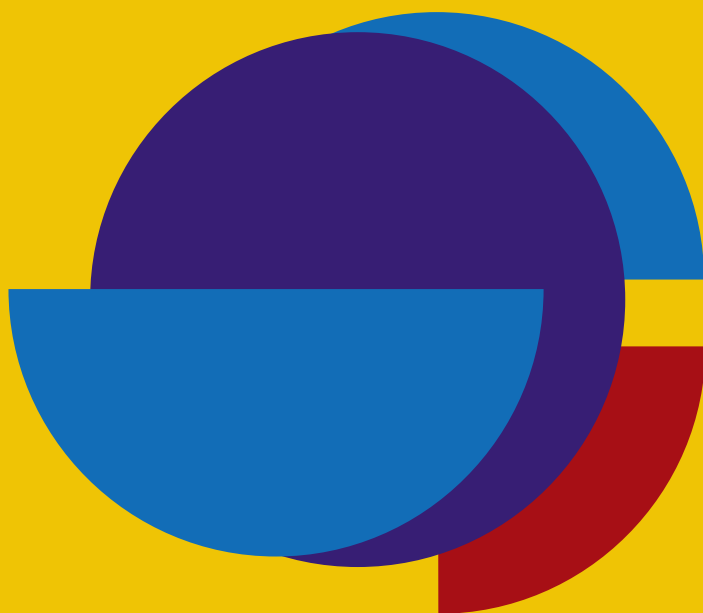


Metaphor Identification in Multiple Languages

MIPVU around the world

Edited by Susan Nacey,
Aletta G. Dorst, Tina Krennmayr
and W. Gudrun Reijnierse



CONVERGING EVIDENCE IN LANGUAGE AND COMMUNICATION RESEARCH

22

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Metaphor Identification in Multiple Languages

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Volume 22

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MIPVU in multiple languages

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1.1 Why MIPVU in multiple languages?

“Metaphor is booming business” (Steen, Dorst et al. 2010b¹: 1). This statement is as true today as it was years ago when it first appeared in the groundbreaking volume, *A method for linguistic metaphor identification – From MIP to MIPVU*. The number of publications, conferences and workshops dedicated to metaphor only seems to be increasing, as do the number of contributions that are explicit about the metaphor identification method that has been applied. And, perhaps inspired by the emerging rigor in the field, additional explicit methods for identifying figurative language have emerged, such as methods for the identification of verbal irony (Burgers et al. 2011), hyperbole (Burgers et al. 2016), and deliberate metaphor (Reijnierse et al. 2018). Protocols or guidelines also now exist for identifying metaphor in visuals (see Negro, Šorm & Steen 2017; Steen 2018), gesture (Cienki 2017), and American Sign Language (Rousch 2018).

These developments have moved metaphor research forward. The academic community is clearly taking metaphor identification seriously, in the goal of producing reliable, replicable, and theoretically valid metaphor research. However, being both experienced metaphor identifiers and (native/highly proficient) speakers of languages other than English (Austrian German, Dutch, French, German, Norwegian), we have long felt that what has been missing so far are protocols for identifying metaphor in languages other than English. Seminal works on how to identify and analyze metaphor in discourse, such as Cameron & Maslen (2010), Charteris-Black (2004), Pragglejaz Group (2007), Heywood, Semino & Short (2002), remain heavily biased towards English.

1. For ease of reference, this publication is referred to as Steen, Dorst et al. (2010b) in this chapter, even though one of its co-authors – Pasma – is not a co-author of Steen, Dorst et al. (2010a).

Through our experiences with teaching courses in metaphor identification as well as other interaction with the scientific community, we have come into contact with students and colleagues who have already tried to systematically apply MIP or MIPVU to texts in languages other than English. Overall, such applications are quite successful because it has proven possible to apply the general principle of contrasting and comparing contextual and basic meanings of words to virtually every language. However, when it comes to the more nuanced details of the protocol, researchers found themselves struggling to adjust the method in ways that would address language-specific issues. Publications started to emerge where researchers explained how they adjusted MIPVU to other languages (e.g. Badryzlova et al. 2013 on Russian), but these appeared in piecemeal fashion. The time was ripe to systematically collect the experiences of a number of scholars who have applied MIP or MIPVU to a variety of languages and who have, in the process of so doing, adapted the original metaphor identification procedure to make it work for the languages they are researching.

The aim of this volume is to bring together adjustments and adaptations of MIP and MIPVU across a range of different languages and language families into one coherent overview. While some of the chapters provide a detailed account of an adjusted procedure in terms of reliability and application to a (relatively) large amount of data, other chapters have a more explorative, qualitative character. The chapters explicitly discuss how to handle both operational issues (e.g. the availability of dictionaries, tools for Part-of-Speech annotation, polyword lists) and language-specific features. Together, the contributions to this volume provide invaluable insight into the many different issues that require consideration when applying MIP or MIPVU to authentic discourse in languages other than English, as well as into some issues that arise when working with English as a *Lingua Franca*.

The present chapter provides background information about MIP and MIPVU and goes on to explain the structure of the volume. Section 1.2 discusses methods for linguistic metaphor identification, beginning with a brief overview of the development of MIP and MIPVU in Section 1.2.1. Section 1.2.2 then explains the main differences between MIP and MIPVU, while Section 1.2.3 looks at some possible 'rival' metaphor procedures and contrasts them to MIP/MIPVU. This section also touches on some of the different types of research that has hitherto been conducted through employing (some variation of) MIP or MIPVU. The chapter continues with Section 1.3, which contextualizes the procedures through an interview with Gerard Steen in which he reflects on the past, present and future of linguistic metaphor identification. We then explain in Section 1.4 how we envisage readers will work with our volume: that is, not necessarily by reading straight through from the first to the final page. Finally, Section 1.5 concludes by providing an overview of the chapters that follow.

1.2 Methods for linguistic metaphor identification

Lakoff and Johnson's (1980) observation that metaphor is a central aspect of our daily lives, both in language and in thought, created a widespread interest in the analysis of metaphor. As Johnson wrote in 1981,

We are in the midst of a metaphormania. Only three decades ago the situation was just the opposite: poets created metaphors, everybody used them, and philosophers (linguists, psychologists, etc.) ignored them. Today we seem possessed by metaphor. As Wayne Booth has mused, judging from the jump in interest in metaphor between 1940 and the present, if we extrapolate to the year 2039, there will be more students of metaphor than there are people. (Johnson 1981: 9)²

Much recent research into metaphor still takes its starting point in the basic tenets of Conceptual Metaphor Theory (CMT), according to which metaphors in language are reflections of underlying mappings between conceptual domains. However, the CMT's intuition-based approach to linguistic metaphor does not cater to the systematic identification of the manifestations of metaphor in authentic discourse (Semino 2008). In the absence of an analytical tool for metaphor identification, researchers therefore simply had to rely upon their own intuitions. Intuition is hardly a reliable instrument, as it leads to inconsistency; it necessarily varies from individual to individual, depending upon measurer bias, and it even varies in terms of decisions made by the same individual at different times. As a result, the need for an explicit method for the identification of linguistic metaphor became more widely recognized (see e.g. Cameron 1999, 2003; Charteris-Black 2004; Cienki 2008; Semino, Heywood & Short 2004; Steen 2002).

1.2.1 The development of MIP and MIPVU

In the year 2000, ten metaphor researchers from different disciplines formed what became known as the Pragglejaz Group (Steen 2002). The goal of this group was to discover whether a consensus could be reached about what constitutes metaphor, in order to subsequently develop a set of clear guidelines enabling researchers to identify linguistic metaphor in a valid, transparent and consistent way. Such guidelines are considered "essential toward placing interdisciplinary metaphor research on a firm empirical footing, which implies that the results of [the] analyses can be verified and replicated" (Gibbs 2010: 9). The Pragglejaz Group published the fruits of their collaboration in a 2007 article, *MIP: A method for identifying metaphorically used*

2. Johnson (1981: 10) provides the following source for the Booth contention: Wayne C. Booth, "Metaphor as Rhetoric: The Problem of Evaluation" *Critical Inquiry* 5, no. 1 (1978): 49–72.

words in discourse. Here, they introduced the Metaphor Identification Procedure (MIP), a protocol also known as the *Pragglejaz procedure*. MIP is intended as a reliable, replicable, and theoretically valid procedure for identifying linguistic metaphors in contemporary language – that is, metaphorical expressions in the language of written and spoken discourse. The procedure details how to identify metaphorically used words, or *indirect metaphors*.³ Specifically, MIP consists of a series of steps that helps an analyst determine whether there is a contrast and comparison between the contextual and a more basic sense of a lexical unit (which typically corresponds to the orthographic word; Pragglejaz Group 2007: 3).

As an example, in Bruce Springsteen's lyrics *I'm on fire and born to run*, the word *fire* is classified by MIP as an indirect metaphor: the contextual sense of this lexical unit is 'strong feelings such as anger or enthusiasm', while a more basic, concrete sense is 'flames and heat from something that is burning in an uncontrolled way'. These meanings are considered sufficiently distinct by virtue of being listed as separate entries in the corpus-based, contemporary English *Macmillan English dictionary for advanced learners* (the procedure's primary recommended 'go-to' dictionary; Pragglejaz Group 2007: 16). In addition, these two senses are related through comparison: strong emotions can be compared to flames and heat. Later empirical studies showed that indirect metaphors are by far the most frequent type of metaphor, accounting for almost 99% of all metaphor depending upon text type (Steen, Dorst et al. 2010a: 784).

In a subsequent large-scale research project, MIP was applied to a corpus of texts from four different registers (fiction, academic discourse, conversations, and news). This work led to the development of MIPVU, an extended version of the original protocol, that was published in the 2010 volume *A method for linguistic metaphor identification: From MIP to MIPVU* (Steen, Dorst et al. 2010b). The MIPVU procedure is reproduced with permission as Chapter 2 of this volume (see Nacey 2013: 65–69; Steen 2002; Steen 2017: 73–74 for further accounts about the development of MIP and MIPVU).

1.2.2 MIP vs. MIPVU

The main difference between MIP and MIPVU is that, while the former is restricted to the identification of *indirect metaphor* only, the latter procedure also allows analysts to identify two additional types of metaphor: *direct metaphor* and

3. Note that the distinction between indirect and direct metaphor is made by MIPVU, but not by MIP (Steen, Dorst et al. 2010a). MIP was developed to identify indirect metaphors only, and used the term *metaphorically used words* to refer to these (Pragglejaz Group 2007). For the sake of clarity and consistency, however, we already adopt MIPVU terminology here.

implicit metaphor. In direct metaphors, there is no contrast between the contextual and basic senses of the word in question, even though an underlying metaphorical comparison is evident. In such cases, the metaphor is expressed through ‘direct’ language. Going back to Bruce Springsteen’s lyrics discussed earlier, consider the line about a man who *end[s] like a dog that’s been beat too much*. Here, the contextual ‘animal’ sense of the lexical unit ‘dog’ is the same as the more basic sense of the word. Given that the line refers to a person, however, there is clearly an underlying cross-domain mapping at play, signaled here by the preposition *like* – what MIPVU terms a *metaphor flag* (*MFlag*; see Chapter 2, this volume: p. 41).

The third type of metaphor that may be identified using MIPVU, *implicit metaphor*, consists of cohesive grammatical or semantic links that refer to recoverable metaphors. Examples of implicit metaphors are demonstrative pronouns (e.g. *that*, *this*) that refer to an indirect metaphor that is used earlier in a text. Although they contribute to the overall metaphor density of any given text, implicit metaphors are arguably less interesting for most studies involving discourse analysis.

A further important innovation of MIPVU is the inclusion of additional terms needed for linguistic metaphor analysis (beyond the term *MFlag*). All indirect metaphors (i.e. those metaphors identified by both MIP and MIPVU) derive their metaphorical status from a comparative contrast between contextual and basic senses. For direct and implicit metaphors (i.e. those metaphor types identified only by MIPVU), by contrast, an underlying conceptual metaphor is realized by words that are *not* used metaphorically themselves. As a result, the MIPVU protocol introduced the term *metaphor-related words* (MRWs), a term that encompasses all three types of metaphor.

Moreover, MIPVU introduced tags including *When in doubt, leave it in* (WIDLII), and *Discard for metaphor analysis* (DFMA). WIDLII allows for the retention of borderline cases where ambiguity may prevent the precise determination of contextual meaning, as well as cases involving the sometimes fuzzy distinction between metaphor and metonymy. DFMA is reserved for those instances where metaphor identification is simply not possible; we occasionally find this in, for instance, disfluencies in (transcribed) speech, such as when a word is truncated and the analyst is unable to determine the intended lexis with certainty (see e.g. Nacey 2013: 69–79 for a more detailed description of the differences between MIP and MIPVU).

In addition to accounting for more types of metaphors (direct, implicit) and providing additional codes for metaphor flags and unclear cases (WIDLII, DFMA), MIPVU introduces a series of additional rules for the analysis of specific grammatical features. In contrast to MIP, MIPVU does *not* allow comparison of contextual and basic meanings across word class boundaries. Whereas the Pragglejaz Group (2007: 16) considered words belonging to different word classes a single lexical unit, the MIPVU protocol requires that contextual and basic meanings be compared

within the same grammatical category. As an example, while MIP thus allows analysts to compare the sense entries of *dog* (noun) with *dog* (verb) for metaphor, MIPVU treats these two words as distinct lexical units whose senses cannot be compared. A parallel rule extends to different types of verbs (such as linking verbs, primary verbs, etc.), to transitive versus intransitive uses of verbs, and also to countable versus uncountable nouns. The basic justification for such modifications is that words in discourse need to be analyzed in the morphological and syntactic context in which they appear, rather than from which they are derived (which would entail a different type of research, into the morphological structure of the language; Steen, Biernacka et al. 2010: 175).

Furthermore, MIPVU also provides detailed criteria for determining whether a lexical unit is used metaphorically, by (for instance) giving detailed instructions for identifying contextual and more basic meanings, as well as for deciding about whether they are sufficiently distinct, yet similar at the same time. All in all, while the basic rules for deciding whether a word is used metaphorically are identical in both MIP and MIPVU, the later protocol is a more detailed, extended version of its predecessor.

1.2.3 Other methods for linguistic metaphor identification

Arguably the most common alternative to MIPVU for identifying metaphor, over time, has been reliance upon intuition (see e.g. Kövecses 2011), whereby a scholar proclaims what is (and is not) linguistic or conceptual metaphor. As pointed out in Section 1.2.1, such a situation is problematic, in part because “variability in intuitions, and lack of precision about what counts as a metaphor, makes it quite difficult to compare different empirical analyses” (Pragglejaz Group 2007: 2). Indeed, intuition does not actually constitute a method, and can neither be taught nor learned (Cienki 2008: 254). Nowadays, however, “the problem of metaphor identification in language is by and large under control. Linguists now have a range of methods to choose from ...” (Steen 2017: 74). Apart from MIP and MIPVU, on which this volume focuses, other metaphor identification procedures are available to researchers that do not rely primarily on intuitive analysis. At the core of many of these various metaphor identification procedures is a shared understanding that metaphorical words involve some form of contrast between two semantic domains or areas – that is, a metaphorical word displays some sort of contextual ‘incongruity’ that may be examined against a set of defining criteria of linguistic metaphor.⁴

4. Note, however, that Loewenberg (1981) attempted to develop a system from a philosopher’s viewpoint for identifying (some) metaphors, analyzing them as “statements without truth value”.

Kittay, for instance, proposed a metaphor identification procedure that pre-dates the Pragglejaz work by nearly two decades, aiming to specify “what is required of an utterance and its accompanying circumstances for us to *correctly* characterize an utterance as a candidate for a metaphorical reading” (Kittay 1984: 191, italics in the original). Importantly, she observes that no word is inherently metaphorical, meaning that the only way to determine whether a word is metaphorically used is by considering the word in context. She proposes four necessary but sufficient conditions that have to be met for a word to be considered a metaphor, one of which is that “the utterance, taken along with its context, displays a discernible oddity or (...) is announced to be metaphorical” (Kittay 1984: 190). Such an oddity, she suggests, might arise out of, for example, an incongruity between first- and second-order interpretations of a word, i.e. between what MIPVU terms the contextual versus a more basic meaning. To the best of our knowledge, Kittay’s (1984) procedure did not gain much ground in metaphor studies, and has not been tested empirically.

More recent methods that have attracted a fair amount of attention from metaphor researchers include Charteris-Black’s (2004) and Cameron’s (2003) approaches to metaphor identification (see Steen 2017). Charteris-Black’s (2004) approach to metaphor identification involves a close reading of a small sample of text with the aim of finding metaphor candidates. These terms are then measured against specific criteria used to define metaphor, specifically “the presence of incongruity or semantic tension – either at linguistic, pragmatic, or cognitive levels – resulting from a shift in domain use – even if this shift occurred some time before and has since become conventionalized” (Charteris-Black 2004: 35). Words that have been identified in this way as being commonly used in a metaphorical sense are then classified as keywords, and utilized as search terms in a larger corpus, in order to find more examples of these metaphors. Other scholars have suggested variations of using key terms to aid in extracting metaphors from a larger corpus (see e.g. Koller 2004; Stefanowitsch 2006). Charteris-Black’s approach differs from these approaches in that he also provides a means for deciding why a particular word is judged as a metaphor. However, his procedure lacks sufficient detail to be applied in a reliable and replicable way by different researchers.

Cameron’s (2003) *Metaphor Identification through Vehicle terms* procedure (MIV), was developed more or less concurrently with the Pragglejaz Group’s (2007) MIP protocol (see also Cameron & Maslen 2010). Some of the underlying tenets of MIV are based on and/or agree with those of MIP. For instance, the ultimate goal of both procedures is to develop an operational definition of metaphor ideally

She also (correctly) predicted, “I doubt very much that this paper will be the last word on the problem of identifying metaphors” (Loewenberg 1981: 177).

enabling researchers to identify all words in a particular piece of discourse that are metaphor. Moreover, as in Kittay's (1984) proposal, MIV aims to identify text that "can be justified as somehow anomalous, incongruent, or 'alien' in the on-going discourse, but that can be made sense of through a transfer of meaning in the context" (Cameron & Maslen 2010: 102). The main difference between MIV and MIP/MIPVU, however, is that MIV maintains that a metaphor may extend beyond a single word, while MIP and MIPVU take the lexical unit as the unit of analysis. Grounded in a discourse dynamics approach, MIV finds metaphor in individual words, but also in chunks of language: contextually incongruous terms that function as *metaphor vehicles*. As an example, Cameron and Maslen (2010: 108) explain that a phrase such as *flaw in the system* would be analyzed as three metaphorical words by MIP (*flaw, in, system*), but as a single metaphor vehicle by MIV. The 'trick' with MIV then lies in deciding where a vehicle begins and ends – a borderline that is sometimes fuzzy.

While various other procedures for the manual identification of linguistic metaphor have thus been introduced over time, the MIPVU protocol currently offers the most thorough and well-tested guidelines (Steen 2017: 74). Since the publication of the Pragglejaz Group (2007) paper and Steen, Dorst et al.'s (2010b) book on MIPVU, the metaphor identification procedure has been adopted (or adapted) in a large number of studies. These include the investigations that were carried out during the development of MIPVU into the prevalence of metaphor in different registers: fiction (Dorst 2011), written academic discourse (Herrmann 2013), everyday conversations (Kaal 2012) and news (Krennmayr 2011). Others have used MIP or MIPVU to study the use of metaphor in a range of other settings or text types, including in corporate communication (e.g. Cornelissen 2012), health communication (e.g. Bates 2015; Semino et al. 2017), music discourse (Pérez-Sobrinó & Julich 2014), university lectures (e.g. Beger 2011; Low et al. 2008), and foreign language learning (e.g. Littlemore et al. 2014; Nacey 2013). Further uses of the procedures have been to e.g. create valid stimulus materials for experimental research (e.g. Boeynaems et al. 2017; Reijnierse et al. 2015). In short, MIP and MIPVU have successfully addressed a need in the research community for a valid, replicable and transparent metaphor identification procedure – at least when it comes to English discourse. The time is now ripe to direct focus to their application to languages other than English.

1.3 Perspectives on the past, present and future of linguistic metaphor identification: An interview with Gerard Steen

You were the person who brought together the PRAGGLEJAZ Group (Peter Crisp, Ray Gibbs, Alan Cienki, Graham Low, Gerard Steen, Lynne Cameron, Elena Semino, Joe Grady, Alice Deignan and Zoltan Kövecses), 10 scholars from widely different backgrounds, disciplines and approaches to metaphor analysis that developed MIP in 2007. Why these particular people?

The Pragglejaz group were a mix of metaphor scholars who all shared one goal: to develop a reliable method for metaphor identification ‘in the wild’ given the promise and success of the cognitive linguistic approach since 1980. This goal was a methodological goal that aimed for maximum coverage of the phenomena involved: we wanted to cater to literary versus non-literary texts (e.g. Crisp, Semino, and myself), written versus spoken discourse (e.g. Cameron, Deignan, Low), patterns of metaphor use across different languages (e.g. Cienki, Deignan, Kövecses), while at the same time having expertise about metaphor as cross-domain mappings (e.g. Cienki, Gibbs, Grady, and Kövecses), linguistic manifestations of metaphor in a wide range of linguistic forms (e.g. Crisp, Semino, myself), and about the way all of these phenomena could be observed, manipulated and even applied in production, reception, interaction, and cultural as well as historical processes (more or less all of us). It has been essential for the development of the tool as an instrument for the analysis of the semiotic structure and function of metaphor in language use and discourse to have this expertise round the table, in order not to conflate structure with process, one of the big problems in metaphor research.

Was it important to include people from different theoretical and methodological backgrounds? Did these differences lead to any particular hurdles or conversely, to interesting new insights into metaphor identification issues?

Different theoretical backgrounds needed to be represented, because the cognitive-linguistic approach was clearly dominant yet at the same time could not be taken as gospel truth. Its emphasis on the tight connection between language and thought, for instance, is just one way of looking at metaphor in language use and discourse that is not endorsed by all linguists and other researchers. Alternative views needed to be taken into account in order not to bias the development of the instrument into just one direction for just one part of the phenomenon.

Similarly, different methodological skills were needed to bring together all of these insights into one simple and generally acceptable tool as well. This was the reason we wanted expertise in lexicography (Deignan, Kövecses), text analysis (Crisp, Semino, myself), conceptual analysis (Cienki, Gibbs, Grady, Kövecses), conversation analysis (Cameron, Low), and psychological experiments (Gibbs, myself).

With all of this variegated expertise, we guaranteed that we did not make unwarranted assumptions from just one perspective while trying to remain as maximally inclusive as was needed for the aim of the tool.

People who are new to MIPVU often think it is 'only a method' and remain unaware that it is part of a theoretical tradition and presupposes a particular approach to and definition of metaphor. Can you comment on how you see the relation between metaphor theory and MIPVU?

Methods are tools to measure theoretical constructs. MIPVU is an extension of MIP, which attempted to measure the linguistic manifestation of metaphor as a cross-domain mapping in thought, largely in the tradition of cognitive linguistics. This is the theoretical starting point which drives all of MIPVU. For instance, MIP and MIPVU do not assume that metaphor as a cross-domain mapping in thought is necessarily conventional or systematic, as with conceptual metaphor. It can be used in such work, but MIP and MIPVU do not make this assumption: they only assume that metaphor in discourse can be measured as a manifestation of cross-domain mappings in thought. In that sense, MIP and MIPVU measure something that is theoretically quite specific.

MIPVU also does this in a certain way: it relies on the contrast but comparability between distinct word senses as manifestations of different underlying concepts. When metaphors are defined as cross-domain mappings, they involve distinct concepts that are comparable across conceptual domains, as is clear from most cognitive-linguistic and related work on metaphor in language use. This means that the method makes quite a few assumptions about words, senses, and concepts as well as distinction and comparability; these assumptions need spelling out and operationalization in order to work as part of the tool for measurement. In that sense, again, MIPVU measures something that is theoretically quite specific.

Do you feel the use of MIPVU is equally relevant and necessary for all kinds of metaphor research?

Any analysis of language use or discourse that makes claims about the structure, function or processing of metaphor along the above theoretical lines needs to be able to show that the relevant expressions can be reliably identified as related to metaphor in the way spelled out by MIPVU or some comparable procedure. It helps researchers to be precise, explicit and consistent in their work, and it helps other researchers to be fair to previous work because they can apply the same criteria when attempting to check or replicate research. This does not mean that every research project needs to run a complete MIPVU analysis across all of the relevant data all the time. This depends on the goal and nature of the research. And if such a complete analysis is not conducted, then research reports should signal that their data collection and analysis may not be as reliable as is optimally

possible, which in turn has consequences for the reliability and validity of the results and conclusions.

But comparisons of metaphor use across languages, for instance, need to take a stand on how metaphor can be found in those languages in the same way, for methodological consistency is crucial for any comparison across phenomena. MIPVU can alert researchers to the differences between the two sets of phenomena by forcing them to consider the data in exactly the same way. Something similar applies to any comparison of metaphor use between categories within one language, for instance between different kinds of language users, domains, registers, and so on. What counts as a distinct word, sense, concept, and so on in such comparisons needs to be stable in order to apply the same theory and method across different studies.

What are the limitations of MIPVU? What does the method not do for metaphor analysts?

The biggest limitation of MIPVU is that it makes assumptions about the relation between words, senses, and concepts from a limited linguistic perspective – precisely the reason why this book is so needed. But this is also its strength: MIPVU illustrates how metaphor research in the past four decades has taken languages like English, French, German and Dutch as a useful starting point for coming to terms with the big issue of how metaphor in thought is manifested in metaphor in language use. The challenge now is to see how the assumptions and findings for these languages can be compared with the situation with other, radically different languages.

What MIPVU also does not do is specify the nature and content of the underlying cross-domain mapping. All it delivers is the words that are presumably related to some underlying conceptual domain functioning as a source for a metaphor mapping – however, exactly what that source domain is and how it is related to the target is an open issue which requires additional analysis. For discourse analysis, this can be done by means of my five-step method, where the first of the five steps is MIPVU to identify the potential metaphor-related words (MRWs). The remaining steps uncover the underlying cross-domain mappings; in this way, the five-step method acts a wider theoretical framework for MIPVU. Since MIPVU does not deliver cross-domain mappings, it certainly does not produce manifestations of conceptual metaphors. The MRWs identified through MIPVU need to be independently sorted and grouped in terms of conceptual structures, as is for instance also done by Lynne Cameron's approach to systematic metaphor [Editors' note: see e.g. Cameron 2007].

What is more, MIPVU does not inform researchers whether the identified MRWs were processed by means of cross-domain mappings in the mind of the sender or the receiver. It only points to meaning structure in language use. Their

relation to meaning structures in thought is already problematic and may pertain to structures in conceptual systems that are social and historical rather than individual – but even these are reconstructions of meaning, not of psychological processes. MIPVU cannot get near those phenomena because it simply looks at structures and function and does not examine psychological processes and products. And finally, MIPVU does not necessarily yield a reliable dataset either. It takes researchers a long time to learn how to apply the procedure, and when they have acquired it, they may still make quite a few mistakes – as is only natural. Therefore, reliability always needs to be checked and reported.

A method for linguistic metaphor identification was published in 2010, after an investment of many years' work. What did you hope would result from its publication and has that result been realized? Any unanticipated results?

My main hope was that metaphor researchers looking at language use would become aware of the methodological issues involved in this work. I also meant for the book to be a follow-up to the 2007 MIP article by the Pragglejaz Group: in the research project where we applied MIP, we found how many open issues there still were and we hoped that spelling them out would help other researchers and improve the state of the art. If we want to increase the quality of linguistic research into metaphor up to a level that is acceptable for social and cognitive science researchers (as was the goal of the Pragglejaz Group), we need to play the game with generally accepted rules of conducting good research, and this requires a generally accepted method for observing (measuring) this slippery phenomenon called metaphor. Judging by conference talks, journal publications, and references to the book, this goal has clearly begun to register with many metaphor researchers.

The biggest unanticipated result of the book is the fact that it forms an important theoretical and methodological basis for the development of what has come to be called Deliberate Metaphor Theory. The notion of direct metaphor, encompassing simile and other forms of direct expression of the source domain of cross-domain mapping, has been essential for postulating that some metaphors are expressed *as* metaphors while most others are not. This has led to the more general notion that some metaphors are used as metaphors in communication, while most metaphors are not, which in turn has led to the distinction between deliberate and non-deliberate metaphor. I am extremely happy that the methodological distinction between direct and indirect metaphor has proved to be autonomously productive in theory, method and research in this unanticipated way.

Another unanticipated result of the MIPVU book is that we now also have other identification procedures which have been developed along the same lines. There is VIP, the Verbal Irony Procedure developed by Christian Burgers, and HIP, the Hyperbole Identification Procedure, developed by Christian and myself

together with Kiki Renardel de Lavalette and Britta Brugman. Moreover, MIPVU has been the basis for what has come to be called Deliberate Metaphor Theory, and the brand-new Deliberate Metaphor Identification Procedure, developed by Gudrun Reijnierse. All of these are procedures that enlarge the toolkit of linguists and discourse analysts interested in the reliable identification of figuration ‘in the wild’ from one consistent and encompassing but specific perspective. [Editors’ note: Cienki’s 2017 metaphor identification guidelines for gesture as well as a procedure for visual metaphor identification may be added to the list of MIPVU-inspired spin-offs. References for all these procedures are found at the end of this chapter.]

How would you sum up and characterize the reception that MIPVU has received in the scientific community, both positive and negative?

I see two main responses: one that is positive about the extension and refinement, and one that is a little hesitant about the laborious nature of the procedure. For instance, the refinement leading to the distinction between direct and indirect metaphor has clearly been useful to quite a few researchers, and it has generated new studies taking into account the function of the distinction. At the same time, most studies including a part involving metaphor identification seem to prefer MIP to MIPVU, simply because it looks easier to apply. My response to the latter tendency is critical: MIP leaves open many decisions to researchers, which in itself is fine, but then the research report should include how they have addressed these issues and in fact have applied MIP in their actual practice. Checking these decisions would almost naturally include running by the issues in MIPVU, so that the question arises why not apply MIPVU: after all, it has been shown to be potentially reliable and has produced results in a relatively bigger corpus on the distribution of metaphor that may serve as a basis for comparison with any other project.

Since 2010, many researchers have ‘translated’ the procedure to different languages – as we see in the current volume. What is the next step for MIPVU?

The next step is for MIPVU to be automated. It would be such a help if we can run bulk analyses of large data sets in the same way across many domains between different languages. I cannot wait until that day arrives ...

[Editors’ note: There have already been efforts exploring automatic metaphor identification, in particularly in computational linguistics and Natural Language Processing research (Neuman et al. 2013; Veale et al. 2016), to speed up the process and allow for metaphor identification in a greater amount of text that has hitherto been possible. One example is Tony Berber Sardinha’s Metaphor Identifier (see e.g. Berber Sardinha 2010), an online tool that works with Portuguese text and identifies words that are likely to be metaphor vehicles in a corpus. It calculates the average probability of a word being metaphorical, based on knowledge gained

from a manually-coded training corpus. A second example is provided by Rai et al. (2016), who employed a Conditional Random Fields (CRF) classifier to detect metaphor with some degree of accuracy, testing their method on the VU Amsterdam Metaphor Corpus which has been already annotated using MIPVU and is freely available online.⁵ CRF requires further testing and does not yet seem user-friendly, in the sense that other researchers could easily apply it to their own texts. Nevertheless, such developments are promising. Programs that can identify metaphorical language automatically can be run on huge amounts of texts that cannot be realistically be coded by hand, which could add bulk to any statistical analysis. As such, we agree with Gerard Steen when he says that developing automatic metaphor identification is a pressing next step in metaphor identification.]

1.4 How to read this volume

The contributions brought together in this volume are intended to help researchers to better understand MIPVU, and to increase awareness of issues related to its application to both English and to languages other than English. Although readers are welcome to read the entire volume, we envisage that researchers interested in particular languages or language families will skip directly to the relevant chapters, all of which therefore function as self-contained chapters. This means that all authors have been invited to introduce relevant terminology as if for the first time, rather than expect readers to be already familiar with MIP/MIPVU jargon. As an example, many chapters mention the *List of Multiwords and Associated Tags in BNC2* that Steen, Dorst et al. (2010b) advocate analysts to consult for the determination of polywords, and our contributors also provide its website address. As the editors of this volume, we chose to retain such information in each of the individual chapters, rather than to consolidate it in one location. Although this leads to some repetition in the volume as a whole, it provides convenient access to information for those readers mainly interested in one particular language, allowing them to avoid having to flip back and forth between the chapter(s) of greatest interest to them and a glossary of terms.

