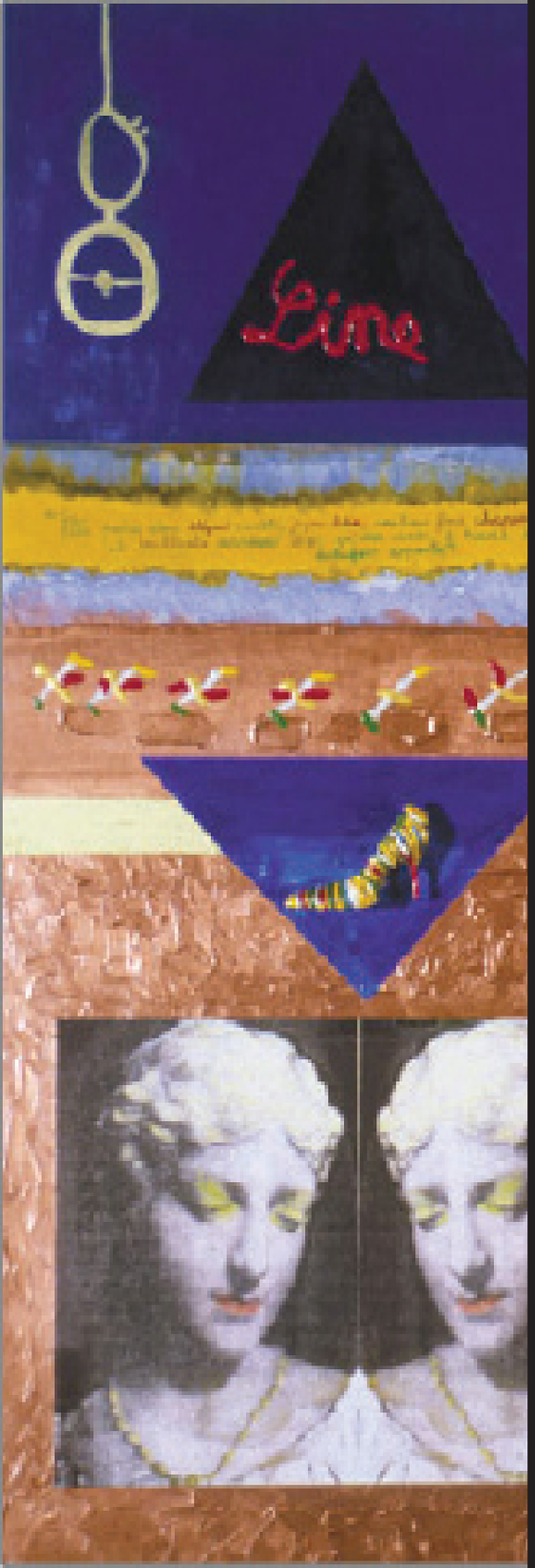

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Language at Its Word:

A Lexical Analysis of Idiomatic Speech

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Abstract

Why do people use idioms, especially given one common assumption that, in order to understand an idiomatic phrase, we must first consider and reject its literal meaning? And why would such figures of speech, presumably requiring extra cognitive effort, be so common? A corpus of speech from physician training groups was analyzed for its use of various figures of speech. The idioms observed in this natural language sample were noted both for their frequency and for the type of lexical items

that appeared in over three-quarters of the idiomatic phrases observed; namely, words that referred to the senses (seeing, hearing, touching, tasting, and olfaction) and space. Based upon the lexical analysis of these naturally occurring idioms, the theory of embodied cognition is offered as one explanation for why speakers might tend to employ certain conventionalized phrases and why they might be so common in the language. One suggestion for future research is to confirm the speech processing relevance of identified lexical categories in idiomatic phrases by observing the performance of accompanying iconic gestures during speech.

Introduction

Why does a speaker decide to use a figure of speech: a metaphor, an idiom, a rhetorical question? Specific fuctions of particular figures of speech were the focus of a study by Roberts & Kreuz (1994), where participants were asked to indicate the functions they believed were performed by eight different types of figurative language: metaphors, similes, hyperboles, rhetorical questions, irony, understatements, indirect requests, and idioms. With one exception, there was relatively high agreement among respondents as to a main function or two for each type of figure. (Participants could designate more than one function.). Of the figures studied, the greatest consensus regarding function was for similes, metaphors, hyperboles, and rhetorical questions, for which 94%, 83%, 82%, and 72% of respondents, respectively, indicated as a goal "to clarify." Ninety-four percent indicated that irony was used to show negative emotion; 75% claimed that understatements function to deemphasize; 64% said that indirect requests show politeness and 64% claimed they are used to guide another's actions. Among the figures of speech studied, idiom**s** elicited the least obvious consensus with regard to pragmatic function. Some goals cited were "to be humorous" (44%),

"to be conventional" (38%) and "to be polite" (38%), suggesting that the functions of idioms are more varied than that of other common figures, and that no single function predominates. It also may be the case that some function(s) of idioms may not be consciously accessible or immediately obvious to language users. This study represents an exploration of a possible function of idioms derived, not from direct queries to language users, but from an analysis of the lexical make-up of actual occurrences of idiom use.

Identifying Idioms

Idioms sometimes are referred to as a special class of metaphors, and are generally defined in contrast to them.[1] In what has become a widely accepted view, I.A. Richards (1936) identified a metaphor as consisting of two terms and the relationship between them. Consider the metaphorical expression: This issue is a bottomless pit. The literal phrase (this issue) is referred to as the topic or tenor, and the phrase being used metaphorically (a bottomless pit) constitutes the vehicle. The relationship between the topic and the vehicle; that is, what makes the metaphor "work," is the ground; namely, some shared feature or features of the topic and vehicle. In this case, both terms of the metaphor share the feature of APPARENT ENDLESSNESS. In the case of the typical metaphor, there is an obvious comparison between two conceptual domains, one of which is being referred to in a literal sense, and one which carries a figurative meaning.

