



Cognitive Embodiment and Embodied Cognition in Hobongan: Variations in Grounding of Conceptual Metaphor

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MARLA PERKINS¹

Independent Scholar

dr.marla.perkins@gmail.com

Abstract

In a partial report on fieldwork conducted on Hobongan, an as yet undescribed (this project is part of the description) Austronesian language spoken by approximately two thousand people on the island of Borneo in Indonesia, I note patterns of grounding for conceptual metaphors. These patterns include conceptual metaphors grounded in embodiment and in abstract concepts, animals concepts, vegetation concepts, and geographical concepts. Following Goschler (2005), in an age in which neurosciences are expected to explain cognition, it is trivial to place embodiment just in the realm of the brain; in order to be meaningful, embodiment must be a claim about directionality in cognition as evidenced by metaphorical grounding. However, evidence from Hobongan in which concepts and environments provide groundings almost as frequently for metaphors than does the human body, suggests that perhaps embodiment is not as strong a phenomenon as might be claimed, or that metaphors are not the best choice of data for examination of embodiment, or, in a point about philosophy of language, that all of language is grounded in conceptualization (Perkins, 2009), including conceptualizations of human, plant, and animal bodies. Grounding of conceptual metaphors provide evidence of a cognitive embodiment, leaving embodied cognition as a possible sub-type of cognition.

Key words: Hobongan, Hovongan, Austronesian, metaphor, embodiment, grounding, metonymy, figurative

1. Introduction

Non-literal language, in particular conceptual metaphors, has been assumed to be evidence for embodied cognition (Lakoff, 2008; Lakoff, 1983; Lakoff and Johnson, 1980, 1999), a theory of how language acquires meaning and/or refers. There are at least four main definitions of 'embodiment' available in the literature of cognitive linguistics, which complicates analyses of whether embodiment theory is instantiated in language, particularly in non-literal language such as conceptual metaphor.

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One definition is that the mind is the brain and that the brain is the mind, in some way; sorting out the finer details of philosophy of mind is beyond the scope of this study. That is a generally accepted version of embodiment theory at this point in the history of the neurosciences, but with regard to the study at hand, it is unhelpful because it does not entail, without additional work on the philosophical implications, how language and mind and brain interact. There is a more specific version of this theory that is often made its own entity with the term 'extended cognition' (e.g., Rowlands, 2010); this theory includes the body beyond the brain in affecting cognition.

There is another, more specific, version of the brain=mind theory of embodiment, as noted by Gentner (2016) that claims that semantic information processing uses the same neural systems as those used for sensori-motor perception and action. This is the generally accepted version of embodiment with some of the development in place that is needed to work with language. This view remains beyond the scope of this study because this is primarily a linguistic study rather than primarily a study involving neuroimaging or experiments designed to tease out the neural role in cognition.

There is also an embodiment theory that suggests that human cognition, including cognition of abstract concepts, is closely related to characteristics of human physical bodies; this is distinguished from other theories by the term 'situated cognition' (e.g., Kirschner and Whitson, 1997).

Another embodiment theory is about a direction from which the lexicon arises: lived experience leads to language; this is the approach that Lakoff and those who take his approach use. This is perhaps the most important theory with regard to the study of metaphor and other non-literal language and the grounding of that language because, in order to be substantial, embodiment theory of non-literal language must be a claim about the direction of grounding, from more-abstract domain to more-concrete, and more specifically, to human physical experience (Goschler, 2005). This study, then, is about the degree to which metaphorical and non-literal grounding can be said to be primarily from one domain, abstract conceptualization, to grounding in human physical experience, in Hobongan. The attempt in this project is not necessarily to add new material to the critiques of embodiment theory in non-literal language that already exist but to show that the critiques also apply within a less-studied language.

