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# The Linguistic Embodiment of Emotions. A Study of the Australian Continent

Maïa Ponsonnet

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## **The linguistic embodiment of emotions. A study of the Australian continent**

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Dr Maïa Ponsonnet

<https://orcid.org/0000-0002-8879-9798>

Laboratoire Dynamique Du Langage (UMR5596, CNRS & Université Lyon 2)

The University of Western Australia,

The University of Sydney and Centre of Excellence for the Dynamics of Language

## **Abstract (English)**

This article describes how particular emotions map figuratively onto body parts in Australian Indigenous languages. While most languages use expressions involving body parts to talk about emotions – as in “broken-hearted,” for instance – Australian Indigenous languages do it to a remarkable extent. After identifying the figurative tropes – metaphors and metonymies – that recur most frequently in such expressions across the continent, the article discusses specific body-part associations and figurative patterns for several salient emotional categories. This includes generic emotions (feel good/bad); “empathetic” emotions (affection and derived emotions); anger and sulkiness; social attitudes around agreeableness and compliance; shame; love, desire and jealousy; as well as fear and surprise. Far from being randomly distributed, the figurative properties of each category exhibit regular patterns. Some of these patterns reflect somatic and behavioral responses to emotions, or cognitive properties of emotions, while others remain unexplained.

## **Abstract (French)**

Cet article décrit et analyse les correspondances entre catégories émotionnelles et parties du corps dans les expressions figuratives des langues aborigènes australiennes. La majorité des langues du monde utilisent des collocations incluant des parties du corps pour décrire des émotions – comme dans l’expression « cœur brisé » par exemple, mais celles-ci sont particulièrement nombreuses dans les langues australiennes. Après avoir identifié les tropes – métaphores and métonymies – qui reviennent le plus souvent dans ces expressions à travers le continent, l’article analyse les associations spécifiques entre certaines parties du corps, certains tropes, et certaines catégories émotionnelles. Ces catégories incluent les émotions génériques (se sentir bien/mal) ; les émotions dites « empathétiques » (affection et émotions dérivées) ; la colère et la bouderie ; les tempéraments relationnels comme l’amabilité ou un caractère conciliant ; la honte ; l’amour, le désir et la jalousie ; ainsi que la peur et la surprise. Chacune de ces émotions présente des associations préférentielles

avec certaines parties du corps, et des propriétés figuratives récurrentes. Certaines de ces préférences et récurrences renvoient à des réactions somatiques ou comportementales aux émotions en question, d'autres à leurs dimensions cognitives ; et d'autres encore restent inexplicées.

### **Keywords**

emotions, figurative language, embodiment, Australian languages

## Introduction

Most readers of this article, being familiar with English, would know that “broken-hearted” means “sad,” “having guts” means “being courageous,” and so on. English is certainly not the only language that recruits body parts for linguistic descriptions of emotions. Instead, this type of linguistic “embodiment” (Csordas 1990; Zlatev 2007) is reported in many languages and even suspected to be universal (Wierzbicka 1999, 276). What varies across languages is which body parts are involved, which map onto particular emotions, and the figurative motives guiding these associations (Kövecses 2000, 2005; Sharifian et al. 2008).

So far, we do not have a clear empirical overview of how this body-emotion mapping generally operates across the world’s languages. A number of publications describe the phenomenon in individual languages, sometimes comparing a few (see Ponsonnet 2020b for a review). However, no publication to date offers a comprehensive picture of how humans across the world have projected emotions onto the human body in the myriad languages they speak. This article steps in this direction, presenting a detailed study of how emotion categories are most typically embodied in the languages of one continent: Australia.

Australia is an ideal starting point for the systematic study of body-based emotional expressions because Australian Indigenous languages have large numbers of such expressions (Turpin 2002; Gaby 2008; Ponsonnet 2014 inter alia). In addition, they present an interesting diversity against some semantic coherence, which allows for the identification of regular motives. This article presents a systematic investigation of body-based emotional expressions in 67 Indigenous languages across the Australian continent. This study revealed about 800 emotional expressions, involving around 30 distinct body parts. Several observations emerged.

First, the association of specific body parts with specific emotions in Australian languages is by no means random. Emotion categories tend to display preferential associations across languages: surprise has a prevalent association with the eyes, selfishness with the nose, and love with the heart and throat, and so on. Second, the data often suggests plausible motivations for these associations. For example, surprise expressions typically allude to the size of the eyes, which may reflect facial responses to surprise. Third, some emotions seem to lend themselves to particular types of metaphors. For example, anger is frequently associated with heat, and compassion with softness.

All these observations raise the question of whether they apply universally or are specific to the Australian continent. Which of the properties of body-based emotional expressions are the same across the world's languages? And how can we explain universal traits? Do they reflect some invariant of the human mind and body, or of human life? While I will not tackle these questions directly, I will make suggestions for future research.

In addition to emotions, in Australia and across the world body-part words regularly extend figuratively to many semantic domains other than emotions, including landscape descriptions for instance (e.g., "the mouth of a river"). In Australia, many groups use signs involving body parts to designate kin categories (Kendon 1988, 330–66). These dimensions are not covered here and may be interesting avenues for further investigation.

The article is organized as follows. Section 0 briefly discusses the data and methods of the study. Section 0 introduces the concepts of "figurative language", "trope," "metaphor," and "metonymy," and reviews the figurative representations we encountered in our data. Section 0 presents the figurative tendencies for different emotions, grouping some emotions together based on their cultural acquaintances.

## Data and methods

This study is based on the systematic investigation of dictionaries and word lists from 67 Indigenous languages across the Australian continent. We endeavored to constitute a balanced sample, including languages from all parts of the continent and from a large number of language families and subgroups (see the Appendix for a full list). Unavoidably, regions like Central Australia and Arnhem Land, where traditional Australian languages are still spoken by younger generations, and where linguists have carried out more documentation, are over-represented in our data. The details and limitation of the corpus and documentation are discussed extensively in Ponsonnet and Laginha (2020). Due to space limitation, the present article only cites a few examples. Additional examples, and a list of languages and sources, can be found here:

[link]

The rest of the data can be consulted here:

<https://www.emotionlanguageaustralia.com/>

For this study, “emotions” are defined as internal states with a cognitive dimension – which excludes sensations such as being hungry or cold – as well as a subjective dimension – excluding purely intellectual states such as “know” or “believe” (Ponsonnet 2020a, 20–23). Expressions that describe dispositions, that is, a propensity to experience certain emotions, are included. These exclusions and inclusions are dictated in part by the lexical profile of the languages under scrutiny and in part by the practical needs of the study, such as limiting it to a manageable scale (Ponsonnet 2014, 17–21). The data-collection process revealed about 800 emotional expressions featuring a body-part noun, including at least 30 distinct body parts.<sup>1</sup> The most productive body parts are, in this order: the belly, by far the most frequent; the heart, abdomen, eyes, nose, head, face, ears, throat, chest, forehead, and liver. The expressions were coded systematically for the body part they use, the emotion category

they represent, and the metaphor they instantiate. This resulted in a large database, which informed the analyses presented here.