Gibbs (1993) describes the view that at least some idioms are *dead metaphors*; that is, expressions that were once metaphorical, but which have lost their metaphoricity and now exist only as frozen semantic units in a speaker's mental lexicon. So, for example, I might know that when you pull my leg you are teasing me and are not literally tugging on any appendages, but the ground or the relationship that unites the literal

meaning of this phrase with your intended metaphoric meaning is lost to me (assuming such a connection ever existed). In this *dead metaphor* view of idiomatic phrases, the precise etymologies of the phrases are unknown to users (Swinney & Cutler, 1979); they are simply phrases that are being used in a non-literal way. One can, in another context, use that same phrase literally. So, for example, while I may not be aware of the metaphorical grounding that makes over the hill refer to someone who is advanced in age, I could distinguish the alternative literal and idiomatic meanings of the phrase in a sentence like: He couldn't make it over the hill because he's over the hill.

Processing Idioms

One persistent issue has been to determine just how one distinguishes a literal and idiomatic meaning of a phrase. One view holds that, somewhere in the natural history of an idiom's development, it came to be interpreted as a phrasal unit whose figurative meaning was directly stipulated in the mental lexicon and this meaning is retrieved after the word-by-word processing of the literal meaning of the phrase is rejected as inappropriate (Bobrow & Bell, 1973). However, some cognitive scientists (Taylor, 1981; Fiske & Taylor, 2008) claim that our limited information processing capacity motivates us to be *cognitive misers*, attempting to cut corners and to employ cognitive heuristics whenever possible. If so, then why would phrases that apparently require the extra cognitive work of first attempting and then abandoning a literal interpretation in favor of a figurative one be so ubiquitous in our language? One explanation for this conundrum is that we somehow bypass a literal interpretation of an idiom altogether and instead immediately recognize (process) the figurative meaning associated, not with the component words, but the phrase as a whole (Gibbs, 1985). Another view suggests that the literal and idiomatic meanings of a phrase can be processed in parallel (Estill &

Kemper, 1982; Swinney & Cutler, 1979). Indeed, it may be that all three views (word-by-word initial processing, direct phrasal processing, and parallel literal/figurative processing) may each apply – depending upon the given phrase, its component lexical construction, the familiarity of the processor with the idiom, and other variables. Just as they have been found to vary in reported function, idioms may vary in the degree to which they exploit the meaning of their lexical components for a given user.

Varieties of Idioms

Noncompositionality refers to the inability to derive the figurative meaning of an idiom from the meanings of its constituent words. If an idiom is completely noncompositional, its figurative meaning is not a function of the meanings of its parts. Not all idioms are noncompositional. Some idioms may derive their non-literal meaning from their component words. In a number of important contributions to this issue, Gibbs and his colleagues (Gibbs & Nayak, 1991; Gibbs, Nayak, & Cutting, 1989; Gibbs & O'Brien, 1990) have demonstrated that many idiomatic expressions are *decomposable* or analyzable, with the meanings of their parts contributing to their overall figurative meaning. So, for example, when someone pops the question, he or she SUDDENLY (pops) asks for someone's hand in marriage. Idioms of this sort are referred to as *normally decomposable* because each of their components contributes to their figurative interpretations. Nondecomposable or noncompositional idioms, like kick the bucket, exemplify the dead metaphor notion of idioms; that is, their figurative interpretation is not revealed by their component words; rather, they act as "big words." [2]

In another argument against the idea of all idioms as noncompositional or as dead metaphors, it has been suggested that the figurative meanings of many idioms are motivated by underlying

conceptual metaphors, like THE MIND IS A CONTAINER or LIFE IS A JOURNEY (Gibbs & Nayak, 1991; Lakoff, 1987; Nayak & Gibbs, 1990). According to this view, the metaphorical interpretation of idioms is rooted at the level of conceptual metaphors such as these, rather than being derived from in individual word meanings. Although not denying this possibility for certain idioms, Cacciari (1993) maintains that words do have meanings that are computed automatically and the experimental findings of Cacciari and Tabossi (1998) provide evidence that the literal meanings of words remain active during idiom processing, even if they are not relevant to the figurative interpretation of the overall idiomatic phrase.

Justifications for a Lexical Analysis of a Corpus of Idioms

Glucksberg (1993) has suggested that, given the automaticity of the language processing system, as we continue to study idioms, we will find that lexical and syntactic operations during idiom comprehension are ubiquitous. We may not always be able to know for certain which aspects of a given word's multiple meanings may be invoked (or accessible on some level) each and every time that word is used. However, it is logical to assume the possibility of lexical meaning playing some role, even if a secondary or subsidiary one, in the comprehension of idiom meaning. This evidenced by a related phenomenon, the well-known the Stroop Effect.[3]

Gibbs (1993) has pointed out in his article "Why Idioms Are Not Dead Metaphors," that a growing body of research attests to the contributions of individual words to the overall figurative interpretations of idioms (Fillmore, Kay, & O'Connor, 1988; Gibbs & Nayak, 1989; Gibbs, Nayak, Bolton, & Keppel, 1989; Lakoff, 1987; Langacker, 1986; Nunberg, 1978). In addition, he points out that our theoretical generalizations about the nature of idiomaticity have been limited by

the small number of idiomatic phrases considered in research. As we examine the full set of phrases designated as idiomatic, we should find, as Gibbs (1994) has suggested, that their analyzability is a matter of degree and dependent upon on the salience of their components.

Note that many factors can affect a word's salience in a phrase and contribute to the variability of the idiom's analyzability, including the overall linguistic context, conversational pragmatics, and certain speaker/listener characteristics, like familiarity with the idiom (Burgess & Chiarello, 1996). At some point, then, the study of idioms must move beyond the corpus contained in idiom dictionaries to examine and classify idioms produced during discourse in natural settings. Although numerous examinations of spontaneously produced metaphors exist (cf. Glucksburg, 1989), to date, comparable observations regarding idiomatic speech have been lacking in the literature (Attia, 2009; Falck, 2010). This study is an attempt to begin to remedy this oversight.