1.1 Defining Conceptual Metaphor for This Project

Using metaphor as a central aspect of an analysis of embodied cognition requires a number of scope limitations because of the vastness and complexity of the literature on metaphor. For the purposes of this study, I focus on metaphor as a cognitive maneuver (White, 1996) that indicates a conceptualization of one mental domain in terms of another (Lakoff 1993). Using this definition of metaphor situates this study within the literature on conceptual metaphor, thus avoiding the difficulties of defining metaphor based on their instantiations in language. A number of authors have noted that, at

least for semantic content and use, it can be difficult to distinguish between metaphor and metonymy (Radden, 2003; Glucksberg, 2001; Goossens, 1999; Ricoer, 1975/1977); because this is not a study on the syntactic structures of metaphor or other types of non-literal language, the distinction in the instantiations of metaphor, metonymy, and other forms of non-literal language are subsumed under the definition of conceptual metaphor provided.

Further, the examples in this paper come from standardized expressions in Hobongan, rather than spontaneously occurring metaphors. This strategy serves to minimize idiolectal variation in what is a study on the use of metaphorical grounding in a language as such and ensures that the data included are cultural and linguistic rather than operating at other levels of people's uses of metaphor.

In addition, this is not primarily a study on the processing of metaphor, from either speaker or listener perspective. Conceptual metaphors exist in languages in ways that, to some extent, parallel lexical items. Conceptual metaphors can therefore be examined as they exist in the language in their own right. In this study, I follow Lakoff and Johnson's convention (1980, 1999) of presenting conceptual metaphors in all majuscule letters and of providing examples of conceptual metaphors in the ways in which the language in consideration presents them.

1.2 The Hobongan Language and Community

Hobongan is an Austronesian language, categorized as Kayanic-Muller-Schwaner Punan (Glottolog), spoken in Indonesia on the island of Borneo, in the upper regions of the Kapuas River and its tributaries. There are three main villages and a number of less populated settlements. The language is SVO and prioritizes spatial locational information in narrative discourse. The Hobongan are the dominant group in the area in which they live; people from other languages and groups typically interact with the Hobongan in the language of Hobongan.

1.3 Methods: Field and Metaphor

The data for this study were collected during two field trips taken in 2012-2013 and 2014-2015, assisted by Rachel Searcy, a missionary who is working with the Hobongan on a translation of the Bible. The study is qualitative rather than quantitative, in recognition of the fact that qualitative analysis needs to reach a fairly high level before determining what phenomena would be usefully quantified and in what ways. The method of field work used is known as Community-Based Language Research (Czaykowska-Higgins, 2009). The research is conducted ON a language, Hobongan, which is not yet described (this study is part of the description); FOR the language community, some benefit to the community being at least implicit (in the case of Hobongan, documentation is part of the documentation required to gaining minority rights in Indonesia); WITH the language community, the linguist being an active participant rather than attempting to remain an external observer (Dimendaal, 2001); and BY the language community, the language speakers being involved in the data collection and, as appropriate and possible, in the analysis.

The lattermost point, about including native speakers in collection and analysis, can lead to some questions about how analysis is conducted. Native speakers are particularly relevant when determining whether an utterance is acceptable or felicitous, but their knowledge of their meta-language is questionable and often relies on folk theories of language that may or may not be accurate. This question arises for this study with regard to the direction of the grounding the conceptual metaphors. As usual with linguistic data, there are multiple directions of analysis possible. Given the method used, I began with native-speaker intuitions on grounding. For conceptual metaphor, this could be adequate on its own; metaphorical grounding is partially about the ways in which people conceptualize one domain in terms of another, which means that what people conceptualize is what the conceptual metaphor is. However, I also compared native speaker intuitions to the ways in which the conceptual metaphors were realized in the language, examining what the primary topic of discussion was when the conceptual metaphors emerged, which provided a reality check for the information provided by the native speakers. Very few differences between intuition and the ways in which the metaphors emerged in use were revealed. When the direction of grounding was in question, I have left the question open, noting those metaphors in a category of their own and including notes on ways in which the direction could be determined, when additional data becomes available or additional field work becomes possible.

2. Some Conceptual Metaphors in Hobongan

2.1 Expected Grounding: BODY IS CONCEPT

In this section, I present a selection of conceptual metaphors in which the direction grounding is what would be expected if embodied cognition were the way that human cognition worked.

HEAD IS PERSON

A irap anya: to get one's face: This expression is used to indicate that a person has saved face in a discussed situation. The expression is grounded in human embodied experience and in Hobongan cultural assumptions about acceptably appearing in public or being shamed into not being available publically. This expression no longer has a literal use in Hobongan.

