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Ear and belly in Warlpiri descriptions of cognitive and emotional experience

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Abstract

Like most other Australian languages, Warlpiri – a Pama-Nyungan language of the Ngumpin-Yapa group – is rich in figurative expressions that include a body-part noun. In this article we examine the collocations involving two body parts: *langa* ‘ear’, which mostly relates to cognition; and *miyalu* ‘belly’, which mostly relates to emotion. Drawing on an extensive Warlpiri database, we analyse the semantic, figurative and syntactic dimensions of these collocations. We note how reflexive variants of certain collocations impose a non-literal aspectual reading, as also observed in Romance and Germanic languages *inter alia*. The article also highlights differences between the range of body-based emotion metaphors found in Warlpiri, and that reported for the non-Pama-Nyungan languages of Australia. We hypothesize that these differences sometimes reflect grammatical differences. In particular, Warlpiri allows body-part nouns in syntactic functions that rarely found in non-Pama-Nyungan languages, due to the prevalence of body-part noun incorporation in the latter group.

Key words: figurative language, metaphors, body parts, emotion, cognition, reflexive constructions

1 Introduction

The Warlpiri words which denote ‘ear’ (*langa*) and ‘belly’ (*miyalu*) have a range of extended meanings that cover several domains, including the non-ostensible or indirectly perceivable domains of emotion and cognition. Drawing on an extensive Warlpiri database compiled over 40 years, we examine how these terms are used by Warlpiri speakers to express aspects of both

cognitive and emotional experiences. We analyse the syntactic structures of these collocations, examining how they shape figurative patterns, and how reflexive variants of certain collocations impose a non-literal aspectual reading – as observed in Romance and Germanic languages *inter alia*. This study highlights the syntactic diversity of body-based metaphors in Warlpiri, which contrasts with what has been observed for several non-Pama-Nyungan languages, and suggests how some grammatical features may constrain emotion metaphors. Some aspects of Warlpiri syntax and morphology relevant to the data are outlined in Section 2. Section 3 presents the data and discussion concerning *langa* ‘ear’ expressions, followed by *miyalu* ‘belly’ expressions in Section 4. Our conclusions are presented in Section 5.

2 Some Warlpiri grammatical background

2.1 The language and its speakers

Warlpiri is one of the best documented Australian languages and is one of the few indigenous Australian languages still being acquired by children.¹ In the 2016 Australian Census, 2,276 people indicated that they spoke Warlpiri at home. The traditional Warlpiri heartland is a very vast area in the Tanami Desert in Australia’s Northern Territory. Genetically, Warlpiri belongs to the Ngumpin-Yapa group within the large Pama-Nyungan language family spoken over most of the continent. However, along their northern border, Ngumpin languages are in direct contact with non-Pama-Nyungan languages. Several dialects of Warlpiri can be identified, varying mainly in vocabulary, with some minor grammatical and phonological differences. With respect to the phenomena described herein there is no variation. All the Warlpiri examples in this article are taken from Laughren’s fieldnotes unless otherwise indicated.

2.2 Part-Whole syntax

In order to understand the precise structures of cognitive and emotional collocations with *langa* ‘ear’ and *miyalu* ‘belly’, it is necessary to consider the fine details of the syntax in these

¹ Main grammatical descriptions are Hale (1982), Nash (1986), Simpson (1991), Legate (2002). See the bibliography of work on Warlpiri created and maintained by David Nash at <http://www.anu.edu.au/linguistics/nash/aust/wlp/wlp-lx-ref.html>

collocations. To that effect, it is indispensable to have in mind how body parts are treated syntactically with respect to the whole they attach to, and more generally the status of body-part nouns with respect to the grammatical representation of possession in Warlpiri. Like most Australian languages (Ponsonnet accepted), Warlpiri exhibits distinct ‘possessive’ constructions, which delineate classes of nouns – three different classes, in the case of Warlpiri. The contrast in possessive constructions corresponds to a semantic contrast between degrees of ‘alienability’ in the relationship between the *possessum* and the *possessor*. The most ‘alienable’ relation is that of ownership of mundane possession (of ‘things’ in general). One ‘inalienable’ category includes body parts and other attributes of the person (Hale 1981, Lichtenberk 2009, Ponsonnet 2015). Another ‘inalienable’ construction targets kin relationships (Laughren 2016). These semantic contrasts are reflected in distinct syntactic configurations.

In Warlpiri, the ‘part-whole’ relation is typically expressed using what Hale (1981: 338) dubbed the “favorite mode of expression” of a part-whole relationship, where a part is expressed as a nominal adjunct syntactically distinct from the nominal expression of its whole. In this construction, the relationship between part and whole is marked by case agreement; the case assigned to the part agrees with that of the whole, even though part and whole expressions bear distinct grammatical functions (Hale 1981, Laughren 1992). This is illustrated in (1), where the relevant part of the child that does the poking is the hand/finger, as reflected in the ergative case agreement between *kurdu-ngku* ‘child’ and *rdaka-ngku* ‘hand/finger’ (with superscript indicating the relation between a whole and its part). *Kurdu* ‘child’ is marked by ergative case, the standard case of an ‘agent’ subject of a transitive clause with a verb like *pantirni* ‘poke/pierce’. Similarly, the part of the woman (*karnta*) that the child pokes is the eye (*milpa*). As the ‘patient’ object of *pantirni*, the case of *karnta* ‘woman’ is unmarked i.e. absolutive, thus *milpa* ‘eye’ is also unmarked for case. This part-whole construction differs from the alienable possessive construction illustrated in (2).

- (1) *Kurdu-ngkuⁱ ka karntaⁱ panti-rni milpaⁱ rdaka-ngkuⁱ.*
 child-ERG PRS woman poke-NPST eye hand-ERG
 ‘A child pokes the woman (in) the eye with (his) finger.’²

² Abbreviations not included in the Leipzig glossing rules: ANAPH: anaphor; CNS: constant state; CS: changed state; EVIT: evitative; FS: former state; INCH: inchoative; PRIV: privative.

This part-whole construction can be contrasted with the alienable possessive construction that applies to items not conceived as being ‘part’ of some ‘whole’. In (2) and (3), the relationship between the possessor *karnta* ‘woman’ and the alienable possessed *kartaku* ‘billycan’ is expressed by the possessive case suffix on the possessor phrase. Both the *possessor* and *possessum* phrases form a single constituent which is the syntactic object. This possessive phrase is assigned an unmarked absolutive case as a function of its syntactic role. Even though each expression, *possessor* and *possessum*, may be discontinuous as in (3) they still share a unique syntactic function, unlike the relation between the identically case-marked whole and related part expressions in (1).

- (2) *Kurdu-ngku ka panti-rni karnta-kurlangu kartaku.*
 child-ERG PRS pierce-NPST woman-POSS billycan
 ‘The child is piercing the woman’s billycan.’
- (3) *Kartaku ka kurdu-ngku panti-rni karnta-kurlangu.*
 billycan PRS child-ERG pierce-NPST woman-POSS
 ‘The child is piercing the woman’s billycan.’

In Hale’s (1981: 334) analysis of the inalienable construction in (1), only the ‘whole’ expressions, as opposed to the ‘part’ expressions, are ‘syntactically active’ in the sense that the person and number features of ‘whole’ phrases are the ones registered by enclitic pronominal forms in the auxiliary complex, and only the ‘whole’ expressions may ‘control’ the subject of a subordinate infinitival clause. In other words, in (1), only *kurdu-ngku* ‘child-ERG’ is directly linked to the subject function, and only *karnta* ‘woman’ is directly linked to the object function. By contrast the ‘part’ expression can be described as parasitic on the associated ‘whole’ expression from which it inherits its case, but not its grammatical function. This syntactic configuration, which applies in many of the figurative collocations we discuss here, has sometimes been referred to as a ‘possessor raising construction’ on the grounds that although the event really involves the body part, the whole is raised as a syntactic argument instead of the part (Chappell & McGregor 1996, Ponsonnet 2015, Meakins & Nordlinger 2017). Hale (1981: 334) takes a somewhat different view, arguing that the ‘whole’ is affected by what happens to the ‘part’. While the ‘whole’ is an obligatory argument, as in (1), the ‘part’ expression is syntactically optional, serving as a specifier of the affected ‘whole’.

Warlpiri has an alternative construction in which the ‘whole’ expression is realised as the syntactic subject or object while the ‘part’ expression is realised in an expression independently

marked by the appropriate semantic case. These contrasting structures are shown in (4) and (5). In (4), there is case-agreement between the allative case-marked ‘whole’ and ‘part’, while in (5) the ‘whole’ is expressed as the dative-marked object *kurdu-ku* cross-referenced with the dative pronominal enclitic =*rla*, while the ‘part’ is expressed in the allative-marked phrase *langa-kurra* which complements the verb.

(4) *Nama ka langa-kurra yuka-mi kurdu-kurra.* (Hale 1981: #24)
 ant PRS ear-ALL enter-NPST child-ALL
 ‘The ant is entering the child’s ear.’

