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"Because It Sounds Right": A Guiding Light of Speaker Knowledge

Diana Van Lancker Sidtis[1*]

[1] Department of Communicative Sciences and Disorders, New York University, New York, NY, USA

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Abstract

Approaches to second language teaching have included continuous exposure, grammar lessons, and a various combinations of these methods. Recent studies highlight specific, detailed knowledge, in speakers of a language, of the phonetic and structural information of many kinds of phrases. These include formulaic expressions (idioms, proverbs, conversational speech formulas, expletives), lexical bundles (sentence stems, conventional expressions, discourse organizers), and collocations (a range of other unitary, multiword expressions). These exemplars share the feature of familiarity: they are known and recognized by speakers of a language, and stored in mental representation with their concomitant features of structure, phonetic and prosodic shape, meaning, and use. In addition, the linguistic sciences currently advance the perspective that language competence is constituted by knowledge of constructions at various levels of abstraction, implying a larger role of memory in language competence than previously understood. Performance by persons with neurological disorders reveals specific effects on production of these kinds of phrases. Given the putatively extremely large repertory of known, stored expressions and constructions that have been shown to constitute language representation, a guiding principle of speaker use might be that the expression sounds right, implying special importance to listening exercises in second language learning.

Keywords

Familiar phrases, formulaic language, memory for utterances, model of language

1. Introduction

The alert listener, being properly primed, will frequently observe recurrent, apparently unitary expressions in everyday language use (Butler, 1997; Moon, 1998; Kuiper, 2004, 2009; Pawley & Syder, 1983; Fillmore, 1979), expressions that are recognizable as "known" or familiar, as traces in long term memory. This array has known many terms and classifications (Wray, 2002; Carrol & Conklin, 2019).

In this essay, an easy labeling is utilized, forming three categories: formulaic expressions (conversational speech formulas, idioms, expletives, pause fillers, sayings); lexical bundles (sentence initials and connecting phrases) and collocations (please see Figure 1). Items in these classes have in common that they are known to speakers. They differ in features of meaning.

The ubiquity and number of these familiar expressions in all of discourse casts a thin veil of suspicion on the full explanatory value of the grammatical-rule-and-lexical-unit orthodoxy, the standard view of the cognitive science revolution in the 1950s (e.g., Chomsky, 1975). Several disciplines in the language sciences point to a different version of the language faculty as adjunctive to the generative view. Observations in second language learning, psychology of mental representation, speech perception, the development of construction grammars, and neurolinguistic findings all lend support to the notion that much of language competence rests on manipulation of episodically stored phrasal material. What native speakers know much of the time is when an expression sounds right.

2. The First and Second Language Learner

Learning a second language yields compelling anecdotal support for the "sounds right" guideline. Take the case of German. While grammatical rules are helpful to the learner, on questioning, they do not appear to function at all in the minds of native speakers. The first example arises from nouns in *-schaft*, cognate with the English morpheme *-ship*, as in *Sponsorschaft, sponsorship*. Nouns with this suffix are always feminine. Given three genders, where many nouns, including common ones (*air, chair, bed, bread*), are not phonologically or semantically marked for gender, and where determiners, relative pronouns and adjectives must conform to gender (as well as case and number), the presence of a morphological marker signaling gender on any word offers a palpable blessing to the second language speaker. An informal survey of persons whose mother tongue is German revealed that none of them had any idea that affixing *-schaft* to a word yields, in all instances, a feminine noun. To a person, they were surprised by this information. A common response was to mentally access and verbally list words in *-schaft* (*Leidenschaft, Wirtschaft, Mannschaft*) to self-verify this claim. One might conclude that to the native speaker, nouns "sound right" when spoken and declined with their appropriate gender (case, and number), and that this is operational for each and every noun.

An even more compelling instance arises from contemplating the dative plural in German. As everyone who has read Mark Twain's (1880) "The awful German language" will quickly grasp, the definite article forms are challenging to the nonnative speaker (Twain associates this challenge with candidacy for a lunatic asylum), but the manifestation of the dative plural is the most remarkable. Here is the paradigm from Twain's essay:

- SINGULAR
  - Nominative -- Mein gut**er** Freund, my good friend.
  - Genitive -- Mein**es** gut**en** Freund**es**, of my good friend.
  - Dative -- Mein**em** gut**en** Freund, to my good friend.

- Accusative -- Mein**en** gut**en** Freund, my good friend.

- PLURAL
  - N. -- Mein**e** gut**en** Freund**e**, my good friends.
  - G. -- Mein**er** gut**en** Freund**e**, of my good friends.
  - D. -- Mein**en** gut**en** Freund**en**, to my good friends.
  - A. -- Mein**e** gut**en** Freund**e**, my good friends.