Noon leelo manga doruo: to swallow spit waiting for: This expression is used to indicate a strong desire for something. It is grounded in human embodied experience, specifically in appetite for food, which often causes increased production of saliva. The idea is that of avoiding drooling over something that is deeply wanted, as if the desire is biologically basic. This expression no longer has a literal use in Hobongan.

UP IS POWER

Cutang: tall: This term can be used literally to indicate a tall person or a tall tree, but it can also be used metaphorically to indicate a person who has greater social status. This social status can be acquired in a number of ways, each indicating an aspect of Hobongan cultural and history. Although the Hobongan no longer officially have a tribal chief, they keep track of who the chief would be, if they did; that individual is accorded the final word in village deliberations, and he is referred to as 'cutang'. There is an elected mayor of one of the villages, and he is 'cutang' because of his position in the village, which is sanctioned by the Indonesian government. People who have the financial resources to increase the cultural and technological resources, such as cellular phones, are also 'cutang' in comparison with people who are financially unable to make the kind of cultural and technological changes that others can afford to make. The woman who is recognized as the best storyteller among the Hobongan can also be described as 'cutang'. The metaphorical use of the term is grounded in human embodied experience with different human heights.

LIGHT/CLEAR IS UNDERSTANDING

Lohaq: light/cleared land or trail: This term can be used literally to describe land that has been cleared for agriculture or that is clear because of a weather event, or a trail that is conveniently passable. It is also used metaphorically to indicate understandability. It is used during the process of translation to describe a sentence or paragraph that has successfully been transmitted from English to Hobongan. The metaphorical use of this term is grounded in human embodied experiences of walking and farming and surviving storms.

INVERSION IS LOSS

Botolanga longon: to lay one's hand palm up: This expression can be used literally to talk about supinating a hand or metaphorically to mean, in an English figurative expression, to wash one's hands of something. The term describes and is grounded in the human embodied experience of being able to rotate the hands about the ulnae.

Nokan: to bounce off: This term is used literally to describe an action of bouncing off, such as a plastic cup off a stair, and metaphorically to mean not paying attention to something. Grounding for this is perhaps less transparently humanly embodied because people are not particularly bouncy. However, it is included here because most of the bouncy things that the Hobongan have or use are made by humans and are used by humans; however, it is possible that the Hobongan are here imagining what it is like to be, for example, a plastic cup bouncing off a stair and then analogizing to their conceptualizations of what happens when being inattentive.

Piket ko joq lubit: push they fall over: This expression can be used literally to describe something that falls over when pushed, although this use is rare; it is also used metaphorically to talk about people who are weak or defenseless for some reason, such as with age or illness. The expression is grounded in human embodied experience; although remembering being an infant or living to weak old age are both rare phenomena, people have common experiences with being too sick to hold themselves up.

TYING IS COUNTING

Nobuku: to wrap around, tie in small bundles: This expression is more commonly used literally to describe the physical act of connecting small bundles, a grounding in human experience. The metaphorical meaning describes an obsolete way in which to measure calendar time. Now that the Hobongan use the Gregorian calendar, in accord with the rest of Indonesia, the metaphorical use of this term rarely occurs.

THROAT IS MIND

Ngo sangan: to breathe: In Hobongan, the throat is the physical location of emotion or cognitive status. This term is used literally to discuss the physical act of breathing, a grounding in human embodied experience. The term is also used to note the act of relaxing or of being relieved.

Poro sangan: sore throat: This is another of the physically located expressions; the term can literally describe a sore throat, being grounded in human embodied experience, and it can also be used as an expression to describe someone who is angry.

Puqun sangan: own throat: As with the expression above, this expression can be used to discuss a person's throat as owned by that person, as opposed to someone else's throat, thus being grounded in individual human embodiment. It can also be used metaphorically to speak of someone's good character or considerateness. People who are in possession of their own throats are considerate people.

BEGINNING IS TEACHING

Paqato: to place reeds to weave: This expression is used literally to describe one of the first steps for weaving a mat, an activity that is usually undertaken to make mats on which to dry harvested rice. The human, embodied experience of doing the work to weave mats grounds the expression. The metaphorical use of the expression indicates starting an activity in order to show or teach someone else who to continue an activity. According to Hobongan cultural assumptions as indicated by this expression, education is conducted by showing someone what to do, then allowing that person to do the activity independently.