(5) *Nama ka=rla langa-kurra yuka-mi kurdu-ku.* (Hale 1981: #24’)
 ant PRS=3DAT ear-ALL enter-NPST child-DAT
 ‘The ant is entering the child’s ear.’

As will be seen in Sections 3 and 4, both of the part-whole constructions, the ‘case-agreement’ structure and the ‘raised whole’ structure, are found when body part words are used figuratively.

2.3 The semantics of reflexive constructions

Another aspect of Warlpiri grammar relevant to our argument is the semantics of reflexive constructions. Standard reflexive constructions in Warlpiri naturally derive from transitive clauses, typically with an agent-patient array as illustrated in (6), where the specific part of the patient that the agent affects is explicitly expressed, consistent with the principles presented in 2.2.

(6) *Wati-ngki kurdu pantu-rnu milpa.*
 man-ERG child poked-PST eye
 ‘A man poked the child (in) the eye.’

Example (7) presents a reflexive construction, where the patient role associated with the object function is expressed by the reflexive enclitic pronoun =*nyanu*. Syntactically, the clause maintains two distinct grammatical functions, a subject (expressed by ergative case-marked *kurdu-ngku* ‘child’-ERG) and an object (expressed by the anaphoric enclitic =*nyanu*), associated with the semantic role of patient. However, these two arguments refer to the same entity in the domain of discourse, i.e., the child. The contrast in case-marking on the body-part terms reflects these patterns, with *kurdu* ‘child’ and *rdaka* ‘hand’ marked as ergative, while *milpa* ‘eye’ is unmarked (absolute).

- (7) *Kurdu-ngku ka=nyanu rdaka-ngku panti-rni milpa.*
 child-ERG PRS=REFL hand-ERG poke-NPST eye
 ‘A child pokes himself [with his finger] in the eye.’

In the reflexive construction in (7) the subject argument, being agentive, causes the realization of the transition from one state of affairs to another. In this respect, it compares with the transitive (non-reflexive) clause in (6). In other words, standard reflexive constructions in Warlpiri do not modify the reading of the event as agentive, but simply map the two arguments of a transitive sentence onto a single referent. This is what one expects for a reflexive construction. But note that in this respect, Warlpiri differs from Romance languages for instance, in which reflexive marking may also signal the absence of an agent argument, with the patient realised as the subject. This is exemplified by the French sentence in (8) which does not necessarily imply an agent as in (7), but is essentially an inchoative sentence featuring a patient role.³ We will see in Section 4, that under certain conditions, Warlpiri reflexive constructions do resemble the pattern presented in (8).

- (8) *L'enfant s'est cassé le bras.*
 the child REFL-is broken the arm
 ‘The child broke his arm.’ (meaning ‘the child’s arm broke’)

Equipped with these insights from Warlpiri grammar, we will now turn to the description and discussion of figurative collocations that are used to talk about cognitive and emotional states and functions in this language. The ones we discuss below involve two body parts that we will consider in turn: *langa* ‘ear’ and *miyalu* ‘belly’.

3 *Langa* ‘ear’

As in many Australian languages (Evans & Wilkins 2000), the Warlpiri noun for ‘ear’, *langa*, is used figuratively in expressions which denote brain-related functions – hearing, understanding,

³ Change of state verbs such as *casser* ‘break’ are prototypical unaccusative verbs (Perlmutter 1978) in which the patient argument is first linked to the object function and then raised to the subject position – as has been argued for passive. This construction is often referred to as a reflexive passive construction. The structure in (8) differs from a reflexive construction in which distinct agent and patient roles are linked to a subject and object function associated with the same referent.

remembering. Where intellectual functions naturally associate with emotional states, some of these collocations also have emotional meanings – for instance with *yirrarni* ‘put’, the literal expression ‘put in one’s ear’ expresses the notion ‘to be concerned about someone’, which involves emotional preoccupation as well as intellectual attention (Ponsonnet & Laginha, this volume).

An overview of the Warlpiri collocations with *langa* ‘ear’ is provided in Table 1. They exhibit some diversity in the syntactic status of *langa* ‘ear’. In some of them *langa* attracts syntactic marking in a full verbal construction, just as body parts do in literal usage; while at the other extreme, it is a frozen element in lexicalized compounds. In the following section we explore the syntactic structures of ear-based collocations, using it as a basis for their figurative interpretations.

Our analyses and interpretation of tropes in this section and the next one on *miyalu* ‘belly’ draw from the now classical framework offered by cognitive linguistics (Lakoff & Johnson 1980, Lakoff 1987, Kövecses 2000, 2002, inter alia). We will distinguish between *metonymy*, where the source and the target are associated by virtue of their proximity; and *metaphor*, where they are associated by virtue of conceptual similarity.⁴ We will use the term *trope* to refer to figurative expressions in general, including metonymies and metaphors. Note that each figurative expression can be glossed as more than one trope, depending on whether one focuses on more specific or more generic tropes. For instance, the English expression *she was boiling with anger* could be glossed as ANGER IS PRESSURIZED FLUID IN A CONTAINER, ANGER IS HEAT, EMOTIONS ARE MASSES OF FLUID, among other options (Kövecses 2005, Omori 2008). All are equally valid, but the first one is more specific, the last one more generic. Except where otherwise specified, in this article our glosses mostly articulate relatively specific tropes. Ponsonnet (2014: Chapters 7–9) and Ponsonnet & Laginha (this volume: Section 3.2) provide further background about our interpretative framework.

⁴ Although the contrast between metaphors and metonymies has been extensively questioned (e.g. Barcelona 2000), the distinction remains useful in the context of our description of Warlpiri.

Table 1. Attested cognitive collocations with *langa* ‘ear’. The proposed glosses for the tropes are explained in the rest of the section.

PREDICATE	LIT TRANSLATION	LEXICAL SENSE	TROPE
<i>(langa-ngku) marda-rni</i> ‘have, hold, keep’	x holds y with x’s own ear	x remembers y, x keeps y in mind	EAR AS PROCESSOR OF KNOWLEDGE
<i>(langa-ngka) yirrarni</i> ‘put’	x puts y in x’s own ear for	x concern themselves for y	EAR AS CONTAINER OF KNOWLEDGE
<i>langa-kurra-ma-ni</i> ‘ALL-CAUS’	x puts y into z’s ear’	x teach y to z, x cause z to know y	EAR AS CONTAINER OF KNOWLEDGE
<i>langa-kurra-jarri</i> ‘ALL-INCH’	x gets into y’s ear	x sinks in for y	EAR AS CONTAINER OF KNOWLEDGE
<i>langa-kari-langa-kari-jarri</i> ‘ear-other:REDUP-INCH’	partly opaque, evokes ‘alter one’s ear’	think (about)	THINKING IS CHANGING ONE’S EAR
<i>langa-nguna</i>	ear-lie	think (about)	(THINKING IS LAYING ONE’S EAR)

3.1 The syntax of *langa* ‘ear’ collocations

Example (9) illustrates a collocation with *marda-rni* ‘have, hold, keep’, in which *langa* ‘ear’ attracts ergative marking because it is construed as the relevant part of the subject (marked by the pronominal enclitic =*rna*) of this transitive verb – ‘hold by the ear’ for ‘keep in mind’. As explained in 2.2, this case agreement reflects the relationship between inalienable parts and their whole. In other words, *langa* is treated just as if it denoted a body part literally, as illustrated in (10) – but in the figurative collocation in (9), *langa* ‘ear’ denotes the subject’s mental or cognitive function involved in maintaining a memory of a promise. With the ergative case marking, *langa* ‘ear’ has a quasi-instrumental role, akin to that of *langa* denoting ‘ear’ and its auditive function in (10). This can be interpreted as EAR AS THE PROCESSOR OF KNOWLEDGE (processor metaphors are well attested with the brain in English, Kövecses (2002: 122), Foolen (2008: 389)).⁵

- (9) *Langa-ngku=lpa=rna* *marda-rnu* *kuja=npa=ju*
 ear-ERG=IMPF=1SUBJ hold-PST COMP=2SUBJ=1OBJ
jangku-pu-ngu *nyurruwiyi.*
 promise-do-PST before
 ‘I’ve kept in mind what you promised me before.’
 (Lit. I hold ear(-wise) that you promised me before.)

- (10) *Langa-ngku=lpa=rna=lu* *purda-nya-ngu.*
 ear-ERG= IMPF=1SUBJ=PL.SUBJ hear-perceive-PST
 ‘We heard/listened with (our) ears.’

Examples (11) and (12) illustrate a collocation with *yirrarni* ‘put’. Semantically, the base verb has an agent-theme-location thematic array. Syntactically, this is realized by a reflexive construction with an experiencer subject (‘you’, i.e. addressee), and the location of the feeling of concern figuratively represented as the ear of this experiencer. *Langa* is marked with locative case as the locative complement in this verbal frame while the experiencer ‘whole’ is expressed as the ergative-marked subject (associated with the agent thematic role), which also binds the reference of the dative object expressed by the anaphoric enclitic =*nyanu*. The relevant part, *langa*, is not related to the experiencer whole by case agreement, but rather via its relation with the dative object, as we have already seen in (4) in 2.2. In both (11) and (12) the whole is expressed as the dative object (dative anaphoric clitic =*nyanu*) while the part expression is independently assigned locative case, marking it as the location of what is ‘put’. The figurative interpretation of (11) yields the metaphor EAR AS A CONTAINER OF KNOWLEDGE, which is also reported by Gaby (2008: 30) for Kuuk

⁵ Alternatively, *langa* could be interpreted as meaning both ‘ear’ and ‘mind’, which would cancel the figurative reading.

