IDIOMS

STRUCTURAL
and PSYCHOLOGICAL
PERSPECTIVES

edited by

MARTIN EVERAERT
ERIK-JAN van der LINDEN
ANDRÉ SCHENK
ROB SCHREUDER

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Edited by

Martin Everaert
Utrecht University, The Netherlands

Erik-Jan van der Linden
University of Amsterdam, The Netherlands

André Schenk
Utrecht University, The Netherlands

Rob Schreuder
University of Nijmegen, The Netherlands

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Introduction

Idioms have always aroused the curiosity of linguists, and there is a long tradition in the study of idioms, especially within the fields of lexicology and lexicography. Without denying the importance of this tradition, the aim of the present volume is to give an overview of recent idiom research outside the immediate domain of lexicology/lexicography. The chapters in this volume address the status of idioms in recent formal and experimental linguistic theory.

Chomsky (1981) argued that the study of language is concerned with the discovery of the framework of principles and elements common to attainable human languages, that is, universal grammar. Universal grammar specifies a set of core grammars. What is represented in the mind of an individual would be a core grammar with a periphery of marked elements and constructions. In such a view, idioms clearly belong to the periphery and not to the core of the language system. However, that does not mean that idioms are a peripheral phenomenon, as the work presented in this volume makes clear. Through the study of idioms, we can learn more about the core.

An important development marks the last few decades of idiom research. Whereas originally idioms were the focus of only a small part of the research of a few individuals whose concern it was whether idioms could be dealt with in a more general framework, model, or theory, they now represent an important research theme for a significant group of researchers.[1] This may be due to the fact that linguists have come to realize that idioms and idiomlike constructions make up a large part of our knowledge of language and are a persistent feature of

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[1] See Cacciari and Tabossi (1993); Everaert and van der Linden (1989); Everaert, van der Linden, Schenk, and Schreuder (1992).

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language. In his contribution to this volume (chapter 8) Mel'čuk even claims that "people do not speak in words, they speak in phrasemes." The time when *kick the bucket* was not only the prototypical idiom but indeed the only idiom in linguistics is behind us.

Why a collection of studies on idioms? There is a straightforward reason. If we study idioms we have to address the concept of a lexical component in a grammatical framework. The generative research tradition was influenced in the past by the Bloomfieldian view of the lexicon as an appendix to the grammar, a list of basic irregularities. As a consequence very little attention was paid to the lexicon or to issues related to the lexicon (such as morphology). Since the late 1970s and early 1980s this has changed. The lexicon has become more important in several theoretical linguistic frameworks, and across several linguistic disciplines (cf. Boguraev and Briscoe (1989); Levin (1993); Pustejovsky (1993)). In theoretical frameworks like Lexical Functional Grammar (Bresnan (1982)), Head-Driven Phrase Structure Grammar (Pollard & Sag (1987)), Categorial Grammar (Oehrle, Bach, & Wheeler (1988))—to name a few—lexical information has become a central issue of debate. In Government-Binding (GB) theory considerable attention has been paid to the lexicon since the introduction of the Projection Principle in Chomsky (1981).

Why an interdisciplinary approach? The reason is simple and at the same time surprising: Linguists from various disciplines are interested in idioms. It is really quite exceptional that this is so. The fact that, for instance, Wh-movement is a focus of attention in theoretical linguistics does not mean that computational linguists or psycholinguists show the same degree of interest. For psycholinguists, speech errors may be an important phenomenon; but theoretical linguists will not address the issue. In the case of idioms this is different. Theoretical and computational linguists are interested in idioms because the study of idioms must ask what type of lexical specifications we need and by what principles this information is related to syntactic configurations. Both psycholinguists and computational linguists study how language is processed, and on this point the study of idioms poses challenging questions.

Interdisciplinarity has become part of idiom research. Contributions in this volume are written by psycholinguists, theoretical linguists, and computational linguists, who take mutual advantage of progress in all disciplines. Linguists supply the facts and analyses on which psycholinguists base their models and experiments; psycholinguists in turn confront linguistic models with psycholinguistic findings. Computational linguists build natural language processing systems on the basis of models and frameworks provided by theoretical linguists and, sometimes, psycholinguists, and they set up large corpora to test linguistic hypotheses. Besides the intrinsic fascination of the idioms that make up such a large part of our knowledge of language, interdisciplinarity is one of the attractions of investigations in idiomatic language and language processing.