Ponsonnet and Laginha (2020) analyze this data body part by body part and consider explanations how and why different body parts associate with emotions linguistically. The present publication, written with non-linguists in mind, adopts another approach and uses emotions, or class of emotions, as entry points.

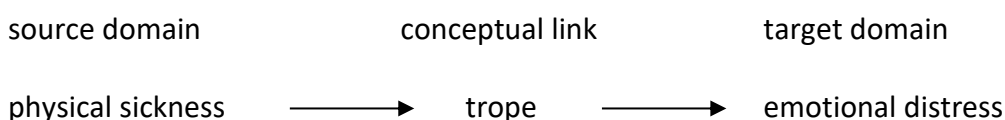
## Types of figurative tropes

### *Metaphors and metonymies*

Figurative language refers to the practice of describing the real world using images and symbols that do not pertain to the reality being described. If I say “the way the world is going makes me sick,” while not being physically sick, I am representing my emotional state as a physical state I am not actually experiencing, thus using figurative language. Figurative language has been famously theorized by cognitive linguists since the 1980s, following Lakoff’s foundational texts (Lakoff and Johnson 1980; Lakoff 1987). In this framework, a figurative expression is said to refer literally to a *source* domain to talk figuratively about a *target* domain, as represented in Fig. 1. The link between these domains is supposed to be motivated by some conceptual connection, and this conceptual link is the figurative *trope* – which in day-to-day English we would call a “metaphor.”<sup>2</sup>

“The way the world is going makes me sick.”

EMOTIONAL DISTRESS IS LIKE PHYSICAL SICKNESS



~ 7 ~



Figure 1. The structure of figurative tropes.

Cognitive linguists define “metaphor” in a more specific way, as a type of trope, contrasting with metonymy (Lakoff and Johnson 1980; Barcelona 2000; Kövecses 2002). A metaphor associates the source and target domain by virtue of a postulated resemblance between them. For instance, describing someone as “sharp” postulates a resemblance between objects such as blades and rocks and a personality trait (INTELLIGENCE IS LIKE SHARPNESS). This conceptual association is what linguists call a metaphor.

Metonymy, on the other hand, does not operate through conceptual resemblance, but through acquaintance in the world we experience. For instance, some languages use expressions meaning literally “have goosebumps” to talk about being scared. The association is because this physical response and this emotion often occur simultaneously. Linguists describe this as an EFFECT FOR CAUSE metonymy (GOOSEBUMPS FOR FEAR). Metonymies can use many observable associations, like PART FOR WHOLE (e.g., “I’ve got wheels” for “I’ve got a car”), CONTAINER FOR CONTENT (e.g., “I drank the whole bottle”), and many more.

Some authors have pointed out that the distinction between metaphor and metonymy is blurred (Barcelona 2000), because metaphors imply conceptual contiguity. As often with technical distinctions, it does not matter where exactly we draw the line between metaphor and metonymy, and whether an expression should be classified as one or the other. What is more interesting is to recognize how these two types of associations differ in principle, and that metaphors represent a more creative elaboration upon reality than metonymy. While metonymies are grounded in some acquaintances observed in the world, metaphors do not need such anchors.

Acquaintance, or contiguity, are broad concepts, and any figurative association between a body part and an emotion is metonymic, because body parts and emotions both pertain to the person who experiences the emotion. This makes them contiguous in the perceptual world. This said, not all figurative expressions are as strongly metonymic as others. With the GOOSEBUMPS FOR FEAR metonymy, the source bodily state and the target emotional state are strongly acquainted in reality. By contrast, sad people do not really have a broken heart and having a broken heart is not a plausible physical state. The expression “broken hearted” can be said to combine a metaphor of destruction with a metonymy, wherein the heart is regarded as the part of the person that experiences emotions (the seat of emotions).

The following sections present the types of metonymies and metaphors that can be usefully distinguished to understand the role of body parts in figurative representations of emotions in Australian Indigenous languages.

### ***Somatic metonymies***

I label “somatic metonymies” expressions that refer literally to a plausible physical or physiological state of a body part. Often the expression can be used alternatively with this physiological meaning or with the emotional meaning.

- (1) Kaytetye (Central Australia)<sup>3</sup> (Turpin and Ross 2012, 70)<sup>4</sup>

*aleme ltywere*

belly + hungry

“hungry, worried”

Which physiological states serve as a source varies depending on the body part. The belly typically has digestive associations; expressions with the heart can allude to heartbeat. In our sample, somatic metonymies number around one out of six expressions with abdominal body parts, and a higher proportion (typically closer to one out of four), with body parts of the head and face, as well as with the throat.

### ***Generic metonymies***

Many emotional expressions simply describe a body part as “good” or “bad.”<sup>5</sup> Such expressions often describe generic emotions, i.e. “feel good” or “feel bad,” but this is not systematic, as we see from the Pitjantjatjara example.

(2) Yugambeh (South Queensland) (Sharpe 1998, 177)

*yilgan bugal*

liver + good

“pleased”

(3) Pitjantjatjara (Western Desert) (Goddard 1992, 55)

*liri kura*

throat + bad

“angry”

Generic metonymies are widespread across body parts: in our sample, languages for which at least ten body-based emotional expressions are reported tend to feature at least one generic metonymy. These are most frequent with the belly, heart, and head, where they represent just under one expression out of five.

## ***Behavioral metonymies***

I call “behavioral metonymies” expressions that describe observable behaviors. This can be illustrated with Djinang (Yolngu Matha, Arnhem Land), where *mil nyangi* “eyes see” means “look hard at; stare at” as well as “feel envious, jealous.” I include physical and facial expressions under behavioral metonymies, and in fact behavioral metonymies are most frequent with parts of the face. They rarely feature with the throat, ears, or abdominal body parts, which do not play a very prominent role in observable behaviors.

(4) Kukatja (Western Desert) (Peile 1997b\*)

*paniya tjarlu-rri-*

lit. “eyes become big”

“be surprised”

## ***Bridging metonymies***

Some somatic and behavioral metonymies point towards plausible motivations for the association between body parts and emotions: they evoke states of body parts that are plausible responses to emotions and are therefore observably acquainted with these emotions in the world as we experience it. For instance, goosebumps and fear regularly occur together; people widen their eyes when surprised, and the like.

We know from the study of semantic change that when two things regularly occur together, they often end up with the same linguistic label (Traugott and Dasher 2002). Therefore, it is conceivable that for some body parts, somatic or behavioral metonymies may have laid linguistic “bridges” (Evans and Wilkins 2000) between body parts involved in physical or physiological responses and the corresponding emotional states. However, this scenario probably does not apply to every body part involved in emotional expressions. For instance, liver-based expressions that describe emotions do

not feature any somatic or behavioral metonymies in our sample; indeed, it is hard to imagine how the liver could be associated with an emotional response perceptually (See Ponsonnet and Laginha 2020 for further discussions).

