Bilingual Figurative Language Processing

Bilingual Figurative Language Processing is a timely book that provides a much-needed bilingual perspective to the broad field of figurative language. This is the first book of its kind to address how bilinguals acquire, store, and process figurative language, such as idiomatic expressions (e.g., *kick the bucket*), metaphors (e.g., *lawyers are sharks*), and irony, and how these tropes might interact in real time across the bilingual's two languages. This volume offers the reader and the bilingual student an overview of the major strands of research, both theoretical and empirical, currently being undertaken in this field of inquiry. At the same time, *Bilingual Figurative Language Processing* provides readers and undergraduate and graduate students with the opportunity to acquire handson experience in the development of psycholinguistic experiments in bilingual figurative language. Each chapter includes a section on suggested student research projects. Selected chapters provide detailed procedures on how to design and develop psycholinguistic experiments.

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Bilingual Figurative Language Processing

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> Para mamá, papá, y mi hija con mucho cariño Esperanza Ramírez, Eliseo Heredia, y Andrea T. Heredia

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> Con el cariño de siempre, Roberto R. Heredia and Anna B. Cieślicka

Foreword

Writing a foreword to a book on two of the most complex topics of the research on language processing – figurative language and bilingualism – is quite an endeavor, especially when the volume provides an up-to-date, comprehensive theoretical and experimental treatment of the topic. It is not by accident that in a foreword to a book on idiomatic expressions of some decades ago (Cacciari & Tabossi, 1993) Phil Johnson-Laird used the comprehension of idiomatic expressions in another language as an example of the complexity and elusiveness of nonliteral language: "We have the ability to speak in riddles. These riddles are neither constructed nor interpreted in the normal way. Yet we use them so readily that we are usually unaware of their special character – unless we have the misfortune <u>not</u> to be a native speaker. We call these special riddles idioms" (Johnson-Laird, 1993).

According to the philosopher John Searle (1979), American English native speakers adopt the following adagio in everyday conversations, *Speak idiomatically unless there is some special reason not to*. That this indeed is the case is confirmed by simple frequency counts estimating that figurative expressions, notably idioms, are as frequent as words (Jackendoff, 1995) and by the common observation that the presence of an idiom often remains unnoticed by native speakers. Searle's claim parallels what Sinclair (1991) called the *Idiom Principle* (see Kecskes, this volume), according to which subjects use formulaic language as much as possible to increase communicative efficiency, at the same time reducing the cognitive load on receivers (see, for example, Siyanova-Chanturia & Martinez, 2014).

However, non-native use of nonliteral expressions (especially in late second language [L2] learners) seems to defy Searle and Sinclair's assumption. In fact, even advanced L2 users are known to have difficulties with nonliteral language, such that using and comprehending figurative language effortlessly constitute a test of how fluent and native-like an L2 speaker is or thinks he or she is. Understanding and moreover producing idiomatic expressions in L2 is a challenge even for proficient L2 speakers, and it seems even more challenging than

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understating metaphors in L2. Why is it so? Idiomatic expressions, unlike metaphors, belong to the vast family of multiword expressions that are conventional, over-learned literal and nonliteral sequences of words whose representations are stored in semantic, long-term memory. One may argue that by definition idiomatic expressions reflect cultural motives and habits, pieces of local history, and so forth that are grounded in tradition and culture underlying a specific language. According to the Oxford Dictionary, 5th ed., one of the meanings of the word idiom is form of expression peculiar to a language. One possibility is that proficient L2 speakers would be reluctant to use idioms not because of lexico-semantic limitations, but because they ignore the cultural background that motivated the appearance of a specific idiom in a language and/or its contextual appropriateness. However, lack of etymological/cultural awareness may not be the entire story, given that also many native speakers ignore the cultural origin of idioms they still commonly use. A more appealing alternative is that, beyond linguistic etymology, idiomatic expressions may reflect the conceptual metaphors we live by, as argued by Conceptual Metaphor theorists (e.g., Gibbs, 1994; Lakoff & Johnson, 1980). They argued that the mapping between an idiom and its meaning is motivated by pre-existing metaphorical connections between conceptual templates and images. Hence, regardless of specific language-based wording, idiomatic expressions would put into words a conceptual apparatus that in principle should not be language-specific but grounded in experiential, sensory domains (although some conceptual metaphors may be more salient in one language than in another). Whether this is indeed the case is still controversial, and evidence has accumulated showing that "instead of serving as a linguistic window onto conceptual structure, idiomatic expressions may mirror the content put into them. And just like mirrors, they might be mistaken for windows" (Keysar & Bly, 1999).