The heart of this volume consists of eleven chapters (4–14), all of which present adaptations of MIPVU to different languages. Some of the languages highlighted here were selected because they were the working languages of metaphor researchers who we knew actively worked with MIPVU and could therefore contact directly. Others, by contrast, ‘found’ their way to us through a call for chapters that we released in early 2016, asking for contributions discussing theoretical or practical

5. The VU Amsterdam Metaphor Corpus is available at <http://metaphorlab.org/metaphor-corpus/>.

issues raised by application of MIP or MIPVU to any language other than English. Rather than demanding any particular form, we offered a non-exhaustive list of potential topics or themes for authors to address:

- Demarcation of lexical units
- Choice of lexical tools (e.g. dictionaries, corpora)
- Identification of metaphor signals
- Metaphor identification in different text types
- Examples of MIP/MIPVU in practice in different languages
- MIP vs. MIPVU in different languages
- Adapted MIPVU guidelines
- Reliability testing

We fully acknowledge that reliability and replicability are the strongest features of MIPVU. Therefore, authors were invited to contribute a fully-fledged version of MIPVU for ‘their’ language, including adjusted guidelines and a demonstration of the application of those guidelines to discourse data. We also requested the provision of inter-rater agreement measures, whenever possible (a challenge especially in cases where researchers were working independently). Since one of our main goals for this volume was to show the reach of the method around the globe, and to encourage others to apply the procedure, we also welcomed more explorative attempts examining the possibilities of applying MIPVU to different languages.

Similarly, we acknowledge that MIPVU is a more detailed protocol than MIP. However, as the chapters in this volume show, most adaptations to the procedure are made regarding the identification of indirect metaphors – an issue that is relevant to both MIP and MIPVU. Given the overlap between the methods on this point, we accepted chapters that provide adapted versions of either MIP or MIPVU. Finally, we asked all contributors to provide illustrative examples of their adapted version of MIPVU to real-life discourse, and to provide additional information such as multiword lists, annotated texts, and so on. Information that might have been suitable for appendices has instead been uploaded to this volume’s website at the Open Science Framework (<https://osf.io/vw46k/>).

1.5 MIPVU in multiple languages

This volume primarily focusses on the application of MIPVU to multiple languages. That said, four of the volume’s chapters are more general, and intended for all readers: Chapter 1 (this introduction), Chapter 2, Chapter 3, and the afterword in Chapter 15. Our initial three chapters focus on various aspects of the original MIPVU protocol that was developed on the basis of, and for, the English language.

While this first chapter sets the scene by contextualizing the development of MIP and MIPVU up to this point in time, Chapter 2 consists of a reprint of the MIPVU guidelines developed for English, originally published as the second chapter in Steen, Dorst et al. (2010b) and entitled *MIPVU: A manual for identifying metaphor-related words*. Here **Gerard J. Steen, Aletta G. Dorst, J. Berenike Herrmann, Anna A. Kaal, Tina Krennmayr** and **Tryntje Pasma** guide readers through each of MIPVU's steps, showing how to apply it to English discourse. Although we envisage this book as a companion volume to Steen, Dorst et al. (2010b), it is also important that *MIPVU in multiple languages* function independently as a stand-alone volume. Chapter 2 therefore provides readers with a solid grounding in the procedural guidelines, necessary for fully understanding its adaptations to languages other than English.

Chapter 3, *What the MIPVU protocol doesn't tell you (even though it mostly does)*, picks up where Chapter 2 leaves off by offering guidance on what have proven to be the some of the lesser commonly understood points of the identification procedure. Here **Susan Nacey, Tina Krennmayr, Aletta G. Dorst, and W. Gudrun Reijnierse** share many of the lessons learned from their experiences teaching MIPVU to students and researchers eager to apply it to their own data. They explain some of the main pitfalls encountered by those new to the procedure, and offer advice about how to avoid them. This chapter is included in the present volume because it is crucial that researchers have a clear understanding of what MIPVU is and how it is intended to work on English discourse before they can adapt it to other languages. In addition, Chapter 3 discusses various considerations when deciding if MIPVU is the right tool for a research project, and in this way links neatly to Gerard Steen's contention in Section 1.3 that the decision to use MIPVU on some or all of your data depends on the nature and aims of your research. This chapter is thus an 'outlier' in terms of the book as a whole because it is intended primarily as a guide for novice MIPVU users, facilitating their employment of the procedure. Alternatively, the chapter may also be employed by more experienced MIPVU users, either as an aid when teaching the procedure to others or as a check against which to compare their own understanding of MIPVU.

We begin our look at MIPVU applied to multiple languages in Chapter 4, where **W. Gudrun Reijnierse** develops the French version of MIP: *Procédure pour l'Identification de Métaphores* (PIM). One particular focus of her work is exploring the possible consequences of dictionary selection for metaphor identification in French discourse. We then turn to Germanic languages, first with a reprint in Chapter 5 of **Tryntje Pasma's** work on applying MIPVU to Dutch, developed simultaneously with the original MIPVU protocol for English and also published in Steen, Dorst et al. (2010b; see also Pasma 2011). Chapter 6 continues with the development of MIPVU for German, written by **J. Berenike Herrmann, Karola Woll, and Aletta G. Dorst**, with most sections concluding with clear guidelines to

help future researchers. Finally, **Susan Nacey**, **Linda Greve**, and **Marlene Johansson Falck** present Scandinavian MIPVU in Chapter 7 – that is, they present a single set of guidelines to apply MIPVU to Danish, Norwegian and Swedish, that varies only with respect to the polyword lists and selected dictionaries for these three closely related, mutually intelligible languages.

We then move on to Chapter 8, with **Justina Urbonaitė**, **Inesa Šeškauskienė** and **Jurga Cibulskienė**'s work on the application of MIPVU to Lithuanian discourse. Lithuanian is one of two surviving Baltic languages of the Indo-European language family, and is known for its extremely rich grammatical and derivational morphology – some of which presents challenges that are discussed here for MIPVU. Chapter 9 continues with **Joanna Marhula** and **Maciej Rosiński**'s development of MIPVU for Polish, a West Slavic language. Similar to Lithuanian, Polish too is a highly inflected language, also characterized by a rich derivational morphology, which Polish MIPVU has to tackle. In Chapter 10, **Ksenija Bogetić**, **Andrijana Bročić**, and **Katarina Rasulić** also deal with the application of MIPVU to a Slavic language – in their case, Serbian. Among other aspects, they focus on how MIPVU may be adapted for languages that have a rich nominal inflection and preposition-less realizations of case.

Chapter 11 turns to a language belonging to the Turkic language family, where **Sila Gen Kaya** discusses the application of MIP to Uzbek. Here she discusses issues particular to Uzbek, such as how to employ MIP in a language with case markers rather than prepositions. Gen Kaya's chapter is followed by Chapter 12, where **Ben Pin-Yun Wang**, **Xiaofei Lu**, **Chan-Chia Hsu**, **Eric Po-Chung Lin** and **Haiyang Ai** present their proposed adaptation of MIPVU to Mandarin Chinese discourse. They tackle challenges related to the Chinese morphosyllabic writing system in which the basic orthographic units are characters, along with its relatively simple morphology. Chapter 13 deals with a Bantu language, where **Nts'oeu Raphael Seephephe**, **Beatrice Ekanjume-Ilongo** and **Motlalepula Raphael Thuube** discuss how to adapt MIPVU to the agglutinative language of Sesotho.

The volume then turns full circle in Chapter 14, with **Fiona MacArthur**'s contribution about modifications made to MIPVU when identifying metaphor in transcriptions of conversations between speakers of different first languages who use English as their language of communication. She is thus concerned with speaker interaction in English as a Lingua Franca (ELF) situations, and the role that metaphor may play to help or hinder successful communication. Finally, **Elena Semino** closes the volume with an afterword containing reflections upon the past and the development of MIPVU for English, and a look at how the chapters in this volume further contribute to ensuring reliability and validity in metaphor analysis.

The end result of our search for MIPVU contributors thus yielded chapters for ten different languages (French, Dutch, German, Scandinavian [Danish,

Norwegian, Swedish], Lithuanian, Polish, Serbian, Uzbek, Chinese, and Sesotho), together with reflections about applying MIPVU to English as a Lingua Franca. The analyses in this volume clearly show that linguistic metaphor identification with MIPVU can be accomplished in a wide variety of languages. We hope that this will inspire even more metaphor scholars across the globe to start using MIPVU in their research. We also hope that the analyses in this volume will inspire further research into the possibilities of streamlining the guidelines to carry out cross-linguistic comparisons of metaphor use within, as well as across, languages, language varieties, and language families. How to develop polyword lists, how MIPVU should treat case markers, and how to apply MIPVU to languages for which there is no adequate dictionary are among those issues worth further investigation, as is the application of MIPVU to more languages than just those represented here. With over 6,000 languages worldwide, this volume clearly will not be the final word on the topic, although it does represent a solid start.

We are proud to have been part of producing this volume, allowing us to further contribute to increasing the validity and reliability of future metaphor research. We want to thank the other contributors to this volume, as well as the metaphor scientific community in general – a thriving group, producing world-class research. We wish you all happy metaphor hunting, in any and all languages.

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MIPVU: A manual for identifying metaphor-related words

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This chapter presents the complete procedure for finding metaphor-related words which has been utilized in our research. The style is in the form of a set of instructions. The present chapter is intended to be an independent presentation of the procedure as an autonomous tool. It may be used as a reference manual by anyone who aims to find metaphor-related words in usage. The term ‘metaphor-related words’ is used to suggest that the tool aims to identify all words in discourse that can be taken to be lexical expressions of underlying cross-domain mappings.

2.1 The basic procedure

The goal of finding metaphor in discourse can be achieved in systematic and exhaustive fashion by adhering to the following set of guidelines.

1. Find metaphor-related words (MRWs) by examining the text on a word-by-word basis.
 - For information about whether an expression counts as a word, consult Section 2.2.
2. When a word is used indirectly and that use may potentially be explained by some form of cross-domain mapping from a more basic meaning of that word, mark the word as metaphorically used (MRW).
 - For information about indirect word use that is potentially explained by cross-domain mapping, consult Section 2.3.

3. When a word is used directly and its use may potentially be explained by some form of cross-domain mapping from a more basic referent or topic in the text, mark the word as direct metaphor (MRW, direct).
 - For more information about direct word use that is potentially explained by cross-domain mapping, consult Section 2.4.
4. When words are used for the purpose of lexico-grammatical substitution, such as third person personal pronouns, or when ellipsis occurs where words may be seen as missing, as in some forms of co-ordination, and when a direct or indirect meaning is conveyed by those substitutions or ellipses that may potentially be explained by some form of cross-domain mapping from a more basic meaning, referent, or topic, insert a code for implicit metaphor (MRW, implicit).
 - For more information about implicit meaning by substitution or ellipsis that is potentially explained by cross-domain mapping, consult Section 2.5.
5. When a word functions as a signal that a cross-domain mapping may be at play, mark it as a metaphor flag (MFlag).
 - For more information about signals of cross-domain mappings, consult Section 2.6.
6. When a word is a new-formation coined by the author, examine the distinct words which are its independent parts according to steps 2 through 5.
 - For more information about new-formations coined by the author, consult Section 2.7.

The use of the phrase ‘potentially explained by a cross-domain mapping’ is intentional. It should be read with an emphasis on ‘potentially’. This links up with the tenuous connection between linguistic and conceptual metaphor identification discussed in Chapter 1 of Steen et al. (2010).

As for the relation with MIP (Pragglejaz Group 2007), points 1 and 2 are essentially the same as MIP. Points 3 and 4 deal with two additions to MIP in the area of other forms of metaphor. Point 5 is a different kind of addition to MIP and includes the identification of signals of metaphor. And point 6 takes one assumption of MIP to its linguistic conclusion by including instructions for handling new lexical units that consist of more than one free morpheme.

2.2 Deciding about words: Lexical units

The word is the unit of analysis which is examined for metaphorical use. There are other possibilities, such as the morpheme or the phrase, and these can account for additional metaphor in usage. However, we do not mark these other possibilities, because we can only do one thing at a time. Focusing on the word as the unit of analysis is already a most challenging and complex operation. It is motivated by

the functional relation between words, concepts and referents in discourse analysis, described in Chapter 1 of Steen et al. (2010).

A systematic and explicit approach to the relevant unit of analysis is crucial for a consistent and correct quantitative analysis of the data. Lack of clear guidelines may introduce a substantial degree of error and therefore noise into the numbers and patterns obtained. It would undermine detailed quantitative comparison between distinct studies.

For theoretical reasons, we will call the word a ‘lexical unit’. In adopting this terminology, we follow the Praggeljaz Group (2007). When you decide about the boundaries of lexical units, the following guidelines should be adopted.

2.2.1 General guideline

In our project, the data come from the British National Corpus, and we therefore follow most of BNC practice in deciding what counts as a lexical unit. In other projects with other materials, these guidelines may or may not have to be adjusted to the other source, as shown for Dutch in Chapter 7 of Steen et al. (2010).¹ In our research, the dependence on these materials means two things:

1. All words provided with an independent Part-Of-Speech (POS) tag in the corpus are taken as separate lexical units.
For instance, prepositions are coded as PRP, nouns are coded as NN, and so on. A full list of tags is available from the BNC website: www.natcorp.ox.ac.uk.
2. All so-called polywords in the corpus are taken as single lexical units.
There are a number of fixed multiword expressions that are analyzed as one lexical unit in the BNC, on the grounds that they are grammatical units which designate one specific referent in the discourse. Examples include *a good deal*, *by means of*, and *of course*. These multiword expressions are called polywords. They have special tags and are available in a finite list from the BNC website: www.natcorp.ox.ac.uk. You should follow this practice and, in particular, not examine the parts of these polywords for potential metaphorical meaning.

2.2.2 Exceptions

There are three exceptions to our overall acceptance of BNC practice: phrasal verbs, some compounds, and some proper names.

Phrasal verbs are verbal expressions consisting of more than one word, such as *look up* or *turn on*. These are not taken as single lexical units in the BNC, but as independent verbs followed by autonomous adverbial particles. We will not follow

1. Editors’ note: This is Chapter 5 of the present volume.

this practice, for phrasal verbs function as linguistic units designating one action, process, state or relation in the referential dimension of the discourse. In that respect, they are similar to polywords.

You should therefore treat all phrasal verbs as single lexical units: their individual parts do not require independent analysis for potential metaphorical meaning. The phrasal verb as a whole, however, can still be used metaphorically. For instance, setting up an organization is a metaphorical variant of setting up a roadblock. The classification of two or more words as part of one phrasal verb should be marked as such in the data.

The problem with phrasal verbs is their superficial resemblance to prepositional verbs (i.e. a frequent verb-preposition combination) and to verbs followed by free adverbs. The latter two cases should be analyzed as free combinations consisting of two independent lexical units, as opposed to phrasal verbs which should be taken as only one. Again, the motivation for this approach is the assumption of a functional and global correspondence between words, concepts, and referents.

One way to tell these three groups apart is by examining their POS tags in the BNC. Particles of phrasal verbs have received an AVP code, prepositions of prepositional verbs a PRP code, and freely occurring adverbs an AV0 code. These are classifications which have been made independently of any questions about metaphorical use; they are based on a general approach to data analysis, which is a bonus.

However, the matter is further complicated in three ways. When we go to the dictionaries used in our research for examining contextual and basic meanings, it appears that they do not distinguish between phrasal verbs and prepositional verbs. They in fact call both types phrasal verbs. An example is *look at* in a sentence like 'it was only when you looked at their faces that you saw the difference'. According to Macmillan this is a phrasal verb, but the BNC code for *at* is PRP, indicating that it is a prepositional verb. If you follow the BNC's decision, it means that you have to analyze *look* and *at* as two lexical units and independently examine their main senses in the dictionary to find their respective basic meanings; the contextual meaning of each of them in their combined use, even as a prepositional verb, however, will be found under the phrasal meaning of the combination.

Secondly, some of the verb+particle combinations marked as such in the BNC are in fact not conventionalized phrasal verbs. That is, they are not phrasal verbs according to the dictionary. An example is *look up* in a sentence like 'she looked up into the sky'. Here *up* is coded as AVP in the BNC, suggesting that this is a proper phrasal verb. However, the Macmillan dictionary tells us that the contextual meaning – "to direct your eyes towards someone or something so that you can see them" – is not one of the meanings of the phrasal verb (unlike, for instance "to try to find a particular piece of information"). The contextual meaning, instead, is the

result of a free combination of a verb plus an adverb. BNC has probably made a mistake here; the words consequently have to be analyzed as two separate lexical units.

Thirdly, there is the matter of complex phrasal verbs, such as *make up for* or *do away with*. These may be easily confused with combinations of simple phrasal verbs with a preposition (*make up + for* or *do away + with*). However, they are typically listed as complete, complex phrasal verbs in the Macmillan dictionary, as run-ons after the main verb, and they can be replaced by a synonym (*compensate* and *get rid of*). Because of this referential unity, we follow the dictionary for complex phrasal verbs and take the dictionary classification of these complex verbs as single units as our guideline.

Taking all of this into consideration, we have established the following rules for simple phrasal verbs (complex phrasal verbs being recognizable by the criteria above):

- a. If the POS tag is PRP then we are dealing with a prepositional verb → analyze the verb and the preposition separately (i.e. two lexical units).
- b. If the POS tag is AVP then check in the dictionary whether the combination of verb+particle has been listed as a phrasal verb meaning in the relevant contextual meaning
 - if this is the case, then we accept it is a phrasal verb and analyze the combination as one lexical unit;
 - if this is not the case, then we do not take the combination to be a conventionalized phrasal verb and therefore we analyze the verb and the particle separately (i.e. two lexical units).
- c. If the POS tag is AV0 then we are dealing with a verb followed by a free adverb → analyze as two lexical units.
- d. If the POS tag is PRP/AVP then apply the tests below to determine whether we are dealing with a phrasal or a prepositional verb; as it happens, these are all **transitive** constructions.
- e. If the BNC code is clearly wrong (supported by the above criteria or the tests below) then apply the proper analysis and add a comment in the materials stating “incorrect POS tag: PRP not AVP”.

Tests for deciding between phrasal/prepositional verbs

In prepositional verbs:

- The preposition and following noun can be moved to the front of the sentence, which is not possible with phrasal verb particles (e.g. *Up into the sky she looked* but not **Up the information she looked*).

- An adverb can be inserted before the preposition (e.g. *She ran quickly down the hill but not *She ran viciously down her best friends*).
- The preposition can be moved to the front of a *wh*-word (e.g. *Up which hill did he run? but not *Up which hill did he run?*).

In phrasal verbs:

- The adverbial particle can be placed before or after the noun phrase acting as object of the verb, which is not possible for the prepositional verbs (e.g. *She looked the information up but not *She looked his face at*).
- If the noun phrase is replaced by a pronoun, the pronoun has to be placed in front of the particle (e.g. *The dentist took all my teeth out > The dentist took them out but not She went through the gate > *She went it through*).

Compounds are single lexical units consisting of two distinct parts, which may cause orthographical problems. They can be spelt in three ways: as one word, as two hyphenated words, and as two separate words.

- When a compound noun is spelt as one word, such as *underpass*, and can be found as such in the dictionary we treat it as one lexical unit designating one referent in the discourse.
- When a compound noun is spelt as two hyphenated words and can be found as such in the dictionary, such as *pitter-patter*, we similarly treat it as one lexical unit. However, if we are dealing with a novel formation unknown to the dictionary, the compound noun is analyzed as two separate units, even though it may have one POS tag in the corpus. Our reason for this practice is that the language user is forced to parse the compound into its two component parts in order to establish the relation between the two related concepts and referents. This also applies to hyphenated compound nouns created through a productive morphological rule but that are not listed as a conventionalized compound in the dictionary (such as *under-five*),
- In the BNC, compound nouns that have been spelt as two separate words are not taken as single lexical units, but analyzed as combinations of two independent words which each receive their own POS tags. When such compounds are conventionalized and, again, function as lexical units designating one referent in the discourse, we will not follow the BNC solution. For then they are like polywords, and should be treated as single lexical units, whose parts do not require analysis for potential metaphorical meaning.

The Macmillan dictionary has a tell-tale signal for identifying conventionalized compounds that are spelled as two distinct words: when a fixed expression is taken

to be a compound noun, there is primary stress on the first word and secondary stress on the second word (e.g. ‘**power**’ **plant**). In cases where the Macmillan dictionary treats a multiword combination as having one meaning, but displays a reversed stress pattern (such as ‘*nuclear*’ *power*), we do not treat the multiword expression as a compound noun, and analyze it as consisting of two separate lexical units.

- Rules a and b also apply to compound adverbs and adjectives, such as *honey-hunting*. This example is a novel formation unknown to Macmillan. Therefore, following rule b, the adjective is analyzed as comprising two separate lexical units, even though BNC has given it one POS tag.
- Words may be spelt in more than one way, which may cause problems about the independent status of their components in some cases. An example is when the preposition *onto* is spelt as two words instead of one. When this happens, we will adhere to the spelling of the dictionary instead of the spelling of the document under analysis, because the dictionary is the more general reference work and related to accepted norms for language users. You should therefore analyze words according to their spelling in the dictionary, not according to their spelling and POS tagging in the corpus.

Proper names appear to form a special group in our analyses. There are several subclasses which we have encountered, which may not all technically qualify as genuine proper names. They will be discussed one by one. In general, however, proper names do not require any specific additional coding.

Our general strategy is to reduce the number of exceptions to POS tagging as provided by the BNC corpus. The solution to annotation problems proposed below is maximally simple: every separate word will be treated as a separate lexical unit, except for the underlined cases.

- a. Proper names: all parts of genuine proper names are to be treated in the way of regular POS tagging. That is, *Roy Wood* and *Madame Mattli* are coded as two separate words and taken as two lexical units. This can be extended to addresses, with house numbers as well as road names all being cut up into separate lexical units. As a result, *New York* (in *New York Herald Tribune*) is also two units.
- b. Some proper names have been bestowed on public entities and may appear in the dictionary. If they do, they are to be treated as all other expressions in the dictionary: thus, *Labour Party* becomes one lexical unit because it has the stress pattern of a compound.

The same holds for some titles that appear in the dictionary, such as *Pulitzer Prize*, which is also treated as one lexical unit on the basis of the stress pattern.

In our annotations, these expressions should be treated similarly to phrasal verbs, compounds, and polywords and should therefore receive a code to indicate that the words form single lexical units.

Green Paper and *White Paper*, by contrast, are to be treated as containing two lexical units, because they have rising stress (*Green* and *White* would always be marked as related to metaphor, and *Paper* would always be treated as metonymically used).

The elements of names of countries (e.g. *United Kingdom*) and organizations (e.g. *United Nations*) that have rising stress in the dictionary should also be treated as separate units.

- c. Other names and titles do not appear in the dictionary. They are also treated as composites of their independent words, both by the BNC and by us. This accounts for two lexical units in *Labour Law*, *Executive Committee*, *European Plan*, *Scarman Report*, and even more lexical units in *the Student Winter Games*, *the Henley Royal Regatta*, *the Criminal Law Revision Committee*, *House of Oliver*, and so on.
- d. A separate problem is constituted by genuine titles, that is, titles of texts:
 - If titles are used as titles, that is, as headings of newspaper articles or chapters and sections of novels and academic writing, they need to be taken on a word-by-word basis. This is because they summarize or indicate content by means of words, concepts, and referents. They are regular cases, if linguistically sometimes odd.
 - If titles are mentioned, however, to refer to for example a text or a TV programme, they function as names, like proper names. If they are in the dictionary, check their stress pattern; if they are not, use BNC-Baby as a guide.

2.3 Indirect use potentially explained by cross-domain mapping

Indirect use of lexical units which may be explained by a cross-domain mapping is basically identified by means of MIP, with some adjustments. This means that the following guidelines should be adopted.

1. Identify the contextual meaning of the lexical unit.
 - For more information, see Section 2.3.1.
2. Check if there is a more basic meaning of the lexical unit. If there is, establish its identity.
 - For more information, consult Section 2.3.2.

3. Determine whether the more basic meaning of the lexical unit is sufficiently distinct from the contextual meaning.
 - For more information, see Section 2.3.3.
4. Examine whether the contextual meaning of the lexical unit can be related to the more basic meaning by some form of similarity.
 - For more information, consult Section 2.3.4.

If the results of instructions 2, 3, and 4 are positive, then a lexical unit should be marked as a metaphor-related word ('MRW'), which may be made more precise by adding the information that it is 'indirect' (as opposed to 'direct' or 'implicit', see below).

2.3.1 Identifying contextual meanings

The contextual meaning of a lexical unit is the meaning it has in the situation in which it is used. It may be conventionalized and attested, and will then be found in a general users' dictionary; but it may also be novel, specialized, or highly specific, in which case it cannot be found in a general users' dictionary.

When you identify the contextual meaning of a lexical unit, several problems may arise.

1. When utterances are not finished, there is not enough contextual knowledge to determine the precise intended meaning of a lexical unit in context. In such cases, it may be that the lexical unit has been used indirectly on the basis of a metaphorical mapping, but this is impossible to decide. In such cases, we will discard for metaphor analysis all relevant lexical units in aborted utterances.

An example is 'Yeah I had somebody [come round] and *stuck* their *bloody* ...' The lexical units in the incomplete utterance in question (beginning with *stuck*) that could or could not have been related to metaphor should be marked as Discarded For Metaphor Analysis (add code 'DFMA' to each of them).

2. When there is not enough contextual knowledge to determine the precise intended meaning of a lexical unit in context, it may be that it has been used indirectly on the basis of a metaphorical mapping, but this may be impossible to decide.
 - a. An example is the use of *up* to indicate movement towards, where it is possible that the target is either higher (not metaphorical) or not higher (metaphorical) than the speaker.
 - b. Another example is the use of idioms such as *gasp for breath* or *turn your shoulder*, approached as three lexical units, where it is possible that the designated action in fact takes place and thereby stands for the emotion

(metonymy), or the designated action in fact does not take place so that the phrase is used metaphorically to indicate the concomitant emotion.

- c. A third example involves anaphora which may be interpreted in more than one way, as in 'all that' in the following example, where a possible metaphorical interpretation is applicable: 'he said I come to sup be supervisor he said, I don't know, I don't wish to learn all that!'

In such cases of lack of situational knowledge but with a potential for metaphorical meaning, you have to treat the word as if it was used indirectly and metaphorically, on the basis of the general rule 'When In Doubt, Leave It In' and add the special code 'WIDLII'.

3. Specialist terminology may constitute a specific case of insufficient contextual knowledge to determine the precise intended meaning of a lexical unit in context. When there is not enough contextual knowledge to determine the specific technical and/or scientific meaning of a word in context, regular dictionaries cannot help. In such cases, it would of course be possible to use other, preferably specialized dictionaries to find out the specific contextual meaning of a term. However, in our project we assume that metaphor is 'metaphor to the general language user': if we as general language users cannot establish the meaning of the lexical unit with the contemporary dictionaries alone but the lexical unit could be metaphorical on the basis of some contextual meaning projected from the basic-nontechnical-meaning, we also mark the word as metaphor-related based on 'WIDLII'.
4. Sometimes the contextual meaning of a lexical unit may be taken as either metaphorical or as not metaphorical. This seems to be the case for many personifications, such as furious debate or this essay thinks. These examples may be analyzed as involving a metaphorical use of furious and thinks, respectively, but they may also be resolved by a metonymic interpretation of the other terms, i.e. debate and essay, in which case furious and thinks automatically turn not metaphorical. In such cases, the possibility of the metaphorical interpretation should not be lost, and you should mark the relevant ambiguous words furious and thinks as metaphor-related words, and add a comment that this is due to a possible personification.

2.3.2 Deciding about more basic meanings

A more basic meaning of a lexical unit is defined as a more concrete, specific, and human-oriented sense in contemporary language use. Since these meanings are basic, they are always to be found in a general users' dictionary. A meaning cannot be more basic if it is not included in a contemporary users' dictionary.

From a linguistic point of view, a more basic meaning of a word is its historically older meaning. However, from a behavioural point of view, this definition may not be optimal. Most language users are not aware of the relative ages of the various meanings of most words in the contemporary language. This means that the linguistic notion of basic sense as the historically prior sense has little relevance to the behavioural, in particular cognitive notion of basic sense.

However, it is one of the fundamental claims of contemporary metaphor theory that most of the historically older meanings of words are also more concrete, specific, and human-oriented. This is explained by the cognitive-linguistic assumption of experientialism. As a result, concrete meanings are typically also basic meanings from a historical perspective.

The still largely programmatic assumption of a connection between historically prior meanings and concrete, specific, and human-oriented meanings makes it possible for us to adopt one practical and consistent general starting point about basic meanings: they can be operationalized in terms of concrete, specific, and human-oriented meanings. This is our general definition for basic meanings.

As a result, we will not check the history of each lexical unit as an integral part of our procedure. This is a huge practical advantage, which is based in general cognitive linguistic practice. Diachronic considerations of basic meanings may only come in when specific problems arise.

When attempting to find basic meanings in the dictionary, the following guidelines should be adopted.

1. A more basic sense has to be present for the *relevant grammatical category of the word form* as it is used in context. This is because a grammatical category in a text specifies a particular class of concept and referent, which may not be altered when looking for basic meanings, for otherwise the basis of comparison is shifted. When the dictionary shows that a word may be used in more than one grammatical category, you hence have to examine the various meanings of the word within its grammatical category.

Contextual and basic meanings are therefore contrasted as two alternative uses for the same word form *in the particular grammatical role that it has in the text*. As a result,

- a. the contextual meaning of nouns, verbs, adjectives, adverbs, prepositions, and interjections cannot be compared with the meaning of other word classes for the same lemma (conversions); for instance, the meaning of *shift* as a noun should be analyzed irrespective of the meaning of *shift* as a verb.
- b. the contextual meaning of verbs used as linking verbs, primary verbs, modal verbs, verbs initiating complex verb constructions such as *start*, *stop*, *continue*, *quit*, *keep*, and so on, causative verbs (*have*, *get*, and so on),

and full verbs cannot be compared with the meaning of the same verbs used in other roles.

- c. the contextual meaning of verbs used transitively can as a rule not be compared with the meaning of the same verbs used intransitively.
- d. the contextual meaning of nouns used to designate countable entities can as a rule not be compared with the meaning of the same nouns used to designate uncountable entities.

However, there are a number of complications:

- 2. When a word may be used in more than one grammatical category, but its description in the dictionary is limited to one of those categories only, you inevitably have to compare the various meanings of the word in the other grammatical categories with reference to that one grammatical category. Example: the contextual and basic meanings of *suppression* have to be examined with reference to the description of *suppress*.
- 3. When verbs are described under a single sense description in the dictionary as both Transitive and Intransitive, then you may compare these Transitive and Intransitive meanings with each other in order to determine whether the contextual meaning may be differentiated from a more basic meaning in the same sense description.
- 4. Sometimes lexical units have an abstract contextual meaning that is general which has to be contrasted with a concrete meaning that is specialized, for instance because it is limited to a style (e.g. very [in]formal), a subject (business, computing, journalism, law, linguistics, medicine, science, and so on), or period (literary, old-fashioned). In that case, we abide by our general rule for finding basic senses and take the most concrete sense as basic, even if it is specialized. Example: the concrete medical sense of *palliate* is basic and the general abstract sense of *palliate* is therefore metaphorical.
- 5. The reverse of [4] also applies: when a lexical unit with an abstract but specialized contextual meaning has to be contrasted with a concrete but general meaning, we also take the concrete sense as basic. Example: the abstract religious sense of *father*, *mother*, and so on is not basic, whereas the concrete general sense is. Therefore the religious senses are metaphorical.
- 6. When the contextual meaning of a lexical unit is just as abstract/concrete as some of its alternative meanings, we have to check whether there is any indication of the (original) domain from which the word derives. For instance, there are verbs such as *trot* and *roar* which may be applied with equal ease to a range of concrete entities, but the nonhuman, animal origin (basic sense) of the lexical units decides which applications are metaphorical and which are not.

7. However, other lexical units may have a less clear domain of origin, such as the verb *ride*. It is presented in the Macmillan dictionary as monosemous between animal and artefact. If we suspect that there is a problem with the dictionary description because of its function as an advanced learners' dictionary, we check the evidence in a second advanced learners' dictionary, Longman. For instance, the verb *to groom* does not have distinct senses for people and animals in Macmillan, but it does in Longman; as a result, we rely on Longman to conclude that the two senses are sufficiently distinct. By contrast, *transform* has one general sense in Macmillan, which is corroborated by the Longman dictionary.

2.3.3 Deciding about sufficient distinctness

Metaphorical meanings depend on a contrast between a contextual meaning and a more basic meaning. This suggests that the more basic meaning has to be sufficiently distinct from the contextual meaning for the latter to be seen as potentially participating in another semantic or conceptual domain. The following practical guideline should be followed: When a lexical unit has more than one separate, numbered sense description within its grammatical category, these senses are regarded as sufficiently distinct. When a lexical unit has only one numbered sense description within its grammatical category, this counts as the basic sense and any difference with the contextual sense of the item under investigation will count as sufficient distinctness.

2.3.4 Deciding about the role of similarity

When you have two sufficiently distinct meanings of a lexical unit and one seems more basic than the other, these senses are potentially metaphorically related to each other when they display some form of similarity. This typically happens because they capitalize on external or functional resemblances (attributes and relations) between the concepts they designate. It is immaterial whether these resemblances are highly schematic or fairly rich.

In deciding about a relation of similarity between the contextual and the basic sense of a lexical unit, the following practical guidelines should be followed:

1. When a lexical unit has a general and vague contextual sense which looks like a bleached, abstracted relation of a rather specific and concrete sense, you should mark the word as metaphorically used when the two senses are distinct enough and can be related via similarity. This is typically the case for senses that may be distinguished as concrete versus abstract.