Thaayorre (Cape York) and is consistent with the figurative role of the head or brain in English and many other European languages, or of the heart in Chinese (Yu 2008), among others.

- (11) *Kula=ka=npa=nyanu* *langa-ngka* *yirra-rni* *nyuntulu-rlu*
 NEG=PRS=2SUBJ=ANAPH.DAT ear-LOC put-NPST you-ERG
warlalja-ku *yapa-ku.*
 own-PURP person-PURP
 ‘You don’t think about/concern yourself with your relatives.’
 (Lit. You don’t put (it) in your ‘ear’ for (your) own people.)

- (12) *Kula=ka=npa=nyanu* *rdukurduku-rla* *yirra-rni* *kuruwarri.*
 NEG-PRS=2SUBJ=ANAPH.DAT chest-LOC put-NPST design
 ‘You don’t put a design on your chest.’

Note that the syntactic structure in (11) is not a special treatment reserved to the figurative collocation: the same thematic array is illustrated in the non-figurative context of (12), with the chest *rdukurduku-rla*. In both the figurative collocation in (11) and the literal one in (12) the ‘part’ that is the endpoint of the ‘putting’ action is marked by locative case, while the ‘whole’ is expressed by the anaphoric dative object enclitic *-nyanu*, marking coreference with the subject. However, while there is an overtly expressed theme argument *kuruwarri* ‘design’ in (12), which is the object of physical transfer, there is no such overt argument in (11) although one might argue that there is the equivalent of a pleonastic ‘it’ theme which is covert in Warlpiri (since third person singular subjects and objects are unmarked by pronominal enclitics in the Warlpiri auxiliary and are only explicitly expressed by an NP if additional information is required). In addition, (11) features a purposive complement *warlalja-ku yapa-ku*, which in Warlpiri is marked by the dative case suffix. This expression is an integral element of the figurative collocation predicate, whereas such an expression added to (12) would be interpreted as an independent optional addition to the clause.

In addition to expressions in which the case-marked phrase with *langa* ‘ear’ is syntactically discontinuous from the verb with which it combines – as the active ‘part’ of its subject in (9)/(10) and as its complement in (11) – *langa* may also be more tightly incorporated into a complex verb. The sentences in (13) and (14) employ transitive ‘cause change location’ verbs which incorporate the allative marked goal location expression *langa-kurra* ‘ear-into’ into the complex verb headed by the inflecting causative verbaliser *-mani*.⁶ This complex verb, [*langa-kurra*]-*mani* ‘[ear-into]-CAUS (to make go)’ has an agent-theme-location array, in which the location is equated with an experiencer ‘whole’ with the incorporated *langa* as the relevant ‘part’. The literal reading is not as

⁶ Warlpiri has a number of verbalisers or dependant inflecting verbs which must combine with a preverbal predicate to create a complex verb in the manner of light verbs.

indisputable as in the previous collocations, where *langa* ‘ear’ was treated as a concrete body part, yet the allative suggests the same container metaphor as in (11).

- (13) *Langa-kurra-ma-nta =ngku nyampu=ju!*
 ear-ALL-CAUS-IMP =2DAT this=TOP
 ‘Get this into your head!’ or ‘Remember this!’
 (Lit. Get this into your ear.)

- (14) *Jaji-nyanu-rlu =lpa=rla langa-kurra-ma-nu kurdu-nyanu-ku.*
 father-ANAPH-ERG IMPF=3DAT ear-ALL-CAUS-PST child-ANAPH-DAT
 ‘The father was making his child take notice.’
 (Lit. The father was making (it go) into his child’s ear.)

Langa-kurra ‘ear-into’ may also be incorporated into a complex verb headed by the inchoative inflecting verb *-jarri* ‘become’. In the initial clauses in (15) and (16), the unmarked absolutive subject is *yalumpu* ‘that’ referring to the advice whose nature is spelt out in the second clause. The verb frames the ‘advice’ as a theme argument moving from the outside to the inside of the ear (figuratively the intellect) of the experiencer referred to by the dative enclitic pronoun: (=ju ‘me’ in (15), =ngki ‘you’ in (16)). This is another instantiation of the EAR AS A CONTAINER OF KNOWLEDGE metaphor.

- (15) *Langa-kurra-jarri-ja=ju yalumpu-ju*
 ear-ALL-INCH-PST=1DAT that-TOP
kuja=npa=ju ngarru-rnu ngurrju nyina-nja-ku pama-wangu-ku.
 COMP=2SUBJ=1OBJ tell-PST good be-INF-PURP grog-PRIV-PURP
 ‘I’ve taken on board what you told me about behaving and staying away from grog.’
 (Lit. That got into my ear, what you told me...)

- (16) *Langa-kurra-jarri-ja=lku mayi=ngki yalumpu*
 ear-ALL-INCH-PST=CS Q=2DAT that
ngula=npa wanti-ja turaki-ngirli?
 COMP=2SG.SUBJ fall-PST car-FROM
 ‘Did that finally get into your head (=‘ear’) when you fell out of the car?’

The process of holding onto or recapturing some mental image or concept is expressed by another complex verb which incorporates *langa* as a preverbal modifier (or preverb) of the stance verb *nguna* ‘be, lie’, as shown in (17) and (18). The experiencer is expressed as the subject, while the object of thought is expressed as a dative-marked complement (*yalumpu-ku* in (17) and *ngana-ku* in (18)). Here the metaphor remains vague, as the primary input of *nguna* ‘be, lie’ is to impart durative aspect meaning. This is a common Warlpiri pattern that is observed with emotional state predicates,

e.g., *luyurr-nguna-mi* ‘feel sad’, *muurr-nguna-mi* ‘worry about’, as well as many other predicates expressing intrinsic properties, e.g. *puwaly-nguna* ‘be green’, location, shape, position, activities etc.

- (17) *Yuwayi, yalumpu-ku=ju ka=rna langa-nguna-mi*
 yes that-DAT=TOP PRS=1SUBJ ear-lie-NPST
kuja=ngku kulu-ngku ngarru-rnu munga-ngka-rlu.
 COMP=2OBJ anger-ERG tell-PST night-LOC-ERG
 ‘Yes, I’m thinking about how he swore at you in anger (last) night.’

- (18) *Ngana-ku yangka ngari langa-nguna-ya!*
 who-DAT that just ear-lie-IMP
 ‘Just recall who that was!’

Finally, *langa* is also incorporated into a somewhat opaque cognitive-activity verb *langa-kari-langa-kari-jarri*, lit. ‘ear-other-ear-other-become/be/do’, roughly equivalent to English ‘have in mind, think about’, as in (19) and (20). The experiencer role is assigned to the subject. In (20), the quantifier *nyarrpa* ‘how’, which questions the thought content, is realised as a locative case-marked complement of the verb. In Warlpiri, reduplication expresses the durative or continuous nature of the event. The trope underlying the reduplicated *langa-kari-langa-kari* ‘ear-other-ear-other’ remains somewhat obscure, but suggests something along the lines of THINKING IS LIKE CHANGING ONE’S EAR/THOUGHTS, which can be interpreted against the idea that thinking is reviewing different ideas as states of the ear.⁷

- (19) *Ngajulu, kuja=rna muturna wajawaja-ma-nu,*
 me COMP=1SG.SUBJ old_woman lose-CAUS-PST
ngula-ju ka=rna langa-kari-langa-kari-jarri-mi.
 that-TOP PRS=1SG.SUBJ ear-other-ear-other-INCH-NPST
 ‘I am still thinking about when I lost my mother.’

- (20) *Langa-kari-langa-kari-jarri ka=npa nyarrpa-rla, Nampijinpa?*
 ear-other-ear-other-INCH PRS=2SG.SUBJ how-LOC N (name)
 ‘What are you thinking about, Nampijinpa?’

We have seen that the use of *langa* ‘ear’ to denote a cognitive faculty as ‘part’ of some being can be expressed in the same way as when the term denotes an ostensible ‘part’ of a being, agreeing in case

⁷ Cognitive and emotional tropes involving alteration, division or multiplication of emotional and/or intellectual faculty are well attested in Australian languages. However, they usually map onto indecision and emotional discomfort (e.g. in Nyangumarta and Walmajarri in the Kimberley; see also Warlpiri belly metaphors, Section 4.1).

with its whole, as with the verb *marda-rni* ‘have, hold, keep’. By contrast, with *yirrarni* ‘put’, *langa* escapes from its inalienable status as marked by case-agreement with its ‘whole’ expression. Its location role is independently marked by locative case, while the ‘whole’ expression is raised to the dative-marked object function, but the locative expression has to be associated with the dative object as its relevant part. In both cases, the cognitive faculty is represented metaphorically as a container of knowledge. We have also seen how *langa* can be incorporated directly into a complex verb to denote a mental process or action, or can combine with the allative case, which further illustrates the EAR AS A CONTAINER OF KNOWLEDGE metaphor. In addition to this relatively straightforward trope, a couple of expressions with *langa* remain somewhat opaque.