In this introduction we sketch the context in which idiom researchers operate. First, we identify more precisely the expressions under consideration and we introduced terms. This demonstrates that there is a common ground for the research reported on in this volume: We hope to show that interdisciplinarity and a rather broad theme do not necessarily lead to heterogeneity. On the contrary, the reader may, for instance, notice that authors frequently refer to each others' work. Still, there is a great variety in the views on idioms. In this introduction we try to be nonpartisan with respect to these views. Next, we discern some important topics in this volume and indicate which chapters are relevant for these topics. We end with some concluding remarks.

SUBJECT AND TERMINOLOGY

So far, we have been using the term *idiom* as if it were clear what was meant. Although we continue to use the term, the reader should note that the expressions under consideration in this book are diverse, and different researchers assign different terms to subclasses of the broader class.

Perhaps it is better to use the term *complex unit* for those expressions that would be assigned the term idiom by most of the contributors to this volume. In fact, the term complex unit expresses the common ground for the expressions that form the topic of the current volume. In one sense they are complex in that they consist of more than one word; in some other sense they are units. From a broader perspective, all authors in this volume agree that these complex units are syntactic expressions that exhibit lexical co-occurrence restrictions that cannot be explained in terms of regular rule-governed syntactic or semantic restrictions. The fact that *kick the bucket* means 'die' does not follow from any underlying principle or from our knowledge of the world. The fact that we have to say *spill the beans* and not *spill the peas* does not follow from any grammatical rule but simply has to be learned, even if we assume that this idiom is semantically compositional or analyzable. This means that, in a sense, one could say that idioms are idioms by convention. Like all conventions, idioms have to be explicitly learned and remembered. Of course, there are limits to what can constitute an idiom. Often these limitations are invoked by grammatical principles, but sometimes idioms are restricted in form because of extralinguistic factors. So we can say that the topic of this book is conventionalized complex expressions. At this point, however, authors have diverging ideas as to what constitutes the subject of research, and what expressions should be termed idioms. To illustrate this, we present some terms and examples. Note that we do not intend to give a full and accurate classification.

Notions that cover most of the expressions in this volume are those of *complex unit, fixed expression, fixed phrase, phraseme, phraseolexeme, phaseologism,*

polylexical expression, and *conventional expression.*[2] In the literature, the term *idiom* is most often used for a subclass of fixed expressions with specific semantic properties. That is, idioms are fixed expressions that are semantically opaque, noncompositional, unanalyzable, or whatever other term one would like to use. Furthermore, most research concentrates on predicative expressions consisting of a verb, a number of fixed arguments, and a number of variable arguments. The idiom *to kick the bucket* is, of course, the prototypical example of this class: It refers not to some kicking event but to a dying event. Without making this explicit, this is the intended meaning most linguists assign to the term idiom. On the basis of this intended meaning, we can discern other classes of expressions that are fixed but are not idioms in this narrow sense.

First of all, there are fixed expressions that are not predicative expressions. We may discern the following syntactic configurations for fixed phrases in the broader sense.

- At the sentence level: proverbs and sayings like *Easy come, easy go, Home is where the heart is;* routine formulae like *Gimme a break, Long time, no see, That's the limit.*
- At the phrasal level: constructions or idiomatic patterns like *from X to Y, X let alone Y, Rumor has it that X* (Fillmore, Kay, & O'Connor (1988), Williams (in press)); nominal/prepositional/adjectival phrases like *a breath of fresh air, by and large.*
- At the word level: compounds like *cranberries* or names like *Jack Daniels whiskey.*

Second, there are fixed expressions that are semantically transparent, compositional, analyzable. The following classes of expressions differ from idioms, in the narrow sense, that their meaning does not seem to differ from that of comparable expressions that are not fixed:

- Collocations like *strong tea* (Mel'čuk (1984)).
- Light verbs like *ask a question* or *make a proposal* (Cattell (1984)).
- Irreversible binomials such as *mother and child* or *sooner or later* (Malkiel (1959)).
- Comparisons like *straight as an arrow, strong as a bear.*
- Specializations such as *fried eggs* or *fish and chips.*

Pretheoretically, one could say that *strong tea* and *strong man* are similar in the way *strong* contributes to the meaning of the phrase as a whole. And *fried eggs*

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[2]For a thorough overview of terminology see Barkema (1993).

are indeed eggs that are fried, although not all eggs that are fried are called *fried eggs* (Geeraerts (this volume, chapter 3)).