Metaphorical Meaning and Embodied Cognition

In addition to claiming that metaphor is the main mechanism through which we comprehend abstract concepts and perform abstract reasoning, Gibbs (1994) presents evidence and examples suggesting that metaphorical meaning is grounded in nonmetaphorical aspects of recurring bodily experiences, which he calls *experiential gestalts*. These ideas echo the works of George Lakoff (1987) and Mark Johnson (1987, 1991), who also had proposed that our conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature (cf., Lakoff & Johnson, 1980). They use the term *image schemata* to refer to the recurring, dynamic patterns of our perceptual interactions and motor programs that give coherence and structure to our experience, (Johnson, 1987; Mandler, 1992). From these bodily experiences and interactions with the environment, we develop mental models of concepts

such as verticality, balance, resistance, and containment. These models, then, can be projected by metaphor onto abstract domains.

While these theoretical models, based in part upon examples from metaphoric language, were implicating the role of the body in the creation of abstract meaning, neurological theories and evidence also were beginning to support what eventually became known as *embodied cognition* – the idea that the brain circuits responsible for metaphoric and other types of abstract thinking were closely tied to those that analyze and process sensory and perceptual experiences (Isanski & West, 2010). In 1988, George Lakoff and Jerome Feldman started the Neural Theory of Language (NLT) group at the University of California, Berkeley. A formal description of this theory was outlined by Feldman and Narayanan in 2003. NLT attempts to explain how brain functions work together to understand and learn language. It assumes that people understand actions by subconsciously simulating the appropriate embodied experience. This theory is now supported by an increasing body of evidence that confirms that perceiving language activates corresponding motor or perceptual areas in the brain (Lakoff, 2008). For example, a speaker who describes kicking an idea around would activate the foot area of the primary motor cortex as well as language processing areas in the brain. (See Barsalou, 1999; 2008, Feldman, 2006, and Fischer and Zwaan, 2008 for reviews of the neural evidence that support this claim.)

Spatial Grounding

Whether we call them experiential gestalts, image schemata, conceptual primitives (Jackendoff, 1994), or some similar term, the experiential and embodied grounding that has been noted in so many examples of metaphoric structure often rely upon a reference to spatial domains. Lakoff and Johnson (1980) claim that most of our fundamental concepts are organized in terms of one or more spatialization metaphors. Moreover, there is an overall external systematicity among spatial metaphors. So, for example, general well-being maps onto the spatial domain of UP-DOWN such that HAPPY IS UP, HEALTH IS UP, ALIVE IS UP, etc. Metaphors involving well-being commonly reflect this spatialization, as in my spirits ROSE, or I'm ON TOP of the problem.[4] On the other side of this continuum, one finds phrases such as he FELL ill before he DROPPED dead. Lakoff and Johnson make clear that it is not (necessarily) the case that spatial or physical experience is more basic or more important than emotional, mental, cultural, or other kinds of experience; just that we have a tendency to conceptualize the nonphysical or abstract in terms of the physical. To illustrate, they provide three sentences referring to three domains of experience - spatial, social, and emotional (1980:59):

(1) Harry is in the kitchen.
(2) Harry is in the Elks.
(3) Harry is in love.

The first sentence represents a literal use of the word in. In the second sentence, the use of in relies upon the metaphorical concept that SOCIAL GROUPS ARE CONTAINERS. Similarly, the third sentence spatializes love as a container. The word in and the spatial concept IN do not differ in these examples. Rather, there is one emergent concept IN, one word for it, and two metaphorical concepts employed that spatialize social groups and emotional states.

It is hypothesized here that idioms, like their metaphor siblings,

can serve an important pragmatic function - the grounding of conceptual meaning in bodily experience - and that this experiential focus will be revealed when spontaneously produced idioms are classified according to their lexical components. Unlike metaphors, which can capitalize on this grounding via creative mechanisms, idioms employ conventional word choices to evoke embodied experience. Moreover, it may be that the evolution of the use of these phrases into their conventional or "frozen" role may be driven by the embodied grounding they readily can afford to users of the language. Although speakers may not be aware of this function, idioms may play an important role in communicative expression by contributing conventional phrases that represent basic (and shared) sensorimotor physical experiences. In so doing, they may function as a way to capture the fleeting world of individual experience and abstract conceptualizations and ground it in the similar physical realities of communicators. The bodily experiential lexical domains explored in this study will include sensory (visual, auditory, kinesthetic, gustatory, and olfactory) and spatial lexical items.

Method

Participants

Thirty Balint group sessions, each consisting of at least one leader and several learners (at least three and usually more) were analyzed. In these groups, named after their founder, Michael Balint (1964), troubling doctor-patient interactions are brought up as cases for consideration by the group. In this sample, either medical students or residents learning the Balint group technique presented cases from their ongoing training experiences. Only one learner acted as a presenter in each session. There were a total of six different leaders and approximately

fifteen different learners. (Individual learners could not be distinguished from each other across groups in the archival transcriptions.) The genders of leaders and learners were mixed across groups. In sum, the composition of each of the 30 groups was different, although the same leaders participated in both novice and advanced groups, and many learners participated in more than one group within the novice or advanced categories. Leaders were health professionals with M.D. or Ph.D. degrees and several years of Balint group experience. Learners were either medical students just beginning to see patients in a supervised context and just being introduced to the Balint groups (novice groups, n = 15) or second- or third-year family practice residents who had considerable experience with patients and at least one-year experience participating in Balint groups (advanced groups, n = 15). Participation in these groups was a voluntary aspect of the learners' training experience.

Procedure

An equal number of novice and advanced group transcripts were selected at random from a larger sample identified by the quality and completeness of the archival transcriptions. Each group session on which these transcripts were based lasted approximately one-hour. Participants were aware that they were being recorded.