It is undeniable that so far idiom processing models have been built on evidence gathered from first language (L1) speakers. Even though the first hypotheses on idiom comprehension date back to the 1970s, we still are far from having a unified account of idiom processing in L1, and still little is known on idiom (and more generally on nonliteral language) processing in L2. This may in part reflect the fact that idioms form a rather heterogeneous family that differs on a number of characteristics that include frequency, predictability, ambiguity, literal plausibility, affective valence, semantic transparency, and decomposability, to name only some. Explaining how individuals who form the community of L2 speakers produce and comprehend idiomatic expressions constitutes a real challenge that may importantly contribute also to L1 idiom processing models. This is one of the reasons why this is an important book that

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further contributes to showing that figurative language is not a peripheral phenomenon that language theories may ignore, as it was believed in the early 1990s. Another, and perhaps the most important, reason why this volume is indeed an impressive achievement and a major contribution to the field, is that it uniquely fills a crucial gap. In fact, so far the complex links between bilingualism and figurative language processing were totally ignored by important books and textbooks on figurative language comprehension and production, and also by recent important handbooks on language and cognition in bilinguals.

What we know now for sure is that idioms are good candidates for revealing the repertoire of strategies for making sense of linguistic expressions in L1 as well as in L2. In L2, this repertoire encompasses several different strategies that go from assuming that any incomprehensible expressions one runs across in discourse may be an idiom to the presence of idiom-prone lexemes (e.g., take, put, get in English) that we probabilistically associate to nonliteral expressions, from looking at whether an idiom string with similar wording exists in L1 to computing the semantic interpretation of the string trying to infer the potential nonliteral meaning (a hardly successful strategy with many idioms). Another thing that we know for sure is that during L1 online idiom processing at least part of the constituent word meanings are activated. In fact, idioms are not semantically empty strings, as posited by early models of idiom comprehension. This raises a number of interesting questions concerning idiom processing in both L1 and L2. For instance, due to a general betweenlanguage transfer mechanism, well known in the bilingualism literature, both comprehension and production of L2 idioms are modulated by the degree of idiom similarity to their L1 translation equivalents (see the *Parasitic Hypothesis*, Cieślicka, this volume). This does not necessarily lead to improvements in the capacity of L2 learners to understand idioms and/or use them appropriately, because cross-language similarities may cause interference and misunderstanding. Whether transfer from L1 to L2 reflects pure retrieval of stored units from semantic memory or is mediated by words and conceptual structures is still an open issue, as is the issue of whether subjects differentially use compositional versus direct retrieval strategies in comprehending idioms in their L1 and L2. In fact, L2 speakers, unlike L1 speakers, may be more inclined to process idioms, and in general multiword units, analytically/compositionally rather than globally. They would activate the literal meaning of idiom constituent words because they did not recognize at all the presence of an idiom in a sentence, or they did it to a lesser extent and not as easily and early on as L1 speakers. But this is indeed a "double-edged sword" (Boers & Webb, this volume), because idiom semantic transparency is

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often illusory when one does not know the conventionalized idiom meaning. Indeed, we are often able to trace back the motivation for an idiomatic meaning based on the constituent word meanings and the rhetorical structure underlying the idiom string because we already know what the idiom means. This was already noted years ago by Reagan (1987), who claimed that, when faced with idioms (and in general with multiword units, I would add), we should distinguish between *breaking down* meaning into parts and *building up* meaning from parts.