Focusing on the underscored, third line of the plural portion, *Mein**en** gut**en** Freund**en**, to (*or *for) my good friends*, one sees that an "*n*" is appended to the noun. This always happens to any word that doesn't already have a "*n*" in the plural (some do, as "*n*" forms the plural for many nouns). One might wonder whether native German speakers actually produce this miniscule, redundant element for this minor, oblique case. The answer is, anecdotally observed over many years in Germany, *yes*. Why do they do this? Do they think analytically about what is correct in the dative plural (as the second language learner must do)? This is vanishingly unlikely. They pronounce this form because, when expressing the meaning of "to" or "for" on a plural noun, it sounds right.

It can be argued that the "rules" for predictable noun genders and the plural dative rule, described above, have a presence in implicit memory, and are therefore not expected to arise into awareness, or explicit knowledge, where declarative and semantic memories reside. The process of moving from implicit to explicit knowledge has been experimentally demonstrated (Rose, Haler, & Büchel, 2010). While acknowledging the validity of this distinction in memorial processes (Whittlesea, 1987), in this essay, it is proposed that knowledge of language is constituted in large part by familiarity with an extensive repertory of phrases and phrase-types. Implicit memory stores phrases with their native sound and shape.

3. Psychology: Mental Representation

Speakers' knowledge of familiar expressions, in particular, idioms, conversational speech formulas, proverbs, and schemata (e.g., *"Down with _____"*) (Lyons, 1968) has been probed using a range of methods. Listening and survey studies suggest that familiar phrases are stored as mental traces. When presented with ditropic (Note 1) sentences as stimuli, listeners distinguished formulaic from identically worded literal exemplars from the acoustic signal, with no other context (Van Lancker & Canter, 1981; Van Lancker Sidtis, 2003). Transcription accuracy was higher for familiar than matched novel expressions, presented auditorily with noise (Rammell, Pisoni, & Van Lancker Sidtis, 2018). In several written surveys, using a range of familiar and matched novel stimuli, participants correctly and consistently entered expected words in the blanks of formulaic expressions and schemata (Clark, 1970; Van Lancker & Rallon, 2004; Van Lancker Sidtis et al., 2012), while providing an array of various words in the matched novel expressions.

Proverbs (Hallin & Van Lancker Sidtis, 2017) and idioms (nonliteral exemplars of ditropic sentences; Van Lancker, Canter, & Terbeek, 1981) are spoken faster than matched novel expressions, suggesting

greater phonological coherence (Lin, 2010). Similarly, on-line reading of familiar expressions was faster and more accurate when performing judgement tasks (Siyanova-Chanturia, Conklin, & Van Heuven, 2011; Tabossi, Fanari, & Wolf, 2009; Conklin & Schmitt, 2008). This sampling of psycholinguistic studies comparing processing of familiar and matched novel phrases leads to the conclusion that familiar expressions are stored and processed as unitary, known entities, or chunks (Simon, 1974).

Introspection was the exclusive source of evidence for building grammatical models over many decades. The target was the "well-formed sentence", and the status, well- or ill-, was determined by "ideal" native speaker agreement (an earlier application of "*it sounds right*"). Accessing personal, idiosyncratic intuition in greater detail leads can also be illuminating. When unable to think of a specific expression or phrase, phonetic and formal shaping of the desired verbal object emerges, including initial sound, number of syllables, types of syllables (heavy, light), number and "size" of words, phrasal accent, and construction shape. Giving credence to this intuited experience are studies of the tip of the tongue phenomenon *(*Brown, 1991; *Brown & McNeill, 1966; Schwartz, 2006).* These comments imply that a considerable quantity of verbal material is stored in mental representation in canonical form.

4. Speech Perception Research

As a departure from earlier views of speech perception, whereby the signal was believed to be "normalized" by the listener so that underlying linguistic elements could be "abstracted", studies conducted over the past few decades reveal that voice and other phonetic information in speech are processed and retained (Pisoni, 1993, 1997; Goldinger, Pisoni, & Logan, 1991). These views are referred to as exemplar-based encoding into long-term memory, proposing that speech perception processes episodic instead of, or along with analytic data. Rather than discard "surface" auditory material, listeners establish implicit memory for speaker information such as gender, dialect, rate of speaking, mood, and affect (Goldinger, 1996; Nygaard, Sommers, & Pisoni, 1994).