It should be noted that similarity is not the same as class-inclusion, as in the case of synecdoche. Thus, for *appeal* we have an abstract general sense and a more concrete but also specialized legal sense. If we decide that the latter is basic because it is more concrete, then the general sense of *appeal* is a case of generalization instead of similarity, and it can therefore be treated as a case of synecdoche instead of metaphor. This should be contrasted with a case like *palliate*, where we see both generalization and similarity based on metaphorical mapping from concrete (relieve physical pain) to abstract (relieve generally bad situations of their most serious aspects).

2. When a lexical unit has an abstract contextual sense and a sufficiently distinct, concrete more basic sense, but there does not seem to be a relation of similarity between the two even though there does seem to be *some* sort of relation, check the Oxford English Dictionary to deepen your understanding of the word. In such a case, the two senses may be historically related via a common source which may have disappeared from the language. Checking the OED may explain the strange relation between the current abstract and concrete senses and support the decision *not* to take the concrete sense as basic for the abstract sense, but instead to take both senses as equally basic because there is no transparent relation of similarity for the contemporary language user. We have seen this for a word like *order* ('arrangement' and 'bringing about of order by speech act').
3. When two senses appear to be metonymically related, this does not mean that you should not also consider the possibility that they are metaphorically related at the same time. Sense relations may have more than one motivation.

2.4 Direct use potentially explained by cross-domain mapping

Directly used lexical units that are related to metaphor are identified as follows:

1. Find local referent and topic shifts.
 - Good clues are provided by lexis which is "incongruous" (Cameron 2003; Charteris-Black 2004) with the rest of the text.
2. Test whether the incongruous lexical units are to be integrated within the overall referential and/or topical framework by means of some form of comparison.
 - Good clues are provided by lexis which flags the need for some form of similarity or projection (Goatly 1997).
3. Test whether the comparison is nonliteral or cross-domain.
 - Cameron (2003: 74) suggests that we should include any comparison that is not obviously non-metaphorical, such as *the campsite was like a holiday village*. Consequently, whenever two concepts are compared and they can be

constructed, in context, as somehow belonging to two distinct and contrasted domains, the comparison should be seen as expressing a cross-domain mapping. Cameron refers to these as two incongruous domains.

4. Test whether the comparison can be seen as some form of indirect discourse about the local or main referent or topic of the text.
 - A provisional sketch of a mapping between the incongruous material functioning as source domain on the one hand and elements from the co-text functioning as target domain on the other should be possible.

If the findings of tests 2, 3, and 4 are positive, then a word should be marked for direct metaphor (MRW, direct).

2.5 Implicit meaning potentially explained by cross-domain mapping

The previous forms of metaphor were explicit in that there is at least one word in the discourse which comes from another semantic or conceptual domain. Implicit metaphor is different and does not have words that clearly stand out as coming from an alien domain. It comes in two forms, implicit metaphor by substitution and implicit metaphor by ellipsis. Following Halliday and Hasan (1976), metaphor by substitution works through pro-forms such as pronouns, and metaphor by ellipsis works through non-existent words which may be inserted into grammatical gaps. Both types therefore do not exhibit ostensibly incongruous words, but still need to be analyzed as the linguistic expression of metaphor in natural discourse.

When a discourse uses lexical units for the purpose of substitution and thereby still conveys a direct or indirect meaning that may be explained by some form of cross-domain mapping from a more basic meaning, referent, or topic, insert a code for implicit metaphor ('Implicit'). An example is: 'Naturally, to embark on such a step is not necessarily to succeed immediately in realizing *it*'. Here *step* is related to metaphor, and *it* is a substitution for the notion of 'step' and hence receives a code for implicit metaphor (MRW, impl).

When a text displays ellipsis and still conveys a direct or indirect meaning that may be explained by some form of cross-domain mapping from a more basic meaning or referent than the contextual meaning recoverable from the presumably understood lexical units, insert a code for implicit metaphor ('Implicit'). An example is *but he is*, which may be read as *but he is [an ignorant pig]*, when that expression is taken as a description of a male colleague discussed before. The verb *is* may be coded as a place filler by the code <MRW, impl>.

In general, for implicit metaphor, we need one linguistic element of cohesion (which means substitution or ellipsis, including what Halliday and Hasan call 'reference') that is not necessarily metaphorical by itself but refers back to a previous

word and concept that was metaphorically used. Potential elements of cohesion include third person pronouns, primary and modal verbs, and so on.

- The first step in finding implicit metaphor will therefore be to decide whether a particular linguistic form from a list of potentially cohesive devices has in fact been used for cohesion as opposed to another function.
- The second step is to decide whether the cohesion device is related to another word that was related to metaphor.

In principle it is possible for both demonstratives as well as general words such as *thing* and *stuff* to refer back to a metaphorically used expression. In that case, they are both indirectly metaphorical (because of their linguistic status) as well as implicitly metaphorical (because of their connection to a metaphorical concept in the text base). For this type of case we should add a code which combines ‘met’ with ‘impl’: metimpl.

Finally, tag questions within the same utterance are not included in our view of cohesion. They are grammatical forms enabling a particular form of asking a question. There is no alternative where the pro-forms in the tag could be replaced by full NPs or VPs. This is why these are not part of cohesion. (However, when parts of utterances are repeated by subsequent speakers in order to ask or confirm or deny what the preceding speaker said, these are core cases of cohesion.)

2.6 Signals of potential cross-domain mappings

Lexical signals of cross-domain mappings are those words which alert the language user to the fact that some form of contrast or comparison is at play (cf. Goatly 1997).

1. We focus on potential markers of simile and analogy and so on, such as *like*, *as*, *more*, *less*, *more/less ... than*, comparative inflection plus *than*, and so on. But we also include more substantial lexical markers such as *compare*, *comparison*, *comparative*; *same*, *similar*; *analogy*, *analogue*; and so on. Complex mental conception markers are also annotated as metaphor signals; they include *regard as*, *conceive of*, *see as*; *imagine*, *think*, *talk*, *behave as if* and so on; or simply *as if*. All of these lexical units are coded with ‘MFlag’.
2. We exclude more general signals of all indirectness, such as *sort of*, *kind of*, and so on, since it is not always clear that they signal metaphoricity or other aspects of discourse. We have also excluded what Goatly (1997) calls topic domain signalling, such as *intellectual stagnation*, since its nature and demarcation were not clear from the beginning of the project.

2.7 New formations and parts that may be potentially explained by cross-domain mapping

We assume that new-formations, such as *honey-hunting* discussed above, have to be analyzed as if they were phrases consisting of more than one lexical unit: each part of such new lexical units activates a concept and relates to a distinct referent in the discourse, which both have to be checked for metaphor. As a result, we sometimes have to mark parts of lexical units (free morphemes) as indicating metaphorical meaning.

The guidelines for finding metaphor-related words in new-formations are a variant on the basic procedure for finding all metaphor-related lexical units described in Section 2.1.

1. Find metaphor-related words in new-formations by going through the text on a word-by-word basis and identifying all new-formations.
 - A new-formation is a complex lexical unit consisting of at least one independent lexical unit which, as a whole, is not defined in the dictionary.
 - A special group is formed by specialized technical and scientific terms which may be missing from the regular dictionary but may therefore be seen as new-formations for the general language user.
2. When a lexical unit in a new-formation is used indirectly and its meaning in the discourse may be explained by some form of cross-domain mapping, mark the word as related to metaphor. (MRW, indirect)
 - If you're not sure about indirect word use that is explained by cross-domain mapping, go to Section 2.3.
3. When a lexical unit in a new-formation is used directly and its meaning may be explained by some form of cross-domain mapping, mark the word as direct metaphor. (MRW, direct)
 - If you're not sure about direct use of lexical units that is explained by cross-domain mapping, go to Section 2.4.
4. When a lexical unit in a new-formation implicitly conveys a direct or indirect meaning that may be explained by some form of cross-domain mapping, insert a code for implicit metaphor. ('Implicit')
 - If you're not sure about implicit indirect meaning that is explained by cross-domain mapping, go to Section 2.5.
5. When a lexical unit in a new-formation functions as a signal that a cross-domain mapping may be at play, mark it as a metaphor flag. (MFlag)
 - If you're not sure about signals of cross-domain mappings, go to Section 2.6.

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What the MIPVU protocol doesn't tell you (even though it mostly does)

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3.1 Introduction

*Do I really have to do this for each and every word?
But that will take forever!*

Whether they be BA, MA or PhD students, postdocs or fellow researchers – anyone who is taught the basics of MIPVU eventually utters these words, or something very similar. We have held a number of metaphor identification courses at the Metaphor Lab's Summer and Winter Schools¹ and have taught the procedure to many cohorts of bachelor and master students from different universities. We have seen recurring aspects of metaphor identification using MIPVU that researchers who are new to the procedure typically find challenging. The clear step-by-step MIPVU protocol may create the impression that identifying metaphor is straightforward, easy and fast. However, while the procedure provides explicit instructions, we have found that applying them correctly and consistently requires explicit training, practice and experience.

The first part of this chapter discusses various 'nitty-gritty' practical aspects about the original MIPVU intended for the English language. Our focus in these first three sections is on common pitfalls for novice MIPVU users that we have encountered when teaching the procedure. First, we discuss how to determine what comprises a lexical unit (Section 3.2). We then move on to how to determine a more basic meaning of a lexical unit (Section 3.3), and subsequently discuss how to compare and contrast contextual and basic senses (Section 3.4). We illustrate

1. The Metaphor Lab is an expertise center for metaphor studies in Amsterdam; see <http://metaphorlab.org/>.

our points with actual examples taken from some of our teaching sessions, as well as with our own study into inter-rater reliability, conducted for the purposes of this new volume about MIPVU in multiple languages. Section 3.5 shifts to another topic that new MIPVU users ask about – namely, which practical tools they can use to annotate their data in an efficient way. Here we discuss some tools that we find useful, illustrating how we utilized them in our inter-rater reliability study. We close this part with Section 3.6, a brief discussion about reliability testing.

The second part of this chapter adopts more of a bird's-eye view. Here we leave behind the more technical questions of how to operationalize MIPVU and its steps, and instead respond more directly to the question posed above: Do we really have to identify every metaphor in every bit of our data? We discuss possible approaches for research projects involving metaphor identification, by exploring a number of important questions that all researchers need to ask themselves (preferably before they embark on a major piece of research). Section 3.7 weighs some of the differences between quantitative and qualitative approaches in metaphor research projects, while Section 3.8 talks about considerations when it comes to choosing which texts to investigate, as well as possible research areas where metaphor identification can play a useful role. We close this chapter in Section 3.9 with a recap of our 'take-away' points – that is, a summary of the highlights from our entire discussion.

Our rationale for including this chapter in a volume devoted primarily to the application of MIPVU to languages other than English is that it is clearly necessary to have a shared understanding of what MIPVU is and how it is intended to work on English discourse before the procedure can be adapted to other languages. Moreover, all of the issues discussed here – including pitfalls, suggested tools, reliability tests and considerations when applying MIPVU – are applicable to all languages, even though the examples are taken from English. Even the most English-centered section, Section 3.2 on lexical units, is relevant to researchers interested in MIPVU for other languages, because the main point concerning the necessity of sharing a clear understanding of the unit of analysis is a crucial consideration for all MIPVU practitioners. Note that much of this chapter is written in an 'approachable' style, less formal than the other chapters in this volume. Our hope is that, in addition to contributing to a wider common understanding of the MIPVU protocol, this chapter will also prove useful as a resource for novice researchers trying to master the procedure, as well as to advanced users who would like to teach the procedure to others.

Part 1: Practicalities of MIPVU

Part 1 of this chapter explores some of the details of MIPVU that novice users frequently overlook. Our discussion centers around three important steps of the procedure: demarcation of lexical units (Section 3.2), determination of a more basic meaning (Section 3.3), and comparison of contextual and basic meanings (Section 3.4). Sections 3.5 and 3.6 then discuss practical matters concerning tools that may help in annotation and analysis, together with reliability testing.

3.2 How do I determine what comprises a lexical unit?

MIPVU uses the *lexical unit* as its unit of analysis. In most cases, the lexical unit is identical to an orthographic word – that is, a written sequence of letters with spaces at the end and none in the middle. Because of this frequent one-to-one equivalence, the term *lexical unit* is often used interchangeably with the term *word*. There are, however, a handful of exceptions to the general rule: certain types of lexical units consist of two or more orthographic words that form one semantic unity. Such multiword lexical units are considered by MIPVU as single lexical units, and the protocol provides detailed instructions for how to identify them: *polywords*, *proper nouns*, *compounds*, and *phrasal verbs* (see Chapter 2, this volume).

Demarcation of lexical units in a consistent way is important because it affects the total word count of the text at hand. This in turn impacts on subsequent quantitative analyses, such as the determination of metaphor density, i.e. the number of metaphors per total number of lexical units in the sample. Such figures have been documented in past research, but prove impossible to compare in any meaningful way. Cameron (2003: 56–58), for example, surveyed nine studies from 1977 to 1999 and found that the reported metaphor densities vary from 0.87 to 57 units per 1000 words. Inter-study comparison is hampered because researchers have not only employed different (sometimes unexplained) means of metaphor identification, but because they have also utilized varying units of analysis. For this reason, it is important to be explicit about the way in which lexical units are identified.

In the course of teaching MIPVU, we have observed a number of pitfalls with respect to the demarcation of lexical units. We thus decided to conduct a simple experiment whereby three experienced metaphor researchers – all of whom had previously published research involving the application of either MIP or MIPVU – independently applied MIPVU to two English-language newspaper articles, roughly 1,500 words.² In so doing, they each demarcated all lexical units into

2. These researchers are Linda Greve (Aarhus University, Denmark), Marlene Johansson Falck (Umeå University, Sweden), and Susan Nacey (Inland Norway University of Applied Sciences, Norway).

one of five categories: *word* (i.e. a single-word lexical unit), *polyword*, *phrasal verb*, *compound*, or *proper noun*. Then we compared their results: these are presented in Table 1 showing both the three-way and pairwise inter-rater agreement between the analysts.³ We can see here that, for all intents and purposes, agreement between the analysts was nearly none.

Table 1. Three-way and pairwise inter-rater reliability for demarcation of lexical units

Analysts	κ	95% confidence interval	Interpretation
1–2–3	0.291	0.26–0.32	minimal
1–2	0.051	0.017–0.089	none
1–3	0.067	0.029–0.11	none
2–3	0.606	0.56–0.66	moderate

What went wrong? Analyst discrepancies concerning lexical units were mainly the result of procedural misunderstandings about how to identify characteristics of multiword lexical units, even though the MIPVU guidelines explain how to do so. By way of example, consider Table 2, which presents the three analysts’ coding of the lexical units in sentence (1).

Table 2. Sample demarcation of lexical units

Element	PoS	Lexical unit demarcation		
		Analyst 1	Analyst 2	Analyst 3
Boris	NP0	word	proper noun	word
Johnson	NP0	word	proper noun	word
says	VVZ	word	word	word
Brexit	NN1	word	proper noun	proper noun
will	VM0	word	word	word
not	XX0	word	word	word
be	VBI	word	word	word
triggered	VVN	word	word	word
straight	AV0	polyword1	polyword1	word
away	AV0	polyword2	polyword2	word

3. Fleiss’ kappa was calculated for three raters, while Cohen’s kappa was calculated for two raters. As McHugh (2012) suggests, the value of kappa was interpreted as indicating the following level of agreement: 0–0.20 *none*; 0.21–0.39 *minimal*; 0.40–0.59 *weak*; 0.60–0.79 *moderate*; 0.80–0.90 *strong*, above 0.90 *almost perfect*. The kappa measures were calculated in R using the ‘irr’ package, while the confidence intervals were calculated using the bootstrap function ‘boot’ function in the ‘boot’ package, using the percentile method of estimating the CIs from the bootstrap; see our references for the full citations for R and both packages Canty & Ripley 2015; Gamer et al. 2012; R Core Team 2013. Our data and R code are available as supplementary material at this volume’s Open Science Framework website; see the Chapter 3 folder at <https://osf.io/vw46k/>.

- (1) Boris Johnson says Brexit will not be triggered straight away.

When it comes to **proper nouns**, we see here that the analysts disagreed on the demarcation of *Boris*, *Johnson*, and *Brexit*. Analyst 1 only marked proper nouns as such if they consisted of two or more elements, and followed a certain stress pattern. Analyst 2, by contrast, marked all elements beginning with capital letters as proper nouns, while Analyst 3 was inconsistent. Which analyst is correct? According to the MIPVU guidelines, proper nouns must (1) be codified in dictionaries, (2) consist of two or more elements, and (3) have the primary stress on the first element. Otherwise, they are treated as individual components. In this way, items such as *Labour Party* should be classified as a proper noun, while neither *Boris* nor *Johnson* (nor *Boris Johnson*, for that matter), nor *Brexit* should be.

In Table 2, we also see that the analysts disagreed about the demarcation of *straight away*. Analysts 1 and 2 marked *straight away* as a **polyword**, and thus a single lexical unit. Analyst 3, by contrast, marked *straight away* as two individual lexical units. This is a disagreement that would lead to a difference in the total word count if left uncorrected. According to the guidelines, analysts should consult the *List of Multiwords and Associated Tags in BNC2*: if the particular expression is on this list and is also annotated with a multiword tag (rather than an alternative tag) by the Part-of-Speech tagger, it should be coded as a polyword and counted as a single lexical unit. In the case of *straight away*, we find it on the BNC list and see that it is also PoS-tagged as a polyword, i.e. with both elements tagged as a general adverb (AV0). It turned out that Analyst 3 appeared to check the multiword list either inconsistently or not at all, and thus inadvertently overlooked polywords.

Marking **compounds** also led to discrepancies. Compounds can be spelled as single orthographic words (in which case they are treated as one word; e.g. *shortlist*), as hyphenated words (e.g. *two-tier*), or as two separate elements (e.g. *per cent*). MIPVU considers hyphenated compounds as single lexical units if codified in dictionaries, and separate units if not codified: *two-tier*, for example, is not found in the dictionary and thus should be treated as two separate lexical units. Coding of such hyphenated compounds resulted in disagreement when analysts paid undue attention to the orthographic writing conventions (making it look like the term was a single unit), rather than to dictionary codification (indicating the term was actually two units).

Furthermore, MIPVU says that spaced compounds are counted as single lexical units if (1) they are codified in dictionaries *and* (2) the primary stress is on the first element. If the primary stress is on the second element, then the compound is considered two separate lexical units, despite codification. What this means is that a possible compound should not be marked as a single lexical unit just because it is codified in dictionaries. Instead, the stress pattern must also be checked. The main pitfall lies in this second step, which may easily be overlooked. Information

about the stress pattern of compound nouns can be found in the printed copy of the Macmillan dictionary (the procedure's suggested 'go-to' dictionary), or by closely listening to the pronunciation provided in the online version of Macmillan.⁴

A similar challenge concerns the demarcation of **phrasal verbs**, because the MIPVU guidelines also contain two main criteria for their identification: (1) they must be codified in dictionaries, *and* (2) the particle needs to be annotated through PoS tagging as a particle rather than a preposition (in the latter case, the item in question is a prepositional verb, and thus two lexical units). The problem is that dictionaries are much more liberal in their definition of what constitutes phrasal verbs (and also compounds, for that matter). A common pitfall is that analysts mark an item as a phrasal verb because the dictionary says it is, even though it is actually some other type of multiword verbal construction. They neglect to check the part of speech assigned to the particle. For word count and reliability purposes, it is important that analysts closely follow the MIPVU guidelines.

One benefit of MIPVU is that its application supposedly allows for comparability, either between analysts or across studies. At the heart of any such comparability is the unit of analysis, which must be the same. Based on our experiences teaching MIPVU and on our experiment comparing inter-rater reliability between experienced coders, we suspect that this is often not the case, in that studies purporting to having employed MIPVU do not apply the same standards when demarcating lexical units. As banal as it may sound, our advice is to read Section 2.2 of the guidelines carefully and adhere to them when demarcating lexical units (see Chapter 2, this volume). Do not rely on spelling conventions when demarcating lexical items, and check the Multiword list, dictionary codification, stress patterns, and/or PoS tagging. Alternatively, read the guidelines but deviate from them; this is fine, as long as you explain what you did and why. This is also true when it comes to answering any questions where the MIPVU guidelines provide no clear answer, such as how to deal with numerals: Should they be counted as single lexical units (e.g. 51.9 = 1 unit) or as multiple lexical units (e.g. *fifty/one/point/nine* = 4 units). Decide how you will deal with such cases, explain, and be consistent. Transparency is paramount, allowing any quantitative measures you produce to be properly interpreted.

4. The online version of the Macmillan dictionary is available at <https://www.macmillandictionary.com/>.

3.3 How do I determine a 'more basic meaning' of a lexical unit?

The MIPVU guidelines clearly state that “a more basic meaning of a lexical unit is defined as a more concrete, specific, and human-oriented sense in contemporary language use” (Chapter 2, this volume). We have nevertheless found that identifying a more basic sense of a lexical unit is sometimes easier said than done. In the next paragraphs, we discuss four common pitfalls related to this matter.⁵

3.3.1 The 'it feels basic to me' pitfall

Dictionaries such as Macmillan are frequency-based, meaning that they list the most frequently used word senses first. They are primarily aimed at advanced learners of English, who – more often than not – need to know something about that most frequent sense. The challenge for MIPVU users is that the most frequent sense is often also the most salient sense for most of us, in most circumstances. It 'feels' basic because we are so familiar with it; if someone were to ask what the word means out of context, that is the one we would probably offer (see e.g. Deignan 2005: 95; van der Meer 1999). And so we find that people applying MIPVU for the first time tend to automatically select the most frequent meaning as the basic meaning. They neglect to carefully check the sense descriptions against MIPVU's criteria for a more basic meaning. Discussion 1, retrieved from an online discussion among participants at a Metaphor Lab Winter School exemplifies this type of reasoning. Here the participants were discussing the metaphorical status of the adverb *desperately* in (2), which annotator B had marked as metaphorically used.

- (2) “I was *desperately* seeking answers as to WHY I was still having problems communicating about (...).”

Discussion 1

Participant A: Why is this metaphorical? Help!

Participant B: I guess it is because the basic meaning will be #1 in the dictionary which is “in a very worried or angry way” and the contextual will be #2 which is “very much”.

While basic meanings *can be* the most frequent meanings (and thus listed first in the dictionaries), this is by no means always the case. In fact, we find that metaphorical senses are often more frequently used than the basic meaning(s) they are derived

5. Note that one challenge not discussed in this chapter involves cases where two meanings compete with each other, in the sense that each of them exhibits a different criterion for basicness and it is not clear which one should take precedence. This issue is discussed in Dorst et al. (2013) and Dorst and Reijnierse (2015).

from. Especially learners and non-native speakers may not even have encountered the word employed with its basic meaning, even though they are familiar with the metaphorical sense. Nacey (2013: 99), for example, illustrates this point by the verb *undermine*, which Macmillan defines with two distinct senses:

1. to make something or someone become gradually less effective;
2. to dig under something, especially so that it becomes weaker.

The more basic meaning is Macmillan sense description 2 (MM2), because it concerns physical excavation beneath something concrete. But the first sense description (MM1) is the verb's most frequent meaning, making it the most salient for most people (except, maybe, for builders?). It is a metaphorical extension of the more concrete meaning, and should therefore not be mistaken for the basic sense by virtue of appearing first (see also Chapter 14 on English as a lingua franca, this volume).

3.3.2 The 'but there **has** to be a single basic meaning' pitfall

Another source of confusion is that researchers new to the procedure may think they need to find *the* most basic meaning and get stuck when trying to determine which of a word's various senses is more basic than all the others. A good example of this is the verb *to serve*, which is defined with nine senses in the Macmillan dictionary, ranging from MM1 *provide food/drink* to MM9 *hit ball to start play*. Both of these senses are concrete, as are (at least) two others: MM7 *help customers in shop* and MM8 *officially give document*. While the novice MIPVU user might struggle to determine which of these senses counts as a more basic meaning (for instance, because it is more concrete than the contextual meaning), all four of these senses share the same underlying meaning of giving something (concrete) to someone; in other words, the four senses mentioned here are *equally basic*.

Similarly, in the case of the adverb *desperately*, both senses pointed out by Participant B in Discussion 1 denote intensity of feeling and/or action, and neither can be said to be more basic than the other. Our conclusion is therefore that *desperately* is not metaphorically used, because there is not sufficient distinction between the contextual sense (MM1 *in a very worried and angry way*) and a more basic sense (which encompasses MM1).

3.3.3 The 'no contextual meaning' pitfall

Another stumbling block for novice coders is when they find a more basic meaning of the lexical unit in question but the contextual meaning is not listed in the dictionary. We illustrate this by our students' online discussion when deciding whether *mining* in (3) is metaphorically used.

(3) (...) journalists are *mining* this rich new vein of material ...

Discussion 2

Participant A: Here I had the problem of only one meaning.

Participant B: Considered this one as metaphorical as well, with the basic meaning of *to mine* being to work at a mine, which is different from the contextual meaning.

Participant C: Yes, I agree but the dictionary as a matter of fact does not report this second one.

The contextual sense of *mining* is not listed in the dictionary, yet clearly differs from its more basic (physical) sense, something Participant B specifically notes. This type of situation is not unusual. Dictionaries are finite, and cannot possibly include a sense description and illustrative sentence for every lexeme in every context in which it may appear. Our conclusion is thus that *mining* in (3) is metaphorically used. Its contextual meaning (about journalists taking information from a source) is sufficiently distinct from its basic meaning (MM1 *to dig a large hole or tunnel in the ground in order to get coal, gold etc., or to take coal, gold etc. from such a hole or tunnel*), and the two meanings are related by comparison: we understand investigating information in terms of mining for a valuable concrete entity.

When we come across cases where the contextual senses are not codified, we could decide to mark them as novel metaphors. At a later point, we may want to further investigate all such 'novel' lexical units, to differentiate those uses that are frequent in contemporary language but not yet captured in dictionaries from those uses that are indeed rare in use or creative. Deignan (2005), for example suggests that corpus frequencies may be taken as an indication of novelty: "any sense of a word that is found less than once in every thousand citations of the word can be considered either innovative or rare ..." (Deignan 2005: 40). Another possibility is that the term in question is not novel, but rather represents technical, subject-specific jargon, which is for this reason not included in general language dictionaries like Macmillan, intended for language learners. A possible solution here would be to consult a specialist dictionary for such terms, in addition to more general dictionaries.

3.3.4 The 'grammatical category / word class' pitfall

A final aspect that novice users of MIPVU often miss is that "a more basic sense has to be present for the *relevant grammatical category of the word form* as it is used in context" (Chapter 2, this volume; italics in the original). This means that grammatical patterns such as transitivity of verbs and countability of nouns are taken into account when determining metaphoricality. MIPVU focuses on the referent in the exact context in which it appears. A typical example causing problems is the use of the verb *go* in (4).

- (4) Louise had *gone* completely blind before she did. (MM5)

Many new users of MIPVU may correctly identify the verb's contextual sense as MM5, *to change to another condition, usually a worse one*. They then zero in on Macmillan's first sense for *go* as its basic sense: *to move or travel to a place that is away from where you are now*, and subsequently mark the lexeme as metaphorical in use. The problem with such an analysis is that the basic meaning is intransitive, whereas as the lexical unit in (4) is a linking verb. Because they follow different transitivity patterns, the two senses should not be compared when following MIPVU, and *go* should not be identified as metaphorically used in this example.

In a similar vein, MIPVU does not cross word class. Consider the noun *whole* in (5), an excerpt from a newspaper article in the VU Amsterdam Metaphor Corpus.

- (5) Thus the Palestinian national movement both inside and outside the occupied territories is an organic *whole*.

According to the MIPVU procedure, the contextual meaning should be established first, followed by the more basic meaning. But when typing *whole* into the search bar of the online version of Macmillan, the entry that first comes up is the adjective rather than the noun. Based on the adjective's more basic meaning *not divided or broken*, inexperienced MIPVU users may wrongly conclude the use of *whole* in (5) is metaphorical. However, MIPVU requires checking meanings within the word class of the lexical unit as used in context. In this case, the meanings of the noun need to be checked. The noun has only one meaning, namely *a complete thing made of several parts*, which applies to both abstract and concrete things. *Whole* in (5) is thus not metaphorically used.

The question of whether the distinction between word class boundaries or other grammatical categories should be taken into consideration when determining metaphoricality was a matter of contention during the development of MIPVU. As discussed in Chapter 1 of this volume, the original MIP developed by the Pragglejaz Group (2007) did not have any such restriction of staying within the same grammatical category: they illustrate their rationale with the noun/verb pair of *squirrel* and *to squirrel*, contending that treating these as two distinct lexemes would entail a loss of the clear metaphorical link between them (see also Deignan 2006).

Moreover, reasons relating to genre, style, rhetorical purpose or communicative function have sometimes led researchers to formulate additional guidelines on when to 'break' this rule. Say a novel consistently describes characters in terms of animal behavior and characteristics through verbs such as *rabbit on* or adjectives such as *bitchy*. In this case, researchers may want to disregard the word-class boundary rule when identifying metaphor on the grounds that such uses reflect part of one systematic and coherent stylistic pattern of (deliberate) animal metaphors. This

is clearly a very different situation than when a single instance of *bitchy* occurs in a casual conversation between friends in which no other animal metaphors appear. As always, the golden rule when deviating from the MIPVU guidelines is to be explicit and systematic when formulating additional guidelines, and to explicitly report reasons for breaking specific rules (or including/excluding specific cases) in any publications.

3.4 How do I go about contrasting and comparing meanings?

Given that a particular word under investigation has separate sense descriptions for its basic and contextual meanings, some novice MIPVU users automatically jump to the conclusion that this means they have found a metaphorically used word, without any further consideration. The problem with this is that the existence of two differently numbered senses in the dictionary does not guarantee the presence of metaphor. It is necessary to complete all the MIPVU steps, to make sure that the meanings are (1) related by similarity and (2) sufficiently distinct. Separate sense descriptions may be (and often are) related to each other through metaphor, but they may alternatively be related through some other relationship such as metonymy, specification, or generalization.

The crucial distinction between metaphor and metonymy concerns the contrast between similarity and contiguity. Contiguity is at the core of metonymy, a form of co-occurrence whereby we view X *via* Y. By contrast, viewing X *as* Y lies at the heart of metaphor (Steen 2007: 58–61). For example, consider the lexical unit *soul* in (6), also a topic of discussion among students at a Metaphor Lab Amsterdam Winter School.

(6) You have saved my *soul*.

Looking in Macmillan, we find that the basic and contextual meanings are represented in separate sense descriptions:

1. the part of a person that is capable of thinking and feeling (the basic sense);
2. a person, e.g. *I promise I won't tell a soul*. (the contextual sense).

Discussion 3

Participant A: I think this is indirect metaphor for 'person' (macmillan). Like, she saved herself.

Participant B: I agree.

Participant C: I think "soul" is metonymy here, not metaphor.

Although not explicitly mentioned in this student discussion, all three participants probably (correctly) identified the first sense in Macmillan as more basic than the contextual ‘person’ meaning: although both are human-oriented, the former is more specific than the latter. Participants A and B are also correct in realizing that the first and the second sense are related. However, the relationship between the two is one of contiguity rather than similarity. We view the person *via* the soul (metonymy) whereby the soul *stands for* the person, rather than viewing the person *as* the soul (metaphor).

The occurrence of separately numbered sense descriptions frequently indicates that those senses are sufficiently distinct for serving as a basis for a comparison. However, sometimes discrete senses are more finely distinguished from each other (see Lew 2013). Take, for example, the noun *melee* in (7). One Metaphor Lab Winter School participant marked it as metaphorically used, which prompted disagreement from two of his fellow students.

(7) Ever since the field emerged from the postwar cybernetic melee (...)

This noun is defined by two sense descriptions in Macmillan:

1. a noisy confused fight involving a lot of people, and
2. a large confused group of people or things.

Discussion 4

Participant A: Why *melee* is coded as metaphor? the basic and contextual meanings are considered as distinct enough?

Participant B: same comment here

Participant A: Macmillan has provided two meanings for *melee*, that to me there are very similar

We agree with the reasoning of Participant A, who was asking the right questions. These two sense descriptions are not sufficiently distinct; the first meaning is simply more specific in that it refers not just to a confused group, but a confused fight. The noun *melee* in the context of (7) should have not been marked as metaphorically used.

Thinking ‘I am done and have found a metaphor’ once two separate sense descriptions have been found is a common pitfall for novices. As illustrated in the above examples, however, it is crucial to complete the final steps of MIPVU and check whether the meanings are related by similarity and whether they are sufficiently distinct, as entries may simply be connected through non-metaphorical relationships.

3.5 Which tools should I use to annotate my dataset?

It is no secret that MIPVU is a time-consuming affair, because the analyst must consider each lexical unit for metaphoricality. Although we cannot remove the need for manual decisions, it is possible to speed up analysis through systematizing it in a logical way. The tools used for annotating your dataset require careful consideration before you start on a project involving metaphor identification using MIPVU.

One important consideration is the long-term plans you have for your dataset: for example, whether there are plans to make it public and in what form. For publishing annotated data, the XML format has emerged as a standard, and free XML editors are available.⁶ For deliberations on physical representation formats and annotation environments, see Krennmayr and Steen (2017).