While *langa* ‘ear’ is used in a variety of expressions projecting a number of distinct metaphors for cognitive states and processes, another body part, *miyalu* ‘belly’, enters into an even richer set of collocations denoting emotional states of consciousness. The syntactic and figurative structures of *miyalu* emotional collocations are presented in Section 4.

4 *Miyalu* ‘belly’

Miyalu ‘belly’ has a range of meanings which extend beyond the body-part meaning. It is used to denote the hollow or concave side of an object as opposed to the convex side denoted by *purturlu* or *pawiyi* ‘backbone, spine’. It is also used to denote a maternal parent relationship, particularly when a speaker is self-referring as someone’s mother, maternal aunt or uncle. In addition, as will be discussed here, *miyalu* is also used in expressions which denote emotions or feelings.

Table 2 contains a list of the figurative expressions in which *miyalu* is attested. Semantically, they mostly target emotions, both broad ‘positive’ emotions such as feeling good or happy, and ‘negative’ ones such as feeling bad or depressed; and more specific emotions including affection, compassion, anxiety and anger. This semantic range is typical of body-based expression in Australian languages, as discussed by Ponsonnet & Laginha (this volume). Many of the tropes instantiated by *miyalu* collocations are also typical of belly-based expressions across the continent, although there are, as we will see, some exceptions and contrasts. In particular, Warlpiri belly-based collocations feature patterns of perception and harm metaphors which are quite typical of Pama-Nyungan languages, but unattested in Ponsonnet & Laginha’s sample of non-Pama-Nyungan languages (see Ponsonnet & Laginha, this volume). This may reflect some grammatical differences between Pama-Nyungan and non-Pama-Nyungan languages, in particular the absence of productive noun incorporation in Warlpiri. By contrast, syntactic incorporation is the default grammatical

treatment of body-part nouns in many non-Pama-Nyungan languages, and this seems to account for differences in the respective syntactic structures of body-based emotion collocations in each group of languages.

Table 2. Attested emotional and cognitive collocations with *miyalu* ‘belly’. The glosses of the tropes are explained in the rest of the section. The reader can also refer to the trope typology proposed in section 3.2 of Ponsonnet & Laginha, this volume.

PREDICATE	LITERAL TRANSLATION	LEXICAL SENSE	TROPE
Metonymies			
<i>maju</i> ‘bad’	x is bad (belly-wise)	x feels bad emotionally	EMOTIONS ARE STATES OF THE BELLY
<i>wardinyi-jarri</i> ‘be(come) happy’	x is/become happy from the belly	x is happy	BELLY FOR EXPERIENCER OF EMOTIONS
<i>ngarrurda</i> ‘afraid’	x is afraid from the belly	x is scared	
belly-REDUP + transitive verb of punishment	x’s belly-belly does p to y out of concern for y	x acts out of concern for y	BELLY FOR COMPASSION
<i>-jarri</i> ‘INCH’	x becomes belly for y	x feels sorry for y	BELLY FOR CONTAINER OF OBJECT OF AFFECTION
<i>yukaja</i> ‘enter’	y enters x in the belly	x likes y	
<i>walyka</i> ‘cool’	x is cool in the belly	x is calm, serene	FEELING ANGRY IS LIKE HAVING A HOT BELLY (somatic)
<i>warlu</i> ‘fire, hot’	x is burning in the belly	x is angry	
Metaphors			
<i>raa-pi-nyi</i> ‘open, clear’	x clears/opens y from the belly	x comfort y emotionally	OPEN/CLEAR BELLY FOR POSITIVE FEELINGS (accessibility)
<i>yulpu</i> ‘soft’	x is soft in the belly	x is not compassionate	HARD BELLY FOR COMPASSION (resistance)
<i>-jarra</i> ‘two’	x is two-bellied	x is in two minds	DIVIDED BELLY FOR HESITATION (destruction by division)
<i>-kari</i> ‘other’	x has an altered belly	X is depressed	ALTERED BELLY FOR NEGATIVE FEELINGS (alteration)
<i>nyanyi</i> ‘see’+ <i>maju</i> ‘bad’	x sees someone y as bad with the belly	x dislikes y	NEGATIVE INTUITIONS/EMOTIONS ARE PERCEPTIONS OF THE BELLY (agentive)
<i>nyanyi</i> ‘see’	x sees something y with the belly	x is concerned, anxious about y	
<i>wangka</i> ‘speak’	x speaks from the belly	x think/ speaks internally	THOUGHTS ARE EXPRESSION OF THE BELLY (agentive)

<i>wangka</i> ‘speak’	x speaks from the belly for y	worry for someone	CONCERN IS EXPRESSION OF THE BELLY (agentive)
<i>yarlkirni</i> ‘bite’ CAUS	x bites y in the belly	x makes y angry	ANGER IS LIKE HARM CAUSED TO THE BELLY (patientive)
<i>yarlkirni</i> ‘bite’ REFL	x bites x’s own belly	x becomes angry	
<i>pinyi</i> ‘hit’ REFL	x hits x’s own belly	x becomes angry	
<i>pinjarra-pinjarra-jarri</i> ‘striking:REDUP-INCH’	x starts striking from the belly	x becomes angry	
<i>pinjarra-pinjarra-nyiya</i> ‘striking:REDUP-sit/be’	x is striking from the belly	x is angry	

4.1 Tropes operating at noun-phrase level

Miyalu ‘belly’ features in a few expressions where it is modified by a nominal predicate. This is illustrated in (21) and (22), where *miyalu* ‘belly’ is qualified as *maju* ‘bad’ – a highly frequent combination across Australian languages (Ponsonnet & Laginha, this volume). Grammatically, these nominal collocations occur mainly in two constructions. *Maju* serves as a predicate attributed to the experiencer – the subject of the copula verb – while the part expression *miyalu* serves to specify which aspect of the experiencer is ‘bad’ (21) or ‘became bad’ (22) in which *maju* ‘bad’ is incorporated into the inchoative verb *jarri*. Semantically, the combination of *miyalu* ‘belly’ with *maju* ‘bad’ denotes negative emotions, with a degree of emotional trouble, upset or turmoil. In (21) this ‘trouble’ equates roughly with ‘worry’ in English, while in (22) it equates more with ‘sorrow’. Figuratively, this collocation projects the belly as the seat of emotions, with the metonymy

EMOTIONAL STATES ARE STATES OF THE BELLY.

- (21) *Ngaju ka=rna nyina miyalu maju kurdu ngaju-nyangu-ngurlu,*
 I PRS=1SUBJ be belly bad child 1-POSS-FROM
ngula ya-nu.
 that go-PST
 ‘I am worried about my child who has gone away.’
 (Lit. I am bad belly-wise from my child who has left.)

- (22) *Kala=lu yula-ja=lku.*
 COMP=3PL.SUBJ cry-PST=CS
Kala=lu miyalu=lku maju-jarri-ja
 COMP=3PL.SUBJ belly=CS bad-INCH-PST
purlka-ngurlu ngula lawa-nyina-ja.
 old_man=FROM that not-be-PST
 ‘They then cried. They were upset over the old man who died.’
 (Lit. They then cried. They became bad belly-wise from the old man who passed away.)

Example (23) features a positive alternative, where *miyalu* ‘belly’ combines with the denominal verb *wardinyi-jarri* ‘be(come) happy’.⁸ Here the base verb modified by *miyalu* already has an emotional meaning. The resulting trope describes the BELLY AS THE EXPERIENCER OF EMOTIONS,

⁸ *Wardinyi* derives from the stem *wardu* (‘belly’ in Warluwarric languages) which is found in a number of Warlpiri words with meanings relating to the belly: e.g., *wardu-karri* ‘lie belly-down’, *wartirli* ‘waist, belt’, *wartirl-wartirl(pa)* ‘hungrily’, *wartardi* ‘pregnant’; and emotional states: e.g., *wardu-kurrukurru* ‘relieved emotionally’, *wardu-pinyi* ‘trust’, ‘desire’, *wardu-wanti* ‘be jealously anxious’.

also a common metonymy across the Australian continent and elsewhere. (Note that the collocation *miyalu wardinyi* is not attested with copula constructions.)

- (23) *Miyalu=lpā kanunju-kari wardinyi-jarri-ja.*
 belly=IMPF down-wards happy-INCH-PST
 ‘Deep down inside she felt very happy.’
 (Lit. belly-wise (she) was down-wards happy-become.)

In (24) and (25), *miyalu* ‘belly’ combines with *ngarrurda*, which already denotes an emotional state. In this case, the addition of *miyalu* does not change the meaning of the original adjective, since both the collocation and *ngarrurda* alone denote a feeling of fear, dread or terror. The figurative input of the collocation is to depict *miyalu* as the experiencer of fear, yielding the trope BELLY AS THE EXPERIENCER OF FEAR.