Third, there are fixed expressions that have special semantic properties, but not necessarily with respect to their referential semantic properties. Mel'čuk (this volume, chapter 8) and Geeraerts (1989) discussed other types of meaning specialization. Examples of pragmatic properties can be found in routine formulae (cf. Coulmas (1985) like *ladies and gentlemen, Gimme a break, No way, How do you do*. Mel'čuk gives the following example. If you want to state that food must be consumed before a certain date you use the phrase *Best before* . . . in English, whereas in French and German you would use, respectively, *À consommer avant* . . . 'to consume before' and *Mindestens haltbar bis* . . . 'at least keepable till'. Stylistic idiomatic properties can be found in such expressions as Dutch *de pijp uitgaan* 'kick the bucket', which is less formal than, for instance, *doodgaan* 'die'.

A completely different dimension of idiom research is presented in Drew and Holt's contribution to this volume (chapter 6). Unlike the chapters mentioned so far that look at semantic-internal properties of idioms, say, their paradigmatic dimension, Drew and Holt look at the syntagmatic properties of idioms. In their chapter they report on a study of the use in naturally occurring telephone conversations of idiomatic figures of speech. From this conversation analysis it appears that the use of idioms is often associated with the termination of the topic about which the participants had been speaking, and the transition to a new topic. Idioms thus serve to close a topic through their summarizing effects.

In the linguistic literature, the term idioms is generally used in a rather narrow sense, as is also the case in most of the chapters in this volume. Mel'čuk (chapter 8) and Jackendoff (chapter 7), call for the broader perspective (cf. also Weinreich (1969)). Schenk (chapter 10) shows that verb phrase idioms, proverbs, and collocates share relevant syntactic and semantic properties. Drew and Holt point to the function of idioms in context.

SOME ISSUES IN THE STUDY OF IDIOMS

Now that we have clarified the terminology used in idiom research we turn to some of the most important topics addressed in this volume.

Compositionality

General. An idiom is usually defined as a constituent or a series of constituents for which the semantic interpretation is not a compositional function of the formatives of which it is composed (Fraser (1970)). The crucial element in such a definition is the term *function*. As Manaster-Ramer and Zadrozny (1992) pointed

out, it is generally assumed to mean that the same semantic effect should hold in all syntactically indistinguishable environments. In such a view the semantics of *spill the beans* could be taken as compositional if we could assume that *spill* means 'divulge' in the context of *the beans* and *the beans* means 'information' in the context of *spill*. However, this would make the interpretation function sensitive to specific syntactic environments, because a semantic rule would refer to a specific lexical item.

Whatever the specific interpretation of compositionality, idioms have a semantics that is different from what would be created if we applied the regular rules of semantic interpretation. Up to this point there is very little disagreement. Researchers differ on whether (a) the expressions that form part of the idiom still have individual meanings or not, and (b) there exists a relation between the meaning of the idiom as a whole, and the meaning of the parts.

This Volume.   Contra Gazdar, Klein, Pullum, and Sag (1985), Nicolas (this volume, chapter 9) argues that none of the parts of an idiom has meaning, but only the idiom as a whole. Schenk argues in chapter 10 that only the idiom as a whole can refer, and because the parts do not refer, there cannot be a relation between the parts and the whole.[3] Schenk is therefore in line with the view advanced throughout the literature that idioms do not conform to the principle of compositionality: Idioms are defined as expressions the meaning of which is not a function of the meanings of the parts. Sag (1992) showed that there exists a long tradition in which this view is questioned. One can find it questioned in this volume as well in chapter 4 by Geeraerts and chapter 5 by Gibbs (see also Manaster-Rammer & Zadrozny (1992); Roeper (1993); Shaer (1992); and van der Linden (1993) for recent discussion). In the alternative view it is argued that the parts of an idiom have meaning, and that the relation between the meaning of the parts and the meaning of the idiom is compositional.