Nyian puqun lubang kabeng: not to begin a mushroom hole: In this interesting expression, the literal meaning, about beginning a mushroom hole, is grounded in an activity that is rarely, if ever, undertaken. It is used metaphorically to indicate a refusal to follow instructions. The grounding here might be open to debate; presumably, people can begin the mushroom hole, making this an embodied activity, which is why it is in this section. On the other hand, because this is not an activity that is, in fact, undertaken, the grounding has become an abstract conceptualization. (Note that maintaining the use of 'literal' even in expressions that are no longer used literally is important to the analysis: Kittay, 1990; however, embodiment can in some cases be separated from literal use, and this is the case here. Distinguishing between literal and embodied is an

implicit part of this project yet remains to be more fully developed in future projects.)

AT IS HOSTILITY

Po itaq: to each other: This expression is used literally to indicate that animate creatures, not necessarily only humans, are moving toward one another. Grounding for this could be complex, in this case, because it is not clear from the expression which animate creatures are intended; based on the uses, the expression is flexible, and it is included here to apply as many expressions as possible to human embodiment. Used metaphorically, the expression is used to mean fighting or arguing, and it can, in parallel to the flexibility of the literal expression, apply to any creatures that fight, such as dogs.

PART IS WHOLE IS ACTIVITY

Pololengaq: to move wrists: This term literally denotes the activity of moving one's wrists. The wrist is used as synecdoche (the rhetorical device of substituting a part for a whole), and it is used metaphorically to indicate dance. Traditional Hobongan dance is rarely performed at the current time; it has been lost in the conversion to Christianity, and the Hobongan are now afraid to perform the traditional dances lest the evil spirits join the activity. Nevertheless, the expression remains in the language and is now used to describe other forms of dance that are not so predominantly wrist-movements. Following Kittay (1990), I retain the distinction between literal and figurative use, even though the figurative use is more common at this point in Hobongan's history.

2.2 Unexpected Grounding: ABSTRACT CONCEPT IS BODY

In this category, the cline of connections between embodiment and cognition is less straightforward than theories of embodied cognition would suggest. Here, an embodied phenomenon is grounded in an abstract concept, which presents an option toward cognitive embodiment.

FEELING IS BODY

Aba: embarrassment: This term is used literally in Hobongan to refer to the feeling of embarrassment, and it is used figuratively to refer to genitals, either human or animal. It might be tempting to suggest that this term is grounded in the human body, but the expression works the other way around, with the abstract concept of embarrassment being the literal term and the physical body taking the metaphorical use. It might also be suggested for this term and for several below, that this is not a case of grounding of metaphor but of euphemism. However, as noted in the introductory material, metaphor is defined, broadly, as the conceptualization of one domain in terms of another, in which case, euphemism would be a type of metaphor, distinguished from other types of metaphor, and from the literal use of the term by its pragmatic uses.

NEARNESS IS COPULATION

Babang; to be together: This term can be used literally to indicate anything that is conceptualized as a group, usually groupings of animate elements. It can also be used metaphorically to refer to copulation. The use is pragmatically euphemistic.

Botapon: to press on with hands, to layer: This term's literal use refers to any actual act of pressing something with the hands, as with kneading dough. It can also be used to refer to copulation, again euphemistically.

MONTH IS MENSTRUATION

Labiq arit: month's arrival: This term refers to the Hobongan conceptualization of when months begin. It is also used metaphorically, and euphemistically, to indicate menstruation.

VERTICALITY IS STANDING

Toroi: vertical: The final term in this category literally describes a vertical orientation and can be used for anything that has a vertical orientation, such as trees or posts. It can also be used to describe the action of standing up, whether of people or animals.