Similar results for phrasal information have been reported showing structural preferences following exposure to written texts (Luka & Choi, 2012) and verbatim memory of discourse material (Gurevich, Johnson, & Goldberg, 2010; Kim, 2018; Schwartz & Witherspoon, 1974; Shepard, 1967; S˘ipos˘, 1964). These and related findings have led some speech scientists to propose that language knowledge is comprised of pairings of stored form and function, a model of language called Construction Grammar (Goldberg, 2006, 2013). A complete compendium of English construction-types was enumerated by Francis (1958). In the modern approach, constructions constitute "prototypical exemplars and conventionalized extensions" (Goldberg, 2013, p. 16) and "conventional, learned form-function pairings at varying levels of complexity and abstraction" (p. 27). Constructions can appear at different levels of abstraction (Bybee, 2012; Jackendoff, 2013), and specific words can appear in some constructions. Hopper (2004) allows for various lexical forms in some kinds of constructions, and the structure of constructions itself is open and liable to variations. The construction that is not open is an

idiom; collocations that have become frozen have been said to transition into idioms (Buerki, 2016; Bolinger, 1976, 1977). The schema, allowing for the insertion of a novel word in a fixed expression, provides an example of a partially open idiom (Lyons, 1968; Van Lancker Sidtis, Kougentakis, Cameron, Falconer, & Sidtis, 2012; Pullum, 2004). Formulaic expressions (Van Lancker, & Rallon, 2004; Wray & Perkins, 2000), lexical bundles, and collocations (Note 2) (Renouf & Sinclair, 1991; Sinclair, 1991; Mackin, 1978) make up a vast repertory of the speakers' language competence; speakers know them and they know when they sound right.

5. Neurolinguistic Evidence

The cerebral hemispheres reveal differences in how they modulate many aspects of behavior (McGilclhrist, 2009, Myers, 1998; Joanette, Goulet, & Hannequin, 1990; Brownell, Gardner, Prather, & Martino, 1995; Titone, 1998). Evidence is strong that some sets of familiar expressions are stored and accessed from the right hemisphere, where patterns and Gestalts are preferred, and processed by the basal ganglia as holistic motor gestures. Studies focusing on formulaic expressions (conversational speech formulas, idioms, pause fillers) and lexical bundles show diminished proportions in spontaneous speech by persons with right hemisphere damage, complemented by enhanced production in left hemisphere damage and aphasia (Baldo, Kacinik, Moncrief, Beghin, & Dronkers, 2016; Van Lancker Sidtis & Postman, 2006; Sidtis, Canterucci, & Katsnelson, 2009; Yang & Van Lancker Sidtis, 2016; Shinoura et al., 2010; Smith, 1966; Nakagawa et al., 1993; Graves & Landis, 1985).

Production competence arises from the basal ganglia, a collection of subcortical nuclei, where motor gestures are facilitated, utilizing procedural memory (Ullman, 2004; Graybiel, 2005, 2008; Mishkin, Malamut, & Bachevalier, 1984). Persons with Parkinson's disease, who suffer from dysfunction of the basal ganglia, produce significantly fewer familiar phrases than matched healthy speakers (Illes, 1989; Van Lancker Sidtis, Choi, Alken, & Sidtis, 2016; Bridges, Van Lancker Sidtis, & Sidtis, 2013). Subcortical stroke also reduces competence for formulaic expressions (Speedie, Wertman, Ta'ir, & Heilman, 1993; Sidtis, Canterucci, & Katsnelson, 2009) while preserving propositional speech. The complementary observation lies in the abundance of formulaic expressions in the speech of persons with Alzheimer's disease. This progressive, neurological disorder is characterized by slow deterioration of cortical layers in temporal and parietal areas, leaving the basal ganglia intact well into the course of the disease. This means that overlearned motor behaviors remain executable while cognitive status declines. Propositional and semantic language fail incrementally, while spontaneous speech contains a large repertory of familiar expressions, spoken fluently with facile articulation and proper prosody, and often in the appropriate social context (Note 3).

It flows from these observations that at least two species of language mode coexist in mental and cerebral domains: the familiar and the newly created (Van Lancker, 1975; Heine, Kuteva, & Kaltenböck, 2014; Kaltenböck, Heine, & Kuteva, 2011; Nespoulous, Code, Virbel, & Lecours, 1998; Lounsbury, 1963; Van Lancker Sidtis, 2010, 2012; Van Lancker Sidtis & Sidtis, 2018a, 2018b; Erman

& Warren, 2000). The very large number of familiar phrases in speakers' repertories has only recently been appreciated. Familiar phrases are stored as mental traces, while novel sentences are generated anew. The hemispheres are complementary in modulating these modes, with participation of the basal ganglia in producing the routinized verbal gestures constituting familiar speech. Lesions studies, reviewed above, have found support in functional imaging results (Sidtis, Van Lancker Sidtis, Dhawan, & Eidelberg, 2018).

