and around Alice Springs in the Northern Territory. Wilkins et al. (1989) refers to this as

a type of nominal compounding, which also occurs outside body part labels. Arrernte also has reduced forms of some simplex body part labels, which can only appear in compounds. So, while iltye is the free form of the word meaning 'finger/hand', akwe- is the bound form meaning 'arm/hand'. This example is interesting because the bound form and the free form seem to have slightly different denotations, with the free word iltye referring to the finger and the hand, while the bound form refers to the arm and hand. However, further targeted elicitation studies, such as in the form of colouring tasks, are needed to confirm this. A number of similarities can be observed between Kuuk Thaayorre and Arrernte. For example, both languages have a complex term for the eyeball that is composed of eye+egg - meer nhapn in Kuuk Thaayorre and alknge-kwarte in Arrernte. Additionally, both languages show a metaphorical extension of an abdominal body part label to describe the palm of the hand, with yuur-thip hand+liver in Kuuk Thaayorre and iltye-artnerte hand+stomach in Arrernte.

Mparntwe Arrernte term	**English term**	**Gloss**
werlatye-alhe	'nipple'	breast-nose
alhe-altywere	'nostril'	nose-opening
alknge-arlpelhe	'eyelash'	eye-feather
alknge-kwarte	'eyeball'	eye-egg
arryenpe	'lips'	mouth-skin
iltye-artnerte	'palm of hand'	hand-stomach

Table 2: Mparntwe Arrernte complex body part terms. (Wilkins et al., 1989, p. 146)

3.3 Yandruwandha

Breen (2015) reports that the Innamincka dialect of Yandruwandha also shows this kind of body part compounding. Complex body part labels are most commonly formed by a resemblance of the form of one body part being applied to another. This is a type of metaphorical extension. In contrast to Kuuk Thaayorre and Arrernte, which have an abdominal metaphor to describe the palm of the hand, Yandruwandha combines the word for hand with a different body part, the brain, giving *mara-thangka* 'palm of hand' from hand+brain. However, Yandruwandha does apply the word for stomach to the word for foot, giving *thina-thundru* 'sole of foot' from foot+stomach.

Yandruwandha term	**English term**	**Gloss**
mara-mitji	'finger'	hand-eye
thina-mitji	'toe'	foot-eye
thina-thundru	'sole of foot'	foot-stomach
mara-thangka	'palm of hand'	hand-brain
thina-warta	'heel'	foot-trunk

Table 3: Yandruwandha complex body part terms. (Breen, 2015, p. 109)

Given that there are many languages in Australia that show high levels of complex body part labels, an area of potential future research is to see whether this type of compounding affects the way speakers think about these body parts.

4 The nose and face

4.1 Languages having one word for both 'nose' and 'face'

In a survey of 118 languages, Brown and Witkowski (1983) found that 42% used one word to refer to both the eye and face, which the authors described as being eye/face polysemy. They also found that none of the 118 languages had nose/face or mouth/face polysemy, and they used this as evidence to conclude that the eye is the most salient feature of the face worldwide (Brown & Witkowski, 1983). Despite their findings, it has been documented elsewhere that at least two Australian languages show a relationship between the terms used for the nose and face (Gaby, 2006a; Ponsonnet, 2011).

4.2 Dalabon *dje-no*: nose, nostrils, face

Dalabon is a non-Pama-Nyungan Gunwinyguan language spoken in Arnhem Land, Northern Territory. Ponsonnet (2011) used a mixture of elicitation methods, such as a colouring task as well as pointing tasks on life models and photos, to establish the denotational range of body part lexemes from four Dalabon speakers. In these tasks, participants were asked to either colour in or point to a particular body part lexeme in Dalabon. Based off spontaneous discourse outside the elicitation tasks, *dje-no* can be used to refer to the nose, face, and nostrils. During the elicitation experiments, when speakers were asked to point out or circle a *dje-no* on an image of a person they pointed to or circled either the tip of the nose or the whole nose. In colouring tasks, the speakers coloured in the whole nose. Ponsonnet (2011) also reported that some speakers pointed twice, at each nostril, indicating that a secondary denotation is 'nostril'. Interestingly, despite *dje-no* being commonly used in spontaneous discourse to mean 'face', Ponsonnet (2011) also reported that this denotation was not observed in the stimuli-based elicitation tasks. According to Ponsonnet, the only example of the 'face denotation' was in response to figure 1 below, to which a speaker said *'nunh dje-no kah-dje-dih'*, which Ponsonnet translated as 'this face has no nose'. However, Ponsonnet states that this speaker deemed this utterance to be unusual or ungrammatical. Dalabon has no other word for 'face', nor even a word for 'head'[1]. This leads Ponsonnet to conclude that main denotation of *dje-no* corresponds is 'nose', and that Dalabon speakers do not have a well-defined concept that is equivalent to the English word 'face'.

[1]Dalabon does have a word that means 'crown of the head' – *kodj-no*.

Figure 1: drawing of a face without a nose used in Ponsonnet (2011)'s elicitation experiments.

4.3 Kuuk Thaayorre *koow*: nose

Interestingly, the correspondence between nose and face that is present in Dalabon also appears in Kuuk Thaayorre. The word *koo-miing* 'face' in Kuuk Thaayorre is derived from a compound of the word for nose *(koow)* and the word for daytime *(miing)* Gaby (2006b). In fact, many terms for parts of the face are compounds involving the word koow 'nose'.