Five figurative language categories were identified in the transcripts and were tallied separately for the speech of the leaders and the speech of the learners in a given Balint group session, yielding aggregate measures of leader and learner speech for each of the categories. These categories included indirect requests, rhetorical questions, metaphors, similes, and idioms. Only the observations regarding idioms are analyzed and discussed in this study. Following Roberts and Kreuz (1994), a phrase was considered to be an idiom if it was not classified in one of the other categories and if it conveyed a meaning not obtainable from

a literal interpretation; that is, if its literal interpretation was NOT the apparent intended meaning.

Lexical Categorizations

Each of the idioms identified was considered for inclusion in one or more of six categories depending upon the lexical items that made up the idiom. No lexical item could be included in more than one category, but an idiom could be included in as many categories as it contained lexical items.[5] The six categories and their definitions are as follows:

(1) Visual - These lexical items involve seeing or they name body parts used in vision. Color terms also were included; for example, appear, blur, clarify, dark, eyes, focus, peek, peruse, picture, watch, and so on. Words involving the eyes but not vision were not included; for example, cry or mask. Words that sometimes involve vision, but need not in all cases, such as draw, reveal, and project were not included.

(2) Auditory - These lexical items involve speaking or hearing, such as call, chord, discussion, express, noise, quiet, speak, tell, tune, and so on.

(3) Kinesthetic - These lexical items include general terms for bodily experiences (such as feelings, sense, etc.), specific bodily experiences (such as ache, heat, etc), body parts directly related to touch (such as finger, hand, etc.) and predicates probably involving the use of the hands (such as hit, pat, slap, tie, etc.).

(4) Gustatory - These lexical items include words involving the taste organs (e.g., tongue, throat, etc.) or eating behavior (e.g., bite, chew, lick, swallow, etc.). Foods terms were not included.

(5) Olfactory - These lexical items included words involving the nose (e.g., sniffles) or olfaction (e.g., smell).

(6) Spatial - These lexical items indicate a place or position or a

change in place or position. Often, they addressed the question, "Where did it happen?" They included a large set of *locative prepositions*, such as above, across, aside, behind, below, between, down, far, here, into, near, onto, through, under, within, etc.; *verbals* involving a manipulation of space or in space, such as attach(ing), connect(ing), elevat(ing), fall(ing), pass(ing), rais(ing), turn(ing), etc.; *characteristics of space*, such as deep, distant, high, level, low, narrow, open, slanted, upper, wid(er), etc.; *spaces* (or places), such as base, bottom, circle, edge, frame, field, land, path, place, route, side, spot, surface, way, etc.; and *the deictic pronouns*, that (only when functioning as a deictic pronoun), there, these, this, those, and where.

Reliability of the Lexical Classification

THE GUIDELINES FOR THE LEXICAL ANALYSIS OF THE IDIOMS INTO THE SIX designated categories (or not) were formulated on the basis of 24 of the 30 group interactions. The remaining six group interactions were judged by two independent coders for the purposes of estimating the reliability of the coding scheme. Of the 748 idioms identified in these transcripts, 31 items (4%) were overlooked by one of the two coders and were not objects of contention with regard to subsequent categorization. Coders' classifications disagreed on only two items, resulting in a 99.7 % total agreement on the placement of lexical items into the designated categories.

Results

A total of 3,781 idioms were observed, averaging 126 idioms per one-hour group session. Idioms were, by far, the most commonly occurring of the five tropes studied,. (The next most likely of the five figures were rhetorical questions, with an average of 17.9 figures per one-hour session.) Unlike the other four tropes studied, however, the pattern of idiom use was not related to any identified social psychological variables, such as speakers' roles or group expertise, so these comparisons will not be considered further in this work.

Table 1 represents the percent of the total number of idioms spoken by all speakers that contained at least one lexical item in a given category. As can be seen from this column, spatials were the most commonly used category, with over half (52.66%) of all idioms used containing at least one spatial lexical item. This was followed by idioms containing at least one visual lexical item, which comprised, on average, 13.94% of the idioms spoken. A total of 1,088 idioms (28.78% of the idioms uttered) included at least one reference to one of the five senses (visual, auditory, kinesthetic, gustatory, or olfactory).

Visual Idioms

Of the 527 idioms containing a lexical item in the visual category, 348 (66.0%) contained only one visual lexical term, 8 (1.5%) contained two visual terms, and the remainder (171; 32.5%) combined with at least one other lexical item from the other categories. Of these combinations, the visual-spatial combination was the most common (142; 26.9% of all of the visual idioms). Very common in this category were figurative uses of the verb to see. Table 2 contains examples of visual idioms.

Auditory Idioms

Of the 215 idioms containing a lexical item in the auditory category, 131 (60.9%) contained only one auditory lexical term, 3 (1.4%) contained two auditory terms, and the remainder (81; 37.7%) combined with at least one other lexical item from the other categories. Of these combinations, the auditory-spatial was by far the most common (68; 31.6% of all of the auditory idioms). Very common in this category were figurative uses of the phrase sounds like. Table 3 contains examples of auditory idioms.

Kinesthetic Idioms

Of the 333 idioms containing a lexical item in the kinesthetic category, 162 (48.6%) contained only one kinesthetic term, 13 (3.9%) contained two kinesthetic terms, and the remainder (158; 47.5%) combined with at least one other lexical item from the other categories. Of these combinations, the kinesthetic-spatial was by far the most common (120; 36.0% of all of the kinesthetic idioms). In this category, figurative uses of the verbs to feel and to strike were very common. Table 4 contains examples of kinesthetic idioms.

Gustatory and Olfactory Idioms

Twenty-seven idioms contained gustatory lexical items. Of these, 11 (40.8%) contained only one gustatory lexical item, 12 (44.4%) contained a gustatory and a spatial lexical item, and 4 (14.8%) combined gustatory with auditory or visual lexical items. The lower part of Table 3 contains some examples of gustatory idioms. Ten idioms contained

olfactory lexical items; six of these were from one group interaction where references to runny noses and sniffles were used figuratively. Only one spatial-olfactory idiom, wake UP and SMELL the roses, was used in a recognizably conventional sense.