6. Conclusions

These ideas portend a revised conceptualization of familiarity, memory, and language in human cognition. First, countless phrases are familiar to speakers of a language; they are known and recognized with their unique formal, phonetic, vocal, semantic, and pragmatic contingencies. These include formulaic expressions (idioms, proverbs, sayings, pause fillers, conversational speech formulas), lexical bundles (*in the meantime, as I was saying*), and collocations (*cease and desist, make a wish, red, white and blue*). Memory capacity must be understood as larger than previously believed. It now appears that memory for language houses a vast repertory, perhaps hundreds of thousands, of familiar, known expressions.

The proportion of formulaic expressions and lexical bundles in discourse, depending on topic, speakers, and sociolinguistic setting, been assessed as between 25% and 80% (Van Lancker & Rallon, 2004; Biber, 2009). (The extent of collocations, likely at least as great, is less well known.) In addition, a significant proportion of conversational speech (Tannen, 1989; Johnstone, 1994, 2002), about 20%, involves repetition of self and other, with 50% of all repetitions involving familiar expressions (Van Lancker Sidtis & Wolf, 2015). Even more fundamentally, a finite but very large number of stored construction-types are manipulated to achieve verbal expression. The implications for a model of human language arising from a revised understanding of familiarity and memory processes contrast sharply with previous perspectives. With familiarity and memory having a major role, a viable model of language features competence based on stored expressions and expression-types. This implies that a large portion of the language faculty resembles, instead of a computer program, a huge collage, and that the guiding grammatical principle for speakers is: it sounds right. These perspectives endorse extensive lessons in listening as a highly valuable and effective method for teaching English as a second language.

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Notes

Note 1. Phrases or sentences that are ambiguous as to a literal or an idiomatic meaning: e.g., he hit the sack (nonliteral—he went to bed or—literal—he struck a sack with hand or hammer).

Note 2. Collocations dictionaries in English document the phrasal nature of language: e.g., Longman, Oxford (Hoffmann & Trousdale Eds.).

Note 3. A woman diagnosed with Alzheimer's disease was brought into our laboratory by her husband to participate in one of our research projects. She proved to be too cognitively impaired for our testing procedure. During the course of our interaction, her husband informed us, with a smile, that the couple was observing their 45th wedding anniversary. His wife heard this comment and responded, "*Enough is enough*".

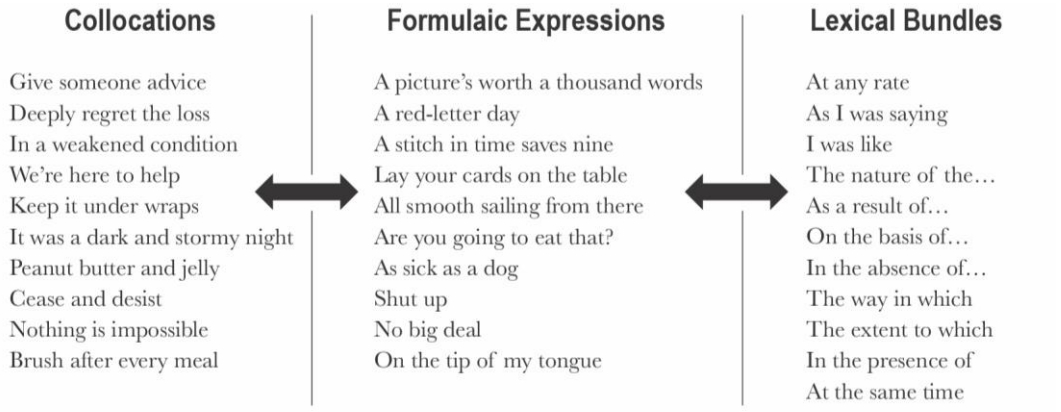

Figure 1. Examples of three categories of familiar phrases. The bidirectional arrows signify that classifications are not always clear cut. Collocations tend to be mostly literal; formulaic expressions carry nonliteral meanings that are highly nuanced. Lexical bundles have the highest frequency and the least connotative nuance. An upper limit of incidence has not been found for any of these categories. These kinds of expressions are known to speakers, as shown in surveys and listeners' performance. Neurolinguistic studies reveal an important contribution of the right hemisphere to storage and processing of formulaic expressions and lexical bundles; production is modulated by the basal ganglia. Cerebral representation of collocations has not yet been examined.