- (24) *Miyalu ngarrurda ka=rna nyina.*
 belly afraid PRS=1SUBJ be
 ‘I am afraid.’ (Lit. belly afraid I am)
- (25) *Ngarrurda-jarri-mi ka=rna=ngku miyalu.*
 afraid-INCH-NPST PRS=1SUBJ=2DAT belly
 ‘I am feeling very frightened for you.’
 (Lit. I am feeling very frightened belly(-wise) for you.)

Some of the collocations where *miyalu* ‘belly’ is modified by a nominal rely upon a somatic metonymy whereby a plausible physiological property of the belly maps onto an emotional state. Combining *miyalu* with *warlu* ‘fire, hot’ as in (26) maps the representation of a burning belly onto angry emotional state (and conversely in (27)), with the trope BEING ANGRY IS LIKE HAVING A HOT BELLY. This trope is frequent in Australian languages, reflecting the quasi-universal association of anger with heat (Ponsonnet & Laginha, this volume, Kövecses 1995). Conversely, a feeling of calm and self-assurance – the absence of concern of some bad outcome – is expressed by combining *miyalu* with *walyka* ‘cool’, in (26).⁹

- (26) *Purlulpa=ju warlu-jarri-ja miyalu=ju.*
 greedy=TOP hot-INCH-PST belly=TOP
 ‘Mr Greedy got angry.’
 (Lit. Greedy got hot bellied.)

⁹ The presence or absence of anger can also be expressed as heat (*warlu*) or cool (*walyka*) respectively without combining with *miyalu* ‘belly’.

- (27) *Ngaju=ju ka=rna miyalu walyka nyina-mi.*
 I=TOP PRS=1SG.SUBJ belly cool be-NPST
 ‘I am feeling calm. (Because they don’t pick fights with me when drunk.)’
 (Lit. I am cold-bellied.)

Other modifiers assign to *miyalu* some properties that are not evidently plausible properties of the belly. For instance, the combination with *yulpu* ‘soft’ conveys an uncaring, even cruel, disposition, particularly with regard to how a maternal uncle should not behave towards his sister’s child. An uncle should always protect and stand up for his sister’s child, so when he actually attacks his niece or nephew he is said to be *miyalu yulpu* ‘soft belly’, i.e., unfeeling. Such metaphorical descriptions of the belly as more or less hard or soft are common across Australia (see Ponsonnet & Laginha’s reference to resistance metaphors in this volume). However, in Warlpiri the valence is inverted compared to other attestations (including other Central Australian languages like Kaytetye): softness usually maps onto sympathetic attitudes, while in Warlpiri it describes lack of sympathy, yielding the metaphor BEING UNSYMPATHETIC IS LIKE HAVING A SOFT BELLY. In the physical domain, ‘soft belly’ is associated with illness – due to the absence of one’s soul or spirit (life-force, see Ponsonnet 2016, Kofod & Crane, this volume). A traditional indigenous doctor restoring the presence of this life-force in a sick person feels their stomach, and declares them to have a ‘hard (resistant) belly’ *miyalu pirrjirdi* when they are healthy. This may correlate with a conceptual association of lack of empathy with weakness of character, since in many Australian languages, ‘hard belly’ metaphors map onto self-confidence.

In addition to nominal modification, there exist two expressions where *miyalu* ‘belly’ is semantically modified by a suffix rather than an independent nominal, as in *miyalu-jarra* ‘belly-two’, illustrated in (28), denoting contradictory thoughts or being ‘in two minds’. The suffixed noun is then predicated of the experiencer (subject) of the state of confusion, using a copula.

- (28) *Miyalu-jarra mayi=ka nyampu=ju nyina-mi?*
 belly-two Q=PRS this=TOP be-NPST
Ngampurrrpa=wiyi wangka-ja ya-ninja-ku=ju. Ngula jupu-karri-ja.
 desirous=FS spoke go-INF-PURP=TOP then stop-stand-PST
 ‘Is this one in two minds? First she said she wanted to go. Then she stayed.’
 (Lit. Is this one two-bellied? (etc.))

Combined with *-kari* ‘other’, *miyalu* denotes a depressed or ‘out of sorts’ state of mind, as explained in (29) in which the speaker addresses a person who just lies around all day without showing any desire to get up and be active. *Miyalu-kari* thus denotes depression or loss of motivation. Metaphors mapping alteration or division of the belly (as in *miyalu-jarra* ‘belly-two’)

or other body parts onto hesitation, confusion or negative emotions like depression are reported in other Australian languages, particularly in the Kimberley (Nyangumarta, Walmajarri; see also *langa* ‘ear’ collocations in Section 4.1).

- (29) *Pirlirpa-kari waja ka=npa nyuntulu-rlu marda-rni.*
 spirit-other I_say PRS=2SUBJ you=ERG have-NPST
Jipajipa-wangu=lku ka=npa nyina miyalu-kari.
 lively-NEG=CS PRS=2SUBJ be belly-other
Nyiya-jangka ka=npa warrarda nguna parra-wiri miyalu-kari=lki.
 what-FROM PRS=2SUBJ always lie day-big belly-other=CS
 ‘Your behavior has changed. You are no longer lively now, (but) out of sorts. Why are you sleeping all day, now depressed?’
 (Lit. You have another spirit/soul. You are no longer lively now, (but) (have) another ‘belly’ (i.e. disposition). Why are you sleeping all day, now belly-altered?)

In all the collocations presented in this section, tropes are deployed at the level of a single noun phrase which includes *miyalu*, resulting in an emotional meaning which can then be predicated of a subject expressing the experiencer. With this grammatical embedding, metonymies and metaphors map the states or properties of the belly described by the figurative noun phrase onto emotional states of the experiencer, under the generic trope EMOTIONAL STATES ARE LIKE STATES/PROPERTIES OF THE BELLY. In the following section, we discuss collocations deployed at the level of the clause, where *miyalu* ‘belly’ is either incorporated into a compound verb, modifies an argument of the verb or acts as a complement to the verb.

4.2 Tropes at clause level

In line with what has already been observed with *langa* ‘ear’ collocations, in Warlpiri *miyalu* ‘belly’ collocations exhibit a broad range of syntactic frames. Owing to its inalienable status (2.2), the belly always remains a part of the experiencer of the emotion, rather than an independent entity. However, the experiencer in question can occur in a range of syntactic roles, including allative, absolutive subject (S), ergative subject (A), direct object (O) or dative object. These syntactic frames in turn channel figurative interpretations. This section analyses the syntax of *miyalu* collocations and how it maps onto a diverse range of figurative representations of emotions. The data collected from 67 Australian languages by Ponsonnet & Laginha (this volume) suggests that with respect to the syntactic diversity of its emotional collocations, Warlpiri may be representative of a majority of Pama-Nyungan languages. However, we will also see that there are notable differences with typical non-Pama-Nyungan patterns, and these differences in turn suggest how

grammatical patterns could block or channel certain generic metaphors (Ponsonnet 2013: Chapter 11). Namely, many non-Pama-Nyungan languages, being polysynthetic, tend to incorporate body-part nouns into verb complexes. As we will see, this limits the range of syntactic roles body parts typically afford, and in turn the figurative roles they can play in emotional tropes.

4.2.1 BODY PART FOR EMOTION

Like most Warlpiri nouns, *miyalu* can be incorporated into a verbal expression headed by the inchoative verbaliser *-jarri* ‘be/become/do’ to express a feeling of sympathy towards someone who has suffered in some way. This is illustrated in (30), in which the experiencer is expressed as the subject with the object of feeling expressed as a dative-marked complement. Figuratively, this construction represents the emotion of sympathy itself as the belly, since (30) literally translates as ‘I become belly now for him’, meaning ‘I am sympathetic’. Such body-based tropes are not uncommon across Australia, whether in Pama-Nyungan or non-Pama-Nyungan languages (Ponsonnet & Laginha, this volume). They occur either with the belly, as in Wik Mungkan (Cape York) where ‘becoming belly’ means developing affections, or with other parts, the throat in particular (mapping onto sexual desire).

- (30) *Miyalu-jarri-mi=lki ka=rna=rla.*
 belly-INCH-NPST=CS PRS=1SUBJ=3DAT
 ‘I now feel sorry for him.’

Another construction, with lower cross-linguistic attestation, may be interpreted under the same family of BODY PART-FOR EMOTION metonymies, where the reduplicated form *miyalu-miyalu* denotes the protective and compassionate feelings that motivate a punishing behavior. The patient is typically a child that the experiencer has responsibility for, and the action is presented as a means of discouraging that person from getting into a dangerous situation. In each of the sentences in (31), the concerned person (experiencer) is the subject of the clause. The transitive verbs in (31) and (33) require an ergative-marked subject. This explains the ergative suffix on *miyalu-miyalu* which is predicated of the subject, showing that the feeling of concern that motivates the subject’s actions is the active part of the subject. The intransitive verb in (32) requires an unmarked absolutive subject, hence the absence of case-marking on *miyalu-miyalu*; but *miyalu-miyalu* remains the relevant part of the subject’s referent, who is also the experiencer of the compassionate feeling.¹⁰

- (31) *Miyalu-miyalu=rlu kurdu nyanungu-nyangu paka-rnu kulu-panu.*

¹⁰ A third person singular subject or object is not construed with a pronominal auxiliary enclitic; only a dative-marked object is construed with a pronominal enclitic, i.e., =*rla*.

belly-belly=ERG child 3-POSS hit-PST angry-much
 ‘She hit her child who's always getting into fights out of concern (for him).’