While the thought of using XML may be off-putting to some, there are other, quite simple ways to code data. For instance, many metaphor researchers use spreadsheet programs like Microsoft Excel. The text is entered vertically into a column, with each line representing a lexical element. All sorts of columns can be added, depending on the particular aims of your research project, such as information about PoS tags and decisions about metaphor. An advantage of Excel is that it allows for easy manipulation of your data, both before and after analysis. In the pre-analysis stage, you ideally need a tool that allows you to automatically enter your unannotated (maybe PoS-tagged) text from other programs such as Word or Wmatrix (a corpus analysis tool including PoS and semantic tagging systems).⁷ In the post-analysis stage, you will want to be able to transfer your data into other programs to allow for further (perhaps statistical) analysis or visualization of your findings. Compatibility between programs is therefore a second important consideration when it comes to choosing tools for annotating your data.

In what follows, we present one illustration of tools for annotation and subsequent statistical analysis and visualization that we have used when applying MIPVU to texts, where we align three tools: Excel, the Filemaker Pro Advanced database application, and the R software environment for statistical computing and graphics.⁸ Another possibility worth looking into is provided by a University of Lancaster team involved in the “Metaphor in end-of-life care” project (Semino et al. 2018). They identify metaphor with a modified version of MIPVU, using a combination of Wmatrix, the eMargin collaboration online annotation tool, and Excel.⁹

6. A list of XML editors is available at https://en.wikipedia.org/wiki/Comparison_of_XML_editors.

7. Wmatrix is available at <http://ucrel.lancs.ac.uk/wmatrix/>. See also Chapter 1, this volume.

8. Filemaker Pro is available at <http://www.filemaker.com/>. R is available at <https://www.r-project.org/>.

9. MELC presentation slides from a workshop on using corpus methods to analyze metaphor are available at http://ucrel.lancs.ac.uk/melc/workshop_jan2014.php. The eMargin annotation tool is available at <https://emargin.bcu.ac.uk/>.

3.5.1 Initial independent MIPVU analysis

Besides checking inter-rater reliability on the demarcation of lexical units as reported in Section 3.2, we also investigated the agreement about metaphoricity of the three analysts taking part in our small experiment. The entire study involved two rounds of analysis, with a troubleshooting session in-between – the overall goal being to determine if inter-rater reliability was (1) satisfactory, and (2) could be improved. Figure 1 presents a screenshot of our Excel spreadsheet containing the ‘Boris Johnson’ sentence from example (1) and represents the coding of one of the three analysts, Analyst 1.¹⁰

A	B	C	D	E	F	G	H	I	J	K	L	M	N
ID	PoS	element	lexunit	not met	indirect met	direct met	implicit met	Mflag	WIDLII	DFMA	extra element	punct.	count
556	NPO	Boris	w	x									1
557	NPO	Johnson	w	x									1
558	VVZ	says	w	x									1
559	NN1	Brexit	w	x									1
560	VMO	will	w	x									1
561	XX0	not	w	x									1
562	VBI	be	w	x									1
563	VVN	triggered	w		x								1
564	AV0	straight	p	x									1
565	AV0	away	p								x		1
566	PUNC	.	i									x	1
567	NPO	Boris	w	x	x								2
568	NPO	Johnson	w										0
569	VVD	said	w										0
570	NPO	Britain	w										0
571	VMO	should	w										0
572	XX0	not	w										0
573	AV0	immediately	w										0
574	VVI	trigger	w										0
575	NN1	article	w										0
576	CRD	50 w											0

Figure 1. Excel spreadsheet screenshot

We briefly explain what each column represents:

- Column A assigns each element a unique identification number.
- Column B shows the PoS tag for each element; following the suggestions in the MIPVU guidelines, we had first annotated our text with the BNC C5 tagset using the CLAWS part-of-speech tagger for English.¹¹
- Column C contains the lexical elements imported from a Word document with the text under investigation. Most of these elements are the same as individual

10. A suggested template for MIPVU data analysis is available as supplementary material at this volume’s Open Science Framework website; see the Chapter 3 folder at <https://osf.io/vw46k/>.

11. CLAWS is available at <http://ucrel.lancs.ac.uk/claws/>.

lexical units, but some (like *straight* and *away*) form a single lexical unit because they are two elements in one polyword (see next point).

- Column D contains our codings for lexical unit. The default code (by virtue of being most frequent) is *w* for 'word', a single lexical unit. Other possible options are *p* (polyword), *v* (phrasal verb), *c* (compound), *n* (proper noun), and *i* (ignore, intended for punctuation).
- Columns E-K consist of one column for each of the codings possible within MIPVU (not metaphorically used, indirect metaphor, direct metaphor, implicit metaphor, MFlag (metaphor flag), WIDLII (When In Doubt Leave It In), and DFMA (Discard From Metaphor Analysis). Analysts are expected to enter a lowercase *x* in the appropriate column.
- Column L is intended to mark extra elements of multiword units, exemplified here by *away* which is the second element in a polyword. Only the first element, *straight*, is coded for metaphor use of the entire polyword.
- Column M records whether a line contains a punctuation mark.
- Column N provides a safeguard against inadvertent mistakes in metaphor coding, a hazard of the trade when one analyzes large amounts of text. A formula is used here to count the number of *x*'s in Columns E-M: the number 0 shows that the lexical element in question has not yet been analyzed for metaphorical use (e.g. ID numbers 568–577); the number 1 shows that the lexical element has been given a single code for metaphorical use (e.g. ID 556–566); the number 2 (or greater) indicates that the lexical unit has been coded more than once for metaphorical use (something that has not happened in the illustrative example in Figure 1). When an analyst finishes an initial round of metaphor identification, they should then use Excel's sorting function to uncover any lexical elements that were inadvertently overlooked (0) or double-coded (2 or higher), and then correct them before any subsequent analysis.

This spreadsheet contains the most basic information needed for MIPVU analysis. It can thus function as a starting template for metaphor identification projects. Additional columns can be added, of course, depending on the project's particular objectives. As an example, a column identifying the producer of each lexical unit would be crucial for any project involving more than one informant.

3.5.2 Further comparative MIPVU analysis

While Excel is a sufficient tool for many projects, we have found that adding too many columns makes it unwieldy to use because it may not be possible to view all the columns without scrolling to the right or left on the screen – all of which takes time. If you plan on coding for a larger number of variables, you might consider transferring your Excel data to a different type of database, such as FileMaker.

Figure 2 shows a screenshot illustrating the use of FileMaker Pro Advanced to create a custom-made database that suits our needs. The screenshot displays our analysis for *Boris*, ID 556 in the Excel spreadsheet presented in Figure 1. Here we find the analysis for *Boris* shown in line 556 in Figure 1 that has been imported to this new database; we can recognize it under the *Round 1* column for *Analyst 1*, where we see the *lexunit* (lexical unit) has been coded *w*, and there is an *x* indicating that this analyst marked the words as *notM* (not metaphor). Similarly, we have imported all information about this word from all three researchers and for both rounds of analysis, taken from the Excel spreadsheets they used to independently conduct their analyses.

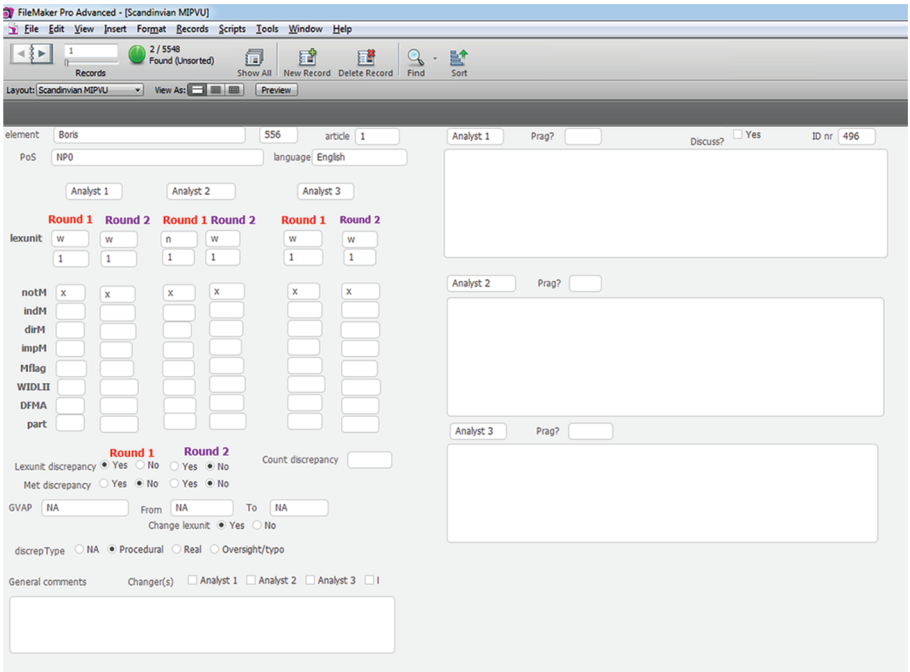


Figure 2. FileMaker pro advanced database screenshot

This database was actively used in the course of our inter-rater reliability study (see Section 3.6). The data from the three researchers was initially imported after their first rounds of analysis, and used to easily identify any discrepancies among analysts in their decisions about either the demarcation of lexical units or determination of metaphoricality. Such discrepancies were then discussed in a troubleshooting session before a second round of analysis. We see towards the bottom of Figure 2, for example, that a *lexunit discrepancy* is indicated under *Round 1*, and that the analysts

concluded in their troubleshooting session that this resulted from a procedural misunderstanding, rather than any 'real' disagreement (the *discrepType*). In *Round 2*, however, the analysts were in agreement.

3.5.3 Statistical analysis of MIPVU results

The final step in our study into inter-rater reliability was to generate findings based on the analyses recorded in our cumulative database. To do so, we transferred the results from our Filemaker Pro database into the R software environment, where we were able to calculate inter-rater agreement for the demarcation of lexical units and for the identification of metaphor for both rounds of analysis. R requires users to write their own code, and may therefore seem rather daunting for people unfamiliar with it. There are, of course, alternative programs for statistical analysis, but any tool requires some initial investment to learn how to properly use it. We find that our combined approach using Excel, Filemaker Pro, and R provides an effective and flexible means generating findings from MIPVU analysis.

3.6 Reliability testing

A metaphor identification procedure such as MIPVU may be considered a reliable tool only if its application leads to substantial agreement between different coders. How can we tell if that is the case? Suppose we have a metaphor researcher who applies MIPVU to a text that is 5,000 words long. Following the protocol, she assigns one of the following categories to each word: (1) not metaphor, (2) indirect metaphor, (3) direct metaphor, (4) implicit metaphor, (5) metaphor flag, (6) WIDLII, and (7) DFMA. Ideally, we would like to know how reliable her metaphor identification process has been, because reliability tells us something about whether we can trust the results. To find out, we could ask a second metaphor researcher to replicate her work. We would ask this second person to independently apply MIPVU to the same text, and then compare results (similar to what we have done in our reliability experiment reported in this chapter).

One way of comparing results would be to calculate the percentage of agreement between our researchers. We might then find that out of the 5,000 words, the two annotators agreed more than 95% of the time about their decisions to identify a word as belonging to one of the predetermined categories. This might seem impressive at first sight, but we need to consider what we have just calculated before we declare ourselves satisfied with our results. We know from previous empirical studies that there is far more non-metaphorical language than metaphorical

language in discourse (see Chapter 10 in Steen et al. 2010). Even though metaphor is ubiquitous in language, most of the words in the sample will be categorized 'not metaphor'. Our researchers are (and should be) positively biased towards judging any particular word as not metaphorical in use. But what would happen if we replace our second metaphor researcher with a monkey who has been taught to hit the 'not metaphor' key all the time? Because most words are not metaphorical in discourse, the percentage agreement between our first researcher and our trained monkey would still be rather high.

A more informative measurement of inter-rater reliability is the kappa: Fleiss' Kappa is frequently used to measure agreement between three or more analysts, while either Fleiss' Kappa or Cohen's Kappa are typically used for agreement between two analysts (see e.g. Steen 2007: 124–125). What the kappa does is correct for chance. Given that so much discourse is not metaphor, it is not really surprising if our two researchers agree that any particular word is not metaphor. But the chances of a word being indirect metaphor are much lower, so if our researchers agree on that coding, we have more reason to be pleased. Direct metaphors, implicit metaphors, WIDLIs and (in most text types) DFMAs are even rarer than both not metaphor and indirect metaphor. So if our researchers also agree on these codings, then we can take this as a true indication that they are applying MIPVU in similar ways. The kappa will reflect this by placing more weight on those 'trickier' cases where we actually have to make a decision that is not the default 'not metaphor'. Researchers who provide kappa values will also typically explain which cut-off points they have used to interpret the degree of agreement (i.e. minimal / weak / moderate / strong / almost perfect), often referring to past precedent (see Howell 2010: 165–166 for more information about the kappa).

We also strongly recommend providing the 95% confidence interval (CI) for the kappa value. In our example with two metaphor researchers, the one kappa value tells us about the agreement between them for their first 5,000 words. But if we were to ask them to repeat the same task by identifying metaphor in another set of 5,000 words, they probably would arrive at a different kappa value. We want the kappa to reflect the degree to which they *generally* agree about metaphoricality when employing MIPVU, rather than just their agreement about one particular sample. To find this 'true' kappa, we would actually have to ask them to conduct an infinite number of metaphor identification analyses. A more practical alternative would be to provide the CI, which gives the range within which we are 95% certain that this true kappa lies; there is no need to doom our researchers to an eternity of metaphor identification.

Part 2: Choosing your approach and your data

The sections above have discussed some of the main challenges in applying MIPVU, and issues relating to data entry and reliability testing. However, we should go back to our initial question: 'Do I need to use this on each and every word in my dataset?' The answer, of course, is 'Not necessarily'. Going manually through hundreds, thousands, even millions of words is normally far beyond the capacity of any individual researcher; even collaborating researchers often do not have the time or means to take on such an endeavour. The discussion below will help guide you through the different possibilities of approaching metaphor identification projects using MIPVU, suggesting when a particular approach or perspective makes most sense.

3.7 Decision 1: Quantitative, qualitative, or both?

Decisions regarding which research approach to adopt and which selection of texts to make should be informed by research questions and hypotheses. One of the first questions to consider is: 'Can I best answer my research question(s) by carrying out a quantitative analysis (*How many? How often?*), a qualitative analysis (*How? When? Where? Why?*), or a combination of the two?' The answer to this question may have consequences for the selection of texts – the kind and the number of texts that will (or realistically can) be included in your dataset.

Especially in the case of quantitative analyses, it is important to pay attention to the selection of texts or text excerpts if the goal is to generalize to a population. In that case, the sample that is studied needs to be representative of a particular type of language use. This language use can be very general (e.g. contemporary English; Dutch used in literary discourse), or highly specific (e.g. Emily Dickinson poems about death; the *obiter dicta* of Supreme Court tort law rulings), or anything in-between. You may want to focus on a particular language or dialect, a specific domain or genre, a text type or specific subject matter, a time period or geographical region, a specific author or politician – in principle, anything goes. The broader the language variety, the rarer the phenomenon you are interested in, and the more quantitative your approach, the more texts you will need to obtain a representative selection and to ensure that your findings will be consistent across different samples, rather than idiosyncratic. However, representativeness is a tricky concept: in the end, the texts you analyze are truly representative of nothing but themselves.

When taking a qualitative, instead of a quantitative, approach to your research question(s), the goal of analysis is concerned with finding patterns that (re)occur throughout a text, or a (small) collection of texts, and describing those patterns in a detailed way. In contrast to quantitative analyses, the aim is not to examine how

often a phenomenon occurs, but to describe *how* it occurs. This, too, may affect how a dataset is collected. Independent of whether your approach is mainly quantitative or mainly qualitative, we recommend to include brief demonstrations in your publications to explain how the MIPVU works and how it is useful for your particular research question(s) and/or hypotheses.

3.8 Decision 2: Which (elements in) texts and why?

Both quantitative and qualitative metaphor analysis may be used to answer a range of research questions and to test a variety of hypotheses. One particular perspective you may wish to take is to explore differences between languages. For English, a number of quantitative studies on different genres and registers have been carried out. An example is the “Metaphor in Discourse” project (Steen et al. 2010), where MIPVU was developed and used to manually identify all metaphor-related words (MRWs) in an almost 200,000-word corpus of contemporary British English, divided between roughly 50,000 words of everyday conversations, fiction, news and written academic discourse. In your own project, you may, for example, wish to find out if the language you are investigating has similar distributions of metaphors across one or more of these different registers. Perhaps you expect your language to use more or fewer MRWs overall, or to use more or fewer MRWs in one or more of the four registers (e.g. you may expect German news texts to have fewer MRWs than English news texts), or to use more or fewer MRWs of a particular type (e.g. you may expect Japanese novels to have more direct metaphors than English novels). Rather than wanting to establish frequencies for the entire language (which seems a mission impossible *par excellence*), or even for all four types of discourse included in the “Metaphor in Discourse” project (which had the luxury of having a team of four full-time PhD students for five years), you could focus on just one type to investigate whether this particular register is subject to different norms for metaphor usage in different languages.

Of course, a register perspective can also be taken without the need for a comparison between languages. Instead of comparing metaphor use in the same register between languages, you may want to investigate how metaphor usage differs between two registers within the same language, or explore metaphor usage in thus far unexplored or underexplored areas. For example, you may wish to establish how (particular types of) MRWs are used in pop songs or legal contracts, or you may be interested in the occurrence or absence of metaphor in new forms of communication such as tweets or e-consulting.

One point of critique that is sometimes lodged against the results of Steen et al. (2010) is that the reported frequencies include ‘everything’, including ‘uninteresting’

words such as deixis (e.g. *this*, *that*), prepositions (e.g. *in* 2016, talk *about*), delexicalized verbs (e.g. *take*, *make*, *give*, *get*), and empty nouns (e.g. *thing*, *stuff*, *end*, *point*). Whether or not to take into account these words depends on the specific questions you want to answer in your project. In some cases, it may make most sense to focus only on content words (noun, verbs, adjectives, adverbs) and leave the grammatical words for what they are. Or you may be interested in only one word class, say verbs, to establish how many of them are metaphorically used when high-frequency delexicalized verbs are not taken into account, and how this distribution differs per genre or register or author. With such a focus, you may still need to go through your texts manually, but your work will considerably speed up and be far less daunting than analysing each and every word.

Many researchers are merely interested in a particular source domain, e.g. ANIMAL metaphors, FIRE metaphors, or WAR metaphors, especially those working within the framework of the Conceptual Metaphor Theory. It is important to note that MIPVU only identifies metaphors on the *linguistic* level, not the conceptual level nor the cognitive level (production/processing). As such, the method does not make any claims about underlying conceptual metaphors. However, although MIPVU is not meant to identify conceptual metaphors or mappings, the steps of the procedure do invite the researcher to think about the potential mappings and underlying conceptual metaphors. This is because researchers must first establish the contextual meaning of a lexical unit (which relates to the target domain), then examine whether the lexical unit has a more basic meaning (which relates to the source domain), and finally determine whether the contextual and more basic senses are distinct (and thus belong to different domains) as well as related via comparison (that is, a cross-domain mapping).

As a result, MIPVU can be used as a very first step towards conceptual analysis. It should be noted, though, that the transition from linguistic to conceptual metaphor is far from straightforward (see e.g. Steen 2009). One online tool to identify potential source domain concepts is the UCREL Semantic Analysis System (USAS).¹² Researchers can run their texts, or identified metaphors, through the tagger, which will return a list of tags for each of the words. By way of illustration, Figure 3 displays the USAS output for the sentences in discussed previously in example (7): “Ever since the field emerged from the postwar cybernetic melee”. Here we see columns for the part of speech code, the token in question, and the semantic code(s) selected by USAS (with statistically most likely code being listed first).¹³

12. The USAS tagger is available online at <http://ucrel-api.lancaster.ac.uk/usas/tagger.html>.

13. USAS employs a tagset of 21 major discourse fields, divided into 232 different subcategories; see Archer et al. (2002).

0000001	002	-----	-----	
0000003	010	RR	Ever	T2++[i1.2.1 T1.1 N6+++ A13
0000003	020	CS	since	T2++[i1.2.2 Z5
0000003	030	AT	the	Z5
0000003	040	NN1	field	F4 W3 M7 K5.1/M7 G3@ A4.1
0000003	050	VVD	emerged	M1 A10+ A1.1.1
0000003	060	II	from	Z5
0000003	070	AT	the	Z5
0000003	080	JJ	postwar	T1.3
0000003	090	JJ	cybernetic	Z99
0000003	100	NN1	melee	Z99

Figure 3. USAS output screenshot

While this tool is potentially useful to systematically (rather than intuitively) add source domain labels to linguistic metaphors, the number of lemmas in the database remains somewhat limited (especially for languages other than English), leading to a frequent use of the ‘Z99’ tag (the USAS code for ‘unmatched’). As is shown in Figure 3, domain tags for words like ‘cybernetic’ and ‘melee’ are absent from the system. In addition, the USAS output often provides more than one domain, and as such leaves it to the analyst to determine which of those counts as ‘the’ source domain. An example of this is the output for the noun *field* in Figure 3 above. This noun is tagged with more than five different (sub)tags, among which ‘Farming and horticulture’ (F4), ‘Geographical terms’ (W3), and ‘Sports’ (K5.1).

By contrast, researchers interested in examining how a particular source domain is expressed linguistically (i.e. taking a top-down perspective), can look for specific words belonging to the semantic field of that source domain, instead of analyzing each and every word in all of their texts (see e.g. Koller 2002). Previous studies or a thesaurus may be used to generate a list of possible candidates (that is, lemmas expressing the source domain under investigation) and then check their sense descriptions in the dictionary to see whether they indeed have a basic sense relating to the source domain of interest. In a subsequent step, the researcher can search their dataset for these items, and examine whether they are used metaphorically given the context in which they are used. Using software such as AntConc will allow researchers create concordance lines for relevant keywords and can also give information about frequencies and patterns.¹⁴ Another related possibility is to use

14. AntConc is a free corpus analysis toolkit for concordancing and text analysis; see <http://www.laurenceanthony.net/software/antconc/>.

a 'small corpus/large corpus' approach, where you first manually analyse a small sample of your dataset to collect relevant metaphorical expressions, and then run fully or partially automated searches for these expressions in your entire dataset (see e.g. Cameron and Deignan 2003).

While some researchers are interested in particular source domains and start from there, others will look for specific target domains to find out what source domains are used to metaphorically describe the target topics they are interested in, for example, which metaphors are used to talk about migration, the euro, education or cancer (see e.g. Stefanowitsch 2006). In such cases, a dataset can be searched in similar ways to the source-domain approach described above, either manually combing through the texts to identify the metaphorical expressions (bottom-up), or starting from a list of metaphorical expressions and searching for them in the dataset (top-down), or using a small corpus/large corpus approach (see e.g. Deignan 2005). Depending on your research aims, you may even want to look for specific expressions or forms of metaphor signalling: for example, you could look for "consider education a*" or "new currencies are like*" (where the asterisk signifies a wildcard expression), thus revealing potentially deliberate metaphor (see Reijnierse et al. 2018). A very large corpus may be required to collect a considerable number of instances, depending on the search words and the specificity of the expression. On the other hand, searching for all instances of "looked like a*" may very well yield many hits.

In the end, your research questions and hypotheses will determine whether a focus on the kinds of source domains that are used to describe a specific target might be best, or whether it might be more appropriate to investigate which target domains are described through a specific source domain. This type of consideration will help determine whether you need a small or a large dataset, as well as whether you are able to (or need to) to go through the data manually or whether you can rather utilize search/concordancing software. Again, both quantitative and qualitative approaches (or combinations) are possible: e.g. 'Are WAR metaphors more frequent than JOURNEY metaphors to describe cancer?' (quantitative) versus 'Are WAR metaphors used positively (empowerment) or negatively (loss of agency) to describe cancer?' (qualitative). This analysis may then also be carried out comparatively between registers or domains or languages or time periods, etc. The possibilities are endless.

3.9 Concluding thoughts

A large part of this chapter has dealt with pitfalls into which, in our experience, novice MIPVU users frequently stumble. We would nevertheless like to stress that difficult cases typically form only a small part of any dataset. Most cases are unproblematic, a fact that might be easy to forget when reading a chapter that primarily focusses on the tricky cases and the finer procedural details.

Further, we believe that there is no need for researchers to slavishly follow every step of MIPVU, exactly as set out in the procedure. There may be good reasons to deviate from the protocol, a point we have emphasized at various points in this chapter. But you should first have a thorough knowledge of what the procedure calls for, in order to truly understand that you are indeed deviating from the protocol as it stands, in which way(s), and why. Part of the rationale for the development of MIPVU was to promote greater transparency in metaphor identification, and to allow for greater comparability between findings in different studies. If researchers who do not fully understand the procedure nonetheless claim that they have used it, both of these objectives are undermined. Transparency is threatened because we then cannot know how metaphor was actually identified in any given project, which in turn means that we have reason to doubt the validity of cross-study comparisons. We therefore hope that this chapter will contribute towards accomplishing the objectives of realizing a valid and reliable means of metaphor identification.

To end, we would like to recapitulate the highlights of this chapter – the most important points that we want novice MIPVU to retain about the basics of the protocol:

About demarcation of lexical units:

- Do not rely on spelling conventions.
- Remember to check the BNC Multiword list, dictionary codification, stress patterns, and/or PoS tagging for the different multiword units, as relevant.

About identification of more basic meanings:

- A more basic meaning is not necessarily the most frequent (or salient) meaning;
- There may be more than one basic meaning; senses may be equally basic.
- The contextual meaning may not be codified; this may indicate a novel metaphor.
- When you compare contextual and more basic senses, make sure to compare lexical units from the same grammatical class and word category.

About comparing and contrasting basic and contextual senses:

- Finding a contextual and a more basic sense for a lexical unit listed as two separate sense descriptions does not automatically mean that the meanings are related by metaphor: senses may be equally basic, they may be related by metonymy, or one of the senses may just be more specific or general than the other.

About tools for applying MIPVU:

- Before you begin, decide what your long-term plans are for your data.
- When choosing tools for annotating your data, compatibility between programs is an important consideration. How well do different tools 'play' with each other?
- Investing time in developing an effective set of tools to help you in your annotation is a worthwhile investment for future projects.

And finally, we leave you with a "Metaphor Identification Project Checklist" that may help you plan research projects dealing with metaphor:

1. Will you include one language or more?
2. Will you include one domain/register/time period/etc. or more?
3. Do you need whole texts or only (representative) specific parts of the texts?
4. Will you look at all metaphors or only specific types of metaphors?
5. Will you look at all words or only particular word classes?
6. Will you look for metaphors from specific source domains or target domains or mappings?
7. Will you look for flagged metaphors?
8. How many texts will you need to get a sample that is representative of the phenomenon you are interested in?
9. Will you use a quantitative, qualitative or mixed approach?
10. Will you use a top-down or bottom-up approach?

And lastly:

11. Will you apply MIPVU?

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Linguistic metaphor identification in French

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4.1 Introduction

This chapter deals with the application of MIPVU to French, a Romance language. Recently, MIP(VU) has been used by metaphor scholars in France and Belgium to identify linguistic metaphors in French texts and transcripts of talk (e.g. Heyvaert 2016; Ly 2011; Nicaise 2011; Perez & Reuchamps 2014, 2015). None of these studies, however, specifically mention language-specific guidelines for applying the procedure to French. In addition, different dictionaries have been used to establish contextual and basic meanings, including *Le Petit Robert* (employed in Heyvaert 2016; Perez & Reuchamps 2014, 2015), *Le Trésor de la Langue Française informatisé* (TLFi; employed in Ly 2011) and *Larousse* (employed in Nicaise 2011).¹ As a result of this lack of explicit, language-specific guidelines and of the use of different dictionaries, it is unclear whether the different studies applied MIP(VU) in the same way. It is also not clear whether any difficulties were encountered in the application of the MIP(VU) guidelines (developed for English) to French, and if so, how these were dealt with.

To allow the reliable and replicable identification of linguistic metaphor in French, transparent guidelines are needed (see Reijnierse 2010). The goal of this chapter is twofold. Firstly, an adjusted version of MIPVU is established that takes into account idiosyncratic lexical and grammatical features of French, and an example analysis is carried out to demonstrate its application in natural discourse. Secondly, the impact of dictionaries on metaphor identification is examined by comparing metaphor analysis with different dictionaries.

1. The dictionaries referred to in this chapter are *Le Grand Dictionnaire Hachette-Oxford* (2005), *Le Grand Robert & Collins* (2017), *Le Petit Larousse* (2018), *Le Petit Robert de la Langue Française* (2017), and *Trésor de la langue Française informatisé* (2018).

4.2 Linguistic metaphor identification in French

In the early days of MIP(VU), Reijnierse (2010) already investigated the applicability of the procedure to French. Based on an analysis of 40,000 words from French newspaper articles, she concluded that the procedure could indeed quite straightforwardly be used to identify linguistic metaphors in French. Yet, she also pointed out the need for further research into language-specific characteristics of French for which adjusted guidelines should be established (p. 100).

The research reported on in this chapter is a follow-up to Reijnierse (2010). It is concerned with the identification of *indirect* metaphor in French, and leaves the identification of direct and implicit metaphor aside. As such, this chapter is about MIP. At the same time, the adjusted guidelines and analyses that are presented in this chapter take into account MIPVU rules for distinguishing between grammatical categories and different types of verbs and nouns (see Chapter 2, this volume). For the sake of consistency, the term MIPVU and MIPVU terminology (including MRW; for metaphor-related word) are used throughout this chapter to refer to the identification procedure, unless reference is made to specific aspects of MIP.

In the following subsections, four lexico-grammatical characteristics of French that may affect metaphor identification are discussed (Section 4.2.1 and 4.2.2). Section 4.2.3 then introduces the *Procédure pour l'Identification de Métaphores* (PIM), an adjusted version of MIPVU to allow the reliable identification of linguistic metaphor in French.

4.2.1 Idiosyncratic features of French that may affect metaphor identification by means of MIPVU

Based on the application of MIPVU to a corpus of French newspaper texts (see Section 4.3.1 for more details), three lexico-grammatical characteristics of French were selected for which language-specific adjustments to the original protocol are needed to ensure the systematic demarcation of lexical units: polywords (*locutions*; Section 4.2.1.1), compounds (*mots composés*; Section 4.2.1.2), and pronominal verbs (Section 4.2.1.3). In addition, the complex nature of some prepositions, and its consequences for metaphor identification in French, are discussed (Section 4.2.2).

4.2.1.1 Polywords

Polywords (*locutions* in French) can be adjectival (e.g. *comme il faut* ‘properly’), adverbial (e.g. *bien sûr* ‘of course’), conjunctival (e.g. *ainsi que* ‘(just) as’), prepositional (e.g. *en face de* ‘opposite, in front of’), and verbal (e.g. *avoir lieu* ‘to take place’). Polywords can be nominal as well (e.g. *bande dessinée* ‘comic strip/book’), and these are discussed in Section 4.2.1.2 below. Although *locutions* are generally considered

multiword expressions that form a lexical unit (Grevisse & Goosse 1993: 239), a distinction can be made between *locutions* in which the individual elements of a constituent have lost their autonomy (*figements*, Grevisse & Goosse 1993: 240), and *locutions* for which this is not the case. Because of the loss of autonomy, *figements* cannot be modified. This suggests that some polywords should be analyzed as consisting of multiple lexical units, while others (the *figements*) should be analyzed as single lexical units.

Both MIP and MIPVU treat polywords as single lexical units (Pragglejaz Group 2007: 26; Chapter 2, this volume), and a list of English polywords is available as part of the British National Corpus² that can be consulted to verify whether a multiword expression is considered a polyword, and should therefore be analyzed as a single lexical unit (see Steen, Biernacka et al. 2010). In contrast to the BNC list of polywords, however, there appears to be no available set list of *figements* for French. In addition, grammars and dictionaries of French deal with polywords in diverging, and not always internally consistent, ways. The conjunctive polyword *ainsi que*, for instance, has its own entry in *Larousse*, but is present as a subsense of *ainsi* ‘in this way’ in both *Le Petit Robert* and the bilingual dictionary *Le Grand Robert & Collins*. The adverbial polyword *bien sûr* is listed in the entry for the adjective *sûr* ‘certain’ in *Le Petit Robert*, but in the entry for the adverb *bien* ‘well’ in *Le Grand Robert & Collins* as well as *Larousse*.

Because it is difficult to determine which *locutions* should be identified as single versus multiple lexical units when applying MIPVU to French, it is necessary to deviate from the original protocol and establish a language-specific guideline for their analysis. The French variant of MIPVU analyzes all individual constituents that are part of multiword expressions as single lexical units (it thereby follows the decision made for Dutch; see Chapter 5, this volume). This decision is further supported by the fact that the Part-of-Speech tagger used to tag the corpus that is used for the analyses in the current chapter (see Section 4.3.1) also identifies individual constituents as single lexical units. This decision clearly is a practical one that is by no means ideal from a linguistic perspective. Until a list of polywords is available for French, however, this solution is the safest option to allow the systematic and reliable analysis of lexical units when applying MIPVU to French.

4.2.1.2 Compounds

In French, compound nouns (*mots composés*) are generally considered single lexical units; “des associations permanentes qui appartiennent à la langue [permanent associations that belong to the language]” (Grevisse & Goosse 1993: 234).