### ***Experiencer metonymies***

A first type of experiencer metonymy combines a body part with a word that has an emotional meaning in itself. Here, the body part does not significantly modify the meaning of the emotional word. Instead, it specifies which part of the person is figuratively experiencing the emotion, so the expression reads as, for instance “be sad from the belly.” This pattern occurs with many body parts to express a variety of emotions.

(5) Wubuy (Nunggubuyu, Arnhem Land) (Hore 1994, 31)

*wurrij-barrngayu-*

chest-be sorry

lit. “sorry from the chest”

“feel pity/sorry for”

In another type of experiencer metonymy, the body part experiences a typical response to an emotion, often crying.

(6) Wik Mungkan (Cape York) (Kilham et al. 2011, 102)

*ngangk-peeyan*

heart-cry

“feelings of longing or sadness”

Experiencer metonymies are the most widespread type overall, representing between a quarter and a third of expressions with most body parts. They are particularly frequent with abdominal body parts.

### ***BODY PART FOR EMOTION metonymies***

In this type of trope, the body part stands for the emotion. This relationship can be realized linguistically in several ways. In the simplest pattern, a noun has both a body-part meaning and an emotion meaning. For instance, in Pintupi (Central Australia), *yunytju* means both “throat” and “love.” BODY PART FOR EMOTION metonymies can also be realized in more complex expressions. For instance, in Pitjantjatjara (Central Australia), “become throat” means “like, want, desire.” Many expressions equate being without a body part with not experiencing an emotion, as illustrated below. Overall, BODY PART FOR EMOTION metonymies are relatively rare, yet notably more frequent with the throat.

(7) Pitjantjatjara (Western Desert) (Goddard 1992, 158)

*tjuni wiya*

stomach + without

lit. “be without stomach”

“not liking, not wanting”

### ***Property metaphors***

All body-based emotional expressions are metonymic to the extent that body parts and emotions both pertain to the domain of the person. However, some expressions are *also* metaphorical, because they associate a property and an emotion not associated empirically in the perceptual world. In this section, I present types of metaphorical tropes, defining them as the expressions that do not describe a plausible property of a body part.

## *Resistance*

Perhaps the most widespread metaphor for emotion in Australian languages is where a body part is depicted as strong, hard, weak, or soft. “Resistance” mostly has negative connotations, although hardness can also map onto strength of character. Resistance metaphors are common with all the productive body parts, except the throat, and occur frequently throughout the continent.

(8) Kaytetye (Central Australia) (Turpin and Ross 2012, 70)

*aleme elperterre*

belly + hard

“full after eating; someone who has no feelings and never shows emotion”

## *Access*

Body parts can be represented metaphorically as open or closed. Openness practically always maps onto positive emotions, usually affection and compassion. Access metaphors are common with the belly, the heart, and other abdominal parts.

(9) Djinang (Yolngu Matha, Arnhem Land) (Waters 1983, 29)

*ḍurkḍurk inydji lapmiyyi*

lit. “open one’s heart”

“be magnanimous, compassionate”

## *Destruction*

Another major metaphor is destruction. Body parts can be represented as plainly broken, or divided, for instance cut, split, cracked, torn, and so on (Devyllder and Zlatev 2020). Destruction metaphors practically always map onto negative emotions. They occur with most body parts but are particularly frequent with abdominal parts.

(10) Diyari (South Australia) (Austin 2017, 7)

*ngara dama-*

heart + cut

“to make one sad”

### *Alteration*

I label “alteration” metaphors those expressions that depict a body part as “different” or “other” (than themselves). Note that this pattern relates conceptually to the trope of division present in certain destruction metaphors. Alteration always maps onto negative emotions. These metaphors are moderately frequent and occur mostly with abdominal body parts.

(11) Walmajarri (Victoria River region) (Richards and Hudson 1990, 188)

*ngaru kanarlanyjarrinyu*

belly + becomes different

“worried, upset”

### *Movement*

Many expressions rely on movement metaphors. These are most frequent with abdominal body parts, especially the belly and heart. Movement metaphors commonly associate movement with agitation and related negative emotions.

(12) Yolngu Matha (Arnhem Land) (Bowern and Zorc 2012, 319)

*ḡoy-wandirri*

belly/inside-run

“restless, disturbed, uneasy”



Another type of movement metaphor evokes rotation, which usually maps onto negative attitudes such as resentment. Many expressions allude to abdominal body parts turning around themselves, depicting them as twisted or entangled. Along these lines, some expressions describe the body part as tied up, which links conceptually to resistance and access (blockage) metaphors.

(13) Guugu Yimidhirr (Cape York) (Haviland 1979, 128)

*gambul yirnga*

belly + turn

“envious”

(14) Djinang (Yolngu Matha, Arnhem Land) (Waters 1983, 88)

*nguy inydji garrpigi*

belly + tied up/twisted/circling

“be angry, fearful, annoyed”

#### *Posture and position*

Some metaphors associate emotions with the position, posture, or orientation of a body part – high or low, vertical or horizontal, raising or falling. As has long been observed in other languages (Kövecses 2005, 36), high/vertical is usually positive, and low/horizontal is usually negative. In our sample, these metaphors occur mostly with the heart.

(15) Dalabon (Arnhem Land) (Ponsonnet 2014, 434)

*ngurlk-di*

heart-stand

“feel strong affection”

## *Colors*

Although many languages recruit colors to evoke feelings (Dimmendaal 2002), our sample contains relatively few color metaphors. Those we found involved the belly, liver, and eyes, and mapped predominantly onto negative emotions.

(16) Alyawarr (Central Australia) (Green et al. 2019, 72)

*alem atherrk-atherrk*

belly + green-green

“jealous”

## ***Patientive and agentive metaphors***

Most tropes presented so far evoke a state or property of a body part. In addition, some expressions figuratively project body parts in more active roles, or conversely, as affected by some action.

### *Perception, thought and speech*

Some expressions represent body parts as involved in perception. While such perception tropes often represent premonitions, they also have more clearly emotional meanings sometimes. This results in EMOTIONS ARE LIKE PERCEPTIONS OF [BODY PART] metaphors. Such expressions seem limited to abdominal body parts (mostly the belly and liver) and the throat.

(17) Diyari (South Australia) (Austin 2017, 6)

*kalhu ngara*

liver + hear/feel

“to tremble, dread, fear”

In some expressions, the body part (mostly the belly) is metaphorically depicted as speaking or thinking, as in Warlpiri (Central Australia), where *miyalu kaninjarra wangka-mi*, literally “stomach inside speak,” means “feel deeply about something, be serious about it.”

### *Violence metaphors*

Some expressions depict violent actions. Most commonly, the body part undergoes the action – being held, caught, pushed, hit, or bitten. In some cases, as in Kurna below, it is impossible to tell whether the body part is treated figuratively as the entity undergoing the action, or as the agent doing the action (see also Laughren and Ponsonnet, 2020).