- (32) *Miyalu-miyalu=rla kunka-pardi-ja ngamirni-nyanu-ku.*
 belly-belly=3DAT revenge-rise-PST uncle-ANAPH-DAT
 ‘He went to support his uncle in the fight out of concern (for him).’

- (33) *Miyalu-miyalu=rlu ka=rna=ngku puta warla-paji-rni.*
 belly-belly=ERG PRS=1SUBJ=2OBJ fail stop-cut-NPST
 ‘I’m trying to stop you (drinking) out of concern (for what might happen to you).’

4.2.2 Container metaphor

In the sentences in (34) and (35), the speaker used *miyalu* collocations to describe their feelings of affection, or lack of, using the verb *yuka* ‘enter’ with its theme-goal thematic array. With this collocation, the experiencer ‘whole’ is expressed as a dative object, whose relevant inalienable part is expressed by the allative-marked complement phrase *miyalu-kurra*, as explained in 2.2. The subject is the target/trigger of affection which figuratively moves into the belly of the dative-marked experiencer. The collocation thus translates literally as something like ‘X entered Y’s belly’ and relies on a ‘container’ metaphor where the belly is depicted as containing the target of the affection: BELLY AS A CONTAINER OF LIKED ENTITY. Such metaphors for affection are regularly attested in several Australian languages in Ponsonnet & Laginha’s sample (this volume), both Pama-Nyungan and non-Pama-Nyungan (for instance in Kukatja, Western Desert, and Ngankikurungkurr, Daly region, with the belly; as well as in Dalabon, Arnhem Land, and Gija, Kimberley, with the heart). This is somewhat akin to uses of *langa* in (9) and (11) in Section 3.1 where the ear/mind is represented as a container of knowledge.

- (34) *Miyalu-kurra=nganpa yuka-ja. yali nguru ngula=rnalu yanu*
 belly-ALL=13PL.DAT enter-PST that country COMP=13PL.SUBJ went
 ‘We took a liking to that country when we went camping out there.’
 (Lit. That country entered our belly when we went camping.)

- (35) *Miyalu-kurra=ju yuka-ja jintu-kari yali ngurrju.*
 belly-ALL=1DAT enter-PST one-other that good
 ‘I like that other one who is good.’
 (Lit. That other good one has entered my belly.)

4.2.3 Accessibility

metaphor

In (36), *miyalu* combines with the transitive verb *raa-pi-nyi* ‘make clear/open’ to denote a state of well-being or psychological relief, absence of concern or worry – a state of contentment. The subject is treated figuratively as the agent in the clearing/opening event, the object is the experiencer of the emotional relief, and *miyalu* ‘belly’ is an inalienable affected part of the object/experiencer. The metaphor is one of accessibility: FEELING EMOTIONALLY GOOD IS LIKE HAVING AN OPEN BELLY. This metaphor is well attested in Arnhem Land in Pama-Nyungan and non-Pama-Nyungan languages (Yolngu, Dalabon), with the belly as well as with the heart (Ponsonnet & Laginha, this volume).

- (36) *Ngula=ji* *miyalu=ju* *raa-pu-ngu* *wardinyi=rra ma-nu=juku*.
that=TOP belly=IOBJ clear-strike-PST happy=THITHER CAUS-PST=CNS
‘He gladdened/relieved me, made (me) really happy.’
(Lit. he cleared me belly(-wise)...)’

4.2.4 Speech

metaphors

Although *langa* ‘ear’ is the figurative pivot in the domain of intellection, (37) illustrates a reflexive construction with *wangka* + *=nyanu* ‘speak + self’, modified by *miyalu* ‘belly’ to denote thinking, or conversing inwardly with oneself: ‘speak to self inside, i.e. the belly’, under the trope SPEECH OF THE BELLY FOR INNER SPEECH (a similar metaphor is attested in Gija, Kimberley, and in Dalabon, Arnhem Land). In this case *miyalu* symbolizes the interior, which is an extension of its use designating the internal or inner part of something (see introduction to Section 4), as is reinforced in (38) and (39) below where the ‘inner part of’ and ‘concern’ meaning combine.

- (37) *Wangka-mi* *ka=nyanu* *miyalu*. “*Ngaju-piya miparrpa yinarrka*.”
speak-NPST PRS=ANAPH.DAT belly me-like face baby
‘He thinks to himself, “The baby looks like me”.’
(Lit. He says to himself belly(-wise) (etc.).)’

Further, the combination of *miyalu* ‘belly’ with the simple verb *wangka* ‘speak’, without a reflexive construction, expresses that the referent of the subject is entertaining a feeling of concern for the wellbeing of the person metaphorically described as the addressee. The absolutive subject of *wangka* ‘speak’ is the speaker and the dative object is the addressee. As expected, *miyalu* ‘belly’, being unmarked, agrees with the absolutive argument which is the speaker, of whom it is an inalienable part. We see in (38) that *lirra* ‘mouth’ attracts the same treatment in a clause that means

‘speaking with the mouth’, hence we can infer that the *miyalu* collocation translates well as ‘speak with belly’. In other words, ‘speak with the belly about x’ stands figuratively for ‘be sad/concerned about x’, instantiating the metaphor FEELING SAD/CONCERNED IS SPEAKING WITH THE BELLY. Comparable representations of negative emotions are attested with the belly in other Pama-Nyungan languages in Central Australia (Kaytetye), and further away with the heart (Noongar, South-West). There are also some attestations in non-Pama-Nyungan languages (Dalabon, Arnhem Land).

- (38) *Kula ka=rna=nyarra lirra wangka-mi.*
 NEG PRS=1SG.SUBJ=2PL.DAT mouth speak-NPST
Miyalu ka=rna=nyarra kaninjarra wangka-mi kulu-kujaku.
 belly PRS=1SG.SUBJ=2PL.DAT deep_down speak-NPST trouble-EVIT
 ‘I’m not (just) saying it to you. I’m really deeply worried about you because you might get into trouble.’
 (Lit. I am not talking to you mouth(-wise)). I am talking to you deep down belly(-wise)...

- (39) *Miyalu wangka-mi ka=rna=rla kujaka=nkulu=rla*
 belly talk-NPST PRS=1SUBJ=3DAT COMP=2PL.SUBJ=3DAT
warrarda nginji wangka-mi wanta-wiri.
 always back-talk talk-NPST sun-big
 ‘I am feeling sorry for the one that you are always criticising all day long.’
 (Lit. My belly talks for the one that you are always criticising all day long.)

4.2.5 Perception metaphors

In (40), a *miyalu* collocation with *nyanyi* ‘see’ translates literally as ‘I see you with my belly (to be) bad’, relying on a metaphor that represents judgements or attitudes as perceptions of the belly. The presence of *miyalu* in combination with *nyanyi* forces a figurative meaning of the verb akin to the ‘come to conclusion that’ meaning of ‘see’ in English, which corresponds to the metaphor JUDGEMENTS ARE PERCEPTIONS OF THE BELLY.¹¹ The nature of the judgement/emotion, is expressed by a nominal predicate – *maju* ‘bad’ in (40) – which has scope over the object (addressee). In terms of argument mapping, the agent of *nyanyi* ‘see’, a transitive perception verb, is the first person as indexed on the auxiliary; as expected, *miyalu* is ergatively marked, as the figuratively active inalienable part of the agent/experiencer subject of the clause.

- (40) *Nyuntu ka=rna=ngku miyalu-rlu nya-nyi maju.*

¹¹ Complex perception verbs in Warlpiri are typically made up of a preverbal element denoting the particular ‘sense’ or faculty involved and an inflecting verb such as *nyanyi*, however *miyalu* is not incorporated into the perception verb but is external to it.

you PRS-1SUBJ=2OBJ belly-ERG see-NPST bad
 ‘I don’t like you.’

(Lit. I see you belly(-wise) (to be) bad./I see you with (my) belly (to be) bad.)

The examples in (41) present a variant of this metaphor, where the perception of the belly does not map onto an undefined judgement/emotion, but specifically to anxiety (i.e. negative emotion). In this case, the clause contains no secondary predicate qualifying the object or stimulus of the emotion, and the verb *nyanyi* ‘see’ simply aligns the experiencer with the transitive subject and the object of anxiety with the object of the perception. *Miyalu* ‘belly’ is again ergatively marked, as an inalienable part of the experiencer. Thus, ‘see with the belly’ reads figuratively as ‘be anxious’, which illustrates the metaphor FEELING ANXIOUS ABOUT SOMETHING IS SEEING IT WITH THE BELLY, or at a more generic level, EMOTIONS ARE PERCEPTIONS OF THE BELLY.