2.3 Unexpected Grounding: BODY IS BODY

The groundings in this category of metaphorical conceptualizations, although perhaps an unexpected direction toward or source of grounding because the conceptualization is from one human embodied domain to another, can be taken as additional evidence in favor of embodiment. The difficulty arises in the definition of metaphor, in which one domain is supposed to be conceptualized in terms of another; when both domains are human embodiment, there is some question of whether the domains are truly different, or different enough, to function metaphorically. Kittay (1990, p. 291), for example, suggests that unless the domains are distinctly different, there are other figures of speech involved that are not metaphor; how much difference is required to be "distinct" is not entirely delineated. I do not intend to resolve the possible difficulty here, continuing with the analysis in this section because the literal and non-literal references appear to access different aspects of the human embodied domain of conceptualization. Until additional research and analysis can be conducted, I hypothesize that as long as the source and target domains are different in any way, a metaphor can still be constructed. This phenomenon thus access another aspect of non-literal language-as-analogy, that of requiring some aspect to be different, not just of accessing aspects that are in common, as prior research has suggested (Gentner, 2001).

Another difficulty with several metaphorical terms or expressions in this category is that, although death is human and embodied, people who use the terms and expressions in fact do not have an embodied experience of death. How human, embodied metaphors can arise despite humans not having the embodied experience until, presumably, too late to talk about it, is an interesting question, the answer to which might challenge embodiment. Appeals to imagination (what it might be like to die), or to rare events or technology (people rarely come back from a stopped heart or breathing without

technological intervention, and even with it) are inadequate. In the former case, imagination can be powerful, yet, as Nagel (1974) has argued with regard to consciousness itself, humans can never really know what it is like to be someone or something else. Such imagination is necessarily abstractly conceptualized, rather than embodied. In the latter case, the rarity of recovery from some aspects of death and the recency of technology that can restart the motions of hearts or diaphragms do not correlate with the depth of such metaphors in the culture (see the note on 'borakang' below). I hypothesize that the abstracting away (Talmy, 2000) or analogical imagination (Gentner, 2001) that is required to conceptualize what it might be like to die in order to create examples of metaphor such as those in this section could present a significant challenge to embodied cognition if such embodiment is taken to be an exclusive way to reach cognition. The question of how embodied experience must be in order to be considered embodied cognition is therefore not very embodied, another possibility that suggests that cognitive embodiment and embodied cognition are at least a cline.

FALL IS DEATH

Borakang: to fall over: This term is used literally of anything that can be said to fall over, such as a tree, or a child learning to walk, or someone attempting to walk on the slime that coats surfaces in rain forests. It is used metaphorically, and euphemistically, to refer to death. Expressions that refer to death without speaking of death directly are relatively common in Hobongan because there remains a cultural belief that speaking of death invites death. The Hobongan's understanding of the power of death also drives the ongoing taboo of not using individuals' personal names to refer to those people, lest evil spirits be able to identify them to kill them. This term is therefore part of a cultural conceit, or extended metaphor, that exists to accommodate beliefs about staying safe from death.

IMMOBILITY IS DEATH

Nyian pobao paka: not to move from: This expression is used literally with regard to anything that does not move from, such as a boat from a place where it is tied, or a person from home. It is used metaphorically to refer euphemistically to death.

BITTERNESS IS ILLNESS

Pipi koring: bitter body: This expression no longer has a literal use, but in order to be consistent with the material in the language and in this analysis, it is important to retain the distinction between literal and figurative (Kittay, 1990); figuratively, this is an expression that refers to illness. The illness need not be any particular type of illness. I do not have sufficient data at this point in time to determine whether this is one of the many expressions that functions pragmatically to avoid taboo; determining the limits and requirements on the use of this expression remains to future research.

CLOTHING IS DEFECACTION

Puqube ikei: loincloth tail: This expression's literal use is being lost as people use fewer loincloths in favor of shorts and T-shirts, but when a loincloth is used, it can have a tail. In metaphorical use, the expression refers euphemistically to defecation. The comparison between the previous expression, which no longer has a literal use, and this expression, which is losing its literal use, is useful in making a case for continuing the distinction between literal and figurative, even when figurative has become conventional, as well as in suggesting ways in which figures of speech might be useful in diachronic linguistics.

2.4 Unexpected Grounding: CONCEPT IS CONCEPT

This category of conceptual metaphor presents probably the strongest challenge to embodied cognition as an exclusive explanation of figurative language or of the content of human cognition. In this category, non-literal, abstract information is grounded in literal, yet abstract, information. The information is conceptualized and not embodied on either side of the phenomenon of grounding.