(18) Wik Mungkan (Cape York) (Kilham et al. 2011, 102)

*ngangk-pathan*

heart-bite/chew

“hate”

(19) Kurna (South Australia) (Amery 2020, 285)

*wingku parlta parltarrintheta*

lit. “lungs throwing themselves”

“to wish, long for”

## **Emotions and their figurative treatment**

Different classes of emotions project figuratively onto various parts of the human body. Each section below focuses on a small cluster of related emotions and synthesizes which body parts and figurative

tropes are commonly used to talk about each cluster in Australian Indigenous languages. Naturally, this organization raises the question of how emotion categories are identified or grouped, and whether these groupings reflect conceptual partitions relevant to the speakers of these languages.

Since emotion categories are not defined by universal, preexisting essences (Harré 1986; Mesquita 2003), my choice of emotion categories and groupings is informed by a range of sources and observations. The anthropological literature on emotions among Australian Indigenous groups highlights several recurring categories that play a salient role in the “emotional moral order” of these groups (Myers 1979, 1986). Several of these recurring categories are also prominent among the communities with which I have collaborated in northern Australia (Arnhem Land), so I have been able to observe how they operate in practice.<sup>6</sup> Some socially salient emotion categories can be linguistically salient as well (Peile 1997a; Ponsonnet 2014; Yacopetti 2020). For instance, some of these concepts are more often expressed linguistically by dedicated words, sometimes even “crystalized” into a noun (Myers 1979; Yacopetti 2020). These prior ethnographic and linguistic observations are generally corroborated by the structure of the data on body-based emotion tropes considered in the present study. Thus, the categorization of emotions I apply is to some extent indicative of the range of emotion categories relevant in a number of Australian Indigenous social organizations.

This “cultural relevance” is not a perfect match. For one thing, Australian Indigenous groups are culturally diverse and do not share a single set of emotion categories and values. In addition, writing in English implies a bias towards the categories expressed with individual words in this language (Lutz 1986; Russell 1991). These biases are unavoidable but are less problematic if we are aware of them. The partition of the present section is not aiming for an exact match with the emotional orders of Australian Indigenous groups. Rather, it is simply an indispensable by-product of the presentation of emotion metaphors, since one could not present these observations without organizing them. I

have endeavored to make this organization meaningful, but the reader should remain aware of its limitation.

Each subsection below starts with a brief presentation of the emotion categories under discussion. This description is followed by a discussion of the most common body parts and tropes involved in the figurative representations of the emotions.

### ***Generic emotions***

I call “generic” emotions those states only determined by their valence, that is, positive (pleasant) or negative (unpleasant). Many languages of the world (perhaps all of them, Wierzbicka [1999, 275]) have words or expressions denoting such states: in English we find “feel good/bad,” “happy,” “pleased,” “sad,” and so on. Australian languages also have words for such states, and while these generic emotions attract little attention in the anthropological literature for instance (presumably because they are socially neutral), these words are used extensively in day-to-day life (Ponsonnet 2014, 178–84).

#### *Body parts associated with generic emotions*

Generic emotions account for a significant proportion of the expressions that use abdominal body parts. Around one quarter of the expressions with the belly, heart, or liver in our sample mean “feel good” or “feel bad,” and this proportion is even slightly higher with the heart, chest, and abdomen. Other body parts exhibit fewer generic expressions.

#### *Tropes for generic emotions*

Generic emotions are mostly expressed by metonymies, as opposed to metaphorical expressions. Generic metonymies are the most prevalent. As explained in the previous section, in this article

“generic emotions” and “generic metonymies” mean two different things. The former are neutral emotions – “feel good” or “feel bad” –; while the latter are expressions that literally mean “body part feels good/bad,” but may describe any emotion. As a matter of fact, many generic metonymies mean “feel good/bad”; nearly two thirds of the belly ones do, and around half of the heart and abdomen ones.

(20) Yugambeh (South Queensland) (Sharpe 1998, 177)

*yilgan bugal*

liver + good

“pleased”

After generic metonymies, the next most frequent tropes for generic emotions are experiencer metonymies, where a body part combines directly with an emotion term. More rarely, expressions where body parts are represented as experiencing responses to emotions, for example, “heart cries,” can denote generic emotions.

(21) Wik Mungkan (Cape York) (Kilham et al. 2011, 99)

*ngangk kuupaman*

heart + glad

“feel glad”

### ***Empathetic emotions***

Myers (1986), followed by Turner (2010) and Ponsonnet (2014) among others, have observed that “relatedness” is a key component of life and social fabric among many Australian Indigenous groups, if not all of them. Here, “relatedness” refers to a certain quality of social bonding between people – particularly kin –, implying that they care for each other, both emotionally and in practice. Caring in

practice implies providing material support, in particular sharing goods like food. Emotionally, caring feelings include affection and sympathy, i.e., positive feelings for others. Affection can also result in painful emotions, when something unfortunate happens to a loved one. Therefore, emotions such as compassion (“feel sorry for”), grief, and concern (“worry”), or missing someone, tend to be culturally and linguistically associated with affection (Ponsonnet 2018b, 115–20; Yacopetti 2020, 57–60). In addition, attitudes and dispositions related to generosity pertain to the same cluster, as the emotional counterparts of caring practices. All of these empathetic emotions are morally valued and encouraged, even those with negative valence such as grief, because they demonstrate social bonds (Ponsonnet 2018a).

#### *Body parts associated with empathetic emotions*

The belly exhibits the strongest association with empathetic emotions, featuring expressions for affection, sympathy, generosity, compassion, grief, and concern. Considered together, these amount to about 15% of all belly-based expressions. Empathetic emotions are also well represented amongst other abdominal parts, namely the liver, abdomen, and chest (Ponsonnet and Laginha, 2020).<sup>7</sup> Compassion and concern for others are present amongst expressions involving the eyes, but in this set expressions more rarely denote stronger emotions like grief.

(22) Warlpiri (Central Australia) (Laughren and Warlpiri Lexicology Group 2007/2017\*)

*miyalu-jarri-mi*

belly-become

“worry about, feel sorry for”

(23) Gupapyuṅu (Yolngu Matha, Arnhem Land) (Lowe 1994, 123)

*mel-yalḡgi*

eyes-weak/soft

“sympathetic, considerate, helpful”

Body parts that often map onto social attitudes (see below), such as the head, forehead, and nose, are rarely used to express empathetic emotions. But some, like the nose, seem specialized for the opposite attitude: being socially distant, lacking generosity, and so on.

*Tropes for empathetic emotions*

Generally, expressions for empathetic emotions exhibit a higher number of metaphors than metonymies. Most metaphors discussed in the previous section are represented, with resistance the most prevalent. As in English, the body-based expressions we found in Australian Indigenous languages often associate sympathy with softness and lack of sympathy with hardness. This pattern applies to a large array of body parts including the heart as in English, but also the belly, liver, and eyes (see example 23 above), among others. On the negative side, a body part’s hardness often describes lack of generosity. Another relatively widespread metaphor maps an accessible abdominal body part with an empathetic emotion, as in the expression “open one’s heart” in Djinang (25).