Thaayorre term	English term	Gloss
koo-miing	'face'	nose-daytime
koo-mut-panjr	'moustache'	nose-back-body.hair
koo-petan	'upper lip'	nose-skin
koo-rirkr	'forehead'	nose-shell
punth-man-koow	'forearm'	arm-throat-nose
thamr-koo-ngamal	'big toe'	foot-nose-big
yuur-koo-ngamal	'thumb'	hand-nose-big

Table 4: Parts of the body and face containing koo- 'nose' in Kuuk Thaayorre (Gaby, 2006b, pp. 142–143; Gaby, 2006a, p. 212

Here we see two different kinds of compounding. Parts of the face adjacent to the nose contain the 'nose' lexeme due to the spatial association - *koo-petan* 'upper lip' from skin+nose refers to one part of the skin that is adjacent to the nose . However, there are other body parts in Kuuk Thaayorre that are located far from the nose, yet still contain the 'nose' lexeme. In these cases, it appears that the 'nose' label appears as a result of grammaticalized metaphorical extension, on the basis of physical resemblance, perhaps indicating protrusion in some way, such as in *thamrkoongamal* 'big toe' or *yuurkoongamal* 'thumb'.

4.4 Surveying other Australian languages

A lot of the research around body parts in Australian languages has focused on the alienability/inalienability distinction as well as noun incorporation (eg, Chappell and McGregor (2011)) rather than the semantic denotation. In order to explore the differences in the semantic denotation of body parts in Australian languages, I performed a survey of 33 Australian language grammars for references to body part labels. A spreadsheet with all references to body part

labels was created to highlight similarities and differences between the languages. Only languages with multiple examples of the body part labels in spontaneous use by native speakers were included in the survey. This survey revealed that, like Kuuk Thaayorre and Dalabon, several other Australian languages use one word to refer to both the nose and face or have a complex label for the face that is derived from the word for nose (summarised in table 5 below). This contrasts with the previously mentioned survey of 118 languages by Brown and Witkowski (1983), which did not find any languages that had what they termed nose/face polysemy. It is also interesting to note that many of the languages in this survey showing this nose/face polysemy are not closely related, and that this phenomenon is present across the entire continent. This survey highlights that there is much more diversity in the semantic denotation of body part terms than has been previously discussed in typologies.

Language (classification)	**Grammar**	**'nose' label**	**'face' label**
Kayardild (Tangkic, NW QLD)	Evans (1994, p. 64)	*kirrka*[2]	*kirrka-miburl-da* nose-eye-NOM
Kuuk Thaayorre (Paman, Cape York QLD)	Gaby (2006b, p. 140)	*koow*	*koo-miing* nose-daytime
Kunbarlang (Gunwinyguan, NT)	Kapitonov (2019, p. 215)	*kumerle* (free form) *mirl-* (incorporated form)	*kumerle* (free form) *mirl-* (incorporated form)
Diyari (Karnic, SA)	Austin (1981, p. 262)	*mulha*	*mulha*
Arabana Wangkangurru (Karnic, SA)	Hercus et al. (1994, p. 37)	*midlha*	*midlha*
Worrorra Worrorran, non Pama-Nyungan, northern WA)	Clendon (2014, p. 136)	*=minguma mana*[3]	*=minguma mana*
Nyulnyul (Nyulnyulan, non Pama-Nyungan, northern WA)	McGregor (2011, pp. 238, 258)	*-mirl*	*PF*[4] *-lerr-PF-mirl* PF-mouth-PF-nose
Wardaman	Merlan (1994)	*yi*[5] *-jurn*	*yi-jurn*
Dalabon (non-Pama- Nyungan Gunwinyguan, northern NT)	Ponsonnet (2011)	*dje-no*	*dje-no*

Table 5: Languages with a lexical relationship between 'face' and 'nose'.

[2]Note that word-final a is not pronounced before any pause in Kayardild, leading Evans to write this word in isolation as kirrk_ in order to reflect this. I have retained the a here for clarity.

However, a significant limitation of this survey, as well as the survey by Brown and Witkowski (1983), is that it relies on the use of grammars rather than targeted elicitation studies with native speakers. The Brown and Witkowski (1983) predominantly used dictionaries alone, which typically do not contain examples of the words in use, making it very difficult to get an accurate picture of the scope of the semantic denotation of the words listed in the dictionary. Descriptive grammars were used to develop the table above, and were only included if they had contained examples of the body part labels in use as spoken by actual native speakers of the language. However, as Enfield et al. (2006) and (Devylder et al., 2020) point out, the most accurate way to determine the denotation of a body part label is through elicitation tasks such as pointing or colouring tasks that make use of images or diagrams of bodies, such as the studies by Gaby (2006a) and Ponsonnet (2011) discussed above. Further targeted elicitation studies are needed to establish the true prevalence of the nose/face polysemy.

5 Conclusion

In this essay, I have highlighted the diversity that exists in the way languages refer to parts of the body. Many Australian languages show numerous complex body part labels that are derived from simplex body part labels. Given that there are many languages in Australia that show high levels of complex body part labels, an area of potential future research is to see whether this type of compounding affects the way speakers think about these body parts. Kuuk Thaayorre is typologically unusual in that it does not have a simplex term for 'face' (Gaby, 2006a). Additionally, on the basis of elicitation and pointing tasks, Dalabon speakers do not have a well-defined concept of the 'face' in the English sense of the word, i.e. as an assemblage of other features/body parts (Ponsonnet, 2011) something that contradicts previous theories of partonomy such as Brown (1976). Additionally, several other Australian languages use one word to refer to both the nose and face or have a complex label for the face that is derived from the word for nose – something that was previously shown to be typologically rare (Brown & Witkowski, 1983). Further typological research in the area of body part semantics in Australian languages has the potential to reveal even more features that were previously thought to be typologically rare or impossible.

[3]Mana is the noun classifier.

[4]PF stands for the prefix that reflects the person and number of the person whose face is being talked about (McGregor, 2011, p. 283).

[5]Yi is the noun classifier.

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