Intuition as well as experimental evidence suggests that L2 knowledge (proficiency) affects the comprehension of literal and nonliteral language. Interestingly, some processing differences seem to exist among different types of nonliteral expressions, in that proficient bilinguals seem to understand metaphors and irony (but not idioms) not dissimilarly from monolinguals, although in general at a slower pace. That metaphorical meanings may be easier to grasp than conventionalized idiomatic meanings may not be surprising if one considers that metaphors are assertions of categorization similar to those conveyed by literal language (Glucksberg, 2001). In fact, metaphors are used not simply to call the reader's attention to superficial similarity between concepts, but rather to label categories that have no conventional names of their own. Some of the contributors to this book highlighted that still more experimental work with online experimental paradigms and L2 participants with similar characteristics (e.g., proficiency, language exposure, and context) is needed to obtain a more thorough understanding of nonliteral processing in L2. Notwithstanding this prudential stance, the chapters collected in this book show that some of the mysteries that characterize figurative language have started to be unveiled. The endeavor is not an easy one, if it is true that, as Donald Davidson (1978) argued years ago for metaphors, figurative language is the dreamwork of language and, like all dreamwork, its interpretation reflects as much on the interpreter as on the originator. The interpretation of dreams requires collaboration between a dreamer and a waker ... So too understanding a metaphor is as much a creative endeavor as making a metaphor, and as little guided by the rules.

Cristina Cacciari

REFERENCES

Cacciari, C., & Tabossi, P. (1993). Idioms: Processing, structure and interpretation. Hillsdale, NJ: Erlbaum.

Davidson, D. (1978). What metaphors mean. In S. Sacks (Ed.), On metaphor (pp. 29–46). Chicago, IL: The University of Chicago Press.

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- Gibbs, W.R. (1994). The poetics of mind: Figurative thought, language and understanding. Cambridge, UK: Cambridge University Press.
- Glucksberg, S. (2001). *Understanding figurative language*. New York: Oxford University Press.
- Jackendoff, R. (1995). The boundaries of the lexicon. In M. Everaert, E. van der Linden, A. Schenk, & R. Schreuder (Eds.), *Idioms: Structural and psychological perspectives* (pp. 133–166). Hillsdale, NJ: Erlbaum.
- Johnson-Laird, P.N. (1993). Foreword. In C. Cacciari & P. Tabossi (Eds.), *Idioms: Processing, structure and interpretation* (pp. vii–x). Hillsdale, NJ: Erlbaum.
- Keysar, B., & Bly, B. (1999). Swimming against the current: Do idioms reflect conceptual structure? *Journal of Pragmatics*, 38, 1559–1578.
- Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago, IL: The University of Chicago Press.
- Reagan, R.T. (1987). The syntax of English idioms: Can the dog be put on? *Journal of Psycholinguistic Research*, 16, 417–441.
- Searle, J.R. (1979). Expression and meaning: Studies in the theory of speech acts. Cambridge, UK: Cambridge University Press.
- Sinclair, J. (1991). Corpus, concordance, collocation. Oxford, UK: Oxford University Press.
- Siyanova-Chanturia, A., & Martinez, R. (2014). The Idiom Principle revisited. *Applied Linguistics*, 1, 1–22. doi:10.1093/applin/amt054.

Preface

The presentation of a volume on *bilingual figurative language processing* is timely and provides a much-needed bilingual perspective in the broad field of figurative language. *Bilingual Figurative Language Processing* is the first book of its kind to address how bilinguals acquire, store, and process figurative language, such as idiomatic expressions (e.g., *kick the bucket*), metaphors (e.g., *lawyers are sharks*), and irony, and how these tropes might interact in real time across the bilingual's two languages.

It is our hope that this book contributes to the development and establishment of *bilingual figurative language* as a subfield of bilingual sentence processing and fills a significant gap in the literature on bilingual language processing and thought. *Bilingual Figurative Language Processing* offers the reader and the bilingual student an overview of the major strands of research, both theoretical and empirical, currently being undertaken in this field of enquiry. At the same time, *Bilingual Figurative Language Processing* provides readers and undergraduate/graduate students with the opportunity to acquire *hands-on* experience in the development of psycholinguistic experiments in bilingual figurative language. Each chapter is composed of a *Suggested Student Research Projects* section. Selected chapters include detailed procedures on how to design and develop psycholinguistic experiments using sample scripts from experiment builder software (e.g., E-Prime, PsyScope).