(24) Diyari (South Australia) (Austin 2017, 6)

*kalhu miltyari-*

liver + become-soft

“be compassionate”

(25) Djinang (Yolngu Matha, Arnhem Land) (Waters 1983, 31)

*ḍurkḍurk inydji ḷapmiygi*

lit. “open one’s heart”

“be magnanimous, have compassion”



## *Anger and sulkiness*

Standing opposed to the empathetic emotions are attitudes that reflect negative feelings for others. Plain hatred or dislike are not well represented in our sample. Anger, on the other hand, is a more salient emotion category in our data and Australian vocabularies in general. Across the continent, anger is the emotion most frequently expressed by a noun (Ponsonnet 2016; Yacopetti 2020). Usually, these nouns, and other words denoting what we translate as “anger” in English, also denote aggression, i.e. the desire or propensity to harm (Burbank 1994). This disposition is often described as being “cheeky” in Aboriginal English (*tjiki* in Kriol, Ponsonnet [2018b, 121]). In line with this linguistic salience, our sample contains a wealth of figurative expressions for anger, using a broad range of body parts. We also found a number of expressions describing more mildly negative attitudes and moods around sulkiness.

### *Body parts associated with anger*

Besides generic emotions (feel good/bad), anger is the emotion most frequently represented by belly expressions. The belly is by far the most productive body part in our corpus, with close to 300 expressions, or about a third of all the expressions we collected (Ponsonnet and Laginha, 2020). As the emotion most frequently encoded by the most productive body part, anger, often merged with aggression, is prevalent in our data. In addition, the emotion is also well represented with other abdominal body parts, to the exception of the heart (specialized for love and fear).

(26) Djinang (Yolngu Matha, Arnhem Land) (Waters 1983, 110)

*nguy maḍakarritjdjidji*

belly + angry/dangerous

“become inwardly angry”

(27) Wembawemba (Victoria) (Hercus 1992, 26)

*kuli-wutyup*

hatred-belly

“savage, fierce”

Contrary to generic and empathetic emotions, where non-abdominal body parts play a marginal role, anger and other antagonistic emotions also occur with many more body parts. Anger has a strong association with the throat. It is also represented amongst head-, eye- and nose-based expressions; as well as with less productive body parts, such as the bones and teeth, for instance.

(28) Martu Wangka (Western Desert) (Blyth n.d., 49)

*lirri waru*

throat + fire

“angry”

(29) Warlpiri (Central Australia) (Laughren et al. 2007/2017\*)

*jurru maju*

head + bad

“bad tempered, bad natured, belligerent”

(30) Kukatja (Western Desert) (Peile 1997b\*)

*mulya wirriiyi*

nose + angry

“aggressive, belligerent”

### *Tropes for anger*

The two most prevalent tropes for anger are experiencer metonymies (illustrated in [26] and [30] above), and expressions involving heat, which are typical of anger. They are the most prevalent representation of anger overall, accounting for more than a third of all anger expressions in our sample. Heat expressions occur with a broad range of body parts, including the belly, liver, abdomen, throat (see [28] above), head, forehead, and eyes. The heat trope is frequent with the throat, which can be depicted as dry as well (also for anger). The association of anger with heat is by no means specific to Australia: it is so widespread in the world's languages it has been claimed to be universal (Kövecses 1995; Ogarkova and Soriano 2014).

(31) Alyawarr (Central Australia) (Green et al. 2019, 72)

*alem rwenperreyel*

liver + get hot

“get angry”

Other anger metaphors are relatively scattered. Many of those listed in the previous section are attested, but none stand out particularly. In the belly set, we find a higher number of violence metaphors, relative to their low overall incidence. Body parts that represent the mind and intellectual functions – the head and the ear in Australian languages (Evans and Wilkins, 2000; Ponsonnet, 2009; Ponsonnet and Laginha, 2020) – can be associated with madness, which can in turn represent anger.

(32) Warlpiri (Central Australia) (Laughren and Warlpiri Lexicology Group 2007/2017\*)

*miyalu pi-nyi*

stomach + strike

“angry, upset”

(33) Pitjantjatjara (Western Desert) (Goddard 1992, 129)

*kata rama*

head + crazy

“deaf; silly, irresponsible; furious”

### *Sulkiness*

Sulkiness is another emotion category that recurs across many expressions, albeit with a selective range of body parts. It occurs marginally with the belly, throat, eyes, and head, all otherwise associated with anger; and with the skin and back, in relation to behavioral expressions of sulkiness (e.g., “turn back”). But the nose is the most prevalent with this emotion, accounting for nearly one expression out of five. A few tropes evoke movements or positions of the nose, which may correspond to sulking behaviors involving the head or face, for instance “nose turn,” “nose up,” and “nose down.” Other expressions allude to the size of the nose.

(34) Ngankikurungkurr (west Top End) (Hoddinott and Kofod 1988, 250)

*ngal-syi*

lit. “nose up in the air”

“frown, be aloof”

(35) Warlpiri (Central Australia) (Laughren and Warlpiri Lexicology Group 2007/2017\*)

*mulyu pilirripilirri*

nose + flat

“cross, angry, sulky”

### ***Social attitudes: kindness, selfishness***

Apart from emotions strictly speaking, body-part expressions are also used prominently to talk about emotional dispositions and attitudes – people’s temperament – particularly relative to sociability. These references include being agreeable, compliant, and generous, which are typically highly praised by local social etiquettes; as well as being stubborn, selfish, arrogant, and generally disagreeable, which typically clash with cultural expectations around empathy. Being selfish – reluctant to share material goods, often rendered as *gridi* in Kriol (Ponsonnet 2020a, 47) – is a prominent linguistic category. This prominence could reflect the cultural salience of selfishness as the unempathetic attitude *par excellence*. Selfishness is associated with being emotionally austere and cold.

### ***Body parts associated with social attitudes***

Social attitudes normally associate with body parts that also link with the intellect. These are primarily the head, forehead, and ear, which commonly represent the mind in Australian Indigenous languages (Evans and Wilkins, 2000; Ponsonnet, 2009; Ponsonnet and Laginha, 2020). Social attitudes are also described using visible parts of the face, nose, temple, and cheek, or the face itself, reflecting the role of the face in communicating social inclinations.