Geeraerts and Gibbs both show the importance of underlying metaphors for the interpretation of idioms: They show that the parts of idioms may have metaphorical meaning. Gibbs shows the importance of metaphors and metonymy in general and illustrates this with the results of various experiments. Working in the framework of Cognitive Semantics, Geeraerts uses the terms *isomorphism* and *motivation* in order to discuss metaphorical, metonymical, and other properties of idioms. More specifically, he argues that an adequate description of the various forms of semantic specialization that occur in idioms requires that the following distinctions have to be taken into account: referential versus nonreferential forms of meaning, syntagmatic versus paradigmatic aspects of meaning, and bottom-up versus top-down semantic processes. Against the background of this descriptive framework, Geeraerts argues that the semantic specialization of idioms is a matter of degree, and that semantic interpretation is not just a

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[3]Cf. Shaer (1992) for a discussion of the notion of *referentiality* in Government-Binding theory.

question of bottom-up compositionality or literal-to-figurative transfer; the reinterpretation processes that can be observed in idioms point to the existence of top-down and figurative-to-literal interpretations.

There is discussion not only of compositionality but also of the use of the term *literal*. In idioms words do not have their literal reading. Most scholars prefer the term *figurative* for the meanings of idioms. Moreover, Gibbs questions the application of the term *literal* to the nonidiomatic meaning of idioms (cf. van der Linden (1993)). The research by Cacciari and Glucksberg (chapter 2) sheds light on the relation between idiomatic and nonidiomatic meaning in the mental lexicon.

Flexibility

General.   Within generative grammar, the hypothesis of the autonomy of syntax has long supported the tacit assumption that idiomatic constituents would not behave differently from nonidiomatic constituents with respect to syntactic rules, unless stipulated (Katz (1973); Weinreich (1969)). But at the same time this assumption was challenged by observations such as the fact that *kick the bucket* in its idiomatic sense does not passivize. This raised the question whether idioms might differ from nonidiomatic expressions with respect to their syntactic flexibility. In this respect Wasow, Sag, and Nunberg (1983) was an important contribution. In this paper it was argued that syntactic flexibility is tied to semantic transparency. The authors showed that in many cases idiom parts do allow syntactic manipulation such as modification and movement (cf. also Gibbs (this volume, chapter 5)). Since then, the assumption that idioms do not differ from nonidiomatic expressions has become a central issue of investigation.

This Volume.   Several chapters in this volume directly address this question. Gibbs (chapter 5) claims that idioms are partially motivated by conceptual metaphors and thus are not arbitrary linguistic phenomena. He bases this claim on several psychological experiments he and his co-workers have carried out. This, he claims, is the reason that idioms are throughout syntactically flexible.

Nicolas (chapter 9) focuses on the issues of availability and interpretation of idiom-internal modification. These issues are related to the question whether idioms have internal semantic structure. Typologies of idioms and modifiers are presented, and the interaction of idiom and modifier types is investigated using a large text corpus. Nicolas tries to show that what seems to be internal modification of an idiom, as in *They kept close tabs on John*, should, from a semantic point of view, be considered external modification. The example would then be equivalent to *They kept tabs on John closely.*

Schenk (chapter 10) shows that we should be careful with evidence mentioned in the literature concerning flexibility (compare the sentences used in Gibbs' contribution). Schenk's main aim is to show that idioms do not differ from

nonidiomatic expressions with respect to syntactic and morphological behavior in a large number of constructions. Schenk accomplishes this by proposing a typology of syntactic and morphological operations, distinguishing operations that are driven by the syntactic or morphological structure only and apply to both meaningful and meaningless expressions, and operations that are driven by semantics and are applicable to meaningful expressions only. On this point Mel'čuk (chapter 8) follows Schenk's proposal and discusses the typology of operations from the perspective of communication, attributing apparent violations of communicatively driven transformations to artistic deformation of phrasemes.

Van Gestel (chapter 4) argues that degrees of idiomatic fixation are defined in terms of X-bar projection levels. He claims that lexical invariability goes hand in hand with structural invariability. If a certain structural level contains only fixed lexical material, it will be completely opaque to syntactic manipulation.

Idioms: Syntax or Lexicon?

General.   Because some properties of idioms are unit-properties and therefore have to be acquired as such, idioms are generally assumed to be included in a repository for knowledge of language, usually a lexicon, which lists basic relations between forms of linguistic objects and other properties of these objects. Syntactic principles combine idiomatic as well as nonidiomatic lexical elements to form larger expressions. Some researchers have questioned this assumption. From their investigations they have drawn the conclusion that there is only a very vague boundary between what we traditionally refer to as lexicon or syntax, or have at least shown that idioms have a considerable impact on the architecture of the systems and models constructed without idiomatic language in mind. (In this volume, see chapters by Abeillé, Jackendoff, Mel'čuk and van Gestel.)