Bilingual Figurative Language Processing is divided into four main sections. The first section (Chapters 1–3) focuses on the theoretical underpinnings of figurative language processing and bilingualism. After a compelling argument of the embodiment of language, namely, that language comprehension is inextricably tied to a relationship between bodily experiences and language, Katz and Bowes (Chapter 1) underscore the limited literature on bilingual nonliteral language processing and bilingual language embodiment in particular. They go on to ask whether bilinguals who learned their two languages simultaneously might

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evoke similar embodied structures, as opposed to late bilinguals (who learned their second language later in life), who might elicit dissimilar embodied structures. One possibility, of course, is that it would depend on the type of conceptual metaphor. Conceptual metaphors such as LIFE IS A JOURNEY, that are more likely to be universal, might be understood similarly across the different types of bilinguals (see, for example, Kövecses et al., this volume). However, as accurately put by Katz and Bowes, "the future in this domain [i.e., bilingualism and language embodiment] is at our fingertips, all we have to do now is grasp it" (p. 17). In the second chapter, Kecskes hypothesizes whether the *idiom* principle that drives word selection in monolinguals is impaired in the bilingual's second language (L2; see also Siyanova-Chanturia & Martinez, 2014). Accordingly, users of a language (typically the first language) have access to a large number of semi-preconstructed phrases or chunks that they may use during the communicative process to ease cognitive load and processing effort. Kecskes concludes that the idiom principle does indeed affect the use of any language of bilinguals or multilinguals. However, L2 factors such as language proficiency and willingness to use certain formulas affect the functioning of the idiom principle. In the third chapter, Vaid et al. examine metaphoric processing by bilingual speakers and conclude that, like findings in the monolingual literature, nonliteral activation is obligatory. Moreover, Vaid et al.'s contribution goes on to examine the relationship between figurative language, humor processing, and creativity.

Section II (Chapters 4-5) critically discusses some of the methodologies employed for studying the ongoing psychological processes taking place as bilinguals comprehend/process figurative language. Heredia and Muñoz (Chapter 3) examine the online comprehension of metaphoric reference, where a metaphoric description (e.g., creampuff) makes a reference to an antecedent describing a *cowardly boxer*. Using a cross-modal priming task and measuring meaning activation (i.e., nonliteral vs. literal) for a metaphoric referential description across critical locations throughout a sentence, Heredia and Muñoz show contrasting figurative language processing differences between highly proficient bilinguals immersed in a linguistic environment in which the L2 is dominant, and bilinguals in a "purely" bilingual community. García et al. (Chapter 5) critically review some of the classic behavioral reading paradigms such as rapid serial visual presentation, visual moving windows, and other newly developed techniques, such as the maze task, as well as eye-tracking. García et al. further elaborate on the cross-modal lexical priming task (CMLP), and event-related potentials, and make a clear distinction between offline (e.g., rating, interpretation) and

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online (e.g., CMLP, eye tracking) tasks and the mental/linguistic processes involved in/tapped by these tasks.