2. The List of Multiwords and Associated Tags in BNC2 is available at <http://ucrel.lancs.ac.uk/bnc2/multiwd.htm>.

Compounds can be written in different ways: either as one word (e.g. *bonjour* ‘hello’, *aujourd’hui* ‘today’), as two hyphenated words (e.g. *chou-fleur* ‘cauliflower’, *savoir-faire* ‘know-how/expertise’), or as two or more separate words (e.g. *boîte de nuit* ‘nightclub’, *poids lourd* ‘heavyweight’, *pomme de terre* ‘potato’). The latter type of compounds can also be considered *locutions nominales* (nominal polywords; see Section 4.2.1.1). In the original MIPVU protocol, stress patterns of compounds indicated by the dictionary are taken into account to determine whether conventionalized compounds should be analyzed as a single or as multiple lexical units in English (Chapter 2, this volume). For French, however, no such information about stress patterns is available in dictionaries.

In addition, French dictionaries deal with the representation of compound nouns in different ways (cf. 4.2.1.1). This is particularly the case for compounds that consist of two or more separate words. The compound noun *pomme de terre* ‘potato’, for instance, is listed as a headword in *Le Petit Robert*, *Larousse*, and *TLFi*, but not in *Le Grand Robert* & *Collins*, where it is part of the compounds subsection of the entry for *pomme* ‘apple’. By contrast, the compound *bande dessinée* ‘comic strip’ does not have its own entry in any of the dictionaries. Instead, it is listed as a compound noun in the compounds section of the entry for *bande* ‘strip’ in *Le Grand Robert* & *Collins* or as part of the expressions section in the entry for *bande* in *Larousse*. In *Le Petit Robert*, it is listed as a subsense of the second sense for *bande* – ‘straight and long part of something’. In *TLFi*, it is presented as part of the subsenses of *bande*.

Just as with polywords, it is difficult to determine which compounds should count as a single lexical unit. For the analysis of metaphor-related words in French, a language-specific guideline is therefore needed. Information provided by the dictionary is used when determining whether a combination of constituents counts as a (conventionalized) compound or not. If the compound is found as a headword in the dictionary, it is analyzed as a single lexical unit. If, by contrast, it is not found in the dictionary, all individual constituents are analyzed separately.

This decision is further supported by the fact that the Part-of-Speech tags in the corpus (see Section 4.3.1) only suggest that some compounds (e.g. *après-midi* ‘afternoon’, *coffre-fort* ‘safe’, *rendez-vous* ‘appointment’) count as single lexical units, because they receive a single PoS tag. Generally, these are the compounds that are written as a single word or as a hyphenated word. By contrast, the constituent elements of other compound nouns (e.g. *poids lourd* ‘truck, heavy weight’, *boîte de nuit* ‘nightclub’, *usine à gaz* ‘gasworks’) each receive their own, individual PoS tag and therefore may be considered separate lexical units.

It is acknowledged that this is a pragmatic decision that is not ideal. In fact, this approach may lead to both over- and underrepresentation of identified metaphors.

For example, the analysis of the compound *usine à gaz* as three lexical units – *usine*, *à*, and *gaz* – yields no metaphors, whereas the compound as a whole can be used metaphorically to describe a needlessly complex system. However, for the sake of consistency it is necessary to follow the language-specific rule and analyze the individual constituents. For replicability and reliability purposes, any deviations from this general rule that individual researchers wish to make in their analyses should be made explicit.

4.2.1.3 *Pronominal verbs*

In French, verbs can be main verbs or auxiliary verbs. Main verbs are further subdivided into transitive verbs, intransitive verbs, linking verbs, impersonal verbs, and pronominal verbs. The general MIPVU rule to not compare word senses across different types of verbs also applies to French. In addition to this, pronominal verbs constitute a special group that needs further attention in the analysis of metaphor because they consist of a personal pronoun + verb. When the personal pronoun is reflexive (referring to oneself) or reciprocal (referring to ‘each other’), the addition of the pronoun does not alter the meaning of the verb (*laver* ‘to wash’, *se laver* ‘to wash oneself’; *voir* ‘to see’, *se voir* ‘to see each other’). In these cases the pronoun and the verb should be analyzed as two separate lexical units, and analyzed as such for metaphor.

However, in some cases, the pronoun and the verb should be taken together, and analyzed as a single lexical unit. This is the case for a limited set of pronominal verbs in which the pronoun *se* is neither reflexive nor reciprocal. In these cases, the pronoun does not have meaning on its own, and is considered non-analyzable. The verb *se méfier* ‘to mistrust’ is a case in point. The pronoun ‘se’ cannot be dropped nor analyzed separately, because the verb *méfier* does not exist. In this case, *se méfier* should thus be analyzed as one lexical unit.

In addition, there is one group of verbs for which the basic meaning of the pronominal form differs from the basic meaning of the non-pronominal form of the same verb. The basic meaning of *tromper*, for instance, is ‘to deceive’, while the basic meaning of *se tromper* is ‘to make a mistake’. In a similar vein, the basic meaning of the verb *battre* is ‘to hit’, while the basic meaning of the pronominal form *se battre* is ‘to fight’. Both forms can be used metaphorically as well: in certain contexts *battre* may mean ‘to win’, while *se battre* may mean ‘to put a lot of effort into something’. Consequently, pronominal verbs in which the pronoun is neither reflexive nor reciprocal (i.e. non-decomposable) should always be analyzed as one lexical unit consisting of two words (‘se’ and the verb).

It should be noted that the PoS tagger that was used for the analyses in the current chapter (see Section 4.3.1) does not count this particular group of pronominal

verbs as single lexical units. A special code was therefore added to these verbs manually to specify that the pronoun and the verb were analyzed together (cf. some English phrasal verbs [see Chapter 2, this volume], and Dutch separable complex verbs [see Chapter 5, this volume]).

4.2.2 Prepositions *à* and *de*, and contracted forms

Prepositions have shown to be the word class that is most frequently used metaphorically in both English (Steen, Dorst et al. 2010) and Dutch (Pasma 2011). At the same time, the analysis of certain prepositions has proven to be a complex issue in both English (notably ‘of’ and ‘for’; Krennmayr 2011), and Dutch (notably ‘voor’ [cf. English ‘for’] and ‘van’ [cf. English ‘of’]; Pasma 2011). For metaphor identification in French, the analysis of the prepositions *à* ‘in/to/at/from/etc.’ and *de* ‘from/in/for/etc.’ proved particularly complex. Both *à* and *de* have many different meanings, ranging from more lexical (sometimes metaphorical) to more grammatical (never metaphorical), but it is often difficult to determine to which group (lexical or grammatical) a contextual meaning belongs (cf. Chapter 5, this volume, for Dutch). Furthermore, both *à* and *de* contract with the definite articles *le* and *les*, such that *à* + *le* = > *au*, *à* + *les* = > *aux*, *de* + *le* = > *du*, *de* + *les* = > *des*. This is also the case when followed by the pronoun *lequel/lesquels/lesquelles* ‘who/which’, e.g. *à* + *lequel* = > *auquel*, *de* + *lesquel(le)s* = > *desquel(le)s*, etc. This causes complications for PoS tagging and subsequent annotation.

Given these complexities, a more detailed analysis is needed to establish clear guidelines for the analysis of these two prepositions as (non-)metaphorical. However, such detailed analysis lies outside the scope of the current chapter. In line with decisions for MIPVU (Krennmayr 2011; Pasma 2011), therefore, both *à* and *de* (and their contracted forms) are excluded from further analysis.

4.2.3 Turning MIP into PIM: Guidelines for applying MIPVU to French

Based on the language-specific lexico-grammatical features of French presented in Sections 4.2.1.1–4.2.1.3, and the additional remarks about the analysis of the prepositions *à* and *de* in Section 4.2.2, a French variant of the MIPVU protocol has been established: PIM (*Procédure pour l’Identification de Métaphores*). PIM strictly follows MIP with regard to the general steps of the procedure (Pragglejaz Group 2007: 3), but provides more detailed information for the demarcation of lexical units for the set of language-specific characteristics discussed in Section 4.2.1 above. These additional language-specific guidelines are added to Step 2 of the MIP:

2. “Determine the lexical units in the text-discourse” (Pragglejaz Group 2007: 3)
 - 2a. As a general rule, all items provided with a PoS-tag in the corpus are considered single lexical units.
 - 2b. Exceptions to 2a include
 - i. Compound nouns: if a compound noun is listed as a headword in the dictionary, analyze the compound as a single lexical unit.
 - ii. Pronominal verbs: if the pronoun is non-analyzable, analyze the pronominal verb and its pronoun as a single lexical unit.

4.2.4 PIM in practice: Identifying metaphor in French

To illustrate how PIM works in practice, the procedure is now applied to a sentence from a newspaper article about the last day at work of the then secretary of Economy of France, Nicolas Sarkozy (Bolly 2008). The dictionary used for the analysis of this example is the online version of *Le Petit Robert*.

- (1) *Nicolas Sarkozy n' a eu de cesse de se-battre*
 Nicolas Sarkozy not have.PRS have.PTCP of stop of fight.INF.REFL
contre les éléments.
 against the element.PL.
 ‘Nicolas Sarkozy has constantly been fighting against the elements.’
 (Le Figaro, <F1F-JFI-022-ECO-AR>)

Nicolas Sarkozy

Contextual meaning: Proper name referring to the then secretary of Economy of France.

Basic meaning: The proper name *Nicolas Sarkozy* does not have a more basic meaning.

Contextual meaning vs. basic meaning: Contextual and basic meaning are the same.

Metaphorically used? No.

Ne (n')

Contextual meaning: In this context, the adverb *ne* marks a negation.

Basic meaning: The adverb *ne* does not have a more basic meaning.

Contextual meaning vs. basic meaning: Contextual and basic meaning are the same.

Metaphorically used? No.

Avoir (a)

Contextual meaning: In this context, *a* is an auxiliary verb, used to indicate that an action took place in the past.

Basic meaning: As an auxiliary verb, *avoir* does not have a more basic meaning.

Contextual meaning versus basic meaning: Contextual and basic meaning are the same.

Metaphorically used? No.

Avoir (eu)

Contextual meaning: The past participle *eu* indicates possession, in this context of something abstract.

Basic meaning: The verb *avoir* does not have a more basic meaning. No distinction is made between possessing something concrete versus something abstract in the dictionary.

Contextual meaning vs. basic meaning: Contextual and basic meaning are the same.

Metaphorically used? No.

De

Contextual meaning: In this context, *de* is a partitive article, preceding the uncount noun *cesse*

Basic meaning: The partitive article *de* does not have a more basic meaning.

Contextual meaning vs. basic meaning: Contextual and basic meaning are the same.

Metaphorically used? No.³

Cesse

Contextual meaning: In this context, the noun *cesse* refers to not giving up a battle in politics.

Basic meaning: The noun *cesse* does not have a more basic meaning.

Contextual meaning versus basic meaning: Contextual and basic meaning are the same.

Metaphorically used? No.

De

Contextual meaning: In this context, the grammatical function of the preposition *de* is dominant.

Basic meaning: In its grammatical function, the preposition *de* does not have a more basic meaning.

Contextual meaning vs. basic meaning: Contextual and basic meaning are the same.

Metaphorically used? No.

Se battre

Contextual meaning: In this context, the pronominal verb *se battre* refers to putting a great effort into something.

Basic meaning: In its more basic meaning, *se battre* refers to a physical fight.

Contextual meaning vs. basic meaning: The contextual meaning contrasts with the more basic meaning and can be understood in comparison with it. Putting a great effort into something can be understood in terms of a physical fight.

Metaphorically used? Yes.

3. Although 'de' is excluded from the quantitative analyses reported in this chapter, it was decided to provide a description of the contextual and potential more basic meaning of this lexical unit in this example analysis.

Contre

Contextual meaning: In this context, the preposition *contre* refers to (political) opposition.

Basic meaning: In its more basic meaning, *contre* refers to contact.

Contextual meaning vs. basic meaning: The contextual meaning contrasts with the more basic meaning and can be understood in comparison with it. (Political) opposition can be understood in terms of physical contact.

Metaphorically used? Yes.

Les

Contextual meaning: The plural definite article *les* is used to introduce the noun 'éléments'.

Basic meaning: The article *les* does not have a more basic meaning.

Contextual meaning vs. basic meaning: Contextual and basic meaning are the same.

Metaphorically used? No.

Éléments

Contextual meaning: In this context, the noun *éléments* refers to a group of people/ politicians or a (political) system that oppose Sarkozy.

Basic meaning: In its more basic meaning, the plural noun *les éléments* refers to the natural forces.

Contextual meaning vs. basic meaning: The contextual meaning contrasts with the more basic meaning and can be understood in comparison with it. Having a discussion with a group of people (political opponents) can be understood in terms of fighting natural forces.

Metaphorically used? Yes.

4.3 Some consequences of using one dictionary (and not another) for metaphor identification (in French)

The analysis of (1) in Section 4.2.4 showed how metaphor-related words can be identified rather straightforwardly in French based on a slightly adjusted version of MIPVU. As part of the goal of ensuring the systematic, replicable analysis of metaphor with PIM, this chapter also sheds light on the choice for, and use of, a dictionary. In MIP(VU) a dictionary is used – rather than analysts' own intuitions – to determine contextual and basic meanings of words. Because of this strong reliance on information in the dictionary, the choice for a dictionary is crucial.

The possible impact of the choice for one dictionary over another has been acknowledged in various publications ever since MIP was first established (Pragglejaz Group 2007: 25; see also Dorst & Reijnierse 2015; Krennmayr 2008; Pasma 2011; Steen, Biernacka et al. 2010). Steen, Dorst et al. (2010), for instance, report a small

test in which the influence of a dictionary on the identification of linguistic metaphor was investigated. MIPVU was applied to 100 lexical units with two different dictionaries (the online versions of the *Macmillan English dictionary for advanced learners* and the *Longman dictionary of contemporary English*). A comparison of the results yielded “no essential or systematic difference between the two dictionaries” (Steen, Dorst et al. 2010: 186). At the same time, the actual consequences (if any) of the choice for a dictionary have not been studied in detail on a larger scale. This section therefore also examines the extent to which dictionaries impact metaphor identification. Given the current chapter’s focus on French, dictionaries of French will be used as a case study to investigate the influence of the dictionary on metaphor identification.

Because MIPVU aims to analyze present-day language use, it prefers contemporary, corpus-based dictionaries for establishing basic and contextual meanings. For English, various dictionaries that meet these criteria are available online (and free of charge). For French, however, no corpus-based contemporary monolingual (online) dictionaries are available. As a consequence, analysts need to critically evaluate which available dictionary works best for identifying metaphors with PIM. Five main French dictionaries can be considered for analysis: *Le Petit Robert* is a historical dictionary containing 300,000 definitions (including descriptions of senses that are no longer in use). The *TLFi* contains 270,000 definitions of 19th and 20th century French words. *Larousse* is a general dictionary, containing 135,000 definitions. In addition, two bilingual (French-English and vice versa) corpus-based dictionaries are available as well: *Hachette-Oxford* and *Le Grand Robert & Collins*.

Each of these dictionaries takes a different approach to describing language, depending on their overall goal (see Tuggy 1993: 278): historical dictionaries provide different sense descriptions and organize entries differently from learners’ dictionaries or technical/specialized dictionaries. As a result, the number of metaphors identified when using one dictionary may differ from the number of metaphors identified when using another. To investigate the extent to which the choice for a particular dictionary influences metaphor identification, a corpus of French newspaper articles was analyzed twice, i.e. with two different dictionaries. The results of this analysis are presented in the remainder of this chapter. Section 4.3.1 introduces the data and dictionaries used for the analysis. The results of the comparison between the two dictionaries are discussed from a quantitative perspective in Section 4.3.2, followed by a more detailed qualitative analysis in Section 4.3.3.

4.3.1 Data and dictionaries

The data that was used for the analysis presented in this chapter is a selection of the subcorpus *presse écrite* which, in turn, is part of the one million word ‘ComparaF’ corpus compiled by Bolly (2008). The ‘ComparaF’ corpus contains texts from different genres (literature, theatre, press) in French–French and Belgian–French. The *presse écrite* subcorpus contains articles from newspapers. Only articles from French–French newspapers (*Le Monde*, *Le Figaro*, *Le Parisien*, and *L’Humanité*) were selected for the present analysis. All newspapers are represented with approximately the same number of words (varying between 11,437 and 12,796) and a comparable number of texts (between 17 and 22) in the current dataset.

In total, the corpus compiled for the current analysis contains 50,888 lexical units.⁴ Of these, 11 were discarded for metaphor analysis because they were foreign (English) words. In addition, *à* and *de* were excluded from analysis (as explained in Section 4.2.2). Accordingly, the number of lexical units analyzed for metaphorical use amounted to a total of 44,182. The dataset was lemmatized and tagged for Part of Speech with Treetagger (see Schmid 1994, and Schmid 1995 for a detailed account of the construction and underlying principles of the tagger). Treetagger assigns Part-of-Speech tags to the lemmatized words in all main word classes.⁵

PIM was applied twice to all 44,182 lexical units in the dataset: once with the electronic version of *Le Petit Robert* and once with the electronic version of *Le Grand Robert & Collins*.⁶ *Le Petit Robert* was selected because it is one of the most-used and best-known dictionaries for French. It is similar to the *Van Dale* dictionary which was used for the Dutch metaphor identification project (see Chapter 5, this volume) in the sense that it is not a corpus-based learner dictionary. *Le Grand Robert & Collins* was selected because it is focused on (second-language) learners of French, and is therefore to some extent comparable to the learner dictionaries used in the English protocol.

4. Please note that around 10,000 words were added to the corpus that was annotated in Reijnierse (2010). The size of the corpus was set to $\pm 50,000$ words to provide for the possibility to perform a cross-linguistic comparison between French, English and Dutch with regard to the use and distribution of metaphorically used words in naturally occurring discourse (outside the scope of this study).

5. The tag set is available at: <http://www.cis.uni-muenchen.de/~schmid/tools/TreeTagger/data/french-tagset.html>; the tagger can be downloaded from: <http://www.cis.uni-muenchen.de/~schmid/tools/TreeTagger/>. The tagger has a reported accuracy rate of 95.7% (Allauren & Bonneau-Maynard 2008).

6. Please note that the 2009 electronic versions of *Le Petit Robert* and *Le Grand Robert & Collins* were used for the analyses reported in this chapter. Both dictionaries are now available online, and both were last updated in 2017.

4.3.2 Results: Comparing agreement between the two dictionaries

Inter-dictionary agreement was calculated to investigate the extent to which the identification of metaphor differs when different dictionaries are used. Table 1 shows the overall results.

Table 1. Distribution of metaphorically used (MRW) and non-metaphorically used (non-MRW) words in the corpus, per dictionary

		<i>Le Grand Robert & Collins</i>				Total	%
		Non-MRW	%	MRW	%		
<i>Le Petit Robert</i>	Non-MRW	37,796	85.55	406	0.92	38,202	86.47
	MRW	981	2.22	4,999	11.31	5,980	13.53
Total		38,777	87.77	5,405	12.23	44,182	100

Results of the inter-dictionary reliability testing show that using the two different dictionaries to analyze the corpus yields the same conclusion about the metaphorical status of 96.86% of the lexical units in the corpus. Cohen’s Kappa for this test indicated “almost perfect”⁷ agreement ($\kappa = .860$, 95% CI [.852, .868], $p < .001$). Based on the analysis with *Le Petit Robert*, 13.53% of all lexical units in the corpus were identified as related to metaphor, whereas 12.23% of all lexical units in the corpus were identified as related to metaphor when employing *Le Grand Robert & Collins*. A total of 4,999 lexical units were identified as metaphor-related words (MRWs) in the two analyses. The analyst thus reached identical decisions about the metaphorical status of these words when using either *Le Petit Robert* or *Le Grand Robert & Collins* as the main lexical tool. In addition, 981 words tokens were identified as MRWs based on the analysis with *Le Petit Robert*, but not based on the analysis with *Le Grand Robert & Collins*. Conversely, 406 words were identified as MRWs in the analysis with *Le Grand Robert & Collins*, while those words were not identified as MRWs in the analysis with *Le Petit Robert*. In total, the analysis with *Le Petit Robert* yielded 575 more lexical units that were identified as MRWs than the analysis with *Le Grand Robert & Collins*.

The results of the inter-dictionary agreement test thus indicate that the influence of a dictionary on metaphor identification seems (relatively) limited. However, a more detailed picture can be provided when inter-dictionary agreement is computed for the main word classes (adjectives, adverbs, nouns, prepositions, pronouns,

7. Please note that the interpretation of kappa scores in this chapter is based on suggestions by Landis & Koch (1977: 165).

and verbs).⁸ Results of these further analyses are displayed in Table 2, and suggest that the choice of dictionary may influence metaphor identification when it comes to the word-class level.

Table 2. Inter-dictionary reliability ratings per word class

	No. of lexical units	Agreement (%)	Cohen's κ	95% CI	Interpretation
Adjectives	3,195	95.65	.840	.815–.865	Almost perfect
Adverbs	2,751	97.38	.573	.485–.661	Moderate
Nouns	11,044	95.82	.766	.746–.786	Substantial
Prepositions	2,872	98.54	.969	.959–.979	Almost perfect
Pronouns	3,812	99.37	.981	.973–.989	Almost perfect
Verbs	7,383	91.22	.721	.701–.741	Substantial

Specifically, agreement between *Le Petit Robert* and *Le Grand Robert* & *Collins* was very high for adjectives, pronouns, and prepositions, but lower for adverbs, nouns, and verbs. The difference between these two groups (high versus lower inter-dictionary reliability scores) roughly corresponds to the difference between content words and function words. Content words, including adverbs, nouns and (lexical) verbs, are “the main carriers of meaning in a text” (Biber et al. 1999: 55). They are semantically richer in nature than function words, such as prepositions and pronouns, which “provide the mortar which binds the text together” (ibid.). Adjectives are also content words, and thus constitute the odd one out in this analysis. The next section illustrates some of the differences between *Le Petit Robert* and *Le Grand Robert* & *Collins*.

4.3.3 The qualitative perspective: Some clear differences between the two dictionaries

One likely explanation for the relatively low kappa scores for adverbs, nouns, and verbs reported in Section 4.3.2 is that the two dictionaries under investigation provide different sense descriptions or organize entries differently for lexical units belonging to these word classes. In fact, the use of Roman numerals, Arabic numerals, capitals, additional information about conceptual domains (place, time, human versus non-human senses, etc.), and indications of figurative meaning often appears to be (somewhat) random in the entries of the dictionaries. As a result, it is difficult to establish general guidelines for ‘reading’ and interpreting dictionary entries, and

8. No reliability statistic was computed for conjunctions and the remainder group (which includes numbers, proper nouns, articles, and symbols), because none of the lexical units in these word classes were identified as MRW.

it sometimes remains unclear whether two word meanings are sufficiently distinct to be compared based on the information provided by a dictionary.

To allow the systematic and replicable analysis of metaphor, it is important to make explicit which decisions were made with respect to the way in which different subsenses are treated. In the current analysis, any sense description that has its own Roman or Arabic numeral, or letter is considered a sufficiently distinct meaning that can be contrasted with and compared to other sense descriptions. In addition, sense descriptions that do not have their own number or letter, but that are marked ‘fig.’ are also taken to represent separate meanings of a lexical unit that are potentially metaphorical. In this respect, the use of dictionaries deviates from the original MIPVU protocol.

Given the important role that the dictionary plays in MIP(VU), these different organizations of dictionaries may affect metaphor identification. To examine in more detail how entries for content words differ in the two dictionaries, one lexical unit belonging to each of the four content word classes (adverbs, nouns, verbs, and adjectives) is analyzed next.

4.3.3.1 *Adverbs*

The adverb *puis* ‘then’ is described differently in *Le Petit Robert* than in *Le Grand Robert & Collins*. These varying sense descriptions provided in both dictionaries are presented in Table 3. *Le Petit Robert* distinguishes between a temporal meaning of *puis* (sense description 1; hereafter PR1, etc.), and a spatial meaning (PR2).

Table 3. Simplified entry for *puis* ‘then’ in *Le Petit Robert*

<i>Puis</i> ‘then’
1. (Succession dans le temps) Après cela, dans le temps qui suit. ‘(Succession in time) After that, in the time that follows.’
2. (Succession dans l’espace aux yeux d’un observateur) Plus loin. ‘(Succession in space according to an observer) Further.’

In cases where the contextual meaning is temporal, as in example (2), a contrast and comparison can be established with the more basic (concrete) spatial meaning, and *puis* is identified as a MRW based on the entry for *puis* in *Le Petit Robert*.

- (2) Jean-Pierre Raffarin lui exprime sa gratitude pour son
Jean-Pierre Raffarin he.IO express.PRS his.POSS gratitude for his.POSS
action comme ministre de l’ Intérieur puis comme ministre de l’
action as minister of the interior then as minister of the
Economie et des Finances.
economy and of_the.PL finance.PL

'Jean-Pierre Raffarin expresses his gratitude for his [i.e. the minister's] actions as Minister of the Interior, *then* as Minister for Economic Affairs and of Finance.'
(Le Figaro, <F1f-FJI-015-POL>)

Le Grand Robert & Collins, by contrast, does not make the distinction between a temporal and spatial meaning. Instead, it shows two (main) meanings for the adverb (Table 4): *ensuite* 'then' and *dans une énumération* 'in an enumeration'. In French, both *ensuite* and *dans une énumération* can be temporal or spatial. These two sense descriptions are thus not sufficiently specified or classified in the dictionary for a contrast to be established. As a result, *puis* is never identified as a MRW when using *Le Grand Robert & Collins* as a resource, even when used in a temporal sense.

Table 4. Simplified entry for *puis* 'then' in *Le Grand Robert & Collins*

<i>Puis</i> 'then'
(= <i>ensuite</i>) <i>then</i>
'(= then)'
(<i>dans une énumération</i>) <i>then</i> · <i>next</i>
'(in an enumeration)'

4.3.3.2 Nouns

The noun *victime* 'victim' is described differently in the two dictionaries. In *Le Petit Robert*, four senses are distinguished (Table 5): a living creature that is sacrificed to the gods (PR1), a person who experiences hate etc. (PR2), a person who suffers (PR3), and a person who is arbitrarily sentenced to death (PR4). All four sense descriptions are relatively concrete, but the first (PR1) can be considered the basic meaning because it is historically older than the other senses (see Pragglejaz Group 2007: 3). The other sense descriptions (PR2–4) come from a different domain and can be considered metaphorical uses of this word.

Table 5. Simplified entry for *victime* 'victim' in *Le Petit Robert*

<i>Victime</i> 'victim'
1. <i>Créature vivante offerte en sacrifice aux dieux</i> 'Living creature sacrificed to the Gods'
2. <i>Personne qui subit la haine, les tourments, les injustices de quelqu'un</i> 'Person who is subjected to hate, torments, injustices'
3. <i>Personne qui souffre, pâtit (des agissements d'autrui, ou de choses, d'évènements néfastes)</i> 'Person who suffers (because of actions of others, or harmful things, events)'
4. <i>Personne arbitrairement condamnée à mort</i> 'Person arbitrarily sentenced to death'

Consequently, in example (3), the noun *victime* can be identified as a MRW when *Le Petit Robert* is used because the contextual meaning of the noun is PR3, and the more basic meaning is PR1 (see above).

- (3) *En 2004 une femme sur trois est encore victime de violences*
In 2004 one.F woman on three is still victim of violence.PL
'In 2004, one in three women still is the *victim* of violence.'
(L'Humanité, <F1f-JHU-015-SOC>)

The distinction between sacrificing and sentencing to death is not drawn by *Le Grand Robert & Collins*, which instead offers a general 'victim' meaning which is not elaborated any further, and then also mentions an accident/catastrophe sense, as well as a legal sense (aggrieved party; Table 6).

Table 6. Simplified entry for *victime* 'victim' in *Le Grand Robert & Collins*

<i>Victime</i> 'victim'
(en general) victim
'(in general)'
'[of an accident, catastrophe]'
(Droit) aggrieved party · victim
'(Law)'

These meanings do not allow for metaphorical contrast and comparison between sense descriptions; they then can all be seen as extensions of the general 'victim' sense. In addition, and in contrast to *Le Petit Robert*, the different meanings of the noun are not presented as distinct senses in *Le Grand Robert & Collins*, which also makes it difficult to determine whether they are distinct enough to be compared and contrasted with each other. As a result, the noun *victime* is never identified as a MRW when *Le Grand Robert & Collins* is used.

4.3.3.3 *Verbs*

The verb *franchir* 'to clear/to cross' is presented differently in the two dictionaries. In *Le Petit Robert*, three main meanings are presented (Table 7) – referring to the fact of jumping/climbing over a (physical) obstacle (PR1), going past/beyond a (physical) limit (PR2), and crossing a passage (PR3). These three senses of the verb can be considered equally basic, because they all relate to concrete movement from one place to another, thereby crossing some kind of obstacle (spatial meanings). However, for two out of the three meanings, a figurative use is also provided: getting over (abstract) difficulties (PR1), and going beyond (abstract/mental) limits (of thought, for instance; PR2). A non-numbered/marked subsense of PR3 seems

to point towards a temporal meaning indicating that something can last for a long time, but it is unclear whether this temporal meaning and the main sense description in PR3 are sufficiently distinct.

Table 7. Simplified entry for *franchir* ‘to clear/to cross’ in *Le Petit Robert*

***Franchir* ‘to clear/to cross’**

1. Passer par-dessus (un obstacle), en sautant, en gravissant, etc.
 ♦ FIG. Surmonter, vaincre (une difficulté)
 ‘To go over (an obstacle) jumping, climbing, etc.’
 ♦ FIG. To overcome, defeat (a difficulty)’
 2. Aller au-delà de (une limite)
 ▫ FIG. Dépasser, outrepasser
 ‘To go beyond (a limit)
 ▫ fig. to overtake, override’
 3. Traverser (un passage)
 ▫ (Temps)
 ‘To cross (a passage)
 ▫ (Time)’
-

In example (4), the verb *franchir* can be identified as a MRW when *Le Petit Robert* is used because its contextual meaning is the figurative meaning of PR2, which contrasts with and can be compared to the more basic, concrete meaning of PR2.

- (4) *L' Allemagne franchit le cap des cinq millions de*
 the Germany cross.PRS.3SG the cape of_the.PL five million.PL of
chômeurs
 unemployed.PL
 ‘Germany *exceeds* the limit of five million unemployed people.’
 (Le Parisien, <F1f-JPA-088-SOC>)

Le Grand Robert & *Collins* lists as many as nine sense descriptions, but only very limited details are provided (Table 8). The first sense description listed for *franchir* concerns getting over an obstacle, but no context is provided allowing for determination of whether that obstacle is concrete or abstract. Examples of other sense descriptions concern clearing a ditch (which is concrete) and overcoming difficulties (which is abstract).

Table 8. Simplified entry for *franchir* ‘to clear/to cross’ in *Le Grand Robert & Collins*

***Franchir* ‘to clear/to cross’**

- [+ obstacle] **to clear · to get over**
‘[+ obstacle]’
- [+ fossé] **to clear · to jump over**
‘[+ ditch]’
- [+ rue, rivière, ligne d’arrivée] **to cross**
‘[+ street, river, finish line]’
- [+ seuil] **to cross · to step across**
‘[+ threshold]’
- [+ porte] **to go through**
‘[+ door]’
- [+ distance] **to cover**
‘[+ distance]’
- [+ mur du son] **to break (through)**
‘[+ sound barrier]’
- [+ difficulté] **to get over · to surmount**
‘[+ difficulty]’
- [+ borne, limite] **to overstep · to go beyond**
‘[+ boundary, limit]’

Although it is intuitively possible to decide that some meanings are more concrete (and therefore less likely to be metaphorical) than others, the lack of further details makes it difficult to systematically and objectively determine which definitions are sufficiently distinct from each other to allow metaphorical extension. With the overall goal of reliability and replicability in mind, either specific guidelines should be set up for this (and similar) entry that spell out which sense descriptions may be considered metaphorical extensions of which more basic meaning, or the verb should not be analyzed as metaphorical at all. In the analyses reported in the current paper, the verb *franchir* and similar cases are not identified as MRWs.

4.3.3.4 Adjectives: High levels of inter-dictionary agreement

The quantitative analyses in Section 4.3.2 above showed almost perfect inter-dictionary agreement for the identification of metaphorical adjectives. The main reason why this is the case is because both dictionaries generally discriminate between human and non-human and/or concrete and abstract meanings of adjectives in a clear way. The adjective *long* is a case in point, with both *Le Petit Robert* and *Le Grand Robert & Collins* explicitly distinguishing between spatial meanings (‘tall’, ‘big’) and temporal meanings (‘old’).

Table 9 displays the (simplified) entry for the adjective *long* in *Le Petit Robert*. Sense description A contains three subsenses that each express a spatial meaning of the adjective, focusing on the length of an object. Sense description B contains

three subsenses that each express a temporal meaning of the adjective, focusing on duration.