- (41) *Miyalu-rlu ka=rna=ngku nya-nyi*
 belly-ERG PRS=1SUBJ=2OBJ see-NPST
ngula ka=npa=ju jurnta parnka-mi
 that PRS=2SUBJ=1DAT away run-NPST
 ‘I worry about you running away from me.’
 (Lit. I see with my belly that you run away from me.)

- (42) *Ngula kuja=ka wati ya-ni=rni pama-jangka,*
 that COMP=PRS man go-NPST=HITHER grog-FROM
ngula=ju ka=rna miyalu-rlu nya-nyi
 that=TOP PRS=1SUBJ belly-ERG see-NPST
ngula=ju kulu ka=ngalpa jangkardu=rnu ya-ni.
 that=TOP trouble PRS=12PL.DAT attack=HITHER go-NPST
 ‘When a man comes drunk, then I worry that he is coming to attack us.’
 (Lit. When a man comes drunk, then I see with my belly that he is coming to attack us.)

Such visual perception metaphors for emotions are attested with the belly in Kaytetye (Central Australia), as well as with the throat in Alyawarre (Central Australia). Other sensory functions (hear, smell) of the liver also map onto emotions in Diyari and Kurna (both in Southern Australia). On the other hand, metaphors depicting emotions as perceptions of a body part are not attested in non-Pama-Nyungan languages. This difference with Warlpiri could be due to a contrast in the grammatical treatment of body parts, and more specifically the absence of grammatical, productive noun incorporation in Warlpiri.¹²

¹² There are metaphors involving vision. For instance, Dalabon (Arnhem Land) has an expression where seeing someone’s belly is understanding their emotion. But body parts are never depicted as experiencers of perceptions.

Detailed studies of body-based emotion metaphors in non-Pama-Nyungan languages (O’Keeffe et al. and Hoffmann, this volume, Ponsonnet 2014) report that they most typically originate in noun incorporation. This derives naturally from the grammatical fact that in many of these languages, body-part nouns are incorporated to the verb complex by default (Evans 2003, Ponsonnet 2015), which in turn constrains the figurative roles they can endorse. Cross-linguistically and in Australian languages in particular, syntactically incorporated nouns normally express absolutive arguments, i.e. either an absolutive subject, or an object; but not an ergative subject (Evans 1996, Ponsonnet 2015). As a result, non-Pama-Nyungan languages where body-part nouns typically undergo incorporation produce few metaphors where the belly (or another body part) perceives anything, because this typically requires that the body part be treated as an ergative subject. Kofod & Crane (this volume) and O’Keeffe et al. (this volume), show that in non-Pama-Nyungan languages which do not feature productive noun incorporation (Gija, reported by Kofod & Crane; Mawng or Ndjébbana, reported by O’Keeffe et al.), body parts can have somewhat broader roles in emotion metaphors. However, they are not attested in the ergative roles either. This may be due to the prior existence of noun incorporation in some of these languages (as reported by Hoffmann, this volume, for MalakMalak), and/or to areal influence from neighboring languages with noun incorporation (e.g. Mawng or Njébbana). In Warlpiri, on the other hand, body-part nouns do not incorporate (and neither do other nouns), and therefore body parts afford a broader range of figurative roles in emotion metaphors. In this way, grammatical patterns may directly or indirectly constrain which tropes can be available in which languages.

4.2.6 Harm metaphors

Miyalu ‘belly’ also combines with a couple of verbs that entail harm metaphors, all mapping onto anger. The collocation with the transitive verb *yarlkirni* ‘bite’ figuratively treats the experiencer as the ‘victim’ of the violent action as having his belly bitten, under the metaphor BEING ANGRY IS LIKE BEING BITTEN IN THE BELLY. In (43), the experiencer *Jungarrayi* bears a figurative patient role and is expressed as the unmarked absolutive object, of which the unmarked *miyalu* is an inalienable part. Here the agent or cause that produces the state of anger in *Jungarrayi* (as a result of telling him some ‘bad news’) is expressed as the subject, marked by the pronominal enclitic =*rna*. This is the standard schema in a transitive clause with a verb having an agent-patient thematic array, in which the agent can be expressed by an ergative-marked subject NP, while the ‘means’ by which the patient is harmed is also expressed in an ergative marked ‘instrument’ phrase.

- (43) *Miyalu=rna* *Jungarrayi* *yarlku-rnu* *maju-ngku* *marda yimi-ngki*.
 stomach=1SUBJ J bite-PST bad-ERG maybe story-ERG

‘Maybe I have upset Jungarrayi (angered him) with that bad news.’
 (Lit. I bit Jungarrayi’s stomach with bad news perhaps.)

In the examples in (44) and (45), the collocation features the preverb *pinjarra-pinjarra*, derived from the infinitive form of the verb *pi-nyi* ‘strike’, *pi-nja*, followed by the ‘thither’ enclitic =*rra*. In (44) *pinjarra-pinjarra* denotes the effect of anger as striking the belly of the experiencer. It combines as a preverb with the inchoative inflecting verb *-jarri* while in (45) it combines with the stative ‘sit’ verb *nyina*, denoting an ongoing state of anger. Both clauses are syntactically intransitive, with the experiencer – who is the victim of the figurative striking action – expressed as the unmarked absolutive subject, while the target at whom the anger is directed is marked dative (=ju in (44)), and the cause or trigger of the harm is expressed by a phrase headed by an ablative ‘from’ suffix (*nyiya-jangka* ‘that from’ in (45)).¹³ *Miyalu* ‘belly’ shares the experiencer subject’s unmarked absolutive case in both sentences. Here the belly represents the inalienable part of the experiencer that is being ‘struck’ by anger, under the metaphor BEING ANGRY IS LIKE BEING REPEATEDLY STRUCK IN THE BELLY.

- (44) *Nyuntu=ju ka=npa=ju miyalu pinjarra-pinjarra-jarri-mi*
 you=TOP PRS=2SUBJ=1DAT belly striking-striking-INCH-NPST
ngula ka=rna=ngku ngurrju-ku kula-nganta
 COMP PRS=1SUBJ=2DAT good-DAT NEG-SEEM
marda-rni mangarri-pinki=ji.
 keep-NPST food-such_like=TOP
 ‘You are getting angry with me when (here) I am keeping food and such like for you mistakenly thinking you (feel) good towards me.’
 (Lit. You are getting struck belly(-wise) over me when (etc..))

- (45) *Nyiya-jangka ka=npa miyalu pinjarra-pinjarra-nyina?*
 what-FROM PRS=2SUBJ belly striking-striking-be
 ‘Why are you angry?’ (Someone’s made off with my rifle.)
 (Lit. What-from are you belly striking?)

Echoing the behaviors that result from anger, the figurative association of this emotion with violence is reported in the world’s languages (Kövecses 1995, Mikolajczuk 1998). More specifically, harm metaphors where the experiencer/their part are victims, and in particular EXPERIENCING NEGATIVE EMOTIONS IS LIKE BEING HARMED IN THE BELLY (or other body part), are attested across the Australian continent, with a range of body parts. Apart from a case of ‘chasing’

¹³ This use of the ablative phrase *nyiya-jangka* in (45) parallels the expression of the source/trigger of emotion in sentences in (21) and (22) in which the relative suffix *-ngurlu* is used in place of *-janka*. In this context these suffixes are interchangeable.

mapping onto love in Kaytetye (Central Australia), all expressions involving harm metaphors map onto clearly negative emotions, and the actions they describe are similar to ones found in Warlpiri: mostly hitting or striking, and eating in the Cape York (semantically close to biting¹⁴ in Warlpiri ‘eat/drink’ can also mean ‘hit/strike’). The body parts are mostly the belly or parts that are likely to derive their figurative role from belly-based expressions (Ponsonnet & Laginha, this volume: Section 5), like the chest or the liver.

In terms of language families, these harm metaphors are attested in Pama-Nyungan languages only, not in non-Pama-Nyungan families. In this case, noun incorporation would not block such figurative patterns: the body part is in an object role, which is a licensed absolutive role in noun incorporation. Further research may reveal other reasons for this absence, grammatical or otherwise.

4.3 Reflexive constructions

Both harm collocations with *miyalu* ‘belly’ discussed in 4.2.6 yield reflexive constructions. As illustrated in (43) above, the *miyalu+yarlkirni* ‘bite belly’ collocation means ‘X cause Y to be angry’, which has a transitive structure. Example (46) presents a reflexivized version of this collocation, translating literally as ‘I bite myself belly(-wise)’. *Miyalu* is (un)marked as absolutive, i.e. it expresses an inalienable part of the first person object (=ju) whose reference is bound by the subject (=rna). Based on the semantics of Warlpiri constructions discussed in 2.3, one would predict that the reflexive version of the *miyalu+yarlkirni* collocation means ‘X makes him/herself angry’ – however, (46) translates as ‘I am becoming angry’. There is no agent role; instead, the experiencer/patient is linked to both subject and object syntactic functions, and the experiencer is implied to change state.

- (46) *Miyalu ka=rna=ju yarlki-rni.*
 belly PRS-1SUBJ=1OBJ bite-NPST
 ‘I’m getting really angry.’
 (Lit. I am biting myself belly(-wise).)