Spatial Idioms

Of the 1,991 idioms containing a lexical item in the spatial category, 1,218 (61.2%) contained only one spatial term, 307 (15.4%) contained two or, in a few cases, three spatial terms, and the remainder (466; 23.4%) combined with at least one other lexical item from the other categories. Of these combinations, spatial-visual (142) and spatial-kinesthetic (123) were the most common (7.1% and 6.2% of all spatial idioms, respectively). As indicated above, spatial lexical items commonly combined with all other categories. This is not surprising, considering that so many spatial lexical items are prepositions, and many idiomatic phrases are prepositional phrases. Most of the examples of idioms combining spatial lexical items with one or more lexical items from another category or categories appear in Tables 2, 3, and 4. Table 5 primarily lists examples of idioms containing only spatial lexical items. It also should be noted that certain verbs commonly combined with spatial lexical items to create idioms. Four verbs that were notable in this regard and some of their idiomatic spatial possibilities were:

come (in, up, on, across, around)
get (along, across, it out, ahead, back, right on it, that, over, up, out of it, it out of)
take(n) (aback, on, off, off guard, this step)
step (in, out, away, back, down).

It is obvious from certain items on this list and in Table 5 that many spatial idioms have alternative literal meanings that are commonly used. So, for example, you can go downhill in your appearance and character

as well as in your car or on skies. Recall that only idiomatic uses of these phrases were considered in this sample. That is, if an item appearing in these examples was employed by a speaker in its literal sense, it was not counted when it carried a literal connotation.

Discussion

Idiomatic Speech Observations

As expected, a large proportion (over three-quarters) of the idioms observed here contained lexical references to the basic (and shared) physical experiences of sensation and space. It is proposed that these lexical choices suggest a certain pragmatic function; namely, to ground language's abstract meanings in the physical realities of the communicators. Particularly compelling are the frequent references to space (over one-half of all the idioms uttered), as if speakers are trying to place ideas into the world around them.[6] As such, spatial idioms act like a kind of verbal sign language; in fact, one can easily utter most of them with appropriate accompanying gestural illustrators (Ekman & Friesen, 1969). It would be interesting to determine if spatial idioms have a greater tendency to be accompanied by such gestures than do non-spatial idioms or literal phrases containing the same lexical items. If so, it also would be fruitful to examine the precise synchrony of the utterance and the nonverbal illustrator as possible indicators of the sequencing of production processes.

Iconic Gestures

Research on hand gestures to date has demonstrated that this channel of communication can perform several different functions, including pacing or emphasis (*beats),* providing self-comfort (*self-adaptors*), and performing social tasks, such as inviting another person to speak with a *summoning* gesture or inhibiting turn-taking with an *attempt-suppressor* (Duncan, 1972; Ekman & Friesen, 1969; McNeill, 1992, and Rimé & Schiaratura ,1991). Of greatest interest here would be the four major types of gestures that perform a semantic function; that is, those that bear some relationship to the word meaning conveyed in the verbal channel of communication: *emblems*, which are distinguished by their ability to replace the verbal channel and which, like spoken language, are learned and culturally dependent; *deictics,* or pointing gestures, which may indicate a present person or object or refer to an absent person or object or even a concept that a speaker indicates by marking it with a gesture in the gesture space, *iconics,* which, by definition, depict something concrete and *metaphorics,* which depict something conceptual. In functional - cognitive linguistics, as well as in semiotics, *iconicity* refers to the perceived similarity or analogy as opposed to the arbitrariness between a form of a sign (linguistic or otherwise) and its meaning. As such, the notion of a gesture's iconicity is particularly relevant to the categories of iconic and metaphoric gestures, since these are the categories most closely allied with accompanying word meaning, whether concrete (iconic) or abstract (metaphoric).

From a psychological vantage point, one could measure the iconicity of a gesture or the resemblance (isomorphism) between the gesture and what it depicts from the observer's point of view. Iconicity could vary as a function of how readily the meaning of the gesture is recognized and/or to the degree to which the gesture's meaning is agreed upon by observers. In short, the iconicity of any semantic gesture could vary in degree and as a function of the observer and the culture.

Highly iconic gestures would be quickly recognized and would have high agreement among observers as to their specific meanings. So, for example, a cutting movement in front of and across one's throat might be widely recognized across persons and cultures as "cut it out" or "kill it."

Gestural Clues to Lexical Processing

In addition to observing patterns of lexical choices among naturally occurring idioms as possible evidence for experiential grounding then, one might draw inferences regarding the nature of a speaker's cognitive processes from his/her accompanying hand gestures. More specifically, if a phrase has two possible meanings, a word-by-word literal meaning and an alternative idiomatic meaning captured by the phrasal unit, one might infer some degree of lexical (literal) processing whenever simultaneously performed gestures iconically represent the literal or word meaning.

Figure 1. represents an example of such a spontaneously produced gesture, wherein the speaker moved her hand over her head immediately before the utterance of the idiomatic phrase in the sentence: "It went right over their heads." Future research should address the incidence of such iconic displays during idiomatic speech, particularly as a function of other features of the idiom (for example, its degree of apparent noncompositionality and the nature of its lexical components). It also would be of interest to compare the frequency and type of iconicity of gestures during the use of literal and idiomatic phrases.

Other Considerations

It should be kept in mind that these observations were of speakers who were task-focused users of the language. The purpose of Balint groups was to explore verbally the case presented to them and to attempt to illuminate the relationship between the presenter and his or her patient. As such, this speech may differ in its reliance on idiom use from other kinds of speech, such as that which occurs spontaneously between two or more speakers or that which occurs during a speech or lecture.