(36) MalakMalak (west Top End) (Hoffmann et al. 2017, 2)

*pundungatal*

head+tight/strong

“stubborn”

(37) Gamilaraay (Central New South Wales) (Ash et al. 2003, 108)

*gaba binaal*

ear + good

“peaceful, good mannered”

(38) Woiwurrung (Victoria) (Blake 1991, 44)

*buladu-gaang*

nose-big

“greedy”

Selfishness occurs with body parts less frequently involved with emotion expressions. The hands, involved in giving, relate figuratively to selfishness and generosity. The bottom also links prominently with selfishness; the association is harder to explain beyond the pejorative connotations of this part of the body (speakers often consider these expressions vulgar). The legs also feature in metaphors for selfishness with no clear explanation either. As a prominently non-empathetic attitude, selfishness also maps onto body parts that describe empathetic emotions. This association occurs with the eyes, and marginally with the belly. Overall, however, social attitudes are marginal with abdominal parts, as well as with the throat.

(39) Kaytetye (Central Australia) (Turpin and Ross 2012, 244)

*atnilperterre*

lit. “hard ass” (considered vulgar)

“selfish, greedy, stubborn”

(40) Dalabon (Arnhem Land) (Ponsonnet 2014, 421)

*kangu-murduk*

belly-strong

“selfish; emotionally strong”

## *Tropes for social attitudes*

One figurative bridge between social attitudes and body parts is the intellect, linking social attitudes with the head and forehead or the ear. These body parts respectively exhibit slightly different pathways. The association of the head with social attitudes seems to derive from a plain equation of intelligence with social appropriateness. Therefore, as illustrated below, properties of the head (and forehead) figuratively represent intelligence and, in turn, the capacity to behave appropriately. The ear's association with the intellect is mediated by the capacity to hear, which then determines behavior. In many Australian languages, verbs meaning "hear" also mean "understand" or "think," and the same verbs also mean "obey." As a result, positive expressions related to obedience and compliance are more frequent with the ear than with the head and forehead.

(41) Djinang (Yolngu Matha, Arnhem Land) (Waters 1983, 59)

*gunḡi-nyirringi*

head-without

lit. "be without a head"

"inconsiderate"

(42) Kurna (South Australia) (Amery 2020, 300)

*yuritina*

lit. "ear-without, be without ears"

"deaf; disobedient; obdurate"

Beyond this intellectual anchorage, social-attitude expressions exhibit similar metaphors as with other emotions, but fewer metonymies. There are some behavioral metonymies, but the metonymies with the strongest prevalence elsewhere, namely generic and experiencer ones, remain very marginal overall. Resistance metaphors are dominant by far, accounting for more than one expression out of

three. Although attested with a broad range of other body parts, they are most widespread with the head (as illustrated in [36]above) and forehead.

(43) Gupapyuṅu (Yolngu Matha, Arnhem Land) (Lowe 1994, 121)

*mel-däl*

eyes-strong/hard/steady

“inconsiderate, unsympathetic”

(44) Warlpiri (Central Australia) (Laughren and Warlpiri Lexicology Group 2007/2017\*)

*langa pati*

ear + hard ground

“obstinate, disobedient, willful, stubborn”

Expressions with the nose regularly describe selfishness (see [38] above), yet other social attitudes are not salient with this body part. The link between the nose and selfishness could derive from the association of the nose with sulkiness, figuratively linked to movements of the face. Sulking implies being socially distant and unkind, which in turn relates to selfishness. Selfishness expressions often invoke the size or shape of the nose – big, long, sharp – as well as, occasionally, movement – e.g., “turn nose up.” Both also map onto sulkiness.

(45) Kukatja (Western Desert) (Peile 1997b\*)

*mulya tawarra*

nose + long

“selfish, miserly, egotistic person who refuses to share meat and/or vegetable food”



## *Shame*

In standard English, the word “shame” typically refers to fear of judgement, low self-esteem, a sense of inadequacy or having done something objectionable or degrading. In many Australian Indigenous languages, the words that best approximate the English “shame” refer to slightly different feelings. They typically evoke shyness, the fear of others, independent of one’s own action, the desire to avoid being seen or otherwise exposed, and respect for others based on their status (Harkins 1990, 1996; Bauman 2002). This bundle of senses also corresponds to the meanings of *shame* in Aboriginal English (Sharifian 2005; Malcolm 2018) (*sheim* in Kriol; Ponsonnet [2018b, 106-8]).

The concept and its connotations of respect and humility, being culturally salient, impart significant influence upon social behaviors among many Australian Indigenous groups. Yet, self-assertiveness is not systematically discouraged: many Australian Indigenous languages have expressions that associate self-assertiveness with positive attributes such as bravery and persistence.

### *Body parts associated with shame*

The body part with the strongest association to shame is by far the head: head expressions represent about a third of all shame terms. This connection may arise because shame (as defined above) derives from social awareness, seen as a correlate of understanding and intelligence, which in some Australian Indigenous languages is associated with the head. The ear, also treated as a seat of intellect, albeit with fewer social connotations, does not map onto shame.

(46) Ngalakgan (Arnhem Land) (Merlan 1983, 217)

*mira-yeŋ-*

head-shy/ashamed

“to be shy, ashamed”

Parts of the face, including the eyes, nose, temple, mouth, and forehead, feature shame expressions as well. The associations often relate to avoidance behaviors. For instance, back expressions allude to postures of avoidance (Turpin 2002), mouth expressions to speech avoidance (too shy to speak), and eyes and temple expressions to gaze avoidance. Shame also links to the skin, perhaps by virtue of being the most exposed aspect of the person; and with hair, including expressions that present goosebumps as a response to awkwardness and fear of others.

(47) Yir Yoront (Cape York) (Alpher 1991, 325)

*mel-moy*

eyes-shy/shamed/ticklish

“squeamish, reluctant to look (from pity or squeamishness)”

(48) Wik Mungkan (Cape York) (Kilham et al. 2011, 144)

*thaa' pench ekAN*

beard, moustache + get up/stick out

lit. “facial hair stands”

“ashamed or too frightened to speak (up)”

Abdominal organs are only rarely associated with shame, if at all. Remarkably, out of close to 300 belly expressions in our sample, not a single one maps onto shame.

### *Tropes for shame*

Overall, tropes representing shame are relatively scattered, with a number of expressions that do not fit any of the identified types and an even higher proportion of opaque expressions. Shame expressions exhibit a high rate of experienter metonymies, where the body part is apposed to a word

meaning “shame” (see [46] and [47] above). We also found some somatic metonymies involving “ticklish” body parts, as in example 47.

(49) Kurna (South Australia) (Amery 2020, 287)

*kurdu-karri*

(crown of) head-fly/go off/stand off

“shame”

(50) Nyangumarta (Kimberley) (Geytenbeek 2009, 38)

*milya kaniny*

nose + down

“shy, embarrassed”

### ***Romantic love, desire and jealousy***

Love – in the sense of romantic or conjugal love –, desire, and jealousy are naturally associated to the extent that they often come together in human experience. In our data, their respective linguistic expressions overlap in terms of body-part associations. As illustrated in Table 1, love is primarily represented by the heart, the throat, and more marginally the belly; desire shares the heart and throat with love, but has strong ties with the eyes as well; and the eyes, in turn, are the most prevalent association with jealousy.