IMPERMANENCE IS MISUNDERSTANDING

Nyian kecen: not to last: This expression is used literally with regard to anything that is impermanent and figuratively to refer to misunderstanding; both impermanence and misunderstanding are abstract concepts.

DISTANCE IS FEAR

Tomajuk: distance of one throw: This expression can be used literally to refer to a conceptualized average distance that an adult can throw a small object, or it can be used metaphorically to describe the experience of being spooked by evil spirits. Although the literal meaning might be thought to be embodied because people can have the experience of throwing a small object, distances are always conceptualizations and are based on some average; as another example from Hobongan, 'tatang' means 'shallow', defined in reference to an average adult's height, and shallowness describing liquid that is below the knee-height of that average person. There is much in both examples, about throwing and shallowness, that appears to be embodied, but this should not distract from the fact that a conceptualization of averageness—for the distance and for the height—is required for these terms. How to determine how much of an expression must be embodied in order for it to be considered embodied for the purposes of embodied cognition, and how much can be left to abstraction and conceptualization and therefore challenge embodied cognition is left to future research.

2.5 Unexpected Grounding: ANIMAL IS HUMAN

In this group of terms and expressions, the literal meanings refer to animals, thus grounding the metaphorical semantics in meanings that are not available for human embodiment (Nagel, 1974). Although it might be argued that people can conceptualize what it might be like to be an animal, the imagination required to reach that conceptualization is not embodied, leaving this phenomenon outside the theory of embodiment noted in the introduction.

DOG IS HUMAN

Asu mabuq okun taanga: dog drunk with food: This expression refers literally to any dog who has eaten so much as to be unable to be as active as dogs are culturally expected to be. It is used metaphorically to refer euphemistically to death. It is grounded in observations of animals and analogical reasoning between what animals do and what happens to people.

BIRD IS HUMAN

Buun baba: lip feather: This expression and the following set of expressions about feathers are a productive way to describe different locations of human hair. This one is a lip feather, an expression that is used to denote a moustache. The literal meaning of 'buun' is 'feather', which provides a grounding in avian anatomy.

Buun diko: forehead feathers: Forehead feather refer metaphorically to eyebrows, again grounding human anatomy in avian anatomy.

Buun maton: eye feathers: Eye feathers are eyelashes, grounded as above.

BAT IS HUMAN

Murip kitaq keret: to live like a bat: In an ironic overlap with Nagel (1974), the Hobongan in fact have an expression about what it is like to be a bat. Used when not literally referencing bats' habitats, the expression is used to indicate homelessness, or a lack of a place to go, a lack of destination. A lack of destination is an important gap among people who remain semi-nomadic.

BEE IS HUMAN

Nohon: to be swarmed by bees: This expression can be used literally when discussing being swarmed by bees. Its metaphorical use refers to traveling downriver.

2.6 Unexpected Grounding: PLANT IS HUMAN

In what might be considered another level of demand on human imagination and conceptualization, the Hobongan have a group of expressions that are grounded in ideas about vegetation.

TREE IS HUMAN

Akeq mubu puqot: grandfather is a stump: In a strictly literal sense, this would be a difficult expression to analyze, but in actual, metaphorical use, it refers to dementia, the woodening of the mind, as it were.

Paari leang kiu: relation is distance between trees: In a forest, including a rainforest, trees are spaced according to soil, water, and light resources available, which limit the number of trees that can grow in any given area; this expression refers to a conceptualization of an average forest density, and is used

metaphorically to refer to extended family. It is grounded in an understanding of the ways in which trees grow, and the ways in which trees do not grow.

Upa baba: bark of the mouth: The lips are to the mouth what bark is to trees, in Hobongan. The expression is grounded in observations about the anatomy of trees.

FRUIT IS HUMAN

Bua hakot: foot fruit: In this and the following related expressions, various body parts are identified as fruits of larger units of the human body. Foot fruit is the expression used for toes. The grounding is in the domain of fruit.

Bua longon: hand fruit: Fingers are the fruit of the hand, grounded as above.

Bua tusun: breast fruit: Nipples are the fruit of the breast, grounded as previously.