Yet another consideration is that the preponderance of idiomatic phrases employing spatial lexical items may prove to be idiosyncratic to the English language. In discussing the problematic role of particles and prepositions for Natural Language Processing, Talmy (1985:105) points out that English may be unique among Indo-European languages in its tendency to regularly position satellites (particles) and prepositions next to each other in a sentence.[7] It would be interesting to examine and compare the lexical construction of idiomatic phrases in languages that are more highly inflected in their structure than English.

Conclusion

What we know from these observations of naturally occurring idiomatic speech is that speakers frequently choose to speak idiomatically and in a form that regularly makes reference to basic bodily experiences at a lexical level. The tendency for a particular phrase to become conventionalized and frozen in speech and for speakers to eschew a literal meaning for an idiomatic one may ultimately be a function of the ability of that phrase to activate a perceptual schema in its lexical construction and/or in the ease with which those lexical components can be experienced in the movements of the speaker. From a pragmatic and social psychological vantage point, we might posit that speakers who are

motivated to cultivate a shared experience with their listeners might be more likely speak idiomatically than speakers who were not so motivated. By continuing to examine idiomatic speech in ongoing discourse, we may, like the fish who comes so late to discover water, be newly discovering the pervasive bodily gestalts that so frequently seep into our language, even when we think we're saying something else.

Table 1

Percent of Speakers' Idiom Use in Each Lexical Domain

Sensory/Spatial Lexical Domain	Percent of Idioms with at Least One Lexical Item in a Given Domain
Visual	13.94%
Auditory	5.68%
Kinesthetic	8.81%
Gustatory	0.71%
Olfactory	0.26%
Spatial	52.66%
Total Percent of Idioms With At Least One Sensory or Spatial Item	82.06%

NOTE: Total N of idioms = 3,781.

Table 2

Sample Visual Idioms

see the light (visual-visual)
see what I mean
see what you're saying (visual-auditory)
see how I felt (visual-kinesthetic)
see where it takes you (visual-spatial)
let's see
short-sighted
cast a blind eye (visual-visual)
blind to it
move the focus
clear-cut
get a clear picture (visual-visual)
recall very clearly (cognitive-visual)
colors our perception
watches what she eats (visual-gustatory)
reading between the lines (visual-spatial-spatial)
looking on the bright side (visual-spatial-visual-spatial)
point of view (spatial-visual)
out of sight (spatial-visual)
pull the wool over your eyes (spatial-visual)
in my mind's eye (spatial-visual)

Table 3

Sample Auditory Idioms

rings true
so to speak
sounds like
resonates for me
call the shots
hear what you're saying (auditory-auditory)
how quiet we're all feeling (auditory-kinesthetic)
off on a bad note (spatial-spatial-auditory)
tone that down (auditory-spatial-spatial)
crying out loud (auditory-spatial-auditory)
hear her out (auditory-spatial)
call you up (auditory-spatial)

Sample Gustatory Idioms

gives you a taste
ego gets fed
starve a cold
bite your ankle
slip of the tongue
eating himself up (gustatory-spatial)
chewed out (gustatory-spatial)
feeds into (gustatory-spatial)
nipping at your heel (gustatory-spatial)
sweeten up (gustatory-spatial)
sour note (gustatory-auditory)
sweet talk (gustatory-auditory)

Table 4

Sample Kinesthetic Idioms

cold cash
warms my heart
warming up to her (kinesthetic-spatial)
strikes me
strikes a chord (kinesthetic-auditory)
give me good strokes
touched me
touch of sadness
touched on (kinesthetic-spatial)
touch base (kinesthetic-spatial)
in touch (spatial-kinesthetic)
wash my hands of it
on the other hand (spatial-kinesthetic)
get the upper hand (spatial-kinesthetic)
hat in hand (spatial-kinesthetic)
heavy hands (kinesthetic-kinesthetic)
put your finger on it (kinesthetic-spatial)
under my thumb (spatial-kinesthetic)
under my skin (spatial-kinesthetic)
hold dear
hold up their end (kinesthetic-spatial-spatial)
hold things together (kinesthetic-spatial)
weight of the evidence
weighing on her mind (kinesthetic-spatial)
gravity of the situation

Table 5

Sample Spatial Idioms

bubble up	on the right track (spatial-spatial)
buck up	on the straight and narrow (sp.-sp.-sp)
butter him up	on her merry way (spatial-spatial)
bark up the wrong tree	pissed off
clean up	put off
fix me up	off the wall (spatial-spatial)
follow up	right off the bat
keeping up with the Joneses	blow off steam
make up	acting out
measure up	flat out (spatial-spatial)
open up (spatial-spatial)	help out
pick up	rule that out
shut up	running out on me (spatial-spatial)
throw up	out in left field (spatial-spatial-spatial)
used you up	smoking it out
wrap up	out of circulation
up on a pedestal (spatial-spatial)	out of the picture
bringing us down	walk over
dragging us down	bend over backwards (spatial-spatial)
nail down	under a lot of stress
pin down	under control
put down	kept my distance
put your foot down	making ends meet
down the primrose path (spatial-spatial)	blow them away
down in the dumps (spatial-spatial)	raise hell
turn in his grave (spatial-spatial)	go through the motions
plug you in	beyond me