	Love	Desire	Jealousy
Belly			
Heart			
Throat			

Eyes		
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Table 1. Body parts mapping onto love, desire and jealousy.

In spite of this overlap in body-part mapping, the lexical associations between these three emotions are not very strong. Only a few expressions in our corpus mean both love and desire, and even fewer mean both love and jealous together, or desire and jealousy together. Culturally, love and associated desire are relatively salient among many groups (Berndt and Berndt 1951; Merlan 1988), however not necessarily with the same positive connotations as romantic love has in some other cultures (Musharbash 2010a). Some authors have suggested that the social and cultural status of love among Indigenous groups in Australia has undergone rapid evolution in the last few decades, with the notion of romantic love and its association with marriage gaining prominence (Burbank 1997; Ponsonnet 2014, 209–17). While some cultural associations exist between romantic love and desire, jealousy stands apart. The latter exhibits strong connotations of violence in Australian Indigenous languages and shares certain traits with anger (Burbank 1994).

*Body parts associated with romantic love and desire*

In terms of linguistic embodiment, romantic love and desire share a strong association with the heart and throat. A few love expressions use the belly, although this remains marginal relative to the total number of belly expressions. Some heart expressions have connotations of strong affection, such as attachment with relatives, whereas throat expressions map straightforwardly onto romantic love and desire. Apart from the throat, heart, and belly, few other body parts evidence an association with romantic love.

(51) Yolngu Matha (Arnhem Land) (Bowern and Zorc 2012, 135)

*ḍukṭukthirr(i)/-tji*

*kṭukun* means “beat, throb, palpitate (of heart)”

“want, desire, love”

(52) Alyawarr (Central Australia) (Green et al. 2019, 47)

*ahenty aneyel*

throat + sit/be

“be attracted by somebody, fall in love”

As for desire, the heart and throat are prevalent, but the belly is absent. The throat is also used to describe want and need, that is, desire in general rather than for someone. In addition to the heart and throat, the eyes are just as prevalent in descriptions of sexual attraction. These also associate with jealousy, but only marginally with love. In addition to this triplet – heart, throat, and eyes – a number of other body parts are used to describe desire: the neck and saliva, which relate to the throat; the chest and lungs, which exhibit linguistic resemblances with the heart; and the mouth, probably related to want for food.

(53) Kaytetye (Central Australia) (Turpin and Ross 2012, 339)

*erlwe ilenke*

lit. “get the eye”

“catch someone’s attention; be attracted, seduced”

(54) Dalabon (Arnhem Land) (Ponsonnet 2014, 430)

*kom-nunj-wukmurrun*

neck-saliva-?swallow

“swallow spit; feel sexual desire”

*Tropes for romantic love and desire*

Love and desire expressions include a large number of BODY PART FOR EMOTION metonymies, in which the body part stands for the emotion itself. In particular, most of the throat expressions that represent love or desire are of this type, with the word for “throat” also meaning “love” or “desire”. With love, this pattern is widespread with other body parts as well, whereas with desire it is mostly limited to throat-based expressions.

(55) Pitjantjatjara (Western Desert) (Goddard 1992, 170)

*unytjuringanyi*

lit. “become throat”

“like, want, desire, fancy”

Apart from this common feature, the figurative representations of love and desire tend to diverge. Tropes for love are relatively dispersed. Of note are a few container metaphors, where the beloved person is contained or held in the body part. The container is usually the heart or the belly.<sup>8</sup>

(56) Kukatja (Western Desert) (Peile 1997b\*)

*tjurningka kanyila*

lit. “hold/keep in or with the stomach”

“love, show affection (e.g. to parent or child)”

Desire is characterized by a large number of somatic metonymies, including a number of somatic bridges (i.e., expressions alluding to a physiological effect of desire, as explained in the first section). The bridges connect a range of physiological responses to desire, such as faster heartbeat, irregular breathing, or swallowing saliva (as in [54] above). Some behavioral bridges are evident as well,

particularly with the eyes, as illustrated below. These could echo cultural practices around eye contact between lovers.

(57) Wik Mungkan (Cape York) (Kilham et al. 2011, 77)

*mee'ang wakan*

lit. "follow from the eyes"

"covet"

### *Jealousy*

Jealousy exhibits a clear association with the eyes, where it is as prevalent as desire in our data.

Jealousy can also be described using the belly and the liver, as well as a range of dispersed body parts, including unusual ones such as the foot or skin.

(58) Yolngu Matha (Arnhem Land) (Bowern and Zorc 2012, 222)

*mel-marimirri*

eyes-troubled/angry/dangerous

"trouble maker; insanely jealous"

(59) Alyawarr (Central Australia) (Green et al. 2019, 72)

*alem angkeyel*

liver + talk

"jealous"

Jealousy is absent from heart and throat expressions, that is, from the body parts with the strongest association with love. Instead, in our corpus, jealousy expressions bridge with anger, as illustrated in

example 58. They both elicit violence, and jealousy is one of the few emotions in our sample to be associated with heat, a standard representation of anger.

(60) Warray (Top End) (Harvey 1988, 44)

*ngubat-jip-m-arl*

foot-bash/punch/stab

lit. “bash with the foot”

“be jealous of someone”

(61) Mutti (south New South Wales/north Victoria) (Blake et al. 2011, 38)

*wálwa pílínhu*

belly + burn/be hot

“jealous”

Jealousy also has its own tropes, such as color associations as in example 16 and itchy body parts, like the eyes or skin.

(62) Yolngu Matha (Arnhem Land) (Bowern and Zorc 2012, 67)

*galŋa-ḏe'yun*

skin-itch(y)

“resent, be jealous”

### ***Fear and surprise***

Fear and surprise, like generic emotions and anger, have been regarded as “basic” emotions in universalist approaches to emotions, such as those of psychologist Paul Ekman (1992). I treat fear and surprise together here because they are to some extent cognate: a surprising event can cause fright.



Accordingly, these emotions are sometimes expressed by the same words (Ponsonnet 2014, 219). As for body-parts associations, fear and surprise share a link with the eyes.

Fear is one of the most common emotions in our sample, with nearly as many expressions as anger. The incidence of surprise is much more modest. These emotions are not particularly salient culturally amongst Australian groups, in the sense that they do not seem to attract a great deal of discussion or folk theorization. This does not imply, however, that the experience of fear and surprise is not culturally informed (Musharbash 2010b; Ponsonnet 2014, 217–19).

#### *Body parts associated with fear and surprise*

Fear is most frequently represented by expressions involving the eyes. It is also prevalent with the heart, and to some extent with the belly. Fear exhibits a fairly strong association with body parts that feature in fewer emotional tropes, particularly the hair, bottom, and whole body. As for surprise, the eyes are the only body part with which it is prevalent.