Table 9. Simplified entry for *long*, *longue* ‘long’ in *Le Petit Robert*

<i>Long, longue</i> ‘long’	
I Adjectif ‘Adjective’	
A Dans l’espace ‘In space’	
1	(Avant le nom) Qui a une étendue supérieure à la moyenne dans le sens de la longueur ‘(Before the noun) Which has a longer than average stretch in the sense of length’
2	(Après le nom) Dont la grande dimension (longueur) est importante par rapport aux autres dimensions ‘(After the noun) Of which the large dimension (length) is important compared to other dimensions’
3	<i>Long de</i> (telle grandeur): qui a telle dimension, dans le sens de la longueur ‘Long (such size): which has such dimension, in the sense of length’
B Dans le temps ‘In time’	
1	Qui a une durée très étendue, qui dure longtemps, beaucoup de temps ‘Which has a very long duration, which lasts a long time, a lot of time’
2	Qui remonte loin dans le temps, qui date de loin ‘Which goes far back in time, which dates far back’
3	Éloigné dans l’avenir ‘Distant in the future’
II Nom masculin ‘Masculine noun’	

Table 10 displays the (simplified) entry for the adjective *long* in *Le Grand Robert & Collins*. Sense description A expresses a spatial meaning of the adjective, focusing on length. Sense description B expresses a temporal meaning of the adjective, focusing on duration.

Table 10. Simplified entry for *long*, *longue* ‘long’ in *Le Grand Robert & Collins*

<i>Long, longue</i> ‘long’	
1)	Adjective
A	(dans l’espace) [cheveux, liste, robe] long ‘(in space) [hair, list, dress]’
B	(dans le temps) [carrière, série, tradition, voyage] long [amitié, habitude] long-standing ‘(in time) [career, series, tradition, journey] [friendship, habit]’
...	
2)	Adverbe

When identifying metaphors with both dictionaries, the adjective *long* thus displays a clear distinction between a temporal and a spatial meaning. Consequently, when the contextual meaning expresses duration, as in (5), a contrast and comparison can be established with the more basic spatial meaning, and *long* is identified as a MRW.

- (5) *D' autres vont passer à travers ce moment*
 the.ART.INDF other.PL go.PRS pass.INF to through this.DEM moment
plus ou moins long sans le moindre effet bénéfique.
 more or less long without the.ART.DEF small.SUPL effect beneficial.
 'Others [prisoners] will go through this *longer* or shorter time [of imprisonment] without the slightest beneficial effect.'
 (L'Humanité, <F1f-JHU-011-SOC>)

4.3.4 Some final thoughts about choosing and using a dictionary for metaphor identification in French

The analyses in this section have shown how different dictionaries can represent the same words/lexical units in rather different ways. French dictionaries seem less systematically organized than the two corpus-based dictionaries that are recommended in the English MIPVU protocol (*Macmillan English dictionary for advanced learners* and the *Longman dictionary of contemporary English*). This, in turn, yields differences in the number of words that are identified as metaphor-related words depending on which dictionary is used (*Le Petit Robert* or *Le Grand Robert & Collins*). These findings stress the importance of carefully surveying the various available dictionaries when MIP(VU) is applied to a language that is different than English or Dutch (see Pragglejaz Group 2007: 25). It is equally important to report the choice for a certain dictionary (or dictionaries) in order to promote the replicable, systematic, and reliable analysis of metaphor.

4.4 Concluding remarks

The goal of this chapter was twofold. First, it investigated whether adjustments to the original MIPVU protocol are needed in order to establish a reliable tool for metaphor identification in French. Second, it investigated the extent to which the choice of a dictionary influences the identification process. In Section 4.2, some additional language-specific guidelines for the identification of metaphors in French were presented. These specifically concerned the analysis of compound nouns and pronominal verbs. Based on these additional guidelines, MIPVU can be applied to French in a systematic way. In Section 4.3 of the chapter, it was shown how the

choice for a dictionary may affect metaphor identification. This is particularly true for the analysis of adverbs, nouns, and verbs.

The analyses presented in this chapter not only show the importance of establishing language-specific guidelines when identifying metaphors in a language other than English, but they also stress the importance of explicitly pointing out which dictionary or dictionaries are used for the analysis. Together, these two aspects promote the reliable and replicable analysis of metaphor.

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Linguistic metaphor identification in Dutch

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5.1 Introduction: Metaphor in Dutch discourse

MIP was originally developed to analyse metaphor use in English discourse, and MIPVU was based on that starting point when we analysed texts from the BNC-baby corpus. When we began to look at metaphor in Dutch, the question arose whether MIPVU could be adopted wholesale or whether adjustments were needed. This chapter reports on our experiences in this area, in a research project on metaphor in Dutch discourse. Parallel to the English language project we have set up a Dutch component in which a corpus containing Dutch news texts and conversations has been analysed for words related to metaphor.

To be able to carry out a similar systematic analysis for Dutch discourse, MIPVU was further specified where necessary in order to be applicable to Dutch as the target language. These specifications did not so much concern the different steps in the procedure, as some of the detailed information on multiword units and the use of a Dutch dictionary. This chapter will therefore give an overview of the methodological issues in the Dutch research project. It will establish that, as a rule, MIPVU can be directly applied to Dutch discourse. However, the chapter will also point to problems that have cropped up in relation to MIPVU. The procedural problems will predominantly be language-specific, and will highlight some of the differences that occurred between Dutch and English. In addition, register-specific issues will be raised to discuss semantic issues in relation to the comparison between news discourse and spontaneous speech. These issues will show that, although we are dealing with a language other than English, register-specific problems can occur in similar manners as reported for English news and conversation; these can be accommodated by applying adjustments that are related to the Dutch language.

The procedure that has functioned as a basis for metaphor identification in the Dutch corpus takes as a point of departure the same assumptions as were made for the grammatical structures and lexical characteristics of English. The premises that were specific to English have been explicated in different reports on the

identification method (cf. Pragglejaz Group 2007; Steen, Biernacka et al. 2010), where linguistic phenomena like phrasal verbs, compounds, new-formations, grammatical words and word class are all discussed in relation to the method. But although the languages of English and Dutch overlap on many fronts, there are also important differences. Crucial grammatical dissimilarities have been reported in contrastive grammars between Dutch and English. Aarts and Wekker (1987), for instance, point to the differences in the occurrence and use of demonstrative pronouns and relative pronouns, and indicate differences between certain prepositions in Dutch and English. Other linguistic differences have been discussed in a number of studies on Dutch constructions, such as Booij's work on constructional idioms (with fixed prepositions) and on separable complex verbs (cf. Booij 2002a, b; Verhagen 2005). As the discussions in Sections 5.3 and 5.4 below will show, some of these essential grammatical features of Dutch have proved to influence the way a method like MIPVU can be applied.

Despite the differences in linguistic features between English and Dutch, a brief glance at the agreement percentages from the reliability tests reveals that the analysis of Dutch discourse yields roughly the same figures as for English, both on the general level of language and on the specific level of registers. These figures give a first indication that MIPVU can work in similar ways for the two languages. For each reliability test, three native speakers of Dutch, all members of the two research projects and co-authors of this book, carried out the metaphor identification tasks. On average, 80% of all lexical units were unanimously judged to be non-metaphorical; 83.5% for conversation and 76.2% for news. On average, 12.1% were unanimously judged as metaphor-related; 8.7% for conversation and 15.7% for news. This means that there was an overall lack of unanimous agreement on the metaphorical status of lexical units for less than 10% of the total number of units. These figures are comparable to the percentages reported for the reliability tests carried out on the English materials, and any differences that may already strike the reader as interesting may be due to various factors, as we shall discuss below. More detailed reliability results are presented in Chapter 8 of Steen, Dorst et al. (2010).

The next sections will highlight some of the difficulties we encountered with respect to the methodological issues and particular characteristics of Dutch discourse. These difficulties had to do with the operational design of the corpus, with the lexicographical tools used for the procedure, and with grammatical differences that influenced parts of the method. In addition to that, however, the great benefits of the availability of a method such as MIPVU will be highlighted, illustrated by examples of clear agreement.

5.2 Operational issues

5.2.1 The corpus: News and conversation

In spite of the fast rise of corpus linguistics, the large majority of corpora still consist of English discourse. In the absence of a fully coded corpus of Dutch texts that could cater to our needs, we had to design one ourselves. In total, about 100,000 words of recent conversation transcripts and recent news texts were needed. Half of the corpus, some 50,000 words of conversation, was taken from the existing CGN corpus (*Corpus Gesproken Nederlands* [corpus of spoken Dutch]). This corpus was designed at the University of Nijmegen between 1998 and 2004, and consists of nine million words of spoken Dutch in different settings, such as interviews, meetings, television broadcasts and spontaneous speech (Oostdijk 2002). We randomly selected 29 conversations classified as spontaneous speech, adding up to roughly 50,000 words in total. The existing corpora of Dutch news texts do not cover a broad selection of newspapers but predominantly focus on one newspaper or one region, and thus were not suitable for our kind of research. We therefore decided to select 50,000 words of digitally available news texts from 2002 (in Lexis Nexis), spread over five national newspapers (*Algemeen Dagblad*, *NRC Handelsblad*, *Telegraaf*, *Trouw* and *de Volkskrant*) and different newspaper sections, to get a good overview and a general representation of newspaper texts.

One concomitant problem with designing the news part of the corpus ourselves was that whereas the conversation transcripts were enriched with additional information such as part-of-speech tags and lemma tags, the newspaper texts did not contain this kind of vital information. We therefore had them lemmatised and tagged with the same tagging system used for the CGN corpus to enable appropriate comparison (Van den Bosch, Busser et al. 2007). The final result was a corpus of XML texts enriched with additional codes such as part-of-speech tags and lemma tags.

The CGN tagging system was designed for transcripts of spoken language, but was applied to written discourse in our situation. This inevitably yielded a somewhat less reliable result for part-of-speech and lemma assignment than the conversation transcripts, with incorrect codes on different levels. However, in the majority of the cases, this did not significantly interfere with the metaphor analysis. In cases where part-of-speech tags or lemmas were incorrect and of importance for the identification of metaphor, a comment was added to the word in question. In example (1), for instance, the word *geregeld* was tagged by the system as the past participle of the verb *regelen*.

- (1) Winkelwagens en stalen platen tussen de rails zorgen *geregeld* voor levensgevaarlijke situaties. (*Algemeen Dagblad*)
 ‘Shopping trolleys and steel plates between the rails regularly create life-threatening situations’

Although *geregeld* is in some contexts the past participle of the verb *regelen* ‘arrange’, it is also an adverb or adjective in other contexts. In the case of (1), *geregeld* is the adverb with the meaning ‘regularly’. If in this case we stuck to the information given in the part-of-speech tag and the lemma tag and saw this instance as the past participle of the verb, then it might in principle be analysed as a metaphorically used word. This is because the verb *regelen* has a more concrete sense (that of physical arrangement of objects) than what is meant in the context of (1). However, the tagging system assigns the wrong part of speech and lemma to the lexical unit, so that we need to examine the adverb meanings of *geregeld*. As a result, the word is not identified as related to metaphor. In cases like (1), where an incorrectly assigned part of speech tag can cause confusion with respect to metaphor analysis, we have added a comment which denotes the correct part of speech and lemma.

5.2.2 Van Dale dictionary and its implications

It is important to clarify, in the procedure, the use of the dictionary and its contents. We have used the electronic version of *Van Dale Groot woordenboek der Nederlandse taal* (Den Boom & Geeraerts 2005) as our reference tool, in particular for finding contextual meanings and basic meanings of lexical units. This is a historically based reference dictionary. The ideal dictionary for our kind of research would have been a corpus-based dictionary. MIPVU makes use of Macmillan, a dictionary based on the large World English Corpus. This dictionary represents British English language as it is used in everyday speech and writing, being based on naturally produced contemporary language which has been collected in the World English Corpus. For Dutch, there is no such thing as a corpus-based dictionary, so we are forced to make use of the best alternative that is available, *Van Dale*.

There are some key differences between a corpus-based dictionary like Macmillan and the historically-based *Van Dale* dictionary with regard to lemma entries. Firstly, *Van Dale* is a dictionary that includes archaic word meanings as well as obscure meanings that are rarely used. Since we do not want to include archaic meanings in our analysis, we add an explanation to the Dutch version of MIPVU that all meaning descriptions labelled *verouderd* (archaic) must not be taken into account. Rare uses of words that have not been labelled *verouderd*, by contrast, are assumed to be present in the language of the current user, even if they are rare. These have thus been taken into account when looking for possible metaphorical meaning.

In some cases, however, a seemingly basic meaning turns out to be a rarely used meaning. An example of this is the *Van Dale* description of the verb *ontwikkelen* (‘develop’). One of the listed meanings was *ontvouwen, loswikkelen* (‘unfold, unwrap’), with the example sentence *de jonge blaadjes ontwikkelen zich* (‘the young leaves unfold themselves’). This sense description in itself seems fairly concrete, as is

the example sentence. Yet, corpus research will most certainly show that if and when a sentence like *de jonge blaadjes ontwikkelen zich* is used, the apparent concreteness of the definition becomes questionable. Although *ontwikkelen* is a frequently used verb, also in combination with plants, it is often used in the sense of 'growing' and 'coming into existence', the more general meaning of *ontwikkelen*. So even though the verb *ontwikkelen* appears frequently in the vicinity of *jonge blaadjes* or a word denoting similar parts of plants, the idea that it is then used in a concrete sense of unfolding is quite implausible.

The main difference between a historically based dictionary and a corpus-based dictionary can be illustrated by comparing the description given above of *ontwikkelen* to the description of *develop* in Macmillan. For *develop*, the literal action of unfolding a concrete object is not overtly present in either one of the sense descriptions. The first definition, 'if people, animals, or plants develop, they change or grow as they get older' has to do with plants and other living entities, but describes the process in a general manner. Here, it is impossible to see a more basic sense that has to do with plants or leaves that are literally unfolding, although that stage might be involved in the whole process of developing. One reason why Macmillan does not overtly distinguish the sense of 'unfold/unwrap' is perhaps that it is not found in such a detailed way in the World English Corpus. In addition, all senses of *develop* in relation to leaves and plants amount to the general meaning of growing from or into something. This meaning of *develop* is similar to Dutch *ontwikkelen*, which in essence appears most frequently in the sense argued above. Since the Dutch *Van Dale* dictionary is not based on a large corpus, the entries cannot be checked in such a manner. We should therefore take into consideration the possibility that the word *ontwikkelen* has the different meanings described in *Van Dale*, and base our judgement of basic and contextual meanings on these entries.

Another important feature of *Van Dale* that can cause problems when searching for metaphor-related words is the fact that some entries have been defined by nominalisations. As a consequence, it is hard to decide whether the noun, like the verb, has one clearly basic meaning and several derived, possibly metaphorical, meanings, or if it has simply one general and vague meaning. This can yield problems in finding a clear basic meaning, and has been a reason for disagreement among the analysts in the reliability tests that we carried out. An example of such a vague description is the noun *aanpak* ('approach'), where the definition simply is the action of the verb, *het aanpakken, wijze van aanpakken* ('the approaching, manner of approaching'). Looking up the verb *aanpakken* in the dictionary, we see that it has a clear basic meaning and clear derived, and in some contexts metaphorical, meanings. However, it is difficult to make a decision on the uses and meanings of the noun *aanpak* if it is described in such a general way. It could be said that it clearly derives from the verb, which has both concrete and abstract meanings, and it could

be concluded that the same can then be said of the noun. However, it is also possible to say that the noun has one general meaning, that it is therefore monosemous, and that it is then not necessary to make a distinction between concrete and abstract uses. If the last option is chosen, some possible metaphorical meanings may be lost.

The reliability tests show that the analysts are not always in agreement about how to deal with these nouns. But there is another possible explanation, which has to do with the influence of native speaker intuitions. In the case of *aanpak*, for instance, the analysts may follow the one general meaning without going to the verb, because intuitively they judge that the noun is always used in an abstract way. For other nouns, for instance *vervolg* ('continuation') with the definition *het vervolgen* ('process of continuing/prosecuting'), analysts may say that the noun can be and is used frequently in different concrete and abstract contexts, and it is thus necessary to refer to the verb senses to establish a basic and contextual meaning.

In order to be systematic and to get reliable results from the procedure, we have decided to look only at the definitions of the nouns in instances like *aanpak* and *vervolg*, and not to include the senses of the verbs from which they derive in our metaphor analysis. This decision is in accordance with the system proposed by MIPVU. Even though nominalisations like these can encompass concreteness to some extent, they have been defined by *Van Dale* as including all senses of the verb, and are seen as more or less general or vague. Thus, all instances of *aanpak* and *vervolg* in the corpus have been taken as used in such a sense.

5.3 Linguistic issues: Complex words and fixed expressions

5.3.1 Separable complex verbs

One specifically Dutch grammatical construction that is relevant to metaphor identification in discourse concerns separable lexical units. In the majority of the cases, Dutch lexical units consist of one word. But there is one important class of cases in Dutch where two words separated from each other by an indefinite number of other lexical units can still form one lexical unit: these are the so-called Separable Complex Verbs. These lexical units require their own treatment in the procedure.

Separable Complex Verbs (henceforth 'SCVs') consist of two components, a particle and a verb. These components form a single word in the infinitive form, but are separated from each other in certain contexts. The following sentence contains a separated SCV, which is italicized:

- (2) *ingaan* ~ Zondag *gaat* de dienstregeling *in*. (Volkskrant)
 in-go ~ Sunday *goes* the timetable *in*.
 'be effective ~ The timetable is effective from Sunday.'

Note that the particle is preverbal in the infinitive, but postverbal in the finite form. In general terms SCVs are similar to the phenomenon of phrasal verbs in English, and pose similar problems concerning their fixed characteristics and the unit of analysis (cf. Pragglejaz Group 2007). Although this is true for both syntactic and lexical characteristics (SCVs are also frequently non-transparent in meaning), the fact that the Dutch verbs are separable changes their analysis. The examples below will illustrate this in more detail.

For all SCVs, the corpora do not contain technical indications in the part-of-speech tags and lemmatisation that show that the parts of an SVC, *gaat* and *in* in (2), are part of one lexical unit. The corpus documentation on the CGN tags briefly touches on the prepositions functioning as the non-verbal particles of SCVs, but they have not been given a unique tag that could have made them easy to recognise. Thus, it is not possible to distinguish an SCV's particle from a preposition solely on the basis of part-of-speech tags. They have to be distinguished, therefore, with reference to dictionary information. The dictionary lists common SCVs as one unit. We therefore adopt the dictionary as our prime source, and analyse the parts of *ingaan* in (2) as constituting one lexical unit. This entails that *ingaan* is to be judged as one whole for its possible metaphorical meaning, and that it is taken to relate to one concept and designate one referent.

SCVs can also be distinguished from frequently collocating verbs and prepositions on syntactic grounds. Then arguments and complements can offer clear indications. The nonverbal component is part of an SCV when it is an adposition, and when the verb is transitive. In that case, the particle cannot be a preposition since it does not function as the head of a prepositional phrase.

Two examples of a combination of *draaien* ('turn') and *om* ('around') will illustrate the major syntactic differences between an SCV and a prepositional verb (frequently occurring combinations of a verb and a preposition).

(3) SCV *omdraaien* (around-turn; 'turn')

De man *draait* de knop *om*

The man *turns* the switch *around*

'The man *turns* the switch'

(4) Prepositional verb *draaien om* (turn around; 'revolve around')

De aarde *draait* om de zon

The earth *turns around* the sun

'The earth *revolves around* the sun'

In (3) we are dealing with the transitive verb *omdraaien*, defined in *Van Dale* as 'draaiend bewegen, wenden, van stand doen veranderen' ('move while rotating, turn, change position'). *Draaien* en *om* are separated when the verb is used in a head clause, and together take two arguments, the subject *de man* and the direct

object *de knop*. The word *om* should be seen as part of a complex verb (cf. Booij 2002b; Blom 2005). Sentence (4) contains the intransitive verb *draaien*, defined in *Van Dale* as ‘zich rond een as of een middelpunt bewegen’ (‘move around an axis or central point’). It takes one argument in the form of the subject *de aarde*, and is directly followed by the prepositional phrase *om de zon*. The preposition *om* collocates with the verb, but is head of the prepositional phrase. In the case of *draait om de zon*, *draaien* and *om* collocate; they co-occur frequently in similar contexts. However, they are not part of one complex verb; the preposition *om* is the head of the prepositional phrase *om de zon*, with the noun phrase *de zon* as the complement.

The importance for metaphor analysis is illustrated by (5).

- (5) ‘Het kost best wat moeite de knop *om* te *draaien*’. (Algemeen Dagblad)
 ‘It costs quite some effort the switch *around* to *turn*’.
 ‘It takes quite some effort to flick the switch’.

This sentence, from one of the corpus texts, occurs in a context in which a goal-keeper talks about switching mentally from one situation to another. It contains the same SCV as in example (3), *omdraaien*, but in a different sense. It is a metaphorically used word, where the abstract target domain of the mind is represented in terms of the concrete source domain of objects. Following our metaphor identification procedure, the SCV *omdraaien* in (5) is analysed as one metaphorically used word.

Suppose we took the verb *draaien* as one unit and the particle *om* as one as well, then this could lead to different (and, in our opinion, inaccurate) judgments about metaphorical language use. In particular, we might code *draaien* (‘to turn’) as metaphorically used, since objects are not literally turned, and *om* (‘around’) as metaphorically used as well, since objects do not literally change directions. If we disregarded the concept of SCVs and took all separate words as separate units of analysis at all times, this would increase our final set of observed words related to metaphor. Again, there is a clear connection between the instructions on the treatment of phrasal verbs in MIP and MIPVU to what is being discussed here; they are considered in equal measure as one lexical unit when analysed for their metaphorical meaning. Since SVCs are ubiquitous in the Dutch language too, they need to be carefully identified and analyzed.

An example of a non-metaphorical SCV can be found in the sentence below:

- (6) Na een week van tegenslag *zat* het Richard Groenendaal (...) eindelijk een keer *mee*. (Volkskrant)
 After a week of setbacks *sat* it Richard Groenendaal (...) finally once *with*.
 ‘After a week of setbacks Richard Groenendaal (...) finally had a bit of luck.’

Example (6) contains the SCV *meezitten*, separated in the head clause into the verbal part *zat* (past tense of *zitten*) and the particle *mee*. According to *Van Dale*, *meezitten* is monosemous, and defined as ‘gunstig zitten, goed gaan’ (‘be favourable, go well’). *Zat* and *mee* are here identified as two parts of one complex verb. If they are identified as two separate units of analysis, we could ascribe possible metaphorical meaning to one or both parts, since they are then not used in their basic sense, but in a more abstract way. However, since they are separate parts combining into one SCV, we do not take the words separately; and since the SCV has one abstract sense in the dictionary, it is not coded as related to metaphor. It is thus important to add information in the procedure on the treatment of SCVs as complex units to keep a consistently analyzed data set. This essentially comes down to adding an explanatory section on SCVs and their features.

5.3.2 Polywords

There are a number of problems that arise when dealing with the somewhat related issue of polywords (e.g. *of course* in English, and *met name* [‘in particular’] or *af en toe* [‘now and then’] in Dutch). Whereas the BNC has added a list of fixed multiword expressions that have to be analysed as one lexical unit, and has coded the elements as such in the corpus, the Dutch corpus does not contain such a list and corresponding codes. In addition to the lack of a part-of-speech tag for polywords in the corpus, the *Van Dale* dictionary does not indicate when a combination is to be identified as a polyword either. The dictionary does explain the meaning of fixed multiword expressions such as *met name* under the head word entry *name*, which is an old inflection of *naam* (‘name’), but it does not include separate entries for these frequent polywords. To produce such a list from scratch, based on our own intuitions, lay outside the scope of our research. Our procedure, together with the dictionary and the part-of-speech tags in the corpus, therefore requires that we analyse the separate parts of any potential multiword expressions that may qualify as polywords as separate units, which produces an artificial increase in the overall number of lexical units in the data in comparison with the English materials.

An additional problem that arises from this decision is that in most cases it is extremely difficult to establish the contextual meaning of some parts, or all parts, of the multiword expressions, due to the grammaticalization of these expressions. If we fill in the different steps of the procedure for both *met* and *name*, it becomes clear that it is difficult to establish a contextual meaning for the separate words when they are used as parts of a polyword expression. Take for instance *met name* in the following sentence:

- (7) (...) in de vorm van begrotingsoverschrijdingen, *met name* in de zorg. (NRC)
 (...) in the shape of budget overspending, *with name* in the care.
 ‘(..) in the form of overrunning the budget, *particularly* in the care sector.’

For the lexical unit *met*, establishing the meaning in the context above is complicated. This use of *met* is not mentioned in the list of possible meanings under the preposition *met*. We only come across it as a run-on under the entry of *name*. The closest possible meaning that is listed in the dictionary is 7 ‘ter aanduiding van een begeleidende omstandigheid, van de wijze waarop iets geschiedt, de gezindheid waarmee iets gepaard gaat’ (‘as an indication of an attendant circumstance, the manner in which something occurs, the inclination associated with something’), with examples such as ‘*met opzet* iets doen’ (‘do something *on purpose*’). However, this definition does not correspond accurately with *met* in *met name*.

If we assume that *met* displays some abstract meaning in our example, then determining if *met* has a more basic contemporary meaning is less difficult, and in fact manifests two possibilities. The basic meaning of *met* is easy to find in the dictionary, described in sense 1: ‘(ter aanduiding van een vereniging of begeleiding) in gezelschap van’ (‘(as an indication of a joining or an accompaniment) in the company of’). In addition, sense 8 can also be seen as basic: ‘ter aanduiding van het werktuig, het middel waarmee iets geschiedt, door middel van’ (as an indication of the instrument, the tool with which something is done, by means of).

The next step in the procedure is to decide whether the contextual meaning contrasts with the basic meaning but can be understood in comparison with it. Since we cannot find a suitable contextual meaning in the dictionary, it is impossible to find a contrast as well as a comparison between the basic and the contextual meaning. Since there is no clear contextual meaning with which to contrast and compare the basic meaning of *met*, we cannot safely conclude that *met* in the context in (7) is metaphorically used. Thus, we would not mark the preposition *met* as metaphorical since we cannot find a suitable contextual meaning.

For the lexical unit *name*, both the contextual and the basic meaning are easy to establish. As far as the contextual meaning is concerned, the dictionary lists only one meaning, which is a description of the use in fixed expressions: ‘verbogen vorm van ‘naam’, alleen in vaste verb.’ (‘inflected form of ‘name’, only in fixed combinations’). The examples in Van Dale of the fixed expression in which *name* is used refer to the basic meaning of the uninflected form of the word, *naam*, which is ‘woord waarmee een persoon of zaak wordt aangeduid, hetzij als categorie of als individu’ (‘word that denotes a person or entity, either as a category or as an individual’). For *met name* in particular, the dictionary makes explicit that *name* here refers to the basic meaning of its uninflected form, being used to name the entities to which *met name* refers. The contextual meaning of *name* should be seen as a specific use of the noun *naam*, the inflected form, and not so much a different sense of the word.

The next step of the procedure consequently has a straightforward solution: the basic and contextual meanings are the same in this case, since the word *name* is used only in fixed expressions. Therefore, there is no need to contrast and compare them. And since the lexical unit is only used in fixed expressions such as *met name*, *name* in the context in (7) is not metaphorically used.

This analysis suggests that the demarcation of lexical units can be problematic when we have to deal with the separate units of polywords such as *met name*. However, since this research project does not have any technical means to recognise two or more words as one polyword, the only systematic solution that we can come up with is to analyse the separate parts as separate units, and to go through the procedure of metaphor identification for each of these units. When interpreting the findings, we then have to take into account a small measure of artificial increase in the number of lexical units that has resulted from this treatment. The clear documentation of polywords in English in the BNC list is of no help here either; since we can assume that polywords and their forms are language-specific.

Although the entries in the dictionary suggest that it is not possible to see a contrast and comparison for either *met* or *name*, two of the three analysts involved in the reliability tests coded *met* as a metaphor-related word, and one analyst coded *name* as a metaphor-related word in (7). In the case of *met*, an explanation could be that even though there is no clear contextual meaning, the analysts still believe that it is so different from the basic, concrete meaning that there could be a possible mapping between the overarching domains of abstractness and concreteness. In the case of *name*, the analyst might have interpreted the basic meaning of *naam* as different from the description for *name* and concluded that this is very concrete in comparison to the abstract use in *met name*, basing her conclusion on the potential for mapping between abstract and concrete. Polywords, as opposed to SCVs, thus remain problematic in the present research; the elements are analysed as separate units in accordance with the identification procedure, but the possibly metaphorical status of the units remains difficult to establish.

What the previous sections have illustrated is that MIPVU and MIP, which have both been developed to analyse English discourse, need adjustments when they are applied to a language other than English. MIPVU is explicit in its use of lexical tools and in the treatment of specific lexico-grammatical features of English. These explicit instructions do not all apply to a different language, such as Dutch, and can thus not be taken over literally when doing metaphor identification in a language different from English. Important tools such as dictionaries work differently for Dutch, and can complicate matters. The same holds for typical Dutch lexico-grammatical features, which should be treated in specific ways in relation to metaphor identification. These problems are not only present in Dutch discourse; similar issues will occur when analysing discourse in other languages.

Yet the most important conclusion remains that the basic steps that MIP and MIPVU present can be equally applied to languages other than English. Although it is necessary to specify certain operational issues and language-specific points, the basic steps of finding the contextual and basic meanings of a lexical unit, and establishing the possible contrasts and comparisons between them can be done in similar ways. The section below will illustrate this by discussing some applications to Dutch in more detail.

5.4 Dutch metaphor analysis: Agreement and disagreement

5.4.1 Dutch discourse and agreement

As the percentages in the introduction indicate, the three analysts who have worked on the Dutch texts in the reliability tests agree about the status of more than 90% of the words. The overall percentage of unanimous agreement on the status of the lexical units is roughly the same for both registers; news obtained an agreement percentage of 91.9 and conversation an agreement percentage of 92.2. These percentages of unanimously coded words, both metaphor-related and not metaphor-related, are slightly lower than for the news and conversation registers in the English language project. This may be due to the fact that the analysts encountered the operational problems listed above, having to make the transition from the procedure intended for English to the procedure adjusted for Dutch. In addition, grammatical differences discussed in the sections above were also influential. The numbers still give a clear indication of how well the procedure works for another language than English. This section will highlight a number of points of agreement in relation to the procedure for Dutch.

A clear example where complete agreement was reached is the use of the word *slachtoffer* ('victim') in certain contexts. In one of the news texts used for the reliability tests, the word *slachtoffer* occurred in the following context:

- (8) Het *slachtoffer* van de schietpartij in de Bloedstraat zou volgens ooggetuigen in gezelschap zijn geweest van een man (...). (Telegraaf)
'The *victim* of the shooting in the Bloedstraat apparently was, according to eyewitnesses, in the company of a man (...).'

In English, *slachtoffer* would be the counterpart of *victim* in this context. In Dutch, however, *slachtoffer* can be used in another concrete sense; it is also the term for a sacrificial animal, related to different religious traditions. This sense of *slachtoffer* can be seen as more basic; it is older and was the original meaning of the word. Since both senses in the dictionary are concrete and animate, but occur in different

domains, the oldest meaning is taken as basic. All three analysts agreed for *slachtoffer* in this context, and in similar contexts, that it was a metaphor-related word. This is based on the idea that the two senses belong to different and distinct domains, and they took the domain of religion, and thus the meaning of sacrificial animal as basic. This agreement might not have been reached if analysts had analysed this sentence without the procedure; *slachtoffer* in the sense of victim is more commonly used than in the sense of sacrificial animal, even though the first is a derivation of the latter. The basic steps of the procedure thus resulted in unanimous agreement for this particular case in Dutch.

A similar pattern of agreement occurs for one particular demonstrative, namely *dat* ('that'). Although not all instances of *dat* were agreed on in the reliability tests, the large majority were analysed in the same manner by all three analysts, and in both registers. In contrast, the analysts had more difficulty with the other demonstratives, and in particular with *die* ('that'). Two examples of *dat* in context can be found in the following utterance from one of the conversations:

- (9) toen ging ik *dat* 'ns uitproberen maar eer thee afgekoeld is op drinktempe *dat* duurt tien minuten. (CGN-corpus)
'then I went to try *that* out but before tea is cooled down to drinking temp- *that* takes ten minutes.' (unfinished units have been literally translated)

All coders analysed the two instances of *dat* as related to metaphor, taking as the basic meaning the first sense in the dictionary, 'wijst iets aan dat zich niet in de onmiddellijke nabijheid van de spreker bevindt' ('pointing to something that is not in the direct neighbourhood of the speaker, but is farther removed in space (as opposed to *dit* [this])'). Since the definition refers to objects in a space removed from the speaker, the concrete meaning was seen as the basic meaning. In the above context, both instances of *dat* refer to a previously mentioned action, the drinking of tea and the cooling down of tea respectively. The contextual sense is then the third sense in the dictionary, *dat* referring to something previously mentioned ('ter aanduiding van iets dat tevoren genoemd is'). All analysts saw a contrast and comparison between these two senses, and between the domain of objects and space, and words and discourse.

The examples of *slachtoffer* and *dat* illustrate how, with an explicit procedure, different analysts tend to come to the same decision. The decision is reached regardless of the exact relationship between different senses and domains, and regardless of the possible underlying mapping between the two senses. This is precisely the point of the procedure: to come to an initial conclusion about the metaphor-related status of a word without directly having to explain what the exact underlying mapping and the analogy could be. In basic terms this should be doable in the same way for many languages.