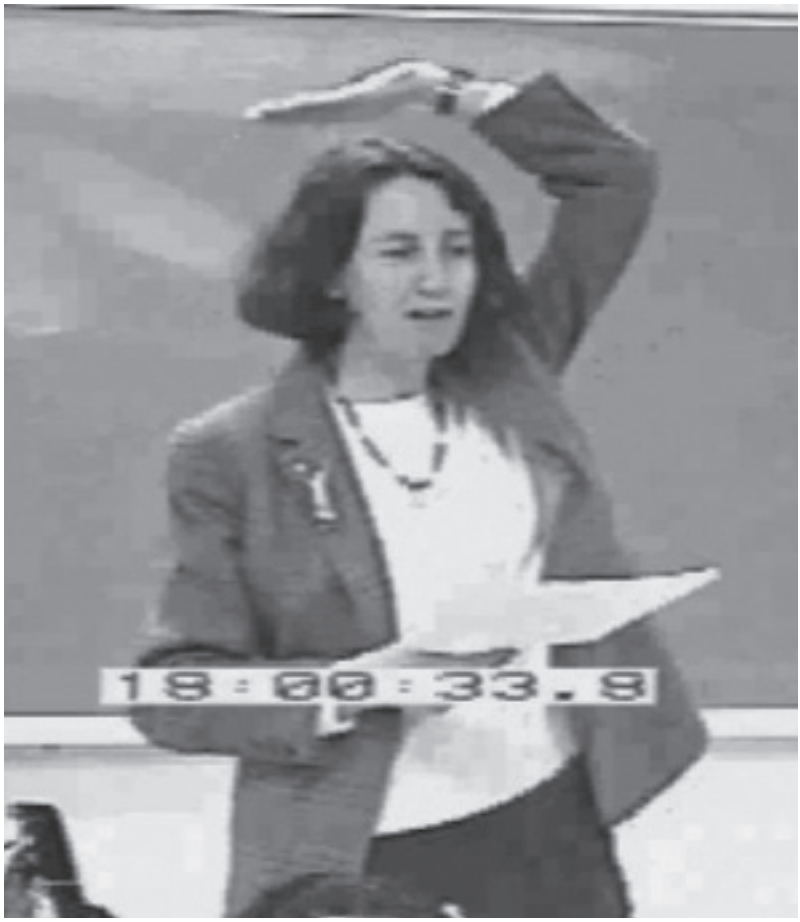
Table 5

Sample Spatial Idiom

squeeze you in	turn the tables
following in his father's footsteps	hide behind
put her in her place (spatial-spatial)	keep afloat
dropped into	go downhill
dig into ourselves	push to the brink
blend into the woodwork	bottom line (spatial-spatial)
falls into place (spatial-spatial)	get to the bottom of
on and off	from top to bottom (sp.-sp.-sp.-sp)
on and on	going around in circles (sp.-sp.sp.)
on the surface	along those lines (sp.-sp.-sp.)
on the table	getting to the point (spatial-spatial)
on some level	beneath/below the surface (sp.-sp)

Figure 1.

Spontaneous gesture accompanying the idiomatic phrase "it went right over their heads."



Endnotes

1. It is not uncommon for some authors to use the term *metaphor* more broadly, such that it includes what others would more precisely label as an *idiom*.

2. See Gibbs, 1994, for a good review of the analyzability of idioms and idiom comprehension. Note also that what were once decomposable idioms may become nondecomposable over time if, as the world changes, the *ground* that originally provided the connection between the *topic* and the *vehicle* is lost.

3. Stroop (1935) was the first to demonstrate that it is difficult to look at a word and not think of its meaning. He presented color terms printed in a variety of colors to research participants. Under such circumstances, research participants had slower reaction times and made more errors in naming the color in which the word was printed when that color differed from the color term they were reading; that is, they took longer and made more errors naming the blue print color of the word "red" than that of the word "blue," suggesting semantic interference.

4. Notice that these authors label phrases as *metaphors* that would be more precisely defined here and elsewhere as *idioms*.

The *Idiom Coding Manual* with a list of decisions regarding lexical items that were included or rejected for inclusion is available from the author.

6. Foer (2011) details his efforts to become a "competitive mnemonist" and compete in the USA Memory Championship, primarily by relying on techniques related to the 5th Century Greek poet Simonides of Ceos' "memory palace" approach. Memory could be greatly enhanced, Simonides discovered, by imagining a familiar building, filling it with imagery related to whatever needed to be recalled, and then simply imagining walking through that building. Great feats of verbal and numeric memory have been performed by relying on spatial and imagistic memory, with which we, as a species, are much more skilled. Foer details the argument that, as hunter-gathers, we evolved with a greater reliance on skills for remembering food and shelter spatial locations than on memory for words or numbers. Perhaps our superior spatial memories might somehow be related to our apparent preference for spatial references in figurative language as well.

7. See Machonis (2010) for a good review of English phrasal verb types and similar multi-word phrasal expressions, especially those with prepositional constructions.

References

Attia, M. F. 2009. Review of 'Metaphor in discourse'. *Metaphor and Symbol*, 24: 263-265.

Barsalou, L.W. 1999. Perceptual symbol systems. *Behavioral and Brain Sciences,* 22: 577-609.

_____ 2008. Grounded cognition. *Annual Review of Psychology,* 5: 617-645.

Bobrow, S. and Bell, S. 1973. On catching on to idiomatic expressions. *Memory and Cognition,* 1: 343-346.

Burgess, C. 1996. Neurocognitive mechanism underlying metaphor comprehension and other figurative language. *Metaphor and Symbol,* 11: 67-84.

Cacciari, C. 1993. The place of idioms in a literal and metaphorical world. In *Idioms: Processing, structure, and interpretation*, ed. C. Cacciari and P. Tabossi, 27-55, Hillsdale, NJ: Lawrence Erlbaum Associates.

Cacciari, C. and Tabossi, P. 1988. The comprehension of idioms. *Journal of Memory and Language,* 27: 668-683.

Duncan, S. 1972. Some signals and rules for taking speaking turns in conversations. *Journal of Personality and Social Psychology*, 23: 283-292.

Ekman, P. and Friesen W. 1969. The repertoire of non-verbal behavior: Categories, origins, usage, and coding. *Semiotica*, 1: 49-98.

Estill, R. and Kemper, S. 1982. Interpreting idioms. *Journal of Psycholinguistic Research,* 11: 559-568.

Falck, M.J. 2010. Book Review: Metaphors dead and alive, sleeping and walking: A dynamic view. *Metaphor and Symbol,* 25: 114-121.

Fischer, M. H. and Zwaan, R.A. 2008. Embodied language: A review

of the role of the motor system in language comprehension. *The Quarterly Journal of Experimental Psychology.* 61: 825-850.