(63) Arrernte (Central Australia) (Henderson and Dobson 1994, 96)

*alknge atherrke*

eyes + green/blue

“be very scared; silly; blind”

(64) Wik Mungkan (Cape York) (Kilham et al. 2011, 98)

*ngangk akangam thanan*

heart + shaking + stand/be

“scared (in social contexts)”

*Tropes for fear and surprise*

Experiencer metonymies are the most frequent tropes for fear. They include figurative representations of body parts as the experiencer of fear and of responses to fear, particularly shaking, as in example 64. Considered together, these represent well above a third of the fear expressions in our sample.

(65) Wembawemba (Victoria) (Hercus 1992, 39)

*parnbi-mum*

scared-bottom

“coward”

A number of somatic metonymies map onto fear. They instantiate several clear somatic bridges, evoking plausible physiological responses to fear such as faster heart rate or goosebumps.

(66) Warlpiri (Central Australia) (Laughren and Warlpiri Lexicology Group 2007/2017\*)

*rdumu-rdumu-karri-mi*

lit. “have a beating heart”

“fear for, worry, be upset”

Like most emotions, fear attracts a range of metaphors including destruction, movement, and violence, with metaphors of resistance and drought more widespread than others. Resistance metaphors equate the hardness of a body part with courage, such as the absence of fear. In the same fashion, a dry body part corresponds to bravery.

(67) Wubuy (Nunggubuyu, Arnhem Land) (Hore 1994, 21)

*wurrij-badbirr*

chest-dry

“brave”

Surprise exhibits a significant number of behavioral metaphors, wherein facial expressions involving the eyes are used to evoke surprise: big eyes or eyes popping out.

(68) Wik Mungkan (Cape York) (Kilham et al. 2011, 77)

*mee' ikAN*

eyes + open

“be surprised”

Destruction metaphors describing a body part as torn, split, or cracked, are consistently reported to describe emotional shock (negative surprise), particularly as experienced upon hearing that someone close has passed away or had an accident.

(69) Dalabon (Arnhem Land) (Ponsonnet 2014, 416)

*kangu-barrh(mu)*

belly-crack

“surprised, shocked, especially when hearing that someone has died”

## Conclusion

Based on the systematic study of emotional expressions involving body parts in 67 Australian languages, this article has explained how emotions map onto the human body across Indigenous languages of Australia.

Generic emotions – feeling good or bad – are predominantly associated with abdominal body parts (the belly, heart, liver, chest, and abdomen). They are typically represented by expressions that mean “[body part] good/bad,” or that assign the emotion to the body part, as in “being sad from the belly.”

Empathetic emotions, that derive from affection for others, have a strong link with the belly. Other abdominal body parts also feature, as well as the eyes. Empathetic emotions are more often described using creative metaphors, such as softness or openness.

Anger is the emotion with the highest incidence in our data. Like the empathetic category, it is prevalent with the belly and other abdominal body parts (except the heart). A broad range of figures can be involved, but heat is the most common evocation, matching well-documented universal trends. Anger and other antagonistic attitudes such as sulkiness are commonly linked with the head and parts of the head like the nose.

Social attitudes around agreeableness and compliance – a focus of social and moral etiquette among many Australian groups – map primarily onto the head and ear. This reflects that social appropriateness derives from social awareness and intelligence, in turn located in the head or ear (depending on languages). Selfishness, a prototypical unempathetic attitude, has strong associations with the nose.

Shame, another culturally prevalent emotional category akin to respect and social appropriateness, has ties with the head as well. In addition, because shame comes hand-in-hand with avoidance behaviors, such as not wanting to be seen, it maps onto the eyes and onto exposed parts of the body such as the face or skin.

Romantic love is primarily represented by the heart and the throat. Some heart metaphors compare to those we might find in English, with some nuances. Desire often associates with physiological responses, such as irregular breathing or swallowing saliva; and with the eyes, where jealousy is common as well. Many such expressions reflect culturally connoted behaviors such as staring at a desired object or person, or making eye contact.

Fear and surprise have a strong association with the eyes, mostly through behavior. With fear, watching behaviors are involved; surprise on the other hand evokes facial displays involving the eyes. Fear maps onto the heart too.

As we can see, the mapping of emotions onto the human body in Australian languages is by no means random. Many emotions display clear preferential associations across languages. Some of these seem inspired by the observation of somatic responses (such as fear and a faster heart rate); behavioral responses (desire and watching); or by the cognitive dimension of certain emotions (for example, “shame” being derived from intelligence). That is, figurative language indicates which properties of emotions speakers of Australian languages have, generation after generation, chosen as an inspiration to describe emotions. At the same time, some figurative projections remain harder to explain. Interestingly, the degree of motivation of a given trope does not always justify its salience across the world’s languages. For instance, anger is typically depicted as heat, and researchers like Kövecses (1995) have argued that this reflects the elevation in body temperature caused by anger. However, other much more perceptible physiological responses, such as faster heart rate for fear, are far less productive than heat for anger across the world’s languages. Additional examples of unexplained yet potentially widespread projections are, for instance, compassion and softness, or the association of love with the heart and other parts of the chest (Sharifian et al. 2008). Further systematic comparative studies are needed to understand which figurative representations of emotions recur across the world, and why.

Meanwhile, the specific body-emotion associations highlighted here may contribute to guide interpretation when we encounter this symbolism, in research or in practice – in the speech of the anthropologist’s informant, of the psychologist’s patient; in traditional medicine, rock art, verbal art, political speeches, and more. At the same time, we should remember that body-emotion mappings have complex, diverse and sometimes anecdotal motivations. While some may reflect speakers’ perspectives on emotions, other may result from purely technical linguistic mechanisms. In any case, cautious, culturally specific interpretations should be preferred to naïve simplistic conclusions when it comes to making sense of body-emotion associations in language.

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<sup>1</sup> We cannot give exact figures, because it is not always possible to decide whether to split or merge some expressions, and body parts do not lend themselves to strict delimitations either. We treated body parts as distinct based on the specific glosses and definitions found in the documentation, combined with prior knowledge of body-part distinctions in Australian languages.

<sup>2</sup> The cognitivists' framework distinguishes conceptual and linguistic tropes, the former being the conceptual association that underpins the latter. Here I will use "trope" to talk about either.

<sup>3</sup> The examples remain as close to the original spelling as possible without altering clarity, and our glosses intend to cover all the senses reported in the original source (although we sometimes had to condense the wording).

<sup>4</sup> "\*" means that the format of the electronic manuscript did not generate page numbers.

<sup>5</sup> Generic metonymies are a type of somatic metonymy, as they can evoke physical well-being.

<sup>6</sup> Since the late 1990s, I have lived and worked regularly with the Dalabon, Rembarnga, Kunwinjku, and Kune groups, as well other Kriol-speaking populations in the "Top End" of Australia.

<sup>7</sup> Less so with the heart, which leans toward the expression of love proper (see section below) rather than affection, sympathy, and their correlates.

<sup>8</sup> Metaphors representing body parts as containers of emotions are attested in Australia (e.g., Gaby 2008, 34). However, they are realized using clauses where the body part is treated as a location, rather than body-part collocations like the ones we collected.