Section III (Chapters 6-9) focuses on language processing and provides a general overview of some of the existing models of bilingual figurative language processing. Titone et al. (Chapter 6) provide an excellent overview of what is currently known about bilingual idiom processing. They specifically introduce the Constraint-Based Processing Model of L2, which hypothesizes that, during idiom comprehension, bilinguals, like monolinguals, simultaneously make use of all the available information (e.g., idiom familiarity or predictability), resulting both from direct retrieval and compositional analysis of idiomatic expressions. Cieślicka (Chapter 7) further elaborates on bilingual figurative language comprehension and shows how a bilingual idiom-processing model that relies on the literal analysis of L2 idioms (i.e., Literal Salience Model) accounts for the acquisition and processing of idiomatic expressions by foreign language learners. In addition to reviewing a range of factors (e.g., cross-linguistic similarity, literal plausibility, predictability) influencing idiom processing, Cieślicka discusses some of the classic theories of L2 lexical acquisition (e.g., Parasitic Hypothesis of vocabulary development). Using event-related potentials, Paulmann et al. (Chapter 8) investigate phrasal verbs in monolinguals and bilinguals. Phrasal verbs (e.g., run into), like idiomatic expressions, are ambiguous and can be understood literally (e.g., to go inside: He ran into the building) or figuratively (e.g., to meet someone: He ran into his old friend). Paulmann et al.'s results reveal that comprehension of phrasal verbs is not necessarily problematic for proficient L2 learners of English. Their overarching conclusion is that non-native but proficient speakers of English use processing strategies similar to those of native speakers when comprehending phrasal verbs. In Chapter 9, Bromberek-Dyzman provides an excellent review of irony processing research and offers evidence showing that it is not so much the literal/nonliteral language distinction that determines irony processing patterns in L1 and L2, but rather its affective meaning.

The fourth and final section focuses on cross-linguistic perspectives and pedagogical issues, such as how best to acquire figurative competency. Liontas (Chapter 10) investigates the effects of different tasks and idiom subtypes on the comprehension and production of L2 idioms by adult foreign language learners. More importantly, the chapter identifies essential research questions that need to be addressed by L2 idiom scholars in order to develop the most appropriate instructional interventions and make the process of L2 idiom learning more efficient. Kövecses et al. (Chapter 11) further expand on the concept of language embodiment. Using a corpus-linguistic and *cognitive linguistics approach*,

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Kövecses et al.'s goal in this chapter is to investigate how the emotion of anger is conceptualized across American English, Spanish, Turkish, and Hungarian. Kövecses et al.'s overall conclusion is that in all four languages considered in their study, people have remarkably similar cultural models of anger. In addition, Kövecses et al. propose a novel measure of metaphorical salience that allows capturing how conceptual metaphors are used to comprehend different target domains. The major components of this measure are token frequency, type frequency, the number of mappings, and the scope of the source domain. In the last chapter, Boers and Webb explore the dimension of semantic transparency of idioms and its usefulness in L2 teaching. While capitalizing on L2 learners' propensity to interpret idiomatic expressions literally has been favored by L2 materials writers, the authors caution against applying this pedagogical technique indiscriminately, without first considering learners' intuitions and their L1 cultural background. Based on their study, Boers and Webb show how judgments of semantic transparency can be divergent for native speaker teachers, on the one hand, and L2 learners on another.

We would be remiss if we failed to mention that our intense interest in *bilingual figurative language processing* is in large part due to our fascination with the way the human mind in general, and the bilingual mind in particular, works. Language is at the core of human experience, thus exploring the architecture of the mental lexicon provides us with a unique insight into how the mind organizes the linguistic universe. Despite the inherently ambiguous nature of figurative expressions, they are understood effortlessly by language users, given their pervasiveness in everyday communication. Exploring the mechanisms that lie at the core of figurative language acquisition, storage, and processing might hence enrich the scientific understanding of how the human mind works.

Finally, rather than trying to provide a set of definitive answers, this volume aims at stimulating a critical discussion and inspiring further research into the mechanisms underlying bilingual figurative language processing. As Honeck and Hoffman (1980, p. 3) aptly put it, "Research on figurative language is fun. It leads one to find all sorts of intriguing phenomena." It is hoped that the current volume indeed provides the bilingual student, teacher, and researcher with much fun and inspiration to further explore the fascinating intricacies of the bilingual mind.

Roberto R. Heredia Anna B. Cieślicka Preface

REFERENCES

Honeck, R.P., & Hoffman, R.R. (Eds.). (1980). *Cognition and figurative language*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Siyanova-Chanturia, A., & Martinez, R. (2014). The idiom principle revisited. *Applied Linguistics*, 1–22. doi:10.1093/applin/amt054.

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