Thus, the reflexive construction of this *miyalu* collocation attracts an aspectual reading, overriding the standard interpretation of reflexive constructions. This is very similar to the contrast between the French ‘cause change of state’ clause *Cécile énerve Karine* ‘Cécile irritates Karine’, and the formally reflexive but semantically inchoative *Cécile s’énerve* ‘Cécile is getting irritated’ (not

¹⁴ In Warlpiri ‘eat/drink’ can also mean ‘hit/strike’, and Warlpiri *yarlkirni* ‘bite’ is cognate with Anmatyerr *arlkwem* ‘eat’, the reciprocal form of which, *arlkwerrem*, means ‘fight’.

‘Cécile irritates herself’). The semantics of such ‘inchoative’ reflexive constructions have not been examined in any depth but will be the focus of future work.

In these reflexive collocations which read as ‘change of state’ inchoative predicates in Warlpiri, the cause of change of state is either left unexpressed as in (46), or expressed by a separate adjunct that is not a core argument of the collocation as in (47) and (48). In (47) the target/trigger of anger is expressed within an expression headed by the postposition *jangkardu* ‘against, in opposition to’ while in (48) it is expressed by means of the bolded finite clause. Comparing (47) with (48), we observe that *miyalu* is in the unmarked absolutive case in the former, but the marked ergative case in the latter. Irrespective of a subtle semantic difference that correlates with this contrast in case-marking on *miyalu* (something like ‘I bite myself in the belly’ vs. ‘I/my belly bites itself’), the surface morphosyntactic structure remains the same, and in both cases the reflexive construction has an inchoative meaning.

- (47) *Karnta jinta-kari-rli ka=nyanu*
 woman one-other-ERG PRS=ANAPH
miyalu-rlu yarlki-rni jinta-kari-ki-jangkardu.
 belly-ERG bite-NPST one-other-DAT-AGAINST
 ‘One women gets angry **at another one**, goes for her.’
 (Lit. One women bites herself belly(-wise) at another one.)

- (48) *Ngaju ka=rna=ju miyalu-rlu yarlki-rni kaji=npa=ju*
 I PRS=1SUBJ=1OBJ belly-ERG bite-NPST COMP=2SUBJ=1DAT
warrarda ya-ni=rni kulu nyampu-kurra ngurra-kurra.
 always go-NPST=HITHER anger here-ALL camp-ALL
 ‘I get angry **when you keep coming here to (my) place looking for trouble.**’
 (Lit. I bite myself belly(-wise) when (etc.).)

This inchoative coercion is not unique to the *yarlkirni* ‘bite’, ‘(cause to) become angry’ collocation. Example (49) presents *miyalu* with *pinjarra-pinjarra*, derived from *pinyi* ‘strike’ (see (44) and (45) in Section 4.2.6), in a slightly different reflexive construction from the ones above. In this example, a standard reflexive reading of the first person dative complement cross-referenced on the auxiliary would predict that based on the meaning of (44) and (45), (49) should read as ‘I am (getting) angry at myself’. Rather, (49) expresses the process of the experiencer moving into an increasing state of anger, typically not directed at self. Again, the aspectual contrast between (44)/(45) and (49) is similar to the distinction between French *Je me fâche contre lui* ‘I get angry with him’ and *Je suis fâché contre lui* ‘I am angry with him’.

- (49) *Miyalu ka=rna=ju pinjarra-pinjarra-nyina.*

belly PRS=1SUBJ=1.DAT striking-striking-be
 ‘I am getting angry.’
 (Lit. I’m striking myself belly(-wise).)

The inchoative reading of the reflexive construction is also attested in (50) with *pinyi* ‘strike, hit, affect’, a prototypical agent-patient transitive verb. Here the experiencer *Jungarrayi* is a patient expressed as the subject, and binds the reference of the ‘object’ anaphor because the clause is reflexive. This differs from (47), which exhibits ergative-absolutive arrays, with an agent and patient role referring to the same individual. It also differs from (49), which exhibits an absolutive-dative array, but projects a single thematic role. Despite these differences in surface morphosyntactic form, the interpretation of this reflexive construction is similar to the ones above; all have an inchoative interpretation.

(50) *Miyalu-rlu ka=nyanu pi-nyi Jungarrayi-rli miyi-ngirli.*
 belly-ERG PRS=ANAPH strike-NPST J-ERG food-FROM
 ‘Jungarrayi is getting wild over the food.’
 (Lit. Jungarrayi is striking himself belly(wise) on account of the food.)

In Warlpiri all the examples with ‘pseudo’ reflexives above involve harm metaphors. In Ponsonnet & Laginha’s (this volume) 67-language sample, reflexive versions of harm metaphors are also attested in other Pama-Nyungan languages, with the belly in Walmajarri (Kimberley) and with the chest in Kurna (South Australia), where it is unclear whether the meaning is inchoative. Figuratively, in Warlpiri the cases where the experiencer and its part are ergatively marked license a reading where the belly itself is the agentive cause of the harm: as mentioned one of the possible interpretations of (48) is ‘my belly bites itself’. No such metaphorical representation of the belly as violent is attested in non-Pama-Nyungan languages (in Ponsonnet & Laginha’s sample or elsewhere). As we saw, this may be because tropes framed by noun incorporation constructions cannot treat incorporated body parts as ergative, and therefore body parts are less likely to be figuratively agentive in non-Pama-Nyungan languages.

At a broader cross-linguistic level, reflexive constructions are regularly found to be lexicalized as standard intransitive emotional and/or cognitive predicates where the reflexive meaning is neutralized (e.g. Romance, Germanic, Turkic and Yuman languages, Kemmer (1993)), sometimes with an inchoative meaning as in the French examples above (also attested in German). Unlike Romance languages in which inchoative-reflexive and passive-reflexive constructions are generalised to large classes of ‘change of state or location’ verbs, in Warlpiri this construction is more restricted. Apart from the above collocations with *miyalu*, this construction is also found in a limited number of expressions involving a change in an experiencer’s physical state, such as fall

asleep. The exact typological distribution of this phenomenon, be it in terms of geographic and genealogical distribution, or in terms of the semantics of the base verbs, is a question for future research.

5 Conclusion

In line with the cross-linguistically widespread tendency to figuratively denote internal cognitive and emotional experiences in terms of external events involving parts of the body, Warlpiri exhibits a rich array of body part collocations mapping onto a range of cognitive and emotional functions or states. Here we examined collocations involving *langa* ‘ear’ and *miyalu* ‘belly’. The data mostly reveals a figurative division between the ‘ear’ as the locus of intellectual function and the ‘belly’ as that of emotional experience, although we have noted how ‘belly’ also features in collocations which relate to intellectual or mind-related functions.

Expressions with *langa* ‘ear’ are somewhat less numerous in our data than the ones with the belly, and also instantiate a smaller number of tropes, most of them attested in other Australian languages. They relate to intellectual functions, via an association between the hearing and intelligence. The main tropes are EAR AS A CONTAINER OF KNOWLEDGE, and THINKING IS LIKE CHANGING ONE’S EAR/THOUGHTS.

Belly-based collocations are numerous and syntactically diverse, in that they feature a broad range of constructions. Many of the tropes they instantiate are well attested elsewhere on the continent, including most of the types outlined by Ponsonnet & Laginha in this volume. The belly is represented as the seat of emotions, as an experiencer of emotions, or stands for the emotion itself. It can be depicted as ‘hot’ which maps onto anger or ‘cold’ to symbolize an absence of anger or anxiety; or clear/open, which maps onto emotional well-being. Thoughts and judgements are figuratively represented as internally directed speech produced by the belly; emotions as visual perceptions of the belly. Finally, a couple of collocations represent anger as harm done to or by the belly. These last two metaphors – perception and harm – are well-attested in other Pama-Nyungan languages, but apparently less frequent in non-Pama-Nyungan languages. With perception metaphors, this contrast suggests that grammar (and more specifically noun incorporation) may have some influence upon which generic metaphors are available in a given language. On the other hand, it is not clear that the absence of harm metaphors in non-Pama-Nyungan languages correlates with a grammatical parameter. More research is needed to assess why such metaphors are absent (or

at least very marginal) in non-Pama-Nyungan Australian languages, while they are well-attested in the rest of Australian languages, as illustrated here with Warlpiri.

An interesting aspect of the syntax of *miyalu* ‘belly’ collocations is the semantics of their reflexive variants. In standard Warlpiri reflexive constructions, the ‘x cause change of state in y’ or ‘x impacts y’ meaning of transitive clauses is maintained, with the agent and patient role referentially merged. By contrast, the reflexive variants of belly collocations invoking harm must be interpreted as inchoative states. That is, where ‘bite someone (in the) belly’ means making them angry, ‘bite *oneself* in/with the belly’ does not mean ‘make oneself angry’, but ‘become angry’ so that there is no thematic agent. Comparable phenomena are attested in other language families in other parts of the world. Further research is needed to understand its extent in Warlpiri as well as in other Australian languages, and what determines the distribution of such readings across the continent or across the world.

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