Fiske, S.T. and Taylor, S.E. 2008. *Social cognition: From brains to culture*. Boston: McGraw-Hill.

Fillmore, C., Kay, P., and O'Conner, M. 1988. Regularity and idiomaticity in grammatical constructions: The case of *let alone*. *Language*, 64: 501-538.

Foer, J. (2011). *Moonwalking with Einstein: The art and science of remembering everything.* New York: Penguin Press.

Gibbs, R.W. 1985. On the process of understanding idioms. *Journal of Psycholinguistic Research,* 14: 465-472.

_____ 1993. Why idioms are not dead metaphors. In *Idioms: Processing, structure, and interpretation*, ed. C. Cacciari and P. Tabossi, 57-77, Hillsdale, NJ: Lawrence Erlbaum Associates.

_____ 1994. *The poetics of mind*. Cambridge: Cambridge University Press.

Gibbs, R. W, and Nayak, N. P. 1989. Psycholinguistic studies on the syntactic behavior of idioms. *Cognitive Psychology*, 21: 100-138.

_____ 1991. Why idioms mean what they do. *Journal of Experimental Psychology: General*, 120: 93-95.

Gibbs, R.W., Nayak, N.P., Bolton, J., and Keppel, M. 1989. Speakers' assumptions about the lexical flexibility of idioms. *Memory and Cognition*, 17: 58-68.

Gibbs, R.W., Nayak, N.P., and Cutting, C. 1989. How to kick the bucket and not decompose: Analyzability and idiom processing, *Journal of Memory and Language*, 28: 576-593.

Gibbs, R.W. and O'Brien, J.E., 1990. Idioms and mental imagery: The metaphorical motivation for idiomatic meaning, *Cognition,* 36: 35-68.

Glucksberg, S. 1989. Metaphors in conversation: How are they understood? Why are they used? *Metaphor and Symbolic Activity*, 4: 125-143.

_____, 1991. Beyond literal meanings: The psychology of allusion. *Psychological Science*, 2: 146-152.

_____, 1993. Idiom meanings and allusional content. In *Idioms: Processing, structure, and interpretation*, ed. C. Cacciari and P. Tabossi, 3-26, Hillsdale, NJ: Lawrence Erlbaum Associates.

Isanski, B. and West, C. 2010. The body of knowledge: Understanding embodied cognition. *Observer*, 23: 14-18.

Jackendoff, R. 1987. On beyond zebra: The relation of linguistic and visual information. *Cognition*, 26: 89-114.

_____. 1994. *Patterns in the mind. Language and human nature*. NY: HarperCollins.

Johnson, M. 1987. *The body in the mind*. Chicago, IL: University of Chicago Press.

_____ 1991. Knowing through the body. *Philosophical Psychology*, 4: 3-18.

Lakoff, G. 1987. *Women, fire, and dangerous things. What categories reveal about the mind*. Chicago, IL: University of Chicago Press.

_____ . 2008. The neural theory of metaphor. In *The Cambridge handbook of metaphor and thought,* ed. R. W. Gibbs, 17-38, Cambridge: Cambridge University Press.

Lakoff, G. and Johnson, M. 1980. *Metaphors we live by*. Chicago, IL: University of Chicago Press.

Langacker, R. 1986. *Foundations of cognitive grammar*. Stanford, CA: Stanford University Press.

Machonis, P. 2010. English phrasal verbs: From lexicon-grammar to Natural Language Processing. *Southern Journal of Linguistics*, 34: 21-48.

Mandler, J. 1992. How to build a baby - 2. *Psychological Review*, 99: 587-604.

McNeill, D. 1992. Guide to gesture classification, transcription, and distribution. *Hand and mind: What gestures reveal about thoughts.* Chicago, IL: The University of Chicago Press.

Nayak, N.P. and Gibbs, W.R. 1990. Conceptual knowledge in the interpretation of idioms. *Journal of Experimental Psychology: General*, 119: 115-130.

Nunberg, G. 1978. *The pragmatics of reference*. Bloomington, Indiana University Linguistics Club.

Pollio, H.R. and Barlow, J.M. 1975. A behavioural analysis of figurative language in psychotherapy: One session in a single case-study. *Language and Speech*, 18: 236-254.

Richards, I.A. 1936. *The philosophy of rhetoric*. New York: Oxford University Press.

Rimé, B. and Schiaratura, L. 1991. Gesture and speech. In *Fundamentals of nonverbal behavior*, ed. R.S. Feldman & B. Rimé , 239-281. Cambridge: Cambridge University Press.

Roberts, R.M. and Kreuz, R.J. 1994. Why do people use figurative language? *Psychological Science*, 5: 159-163.

Sapir, J. D. 1977. The anatomy of metaphor. In *The social use of metaphor*, ed. J.D. Sapir & J.C. Crocker, Philadelphia, PA: University of Pennsylvania Press.

Scheingold, L. 1988. Balint work in England: Lessons for American family medicine. *Journal of Family Practice*, 26: 315-320.

Stock, O., Slack, J. and Ortony, A. 1993. Building castles in the air. Some computational and theoretical issues in idiom comprehension. In *Idioms: Processing, structure, and interpretation*, ed. C. Cacciari & P. Tabossi, 229-247, Hillsdale, NJ: Lawrence Erlbaum Associates.

Stroop, J. R. 1935. Studies of interference in serial verbal reactions. *Journal of Experimental Psychology*, 18: 743-762.

Swinney, D. A. and Cutler, A. 1979. The access and processing of idiomatic expressions. *Journal of Verbal Learning and Verbal Behavior*, 18: 523-534.

Talmy. L. 1985. Lexicalization patterns: Semantic structure. In *Lexical forms in language typology and syntactic description*, ed. T. Shopen, 57-149. NY: Cambridge University Press.

Taylor, S. E. 1981. The interface of cognitive and social psychology. In *Cognition, social behavior, and the environment,* ed. J. Harvey, 189-211. Hillsdale, NJ: Erlbaum.