This Volume.   Tree Adjoining Grammar in the (TAG) framework (Abeillé this volume, chapter 5)) both idioms and other expressions are represented as partially completed syntactic trees that can be merged to form complete trees by means of a very simple combinatorial mechanism one could hardly call syntax. In principle, there is thus no difference between the format of idioms and that of other expressions.

Van Gestel (chapter 4) presents a GB analysis of idioms and discusses properties of the X-bar system necessary for this purpose. Idioms are stored in the lexicon as subtrees carrying all the idiosyncratic information that makes them idiomatic. Such subtrees are inserted en bloc in the syntactic derivation. Jackendoff (chapter 7) shows that there are too many fixed expressions to assume that the lexicon, in principle, lists only simplex expressions and that listed complex expressions are exceptional. In his view, both phrases and lexical items are formally a triple consisting of phonological, syntactic, and conceptual structures.

A consequence of this approach is that the notion of lexical insertion should be replaced by the alternative concept of lexical licensing.

In the theoretical framework of Meaning-Text Theory, Mel'čuk (chapter 8) describes idioms as part of the Explanatory Combinatorial Dictionary. One of the salient properties of such a lexicon is that it is a phrasal dictionary. By presenting collocational behavior as completely regular, Mel'čuk suggests that fixed expressions are less exceptional than is generally believed. The reader is also referred to Fillmore, Kay, & O'Connor (1988), Manaster-Ramer and Zadrozny (1992), and Mittwoch (1992) for discussions about the nature of syntax in the study of idioms.

If idioms are represented in the lexicon, the question arises how idioms are to be represented there. What is their relation to other elements in the lexicon? For psycholinguists and computational linguists, it is important to know how idioms are retrieved from the lexicon, and at what moment during the process. Zeevat (chapter 13) discusses idiomatic blocking, the phenomenon such that a certain phrase would fit the semantic requirements but still is not used because there is "some other way to say it." He discusses how the Elsewhere Principle, known from morphology and phonology, could explain this phenomenon if it is taken as part of a grammar that is a system of generation rules. It is argued that if the generation starts with a pragmatic goal that is enriched within the generation process, it can indeed be shown that a suitable specificity hierarchy would given the blocking effect. We now consider the lexical representation of idioms from a psychological point of view.

How Do We Process Idioms?

General. There are three hypotheses that figure prominently in psycholinguistic research about the lexical representation of idioms. The *idiom list hypothesis* assumes that idioms are stored and accessed from some special list that is distinct from the lexicon. In the *lexical representation model* idioms are stored as holistic entries in the same mental lexicon that stores other lexical items. The *idiom decomposition model* (Gibbs (this volume, chapter 5)) entails that some idioms are decomposable and that their meaning is a compositional function of the meaning of their parts.[4]

With respect to resolution of ambiguity in the case of idioms, several studies have been carried out that investigate the order in which alternative interpretations are considered. Three models are discussed here. In the first model the nonidiomatic meaning is processed first, in the second the idiomatic meaning is processed first, and in the third model both are processed in parallel.

The first model is related to the *idiom list hypothesis* and has it that idiomatic meaning is considered only when nonidiomatic interpretation fails. This would

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[4]Cf. Schweigert (1992) for a discussion of the issues involved.

imply that it should take longer to interpret an idiomatic expression as such, because it requires reinterpretation. However, processing of sentences containing idioms or metaphors does not take more time than does processing of sentences containing nonidiomatic constituents. It may therefore be concluded that nonidiomatic meanings are not computed before idiomatic meanings.

The reverse option has also been investigated: Upon encountering an idiomatic expression, the idiomatic meaning is activated first, and if it cannot be integrated with the previous discourse, the nonidiomatic meaning is constructed. A number of online studies show that expressions are processed faster in their idiomatic sense than in their nonidiomatic sense. It might therefore be concluded that the idiomatic interpretation is processed before the nonidiomatic interpretation.

An alternative hypothesis is that the idiomatic and nonidiomatic interpretations are considered in parallel. The fact that idiomatic expressions are processed faster in their idiomatic sense than in their nonidiomatic sense then could be due to the fact that the meaning of idioms does not have to be computed but may be found in the lexicon, thereby reducing processing time.