5.4.2 Dutch discourse and disagreement

This section will detail some of the cases of disagreement in the reliability tests. Overall, the same patterns of disagreement were found throughout the process of identification, but the examples to be discussed here have been taken from the reliability tests, so as to be able to point to problems more accurately. The percentages mentioned in the introduction showed that the analysts disagree about the relation to metaphor for less than 10% of the lexical units in the texts. A closer look at where disagreement occurs shows that we can distinguish a number of problematic areas. It also reveals that there seems to be a difference in disagreement for the two registers: the majority of the cases of disagreement in news texts occur in delexicalised verbs such as *hebben* ('to have'), whereas the disagreement in conversations predominantly occurs in demonstratives and other function words such as pronouns. One form of disagreement that occurs in both registers arises from the difficulty of establishing distinct meanings for some nouns and verbs.

The major areas of disagreement will be explained in the following sections, and will be linked to the register they belong to. In addition, it will be shown that these problems occur in both the English and the Dutch texts.

Delexicalised verbs in news An area where the three analysts repeatedly disagreed is the area of delexicalised verbs. As the examples below will point out, disagreement here seems attributable to problems with establishing a clear contextual meaning for a word, specifically when the verb occurs in a more or less fixed expression such as *gaan om* ('to involve') in example (10) or when the concreteness is unclear, as in example (11).

- (10) Volgens een ingewijde *gaat* het *om* een gewelddadige groep criminelen.

(*Algemeen Dagblad*)

According to an insider *goes* it *about* a violent group criminals.

'According to an insider it *involves* a violent group of criminals.'

In this sentence the analysts were in disagreement about the metaphorical status of *gaat* ('to go'). Two of the three analysts coded *gaat* as a metaphor-related word. A reason for this lack of agreement is that the analysts did not agree on the contextual meaning of the verb *gaan* when used in a fixed expression (but not an SCV or phrasal verb) such as *gaan om*. It is difficult to establish what *gaan* means in this case, and the person who did not code it as metaphor-related decided that the meaning of *gaan* here has faded to such an extent that it is not possible to see a mapping between the basic concrete sense of movement and a possible abstract target domain. The verb *gaan* in example (10) has become more or less delexicalised, and has lost a clear and related meaning in a context like this. The difficulty

in establishing a clear contextual meaning is the main reason for disagreement between analysts on the metaphorical status of delexicalised verbs.

Example (11) is of a slightly different order:

- (11) Het driel *heeft* de Poolse nationaliteit. (Algemeen Dagblad)
 ‘The three people *have* the Polish nationality.’

Again, two of the three analysts coded *heeft* as a metaphor-related word. In this case, ascribing metaphorical meaning to *heeft* depends on how the analysts interpret *Poolse nationaliteit*. Since nationality is part of a person it might be seen as not related to metaphor. But it is also possible to say that it is something abstract that cannot be physically obtained or touched. Then *heeft* refers to an abstract form of having, where there is no question of a concrete object. In that case, the verb would be analyzed as metaphorically used.

It seems that the issue of delexicalised verbs is specific to the news texts in the corpus. This may have to do with the occurrence of these verbs in fixed expressions. Such expressions as *gaan om* (‘to involve’) and others like *te maken hebben met* (‘to have to do with’) typically introduce an event or entity into a particular situation. The expressions typically describe what content we are dealing with (such as ‘violent criminals’ in example (10)) and the context of the situation in the news report. The conversations used for the research are spontaneous ones which do not often report a particular event or situation in this way and therefore do not contain fixed expressions that introduce these referents. A question that analysts have to answer when dealing with these verbs, and one which can be answered in different ways, is whether it is possible to still speak of one basic meaning for frequent verbs such as *gaan* or *hebben*, and, more importantly, if these verbs have a clear contextual meaning when they are used in fixed expressions (cf. Cameron 1999; Deignan 2005). Another problem analysts have to deal with is whether the objects of the verbs are concrete enough to say that these verbs are used in their concrete sense, something that is also discussed by Cameron (1999, 2003) in relation to the metaphorical meanings of some verbs.

Demonstrative die in conversations Demonstratives are used frequently in conversations, usually in a deictic way. In principle, the demonstratives *die*, *dat*, *deze* and *dit* will be analyzed in a similar manner as their English counterparts. *Van Dale* describes the basic meaning of demonstratives in similarly concrete terms as Macmillan. For example, it gives as a basic meaning of *die* (‘that’): ‘referring to something further removed in space from the speaker than when using *deze* (‘this’).’ The words behave in the same manner in English and Dutch, and were analyzed in the same manner, but their analysis produced different results in the two projects. In particular, the demonstrative *dat* received high agreement figures, whereas *die*

accounted for most of the disagreement that occurred in the conversation tests. Although it is true that there is no one-to-one correspondence between the demonstratives in Dutch and English, they do have roughly the same functions in conversations: in both languages, they are demonstrative determiners or demonstrative pronouns used in a deictic manner (see Aarts & Wekker 1987: 150–153 for a comparison; and for an overview of their functions in English and Dutch respectively see Biber et al. 1999 and Haeseryn et al. 1997). So let us examine some of the reasons for disagreement in the Dutch texts.

Consider examples (12) and (13). The numbers in brackets show how many analysts (three in total) coded *die* as a metaphor-related word.

- (12) oh ja *die*(1) ik vertelde daarnet *die*(3) mevrouw *die*(0) (CGN-corpus)
 ‘- oh yes ‘*that*’ I told just now *that* lady ‘*that*’

In sentence (12), disagreement occurred for the first *die* because the referent of the deictic pronoun was difficult to establish, partly due to the fact that the speaker hesitated before continuing the utterance in a similar manner. One analyst decided that, regardless of the hesitation and the aborted utterance, the demonstrative referred to *mevrouw* in the resumed utterance. However, the other analysts decided the reference was unclear, and disregarded the demonstrative for metaphor analysis altogether: they added the code DFMA.

As also shown for English conversations, hesitations and repetition such as in (12) are characteristic of spontaneous speech. Consequently, disagreement occurred in cases where it was difficult to establish the referent of a demonstrative.

- (13) één van *die*(3) twee mevrouwen waar ‘k boeken voor haal (CGN-corpus)
 - *die*(1) gehandicapt is
 ‘one of ‘*that*’ two ladies for whom I get books
 - ‘*that*’ is disabled’

In example (13), the second *die* was coded as a metaphor-related word by one analyst. However, in this particular context, *die* is not a demonstrative pronoun but a relative pronoun. As *Van Dale* explains, relative pronouns are purely functional, and do not have meaning content. This particular case of *die* should thus not lead to a comparison with the demonstrative pronoun *die*.

The interesting difference between English and Dutch in this respect, and possibly one of the reasons why there is more disagreement about the status of these Dutch demonstratives, is that *die* as a relative pronoun refers to both objects and persons. In English, when referring to a person, the relative pronoun used is usually *who*, and not *that* (see Aarts & Wekker 1987: 156). The reliability tests have shown that the two word classes in which *die* can occur are occasionally confused by some

of the analysts. This can be seen in (13), where the second *die* is a relative pronoun and should thus not be coded as metaphorically related. The fact that *die* can occur in two different word classes, and that the referent is occasionally unclear, may have contributed to the disagreement figures.

Contrasting and comparing A more detailed look at the areas of disagreement shows that some can be traced back to the procedural steps of contrasting and comparing meanings. It has become apparent that some of the less frequent words in news texts, the ones describing relatively abstract concepts, can cause trouble when it comes to determining either clear contrasts between contextual and basic meanings or a clear comparison between the two. One problem has to do with the level of distinctness between the numerous senses in the dictionary.

When the following lexical units are analysed according to the procedure, a problem can arise for the word in italics:

- (14) (...) de grootste hoeveelheid drugs ooit *onderscheept* in Nederland
(Algemeen Dagblad)
 ‘(...) the largest quantity of drugs ever *intercepted* in The Netherlands.’

The contextual meaning of *onderscheppen* is listed under 1a, ‘(iem. of iets) beletten voort te gaan of zijn doel te bereiken’ (‘prevent *someone* or *something* from continuing or reaching his/its goal’). This is a slightly different meaning than the basic one, which is ‘(iem.) op zijn weg tegenhouden’ (‘to stop/obstruct *someone* on his way’) since it includes objects that can be intercepted. The two senses can clearly be compared with each other, since they describe the same action. Whether *onderscheppen* in (14) can be seen as metaphorically used, however, depends on whether it is possible to distinguish between intercepting a person and intercepting an object as distinct but comparable meanings. It could be argued that these descriptions are two instances of the same actions, and that *onderscheept* is therefore not metaphorically used.

In the reliability test, the word *onderscheept* was coded as a metaphor-related word by one analyst. The most obvious explanation of this analysis is the distinction made in the dictionary between ‘*iemand* onderscheppen’ and ‘*iets* onderscheppen’. In principle, the verb denotes the same action in both cases, but the object is different. The question arises if the objects, a person and a thing, can be seen as two distinct types of entities, which could result in a sufficiently distinct meaning between the two uses. In some analyses, we distinguish between persons and objects and say that they belong to two different domains. These cases, however, often involve human characteristics and emotions and are often related to personification. In this case, both objects can be seen as concrete, and the action of the verb remains largely the same in each situation.

In other cases, two meanings of a unit can be contrasted with each other but it is difficult to set up a comparison. Consider for instance the following sentence:

- (15) Uit afgeluisterde telefoongesprekken concludeert justitie dat de *betrokkenheid* van de twee ambtenaren ... (Algemeen Dagblad)

‘From monitored conversations the police have to conclude that that the *involvement* of the two civil servants ...’

The contextual meaning of the unit is ‘het betrokken-zijn in of bij iets’ (‘the involvement in or with something’). As a basic meaning of the unit we can take sense 2 in the dictionary, ‘bewolktheid’ (cloudiness), since that sense is related to a natural phenomenon which can be observed and which has a spatial characteristic. It is thus the most concrete sense of *betrokkenheid*. The two senses are sufficiently distinct and can thus be contrasted on different levels; the contextual sense is very abstract, and the basic sense denotes a concrete weather-related state. It is difficult, however, to see a comparison between the two senses. There does not seem to be one element of involvement that can be compared in a way to cloudiness. So although we can clearly find contrasts between the two senses, it is not possible to compare one or more elements with each other. One explanation for the lack of a comparison can be that the two instances of *betrokkenheid* stem from two different instances of the verb *betrekken* from which it derives. *Betrekken* in the weather sense is intransitive, whereas *betrekken* in the involvement sense is transitive. Even though *Van Dale* does not list these instances as separate entries, we can still see them as such. Therefore, the conclusion will be that *betrokkenheid* in (15) is not metaphorically used.

The lexical unit *betrokkenheid* was coded as a metaphor-related word by one analyst. The disagreement among the analysts for this example results from the apparent contrast between the two senses. Two analysts decided that the two meanings cannot be compared. The remaining analyst may have seen a possible mapping, possibly between the highest domains of abstractness and concreteness, and coded it as a possible metaphor. Sometimes it is difficult to pinpoint what analysts can make of the word definitions given in *Van Dale*.

The problems listed above are general problems that occur in both registers analysed in the Dutch project (and in all registers analysed in the English project). They seem to be problems related to the nature of metaphorical language rather than to the procedure of metaphor identification. The two problems listed in this section deal with the distinctness of senses and the comparison between senses, issues that always need to be addressed when doing metaphor research, regardless of the procedure of identification that is used.

The preposition van in news and conversation In some cases it proved difficult to agree on the basic meaning of prepositions. One major point of discussion has

been the analysis of the preposition *van* (*of* or *from*). Although the reliability tests do not point to *van* as a problematic case, other texts analyzed by more than one analyst have shown that *van* is a problem area. What makes *van* different from the other prepositions in Dutch is that it seems to have gradually grammaticalized; the content of the function word has faded in some uses of *van*. It is still possible, however, to distinguish basic meanings of *van* from abstract meanings, and basic uses from abstract uses. It becomes complicated when the abstract uses of *van* seem more or less grammatical, as is the case in many of the descriptions of *van* in *Van Dale*. The preposition has the striking number of fifty-five sense descriptions, which should already be an indication as to how difficult it can be to come to a conclusion about possible metaphorical meanings.

One basic meaning of *van* that can be distinguished in the dictionary is the first: pointing to an object, person or place from which someone or something moves or is moved or taken away. Below is an example of this use from the corpus:

- (16) Er volgde een wilde achtervolging *van* Maastricht naar Valkenburg (...).
(NRC)
'There followed a wild chase *from* Maastricht to Valkenburg (...)'

Example (16) provides a relatively clear case of the concrete use of *van*. An example of a very functional, almost empty form of *van* can be found in (17):

- (17) (...) maar eens polsen of Wim Kok, in geval *van* kabinetsdeelname, niet bereid is (...)
(*Algemeen Dagblad*)
(...) but see if Wim Kok, in case *of* cabinet participation, is not willing (...)
'let's see if Wim Kok, should he join the Cabinet, is not willing ...'

The construction occurs when *van* is used as a connection between two phrases of which the first is more general and the second is a further specification or a concrete object.

As can be seen in the translations of (16) and (17), the Dutch preposition *van* can be translated into *from* or *of* in English in the concrete sense, and into *of* in the abstract sense. *From* in English has a distinct basic sense that is concrete and other senses that can be metaphorically derived from the basic sense, but *of* in English has lost its basic sense and is seen as a function word that does not have metaphorically derived meanings anymore (Lindstromberg 1998: 195). This is different from how *van* is used in the Dutch language.

The analysis of *van* becomes problematic when it is used in a more abstract, grammatical manner. In some cases, it is possible to identify a metaphorically derived sense, where the contextual meaning can be contrasted and compared with one of the basic senses, as in example (18):

- (18) in de tweede helft *van* het jaar
in the second half *of* the year

(*Algemeen Dagblad*)

Here, *van* is used in an abstract way, functioning within the domain of time. This use can be contrasted and compared with the basic sense of *van* in a sentence like (17); it is used in an abstract domain, but both define a part of something. In other cases, the use of *van* is so abstract that it is difficult to see an element that can be compared with the basic sense. That type of use is illustrated in (19):

- (19) Jullie willen daar uh ook *van* alles nog veranderen? (CGN-corpus)
You want there eh also *of* everything still change?
'You also still want to change all kinds *of* things there?'

In (19) it is difficult to pinpoint exactly what *van* means when used in combination with *alles*. The problem concerns the exact contextual meaning and thus a contrast and a comparison.

Overall, it is not easy to establish when one use of *van* is abstract but still comparable and contrastable to one of the basic senses, and when *van* has moved towards a more grammatical and functional use. This is the reason why analysts do not agree at all times about the status of *van* in different instances in the texts. What is clear, though, is that *van* is pervasive in the news texts, and that the decisions made on the possible metaphorical status of some of the uses will therefore greatly influence the data. A separate analysis of *van* on a conceptual level could give a better overview of how the preposition works in varying contexts. The examples also show that particular word categories can cause more problems than others when applying the procedure of metaphor identification, and that particular lexical units, constructions and meanings can be language-specific.

5.5 Conclusion

The sections above have given an overview of various issues concerning Dutch texts and metaphor identification. These include questions of how to adopt and adjust a procedure that was originally designed to analyze English discourse. As the agreement percentages have shown, Dutch language materials can be analyzed in a similarly reliable way as English language materials. However, this can only be done if analysts take into account a number of operational differences and language-specific issues.

The slightly lower percentage of overall agreement about the metaphor-related words and the non-metaphorical words for Dutch in comparison to English is due to a number of factors. Important in relation to the procedure is the lack of specific part-of-speech tags and the use of the historically based dictionary *Van Dale*. In

addition, Dutch contains linguistic features that need to be treated differently from those described and explained in the original procedure, in particular SCVs and polywords. The reliability tests have shown that these features, or some of them, regularly have a link with metaphorical language, which can influence the judgment of metaphor by analysts, and therefore affect the overall number of metaphor-related words. It is important to explain these issues in more detail in the procedure.

However, even if the matters mentioned above are incorporated into the procedure in an explicit manner, it remains impossible to eliminate disagreement entirely. This is due to the analyst being an individual and having his or her own intuitions. As pointed out in the discussion of disagreement above, one analyst can see a possible mapping between two distinct meanings where another analyst decides that the meanings are either not distinct or not comparable on one or more levels. This individual aspect will remain at all times, since meaning descriptions in a dictionary can be interpreted in varying ways. However, since operational issues dealing with how to use the corpus, the tags and the dictionary are clarified clearly in the procedure, disagreement between analysts can be reduced to a minimum. Additionally, a detailed procedure like the one we have used will produce reliable results for metaphor identification if it is used in the same way by the different analysts, and will produce a more uniform analysis than when basing decisions about metaphorically used words on intuition alone.

This chapter has illustrated that a procedure such as MIPVU, which takes the English language as its basis, can also be used for Dutch discourse, albeit with slight alterations and specifications. Part of the success is due to the resemblance between the two languages on the lexico-grammatical level. Dutch, like English, carries meaning in words, and lacks great inflectional influences. A language like German, where inflection is more important and influential, may pose different problems for procedures such as MIP and MIPVU. In addition, languages which have a more complex system of word formation and compounding, where different morphemes carrying meaning can be combined, will need a procedure that is able to identify these elements. For Dutch, however, MIPVU produces reliable results, and generates an extensive and workable data set of metaphor-related words.

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Linguistic metaphor identification in German

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6.1 Introduction

German shares many similarities with English, for which MIPVU was originally developed (Steen et al. 2010), and is specifically similar to another Germanic language, Dutch, to which MIPVU has also already been successfully applied (Chapter 5, this volume). Therefore, one might assume that the application of MIPVU to German is relatively unproblematic. However, adjustments to the procedure proved necessary both on language-specific and operational grounds. There are a number of important differences between German and English (and Dutch), both in terms of the language system and the lexicographic resources available. Consequently, we developed guidelines detailing the handling of the German online dictionary *Duden* (Dudenredaktion n.d.) to identify lexical units (Sections 6.4.1 and 6.4.2), as well as for distinguishing contextual and more basic senses in metaphor identification (Section 6.4.3). In both German dictionaries, many sense descriptions are comparably less self-sufficient than in the Macmillan dictionary, as used with MIPVU. There are two possible reasons for this. First, German has more characteristics of synthetic languages than English. Its lexicography is thus more morpheme-based than word-based when compared to English, with many cross-references between entries. Second, the German dictionaries are not specifically learner-oriented, and thus presuppose more linguistic knowledge.

This chapter demonstrates how MIPVU can be adjusted for metaphor identification in German language data, based on an analysis of texts from three genres: a political speech, newspaper articles and historical literary texts. Altogether, a sample of 20,549 words was used to develop the guidelines described in this chapter (see Section 6.3.1). In the following sections, we address both language-specific and operationalization issues, and offer a discussion of the results of a reliability test.

6.2 Language-specific issues

In German, the relationship between orthographic presentation and lexical units is less straightforward than in English. German has more features of synthetic languages than English, specifically a richer morphology (Hawkins 1986: 11), with a lower number of lexically independent morphemes (e.g. Elsen 2014: 11) and a more flexible word order that allows stacking additional words between the bound constituents of lexical units (König & Gast 2012).

One specific feature of German is the high frequency of separable complex verbs (SCVs). These consist of verbs and further elements forming one lexical unit, which in its basic form normally is orthographically represented as one word, e.g. *aufbauen*, ‘to build/structure/establish’, but when inflected is represented in an analytic form *baute auf*, often featuring elements in a distanced position (the same applies to Dutch, and, in a slightly different form to Scandinavian, see Chapters 5 and 7 respectively in this volume). For example, in the inflected form of *aufbauen*, the morphemes are separated, but *auf* is a particle lexically bound to *baut*:

- (1) Sie *bau-t* *den* *Betrieb* *auf*.
 3SG.F build-PRS.3SG ART.ACC company-Ø up-VPART.
 ‘She establishes the company.’

A conspicuously productive German word formation process with implications for MIPVU is compounding. In contrast to English, German compounds are generally written as a single orthographic word, and often comprise more than three constituents e.g. *Wohnzimmerschranktür*; *Wohn* + *Zimmer* + *Schrank* + *Tür*, ‘living+room+cabinet+door’. This prolific and often complex compounding process in German has clear implications for identifying lexical boundaries within orthographic words, as well as for identifying contextual and more basic senses of lexical units.

Another productive word formation process important for the application of MIPVU is conversion, e.g. nominalization of the verb *brechen* ‘to break’ to the noun *das Brechen* ‘rupture, the breaking’. As we will show, conversion in German, unlike in English, has implications for the establishment of the lexical units’ contextual and basic meanings. Since conversion is a productive morphological process, many of the resulting noun entries are not featured in the German dictionaries as separate sense descriptions. Rather, as for the noun *Brechen* and the verb *brechen*, the dictionaries cross-refer from the noun to the verb. This means that such nouns do not have any independent, self-contained denotations for metaphor analysis.

Finally, German uses a wide array of polywords, i.e. lexical units that consist of multiple orthographic words, with at least one space between words (Farø 2015: 228; cf. Burger 2015: 14–29). In the German MIPVU guidelines, to determine

the boundaries of such lexical units as *sowohl als auch* ‘X as well as Y’; ‘both X and Y’, we rely as much as possible on our lexicographic resources, but also point out where decisions need to be based on the grammatical structures found in the discourse.

In the following, we first briefly introduce a number of operational issues, including our dataset for developing the German MIPVU guidelines, Part-of-Speech (PoS) Tagging, and our lexicographical resources (Section 6.3). Subsequently, Section 6.4 specifies the guidelines for the identification of lexical units and their relation to metaphor. Since language-specific issues and aspects of handling the dictionary are closely related for German, we detail our guidelines in the following way: First, Section 6.4.1 discusses the demarcation of lexical units, with regard to lexical units with multiple constituents (such as SCVs and polywords), and with regard to establishing lexical boundaries by splitting up orthographic words. The remaining sections address the way in which MIPVU needs to be adjusted in order to reliably identify word meanings to discern their relation to metaphor. This includes guidelines for dealing with non-autonomous sense descriptions in the dictionaries (6.4.2) and establishing distinct meanings despite the entry structure in the German dictionaries (6.4.3).

6.3 Operational issues

6.3.1 The data

The following guidelines were developed by applying MIPVU to a number of language samples, including political and newspaper discourse, as well as a sample of fiction discourse. While this is not a strictly balanced or representative sample of modern German, our selection captures different text types as well as slightly different diachronic varieties, with the fiction texts being first published around the year 1900 (an epoch called ‘classic modernism’). As those types of discourse are commonly received by readers today, they are highly relevant for applications of MIPVU. The reliability of the procedure was tested on excerpts from the fiction and newspaper samples (see Section 6.5).

Our sample of political speech is by Björn Höcke, a member of the right-wing party *Alternative für Deutschland* (AfD) ‘Alternative for Germany’, attacking German migration policies in Erfurt in 2016 (1,650 words). The fiction sample was the *Erzählanfängskorpus* (EAK) ‘Corpus of beginnings of fiction texts’, obtained from literary texts first published around the year 1900 (17,888 words, for a detailed description see Herrmann 2018a). In addition, we annotated four short extracts from contemporary news texts and 19th century novellas (1,011 words),

so that a total of 20,549 words were analyzed. We found that this sample already provided us with sufficient data to pinpoint the language-specific and operational issues specific to German MIPVU.

6.3.2 Part-of-Speech tagging

While German MIPVU can be applied without pre-tagged data (as was done for the political speech analyzed for this chapter), automatic PoS tagging is generally recommended. We advise even researchers working on small projects to use it as an external resource for establishing boundaries of lexical units, using the German standard tag set Stuttgart-Tübingen PoS TagSet (STTS; Schiller et al. 1999).¹

Stand-alone tagging tools using the STTS such as the *TreeTagger* (Schmid 1994) and others are freely available, as are easy-to-use research infrastructures such as WebLicht (CLARIN-D/SfS-Uni. Tübingen 2012). There are also readily PoS-tagged repositories such as the German Text Archive (Berlin-Brandenburgische Akademie der Wissenschaften 2018). However, with automatic tools, accurate PoS tagging is not always guaranteed – depending on the (historical) genre of the analyzed data, taggers have an error rate of 2–10%, or even higher (see Herrmann 2018b for an evaluation of the PoS tagging of a 19th-century sample of the German Text Archive).

6.3.3 Lexicographic resources

For German, a number of important issues need to be solved when applying lexicographical resources. The sections below discuss the additional rules and guidelines we have developed to ensure a consistent use of the procedure. Our main lexicographic resource was the German corpus-based dictionary *Duden online* (hereafter ‘Duden’; Dudenredaktion n.d.), which is at present the most authoritative German dictionary, representing the current vocabulary of the German language community, including proper names as well as abbreviations of common use. Its entries are frequently revised and expanded. The Duden corpus presently comprises over three billion word forms from different genres (e.g. novels, workbooks, newspapers, magazines, etc.; Dudenredaktion n.d.).

Whenever Duden did not provide clear sense descriptions, or doubts remained about the distinctions offered, we consulted *Das Wortauskunftssystem zur deutschen Sprache in Geschichte und Gegenwart* (DWDS; Berlin-Brandenburgische Akademie

1. A table with all PoS tags of the STTS is available at <http://www.ims.uni-stuttgart.de/forschung/ressourcen/lexika/TagSets/stts-table.html>.

der Wissenschaften, n.d.). This is an online application consisting of multiple dictionaries and corpora, facilitating comprehensive information on historical and contemporary dimensions of the German lexico-grammatical system. To date, it comprises more than seven billion word forms (Berlin-Brandenburgische Akademie der Wissenschaften n.d.).

6.4 The guidelines²

6.4.1 Demarcation of lexical units

6.4.1.1 *Separable complex verbs (SCVs)*

Complex verbs constitute one lexical unit regardless of whether they occur as one orthographical word *aufbauen* ‘to build/structure/establish’, are separated by a white space such as *Rad fahren* ‘to go by bike’, or are separated by additional words in the discourse, e.g. *baut den Betrieb auf* ‘establishes the company’ (for similar constructions, see also Chapter 5, this volume, and Chapter 7, this volume). Although there are different types of complex verbs, each with a distinct lexical morphology (for a description of different types of compositional verbs, including prefix-verbs and verbal compounds, see Elsen 2014), the basic rule for the application of MIPVU is to distinguish separable complex verbs from other types of verbal constructions that do not form multiword lexical units. Here, analysts need to identify the boundaries of the lexical units on the basis of the discourse context.

A clear case is (1) above, where the verb stem *bauen* ‘bauen’ and the bound particle *auf* ‘on / up’ form one lexical unit. A good resource for establishing this kind of analysis is the output of PoS taggers. Our tagger assigns the STTS tag PTKVZ (= verbal particle in distance position) to *auf*, and VVFIN (=finite verb) to *baut*. By contrast, in (2) the same two words are separate lexical units: the verb *bauen* ‘to build/ to construct’ and the preposition *auf* (here: ‘on’) respectively.

- (2) *Sie bau-t das Haus auf fest-en Grund*
 3SG.F build-PRS.3SG ART.ACC house on. ACC.S solid- ACC.S ground-Ø
 ‘She builds the house on solid ground.’

Compound verbs consist of verbs and another morpheme: either an adverb (*hindurchfahren* ‘to pass through sth by vehicle’), a verb (*kennen lernen* or *kennenlernen* ‘to get to know sb’), an adjective (*schönfärben* ‘to whitewash sth’), or a noun (*seiltanzen* ‘tightrope walking’). Although they are morphologically different from

2. The guidelines in their current form were first developed and applied by Herrmann (2018a) and Woll (2017). They were further refined for this chapter.

prefix-verbs, such constructions behave in the same way as prefix-verbs with unbound prefixes. If compound verbs can be located as synthetic lexical entries in the dictionary, they must be analyzed as one lexical unit.

A potential complication when applying MIPVU to German are the variable spelling conventions of some (verbal) compounds (Elsen 2014: 200). For example, the current edition of Duden features the lemma *Rad fahren* comprising the noun *Rad* ‘bike’ and the verb *fahren* ‘to ride/drive/go’, whereas until the orthographic reform in 1998, the verbal compound *radfahren* ‘to go by bike’ was common use (Farø 2015: 228). Both variants may thus be encountered in natural discourse. Changes in spelling conventions have complicated a clear identification of lexicalized and non-lexicalized compounds (Elsen 2014: 225). For MIPVU, we advise using the current dictionary. Unless the dictionary features the construction as a lemma entry of its own, it should be split up into its constituent lexical units. This is regardless of whether the construction being analyzed in context is spelled in synthetic or analytical form.

In the case of *Rad fahren*, there is a Duden entry that categorizes the phraseme as a form of polyword, and thus one lexical unit, in the same way as *radfahren*. Much the same holds true for *seiltanzen* and *Seil tanzen* ‘to do tightrope walking’.³ *Probe fahren* ‘to test-drive a car’, however, does not have its own dictionary entry. It is thus treated as two independent lexical units, despite its inclusion in Duden’s phraseological category “Wendungen, Redensarten, Sprichwörter” ‘expressions, figures of speech, proverbs’ under the entry for the noun *Probe* ‘test’, which points to the relative lexical stability of the collocation.

Guidelines

1. SCVs are generally treated as one lexical unit, regardless of whether they are particle verbs or compound verbs. Good cues are given by PoS taggers which normally identify bound particles with a good accuracy (see also below, 6.4.1.3 *Establishing lexical boundaries by splitting up orthographic words*). However, analysts need to closely check the discourse to rule out prepositional or adverbial usage for the suspected bound particles.
2. In cases in which the lexical unit is represented by multiple words in the discourse, but appears as one synthetic lemma in the dictionary, it should be treated as one lexical unit if the meaning and syntax are consistent with the dictionary entry.

3. Note that the intransitive verb *seiltanzen* / *Seil tanzen* (‘auf einem in der Luft gespannten Seil akrobatische Balanceakte ausführen’ ‘to perform acrobatic balancing acts on a rope stretched in the air’) is different from the transitive usage of *auf dem Seil tanzen* (to walk on the/a tightrope), which features a locative object (*auf dem Seil*) (on the tightrope). This difference is highlighted by Duden, with a note under the lemma *Seil*.

For spelling variants, check whether a given entry is featured in the dictionaries. If so, a given word or collocation is a lexical unit. If not, it needs to be split up for analysis. This applies to analytic as well as synthetic spellings of constructions.

6.4.1.2 Polywords

Polywords, or multiword expressions (MWEs), can be roughly defined as “words with spaces” (Sag et al. 2002: 2), i.e. single lexical units consisting of multiple elements, designating one specific referent in the discourse. As such, each polyword normally has a clear word class membership. Candidates for German polyword status are, for example, the noun *Auf und Ab* ‘constant change of upward and downward movement’; ‘a constantly changing fate’, the adverbs *ab und zu* ‘once in a while’ and *dann und wann* ‘now and then’, or the verb complex *in Betracht ziehen* ‘to consider’ (Fleischer, Helbig, & Lerchner 2001).

For English MIPVU, the BNC multiword list is an important resource to establish polywords.⁴ However, to our knowledge, a comparable and appropriate list of German polywords is not (yet) available, and neither is there any resource that may be easily adapted for this means. Therefore, at present, dictionaries are the only reference tool that can be used to determine whether a potential polyword should be treated as one lexical unit. For instance, *dann und wann* is listed as a lemma in Duden, with its own separate meaning, and should therefore be analyzed as one lexical unit. The same holds for *Auf und Ab*, but not for *in Betracht ziehen*, nor for *ab und zu*, which are not listed as polywords with their own lemma. Consequently, a combination like *ab und zu* needs to be treated as three lexical units. The main problem with this is that the contextual meaning of the individual components is often hard to establish (similar to Dutch polywords; see Chapter 5, this volume) – consider the meanings of the words *ab* (e.g. ‘of’; ‘off’; ‘from’; ‘down’) and *zu* (e.g. ‘to’; ‘toward’; ‘at’; ‘unto’) which potentially refer to many distinct senses as they are highly context-dependent.

A possible solution may be to consult the sections on ‘expressions, figures of speech, proverbs’ (*Wendungen, Redensarten, Sprichwörter*) that are systematically provided by Duden within the lemmata (e.g. the phraseme *ab und zu* is listed under the entry for *ab*, see Figure 1, entry no. (3). However, there is no query function for phrasemes provided by the dictionary, and there is no way of predicting whether or not a particular polyword actually appears in the dictionary. Therefore, skimming through the individual entries for this type of information is rather time-consuming.

4. The list of multiword and associated tags in BNC2 is available at <http://ucrel.lancs.ac.uk/bnc2/multiwd.htm>.

1. weg, fort, entfernt

Beispiele

- gleich hinter der Kreuzung links ab
- nicht sehr weit ab vom Weg liegen
- die Hütte soll weit von jeder menschlichen Behausung ab sein
- zwei Kilometer ab [von dieser Stelle]
- (Verkehrswesen) Darmstadt ab 7:30
- Bayrischer Bahnhof ab, ab Bayrischer Bahnhof
- (oft in Aufforderungen:) los, ab ins Bett!
- (als Bühnenanweisung:) ab (*geht ab, soll abgehen*)

Wendungen, Redensarten, Sprichwörter

ab trimo/trümo (landschaftlich: weg, ab; verschwinde!; Herkunft ungeklärt)

2. a. herunter, hinunter, nieder (gewöhnlich in militärischen Kommandos)

Beispiele

- Gewehr ab!
- Helm ab zum Gebet!

b. losgelöst, abgetrennt, abgegangen

Beispiele

- der Knopf wird bald ab sein
- die Farbe ist fast ganz ab

3. Wendungen, Redensarten, Sprichwörter

- ab und zu (1. gelegentlich; von Zeit zu Zeit. 2. *veraltend*; [in Bezug auf eine Bewegung] weg und wieder herbei; aus und ein: die Bedienung ging ab und zu.)