Luang: seeds: This term is used literally to label the seeds of any plant, and it is used metaphorically to refer to the interior of any body, such as human innards. The term is grounded in the anatomy of seed-bearing structures of plants, such as fruit.

GRASS IS HUMAN

Loa: section of bamboo: This term refers literally to a section of bamboo; used metaphorically, it designates a section of a finger. The grounding is in the growth structures of bamboo.

2.7 Unexpected Grounding: PLACE IS GROUP

There is only one conceptual metaphor in this category (to date), and it accesses a grounding that appears to be fairly common not just in Hobongan but in Indo-European languages, as well.

Danum: land associated with a river system: This term refers literally to a river system and is used by metaphorical extension to refer to the people who live within that system. This is not necessarily unique: Canadians live in Canada, for example. What is interesting in this term is that the grounding is in a certain understanding of what makes natural boundaries and in the fact that that understanding of natural boundaries is used to identify and refer to groups of people. The place makes the people, rather than vice versa, which reinforces the possibility that cognitive embodiment is as important in human cognition as embodied cognition.

2.8 Indeterminate Grounding in Conceptual Metaphors

The direction of grounding is indeterminate in the following examples, largely because of inadequate data. Given some of the patterns noted previously, it is possible to hypothesize about the direction of grounding, and I have indicated

the hypothesized direction by providing the literal possibility prior to the metaphorical possibility, in parallel with the pattern used previously. Resolving the direction of grounding is an intriguing area for future research.

Bolokorong: stem of leaf/human spine

Burung: gourd/stomach

Kurit: peel of fruit/surface

Ngabo: to scratch like a chicken/to dig with the hands

Nobolo: to rise in the air/to arrive quickly

Sikun: elbow/corner

Tami: to sit with the knees up/to be narrow

Uhat: veins/energy/anything long and narrow

3. Discussion, Conclusions

The Hobongan data, as might be possible with a broad overview of metaphorical uses of language in many languages, indicate that metaphor is perhaps not the most effective approach to making a case for embodied cognition; this is not a new point, but it is useful to make the point again in languages that otherwise are not included in examinations of metaphor and embodiment. Although human embodied experience is the most common means for grounding metaphorical expression, it is not the only means. Grounding can be done with other abstract concepts as well as in animal, plant, and geographic domains, all of which suggest that embodiment is not the exclusive source of informing cognition.

Instead, embodiment appears to be only one strategy for informing cognition, with cognition itself being an option. In other words, embodiment is an option rather than a requirement.

Further, it can be argued that even those metaphors that are grounded in human embodiment are in fact grounded in conceptualizations of human embodied experience. Despite Lakoff's theory that conceptual metaphors are usual "imageable" and therefore embodied via the visual sense (Lakoff, 1993, p. 211), this is not necessarily embodied. What people choose to attend to visually, or with other senses, is guided and perhaps in some cases determined by their conceptualizations of what they expect to sense (for example, among many others, Shankar, Levitan, and Spence, 2010, for colors and flavors; Strand, 1999, for speech sounds). It is far from clear, based on studies in cognitive psychology, that even appeals to sensory information are actually embodied; more likely, rather than an embodied cognition, people engage in cognitive, conceptual embodiment. This is an important point in the philosophy of

language, that words, and metaphorical expressions, refer not to things-in-the-world, or to the metaphor-theory version of things-in-the-world—embodied experience—but to conceptualizations (see Perkins, 2009, for a description of the necessity of words referring to concepts from another domain, locational information in narrative fiction).

Hanks (2006) has argued that metaphoricity is gradable, with some expressions being more literal or more metaphorical than others, without an either/or split. The Hobongan evidence, particularly in cases of conventional metaphor, language change, and levels of possible embodiment, accords with the gradability of metaphor in a number of ways. Because metaphor itself appears to be gradable, it is here suggested that the phenomenon of embodiment is gradable, a cline, with some conceptual metaphors providing evidence of a close link between some form of embodiment, even if conceptualized embodiment, and other conceptual metaphors omit any embodiment from either domain of the metaphors. Between the two extremes are a variety of options. Additional research into languages beyond Hobongan could reveal additional complexities in the ways in which humans embody their cognition and cognize their embodiment.

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