This Volume.   The chapters in the present volume deal with a perhaps more interesting, inquiring question not when but rather, how idioms are processed. Of course, the question of processing is intimately related to that of the way idioms are stored in the mental lexicon.

Tabossi and Zardon (this volume, chapter 11) explicitly discuss several alternative ways of storing idioms that have been proposed in the psycholinguistic literature. These authors conclude that accessing an idiom is a fundamentally different process than that of accessing the meaning of a single word. Idioms are not stored in the same way that words are. The activation of idiom meaning is slower than the activation of word meaning and is more dependent on various contextual factors than the activation of word meaning. Similarly, Cacciari and Glucksberg (chapter 2) present some evidence that the concrete meaning of an idiom is much easier to generate than an abstract, figurative one. This is not what one would expect if the figurative meaning of an idiom is retrieved from storage in the same way that the meaning of a single word is extracted. Why then is activating the figurative meaning more difficult than activating the literal meaning?

The answer might be that a better way to describe idiom comprehension is not as the activation of prestored information that fully describes the figurative meaning, but as the activation of prestored information that is used to generate figurative meaning. The meaning is not retrieved as a whole but is partly constructed on the basis of compositional processes, in this view (Tabossi & Zardon (this volume, chapter 11)). However, the data presented by Van de Voort and Vonk (this volume, chapter 12) suggest that stored idiomatic information may play an important role. Their finding that internal modification of idioms affects

their immediate processing, whereas external modification does not, cannot be explained when only compositional processes play a role in idiom processing.

These compositional processes form the core topic of Gibbs' chapter 5 in the present volume. In Gibbs' view conceptual metaphors provide (part of) the link between idiomatic expressions and their overall figurative meaning. The different meanings of the parts of an idiom do play an important role in the figurative meaning. But lexical meanings are not enough to account for figurative meaning, and Gibbs' claim is that cognitive metaphors mediate here. This would entail that some of the processes underlying idiom processing would be similar to those processes necessary for comprehension of metaphoric expressions. However, the issue of the role of compositional processes in idiom processing is not yet settled (Van de Voort & Vonk (this volume, chapter 12)).

It is clear that psycholinguistic research on idiom processing has now identified some crucial factors that codetermine how idioms are being processed. A consensus has begun to appear to the effect that idiom processing is not just retrieval of prestored information. The actual, computational mechanisms that underlie idiom processing, however, are still unknown.

CONCLUDING REMARKS

In this introduction, we have discussed what this volume is about. Let us take a quick look at what it does not include. What the reader will not find in this book is work in the lexicographic tradition (as already noted), although there is a vast amount of literature in this area. Furthermore, one could say that this book highlights developments only in, say, Anglosaxon linguistics, without taking, for instance, the continental tradition into consideration. Moreover, whereas the reader will find some computational work in this book (Abeillé (chapter 1); Schenk (chapter 10)), we have not included work on idioms directed at non-linguistic aspects of the representation and processing of idioms.

Even if the work mentioned is taken into consideration, there are several questions that are not yet part of idiom research. A first question is, Why are there idioms in language at all? Can the mere existence of idioms be explained on the basis of increased expressivity without the addition of new phonological forms to a language? An idiom like *to break X's heart* is difficult to paraphrase. If there were no idiom to express the meaning of *to break X's heart*, the way to express this meaning would be long-winded and maybe even less telling than the idiom. Or are idioms with us because they can be processed efficiently, that is, because the meaning does not have to be computed in the interpretation process? This matter is far from clear at the moment. A second question concerns the generation or production of idioms: Is the use of an idiom to express something due to stylistic factors? Are idioms used because they have different meanings? In Zeevat (chapter 13) we find some observations about this, but more research is

necessary here. Third, how do we learn fixed phrases, once we have acquired words? Perhaps even this question is wrong, and it should be, How do we learn words once we have acquired fixed phrases? Last but not least, theoretical work raises questions regarding the actual use of idioms in natural language. In the chapters by Abeillé (chapter 1), Drew and Holt (chapter 6), and Nicolas (chapter 9), one witnesses a wish to go beyond the current methodology of theoretical linguistics that bases itself on intuitions, and to explore large corpora for this purpose.

Because there are more questions concerning idioms than are addressed in this volume, we can conclude that this book will not be among the last collections on idioms (compare Cacciari & Tabossi (1993)). Idioms are an intriguing topic and will be part of our linguistic enterprise in the future.

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