Figure 1. Duden entry for the adverb *ab*, including the phraseme *ab und zu* under *Wendungen, Redensarten, Sprichwörter*, ‘expressions, figures of speech, proverbs’

More importantly, consulting Duden’s ‘expressions, figures of speech, proverbs’ entries for identification of polywords may affect reliability, since the applied categorization criteria are too broad: They include less fixed and longer MWEs (such as *mit der Tür ins Haus fallen*, ‘to fall with the door into the house’ – ‘to barge in’, but also ‘to blurt out’ under the entry *Tür* ‘door’), which go beyond the definition of polyword used by the original MIPVU procedure, with MWE as a single lexical unit designating one specific referent in the discourse (Farø 2015: 243).

We have tackled polywords by consulting our lexicographical resources at the level of the lemma entry, for lack of an additional list of fixed phrasemes. This potentially compromises the validity of the procedure, because it may complicate the identification of contextual meanings of the expressions and may also artificially increase the number of discrete lexical items. We therefore recommend that future analyses, especially those that annotate larger corpora, compile their own list of German polywords. For compiling such lists, we recommend combining corpus extraction tools (Heid 2008; Sailer 2007) with phraseological dictionaries (e.g. Scholze-Stubenrecht et al. 2013).

Guidelines

1. If you come across a sequence of words that together may form a polyword, check whether this sequence is featured by Duden and DWDS. Be aware that the polywords in discourse may be separated by multiple other words and even phrases (e.g. *sowohl ... als auch ...*).
2. If a given sequence is listed as its own lemma, mark it as one lexical unit. If not, analyze constituents separately.

6.4.1.3 Establishing lexical boundaries by splitting up orthographic words

This section deals with orthographic words that need to be parsed into their components. The MIPVU protocol states that novel compounds which are not listed in the dictionary should be split up and analyzed as separate lexical units. For German, with its prolific word formation through compounding, compositional nouns such as *Altparteien-Politiker* ‘politicians of the established party’ are often morphologically complex. The application of MIPVU thus requires that compounds with more than two constituents should first be checked for containing conventionalized compounds. For example, the noun *Altparteien-Politiker* may be potentially parsed into the adjective *alt* ‘old’, the noun *Partei* ‘party’, and *Politiker* ‘politician’. Yet, the noun *Altpartei* ‘established party’ has a lexicalized meaning listed in the dictionary, *Partei (1a) mit langer parlamentarischer Tradition* ‘party (1a) with a long parliamentary tradition’. Thus, instead of splitting the novel compound noun into three lexical units, it needs to be separated into two lexical units, namely *Altpartei* and *Politiker* (the linking element *-en* may be neglected), both of which are not related to metaphor.

The rules for novel compounds apply equally to adjectives and verbs. However, our analysis showed that all instances need to be checked, especially ones that appear creative – and ones that are featured in more artistic texts and/or historically removed ones. For example, at first, we first overlooked that the verb *entgegenduften* ‘to scent in the direction of sth/sb’ from Johanna Spyri’s *Heidi* (example 3) is a lexicalized verb, listed by the dictionary as one unit.

- (3) *Wo der Fußweg zu steigen anfäng-t, beginn-t bald*
 Where ART footpath to.INF climb.INF begin-PRS.3S start-PRS.3S soon
Haideland mit dem kurz-en Gras und den kräftig-en
 heathland with ART.DAT short-DAT grass and ART.DAT strong-DAT
Bergkräutern dem Komm-en-den
 mountain herbs ART.DAT ascend-PTCP.PRS.NMLZ
entgegen-zu-duft-en [...].
 towards-to.INF-scent.PRS.INF [...].

‘Where the footpath begins to climb, heathland will soon begin to greet the ascending with the scent of its short grass and strong mountain herbs [...].’

The infinitival form *entgegenzudufte*n therefore needs to be treated as *one* lexical unit: ‘in jemandes Richtung duften’ (‘scent-towards someone’), whose meaning is lexicalized – and thus not treated as metaphorical.⁵

As the special lexicalized case of *entgegenzudufte*n in example (3) shows, compound verbs can contain the infinitive marker *zu*. Although this morpheme is never related to metaphor, it needs to be distinguished from its homograph in other word classes. The PoS-tagger gives valuable clues: In STTS, complex verbs with the inserted infinitive marker are tagged as VVIZU (=infinitive with ‘to’). By contrast, when used in simple infinitive form in cases such as *zunehmen* ‘to gain weight’ (in *sie müssen zunehmen* ‘they have to gain weight’), *zu* is not an infinitive marker, but a verbal prefix, the verb thus being tagged as VVINFIN (= infinitive). The same verb in the inflected form *sie nehmen zu* ‘they gain weight’ thus receives the tags VVFIN (=finite verb) for *nehmen* and PTKVZ (= verbal particle in distance position) for *zu* (see SCVs, 6.4.1.1).

Finally, there are contracted forms of prepositions combined with an article, such as *zur* (=zu der ‘to + the’) or *am* (=an dem ‘at + the’). Such entries receive an STTS part of speech tag APPRART (= preposition with article) and in terms of identifying relation to metaphor are treated as any other preposition.

Guidelines

1. When dealing with a compound in any word class, check whether it is listed in the dictionary in its entirety or in parts.
2. Consider PoS tags as clues for word class membership, specifically for complex verbs with infinitival inserts and synthetic preposition-articles.

5. Another type of analysis may well argue that the construction may be analyzed as indicating a type of personification – a voluntarily directed action towards the perceiver that personifies the subject *Haideland* (‘heathland’) – especially in concert with the rest of the discourse that is high on fictive motion and imagery. Such an analysis may apply an additional code for fictive motion. However, in order to assure reliability it is important to stick with the chosen procedure – in our case, operating on the basis of the dictionary as representing linguistic knowledge generally, we thus identify the lexical item as non-MRW.

3. Within longer compounds, consider possible lexicalized elements with more than one constituent.
4. If no entry can be found for a compound, analyze the individual lexical units for relation to metaphor.

6.4.2 Non-autonomous sense descriptions

Due to the comparably more synthetic character of the German language, and possibly because they are not primarily learner's dictionaries, Duden and DWDS often do not represent word meanings as clearly separated as do their English counterparts Macmillan and Longman. This creates a number of problems for the reliable identification of word meanings in German.

Firstly, some nouns are defined as nominalizations, cross-referencing to their corresponding verbs (see also Dutch in Chapter 5 of this volume, which reports on nominalizations in the *Van Dale* dictionary). These nouns result from different word formation processes, two of which are productive (conversion and explicit derivation), and one non-productive (implicit derivation). As shown below, this has important implications for the identification of basic and contextual meanings. Secondly, irrespective of word class, the sense descriptions of some words are circular, that is, they contain the word being defined. Thirdly, a number of MWEs are defined through cross-reference to the separate entries of their constituents, which potentially complicates clear identification of basic and contextual meanings. The fourth issue is German (past) participles, which are mostly represented as ad-hoc adjectives, but sometimes as lexicalized adjectives in the dictionary (Elsen 2014: 139). Here, the analyst has to take care to consult the dictionary consistently.

6.4.2.1 Nominalizations

Like Dutch, German MIPVU has to deal with nouns whose meaning is defined by their corresponding verbs. Consider the noun *Bruch*, e.g. 'break; rupture; failure; crash', which is identified as separate lexical unit within the non-lexicalized compound *Kulturbruch*, roughly: 'disjoint of culture'. The meaning of the noun *Bruch* is defined by reference to another noun, *das Brechen*, 'rupture, the breaking', which is a conversion of the verb *brechen* 'to break'. There is no separate dictionary entry for the noun *das Brechen*, but only for the verb. The conversion of the verb into the noun is a word class change without external word formation signals (Elsen 2014: 106), a productive word formation process in German. It suggests a close connection between the meaning of the lemma across word classes, which is supported by the dictionary's cross-referencing. When applying MIPVU, we thus cannot abide by its basic rule that the results of conversions should not form the basis

for comparison of senses. However, in cases such as *Brechen*, the original MIPVU applies the rule of comparing word meanings across grammatical categories.

Yet, as pointed out for Dutch and other languages (this volume), following cross-references in the dictionary is potentially problematic, for it may involve (subjective) inferences by the analyst and thus may compromise the reliability of the procedure. Because of the dictionary's co-reference between *Bruch/Brechen/brechen*, without further guidelines, it would be left to the analyst whether or not to consult the verb meaning. If the verb meaning is consulted, and no indication is given by the dictionary as to whether a specific sense is meant, all sense descriptions of *brechen* are potentially transferred to *Bruch*.

However, the noun entry in Duden provides sufficient content for *Bruch* with the sense description *besonders durch Einwirkung von Druck oder Stoß* (1.a; 'particularly due to the influence of pressure or thrust'), and an example (*der Bruch einer Achse, eines Dammes* 'the breaking of an axle, a dam'), which allows us to determine its meanings without consulting a co-reference. Duden sense 1.a. above can thus be identified as a more basic one, referring to something physical and concrete, which can be contrasted with and compared to the abstract sense 3.b of the noun *Bruch* in *Kulturbruch: das Abbrechen einer Verbindung, Beziehung* 'the breaking off of a connection, relationship'.

In many other cases of verbal nominalization, however, it is unclear which of the verb's sense descriptions are relevant to the noun. It is up to the annotator to decide which ones are picked, and whether these have a high degree of generality, or specificity. In addition, at an operational level, the issue of cross-referencing is connected to the usage of hyperlinks, and other ways in which the dictionaries direct the reader to the appropriate senses of the verb. For example, for *Bruch*, Duden does not provide such a clue for *Brechen/brechen*, whereas DWDS includes a hyperlink to a specific verb entry of *brechen* (*das Brechen*¹: *etw. Hartes, Sprödes teilt sich durch Druck, Gewalt (geräuschvoll) in Stücke* 'sth. hard, brittle splits (noisily) into pieces under pressure, violence') which can be treated as a more basic sense, ruling out the inappropriate meaning of 'to vomit'. To resolve cases of nominalization, our additional guideline allows for the identification of noun meanings through checking co-reference to verbs.

Guidelines

1. If the noun sense can be understood without consulting the verb entry, use only the sense descriptions of the noun (including the provided examples).
2. If the sense is not clear without consulting the verb entry in either dictionary, check whether the dictionaries specify a particular meaning, thereby limiting co-reference to a specific sense of the verb.

If the verb sense is clearly indicated by the dictionary, it should be used as the basis for establishing the noun's meaning. In all other cases, analysis has to stay within the noun's description, on the basis that the dictionary defines the noun's meaning to encompass all senses of the verb, with a relatively general meaning (see also Chapter 5, this volume).

6.4.2.2 *Circular sense descriptions*

The second lexicographic issue is circularity of many sense descriptions. For example, the adjective *selbstmörderisch* 'suicidal' has two meanings:

1. *(selten) einen Selbstmord bezweckend, herbeiführend*
'(rare) to have suicide as a goal'
2. *sehr gefährlich, halsbrecherisch (und darum töricht); einem Selbstmord gleichkommend*
'very dangerous, breakneck (and therefore unwise); equalling suicide'

Here, to determine the meaning of the adjective *selbstmörderisch*, knowledge of the meaning of the noun *Selbstmord* 'suicide' is required. The Duden entry for the noun *Selbstmord* shows a monosemous sense, *das Sich-selbst-Töten; vorsätzliche Auslöschung des eigenen Lebens* 'the [fact of] killing oneself; the deliberate extinction of one's own life'. After insertion of the noun meaning, sense 1 of the adjective is clearly a more basic meaning, whereas sense 2 is a potentially metaphor-related sense that applies to abstract activities, processes or ideas, plans, and intentions. Circularity may thus here be countered by consulting the cross-references.

Guidelines

1. Establish the meaning of all elements of the sense description, including the co-referenced lemmas.
2. Check whether compounds or other compositional units have a conventional meaning in the dictionary.
3. Insert the meaning of these elements into the sense description, and establish contextual and more basic meanings.
4. Note that in some cases, if multiple senses are provided for the cross-referenced word, this may potentially hamper reliability, as different analysts may choose distinct sense descriptions. However, our application of the procedure has thus far shown few of such cases. This solution is therefore preferable to excluding such cases from the procedure by adding the code 'DFMA', which would be the logical alternative solution.

6.4.2.3 Participles

Participles have a special status in German, as they are in-between verbs and adjectives. The complication for applying MIPVU is that some participles appear in the dictionary as lexicalized adjectives such as *blühend* ‘blossoming’, while others do not appear in the dictionary despite their conventional adjectival usage, e.g. *verwittert* ‘weathered’. Non-lexicalized participle usage as adjective is by far more frequent than lexicalized usage (Elsen 2014: 162–164).

Here, only the corresponding verbs have entries in the dictionary, which means that the meaning needs to be established by co-reference to the verb. While present particles such as *blühend* are paraphrased effortlessly and without loss of meaning (*dabei sein etwas zu tun* ‘being in the course of doing/being something’; here ‘being in the course of blossoming’), past participles are potentially more problematic, as their conversion from verb to adjective normally involves a shift in semantic roles between agents (*verdunkeln* ‘make dark’) and patients (*verdunkelt* ‘darkened’). Identification of the more basic and contextual meanings of those past participles in adjectival use that are defined by co-reference to the verb hence involves a greater interpretative margin, and thus result in less methodological control.

In addition, lexicalized adjectives in participle form (e.g. the monosemous *gelernt*, as in *er ist ein gelernter Uhrmacher, für ein bestimmtes Handwerk, einen Beruf vollständig ausgebildet* ‘he is a trained watchmaker, fully trained for a certain trade, a profession’) have to be distinguished from their verbal cognates (*gelernt* as in ‘memorized’). The analyst thus has to look closely and identify word class membership. This holds for present participles as well, e.g. *schreiend* ‘screaming’, which may be used in its verbal meaning (*das schreiende Kind* ‘the screaming child’), but also as an adjective with an idiomatic adjectival usage, with two senses listed by Duden: (1) *sehr grell, auffällig, ins Auge fallend (schreiende Farben, schreiend bunte Teppiche)* ‘very flashy, striking, eye-catching (screaming colours, screaming carpets)’; (2) *große Empörung hervorrufend, unerhört, skandalös (eine schreiende Ungerechtigkeit)* ‘causing great indignation, outrageous, scandalous (a screaming injustice)’.

In cases such as *das schreiende Kind*, we thus refer to the verb (the more basic meaning being *einen Schrei, Schreie ausstoßen; sehr laut, oft unartikulierte rufen* ‘emitting a scream, screams, shouting very loudly, often unarticulated’, but for cases such as *schreiende Ungerechtigkeit* ‘screaming injustice’, we need to access the adjective entry. Note that for *schreiende Ungerechtigkeit*, the adjectival meaning of ‘scandalous’ may *not* be compared to the verb meaning ‘screaming’ (it is thus not a case of personification). However, there is a case for relation to metaphor within the adjective entry. As meaning number 1 relates to colors and thus to the human senses, and the contextual sense *schreiend* in *schreiende Ungerechtigkeit* is comparable, yet distinct, it is marked as being related to metaphor.

Guidelines

1. Check whether the (present or past) participle is used as an adjective.
2. If so, check whether it is listed with its own entry in the dictionaries.
3. If there is no adjective entry, or if the adjective entry does not apply in the current context, consult the verbal sense for identification of contextual and more basic meanings.

6.4.3 Deciding about distinctness of word meanings

6.4.3.1 General remarks on Duden's entry structure

The German dictionaries structure sense descriptions less clearly than Macmillan and Longman with regard to concreteness and abstractness. Duden and DWDS use lower case letters (e.g. 1a, 1b) to suggest that sub-senses are “closely related”, although the same entries often effectively distinguish concrete/bodily-oriented from abstract etc. meanings. Since inspection of Duden suggests that there is some arbitrariness involved in the entry structuring, which may in part be driven by pragmatic considerations such as space constraints, we decided to treat sub-senses (a, b, c) as potentially sufficiently distinct. For example, Duden lists two quite distinct senses under 1a and 1b for the adjective *voll* ‘full’:

voll

1a in einem solchen Zustand, dass nichts, niemand mehr oder kaum noch etwas, ‘in such a state that nothing, no one, or hardly anything’;

jemand hineingeht, -passt, darin, darauf Platz hat; ganz gefüllt, bedeckt, besetzt o.Ä. ‘anyone fits inside or on top of it; completely filled, covered, occupied, or similar’ (*ein voller Eimer, Sack*)

(‘a full bucket, bag’)

1b erfüllt, durchdrungen von (example no. 2: *ein Herz voll Liebe*)

‘filled, pervaded by (example no. 2: a heart full of love)’

Cases such as *ein Herz voll Liebe* ‘a heart full of love’, where sense descriptions are split up into sub senses (a) and (b) by Duden, are treated as sufficiently distinct. The more abstract emotional sense of *voll* ‘full’ as in *Ein Herz voll Liebe* (1b) may be compared and contrasted to its concrete sense as in *ein Glas voll Wein* ‘a glass full of wine’. This is the more basic meaning, specifying that something is filled with a concrete substance.

Coping with the slightly less clear basis for separating distinct senses in the German dictionaries as compared to Macmillan, annotators should consult sub-senses and exploit the dictionaries’ labels for figurative meaning (“übertragen” / “in übertragener Bedeutung” / “bildlich”, ‘transfer’ / ‘transferred meaning’ / ‘figurative’) as a resource for establishing meaning contrast, as these typically flag metaphor-related usage.

Guidelines

1. If the sense description at the main level of the lemma (sense 1, 2, 3) does not allow identification of contextual and more basic meanings, go to the sub-senses (a,b,c), and treat them as potentially sufficiently distinct.
2. If there is a sense description provided under a label *übertragen* / *in übertragener Bedeutung* / *bildlich* ‘transfer’ / ‘transferred meaning’ / ‘figurative’ it may be considered distinct in the procedure.
3. If these descriptions show sufficient contrast and similarity (no specification of another sense, no metonymy) to another clearly identifiable more basic sense in the same dictionary lemma, the lexical unit in question can be identified as an MRW.

6.4.3.2 Uncountable/countable nouns and transitive/intransitive verbs

MIPVU makes a case for distinguishing grammatical categories to establish the basis for comparison, which means that intransitive verbs need to be analyzed differently from transitive ones. The same holds for countable/uncountable nouns. Unlike Macmillan, the German dictionaries do not differentiate at the level of the lemma between transitive/intransitive verbs or count/uncountable nouns. They do, however, provide some information about the different categories under sub-senses of a particular lemma, though not always.

As to transitivity, for a verb such as *schmelzen* ‘to melt’, Duden lists two entries, sense number 1 being intransitive (*unter dem Einfluss von Wärme flüssig werden, zergehen* ‘to become fluid under the influence of warmth, to dissolve’), and sense number 2 which is transitive. Explicit clues for establishing grammatical differences are the labels “Perfektbildung mit *ist*” ‘perfect construction with *is*’ for intransitive, and “Perfektbildung mit *hat*” ‘perfect construction with *has*’ for transitive meanings.

To differentiate uncountable from countable nouns, Duden often features a grammatical label “without plural”. For example, this label is attached to sense number 1 for *Sonnenschein* (*das Scheinen der Sonne* ‘light from the sun’). By contrast, sense number 2, with the meaning of *geliebtes Kind* ‘beloved child’, does not feature this grammatical information, and thus by implication is used as a default countable noun. When establishing relation to metaphor, senses number 1 and 2 should thus not be compared, since they behave grammatically in different ways.

Guidelines

1. When dealing with nouns and verbs, check the Duden’s grammatical information for transitive/intransitive use of verbs (“Perfektbildung mit *ist/hat*”) and countable/uncountable nouns (“without plural”). If a clear indication is given, do not compare the countable and uncountable senses of a given noun, or the transitive and intransitive use of a verb, respectively.

Where no such indication is given by the dictionary, senses may be compared across countable/uncountable usage or transitive/intransitive usage, respectively.

6.4.3.3 Prepositions

Prepositions in German are often problematic when specifying relations to nouns with relatively abstract spatial senses (*in den Winkeln* ‘in the corners’; *in der Mitte* ‘in the middle’). We decided to treat such cases as non-metaphorical where spatial referents could be established by means of an operationalization: When ‘where’ questions about the spatial position or direction can be meaningfully answered by local reference, the lexical unit in question is non-MRW. For example, the answer to *Wo/wohin?* ‘where? where to?’ for *in der Mitte der Strasse* ‘in the middle of the street’ is meaningfully spatial, so the preposition *in* in this context is not considered to be related to metaphor.

Guidelines

1. When encountering a preposition specifying a meaning relation with a noun with a relatively abstract meaning examine whether the meaning relation is clearly spatial by asking a *Wo/Wohin*-question ‘Where?/where to?’.
2. If the answer is clearly spatial, mark the preposition as non-MRW.

6.5 Reliability

To test the reliability of the German adaptation of MIPVU as presented in this chapter, the three authors coded two text excerpts for the presence of MRWs. The group included two native speakers of German and one proficient L2 German speaker. Two of the co-authors helped to develop the original MIPVU for English, while the third was intensively trained in MIPVU and worked on its application to German in her Master’s thesis. Prior to the coding, the final guidelines were discussed in a number of Skype sessions, and recorded in writing, including a list of recorded prior decisions on prepositions. For the test, two short excerpts were selected, one from the German weekly *Die Zeit* (Martin Gehlen: *Recep Tayyip Erdoğan: Schrille Töne um nichts*, 2017) and one from a fiction text (Ilse Frapan: *Frauenliebe* 1891), each with about 280 words.⁶

For lexical units, the coding used binary categories (either the orthographic word was left untouched or a code was added for joining/splitting up). The same was true for relation to metaphor (either MRW or non-MRW). The initial paragraph was excluded for analysis in the fiction fragment, because no prior guidelines had been established for how titles should be treated (should analysts read up on the content of the novella to decide about the contextual meaning of the title – or should they determine on the basis of the short fragment?).

6. Our decisions about prepositions are available as supplementary material at this volume’s Open Science Framework website, along with more details about the texts; see Chapter 6 folder, Documents 6.1 and 6.2 respectively, at <https://osf.io/vw46k/>.

6.5.1 Relation to metaphor

Table 1 shows the results for inter-coder reliability, with Fleiss’ Kappa (inter-coder-reliability by case for the whole group of coders), the 95% Confidence Interval (CI), and Cochran’s Q (an overall measure for analyst bias, generalizing cover cases).⁷

Table 1. Reliability test MRW/non-MRW across three independent analysts (* $p < 0.05$)

Register	No. lex. units	Max MRW	Min MRW	Fleiss’ κ	95% CI	Cochran’s Q (df = 2)
Fiction	301	38	27	0.58	0.51–0.64	3.15
News	258	54	46	0.79	0.73–0.86	5.12
Total	559	92	73	0.71	0.67–0.76	7.86*

For relation to metaphor, overall agreement as measured by Fleiss’ κ was moderate (0.71). Reliability for news ($\kappa = .79$, moderate agreement) was clearly better than for fiction ($\kappa = .58$, weak agreement). There was a significant ($p < 0.05$) analyst bias as measured by Cochran’s Q (7.86) generalized over all cases, which was expected before discussion. The values for fiction (3.15) and news (5.12), however, were not significant.

Inspection of coder disagreements demonstrates that the main problems were prepositions, especially in the contracted forms combined with an article (*zur = zu + der*, ‘to the’), and where specifying relations to nouns with relatively abstract spatial meanings (*in der Mitte* ‘in the middle’). The specifications on prepositions were initially only included with the list of prepositions, not with the guidelines proper, and therefore possibly overlooked (see also Section 7.6.2 on Scandinavian, this volume). Another problem in the fiction text were forms of the verb *haben* ‘have’, which is similar to English in that it has a bleached more basic meaning, and in addition is very common as an auxiliary verb.

Furthermore, in the historical fiction text under analysis, *haben* appeared in constructions that are infrequent today (*die es mit Hüpfen und Flöten höchst eifrig hatten* ‘those had been very eager with jumping and playing the flute’). For this usage of *haben* coders disagreed about whether it was used as an auxiliary verb or

7. Fleiss’ kappa was calculated for the whole group of three analysts, and Cohen’s Kappa was calculated for pairs of analysts. Following McHugh (2012), the value of kappa was interpreted as follows: 0–0.20 *no agreement*; 0.21–0.39 *minimal agreement*; 0.40–0.59 *weak agreement*; 0.60–0.79 *moderate agreement*; 0.80–0.90 *strong agreement*. Using the statistical software environment R (R Core Team 2013), agreement and kappa measures were computed by means of the *irr*-package (Gamer et al. 2012). The functions were *kappa2* (Cohen’s kappa), *kappam.fleiss* (Fleiss’ Kappa) and *agree* (agreement). The confidence intervals were calculated with the *spi*-function from the *rel*-package (Martire 2017). Cochran’s Q was computed with the function *cochran.qtest* from the package *RVAideMemoire* (Hervé 2018).

as the full verb, but further discussion showed that in this construction, it is used in the Duden sense 2b, (“charakterisiert die Umstände, den Zustand o. Ä., worin sich jemand befindet” ‘characterizes the circumstances, condition, etc. of someone’). *Haben* and its relation to metaphor is a matter of discussion, which our team did not completely resolve during the duration of the project. However, in this particular instance, *haben* should be coded ‘MRW’. As the more basic sense number 8 in Duden (*gefangen, gefasst, gefunden u.Ä. haben* ‘have trapped, caught, found etc.’) is very specific it may have been overlooked when dealing with the inflected form *hat* (‘has’) in *sie hat sieben Zimmerherren* ‘she has seven tenants’.

Another cause for disagreement was a cluster of adjectives and nouns referring simultaneously to bodily size/height and age (*klein/größer, die Kleine* ‘small/bigger, the little one’). Analysts disagreed in coding this ‘double reference’, assigning either WIDLII or non-MRW. One option in dealing with this type of metaphor would be to add a separate code, such as “double reference”. Our recommendation for now is to code them as WIDLII, to not lose the metaphorical reference. With five cases, the identified cluster contributed substantially to the smaller degree of reliability of the fiction text. As a recurrence (in the anaphoric structure) this cluster is typical of a type of narrative texts.

The last issue identified were possible personifications – coders diverged in their assessment of verbs such as *liegen* ‘lie’ and *bilden* ‘form, create’ in *es lag Schnee* ‘there lay snow’ and in *Prellsteine bilden einen Winkel* ‘cobblestones forming a corner’, and of nouns as *Flöten* ‘the piping/the whistling/the playing the flute’ and adjectives as *eifrig* ‘eager / keen / enthusiastic’ in *Amseln die es mit Flöten höchst eifrig haben* ‘blackbirds who piped very eagerly’⁸ or *träumerisch* ‘dreamy’ in *träumerische Augen* ‘dreamy eyes’. However, this appeared less a matter of language-specific application of MIPVU than of experience in identification of such cases in the genre of fiction.

6.5.2 Lexical units

Identification of lexical units showed a clearly smaller degree of reliability (see Table 2). Overall, Fleiss’ Kappa showed weak reliability (0.48) but news (0.55) had a substantially higher reliability than fiction (0.25). There was a significant ($p < 0.001$) analyst bias as measured by Cochran’s Q (43.63) generalized over all cases. The values for fiction (14.29) and news (33.25) were also both significant.

8. The contextual meaning is captured by Duden’s sense 2, *Töne hervorbringen, die wie Flötentöne klingen* (e.g. *die Amsel flötete*) ‘produce sounds that sound like flute tones (e.g. the blackbird fluted)’. It can be contrasted to and is similar to the more basic meaning of *flöten* which in contrast to English *to pipe* is human-related: Duden sense 1 (*laienhaft*) *Flöte (1) spielen* ‘to play the flute (amateurishly)’.

Table 2. Reliability test lexical units across three independent analysts (** $p < 0.0001$)⁹

Register	No. lex. units	Max	Min	Fleiss' κ	95% CI	Cochran's Q (df = 2)
Fiction	303	288	278	0.25	0.19–0.31	14.29***
News	292	243	220	0.55	0.48–0.62	33.25***
Total	595	531	498	0.48	0.43–0.52	43.63***

Inspection of the cases of disagreement shows a number of problems with handling the procedure, yet, not with the set-up of the procedure itself. For example, the compound nouns *Ostjerusalem* and *Katar-Boykott* were not split up by everyone, although they do not feature in the dictionary. Identification of polywords proved problematic: for instance, *Arabische Liga* ‘Arab League’ was incorrectly identified as a polyword by one coder, the polyword *gar nicht* ‘not at all’ was correctly identified by only one coder, and the polyword *platzen lassen* ‘to let sth fall through / to call sth off’ was not identified as a single lexical unit by everyone. Auxiliary verbs such as *hatte* ‘had’ in *hatte platzen lassen* ‘had fallen through / had called off’ or *werden* ‘be’ in *durchgesetzt werden* ‘be enforced’ were incorrectly treated as part of polywords. Above all, these problems suggest that further experience in handling the guidelines for identification of lexical units should substantially raise reliability. Our group ran the reliability test after a comprehensive discussion of the guidelines, but before an extensive phase of training.

6.6 Conclusion

In this chapter we have reported on the application of MIPVU to German language data, discussing language-specific and operational issues that needed to be addressed and/or solved. At the language-specific dimension, German’s active morphology with its highly productive word formation patterns (particularly compounding and conversion) poses more of a challenge when applying MIPVU than does English. In German, there are more compounds to be checked for lexicalization, and the language structure has direct implications for the lexicographical resources. Operational and language-specific issues thus feed into each other.

This interaction between operational and language-specific issues is illustrated by the fact that the German dictionaries rely much more heavily on cross-referencing in comparison to Macmillan: In order to establish a word’s meaning we have to cross word-class boundaries as a rule (e.g. noun *Flöten* ‘flutes’ → verb *flöten* ‘to play the flute’), something that for English MIPVU is an exception. In fact, German MIPVU

9. Number of lexical units assigned by TreeTagger, excluding punctuation. Note that the total numbers (Col. 2) do not reflect the “true” number of units from a lexicological point of view, but the basis for the computation of coder agreement.

probably diverges most clearly from English MIPVU in its approach to the structure of the dictionary lemmas, identifying independent senses under sub-headings (1a, 1b, 1c) and under descriptive labels that indicate figurative meanings. In addition, German's much more flexible sentence structure allows for the components of complex verbs to appear far away from the verb stem at times, much as in Dutch (Pasma, this volume). In addition, synthetic forms of prepositions-plus-articles (*beim* 'at', *zum* 'to') pose initial problems for users of MIPVU German.

An important resource for the identification of lexical boundaries, although not error-free, is thus the use of PoS taggers. Although we did not incorporate PoS tagging systematically into the coding process of our reliability tests, we strongly recommend its use, in line with the general MIPVU guidelines. PoS taggers are also an invaluable resource for identifying word class membership, specifically for distinguishing separable complex verbs from adverbial and prepositional verbs. We solved most of the encountered issues by adapting the guidelines in the ways described above, including a record of decisions on specific word meanings (see supplementary material in the Open Science Framework repository at <https://osf.io/vw46k/>).

Other encountered issues were more register- and genre-specific, for example the use of personifications in fiction texts (*liegen* 'lie', *bilden* 'create/form', and *das Flöten* 'the fluting'), or words that can be considered simultaneously related to metaphor and *not* related to metaphor (*klein* 'small', *größer* 'bigger, taller') and should therefore be coded as WIDLII. Another issue with applying MIPVU to our text samples was that of historical distance. Our fiction sample is roughly 100 years old, so the question arose whether to use a more specific dictionary in order to represent the historical linguistic knowledge (of authors and historical readers). This is certainly a possibility, and we encourage researchers interested in historical reception to apply historical resources. However, for our means, providing a *general* annotation manual, we aimed at the highest level of generality, keeping the usage-based resources constant. Importantly, in cases of doubt, both resources allow for tracking older senses (specifically the DWDS), representing the general language pane of New Standard German. Our goal in applying MIPVU to German across different genres and temporal samples was to identify whether insolvable issues would come up. Although we found that the older texts features occasional issues with regard to specific constructions and word meanings that have fallen out of use, overall, they did not pose main issues for the procedure. Depending on specific research questions, researchers should weigh advantages and disadvantages of using specific resources. In terms of the evaluation of our procedure we chose comparability across genres and time over historical accuracy. We see two options of analysis when asking audience-oriented questions about at this type of historical text that is still read widely today. Firstly, a more specifically historical analysis – representing historical readers' and the authors' linguistic knowledge – would be

well advised to consult historical dictionaries – either complementing or replacing Duden/DWDS. Secondly, if the aim is to account for contemporary readers' reception, researchers need to resort to contemporary linguistic knowledge – which is represented by the type of resources we chose.

All in all, we feel confident that our adaptation of MIPVU to German is a substantial step towards more systematic and reliable metaphor analyses of German texts that are validated against clear quality measures. Both qualitative and quantitative approaches to metaphor in discourse will benefit from a clear identification procedure across different types of discourse. If replicable and comparable analyses are the goal, German MIPVU's extensive application is certainly worth the while.

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Linguistic metaphor identification in Scandinavian

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7.1 Introduction

This chapter details the application of MIPVU to written discourse in the Scandinavian languages Danish, Norwegian, and Swedish, and has several purposes. Our primary aim is to explore the various procedural issues that need to be considered when applying MIPVU to these three closely related languages, and, in doing so, to develop a version of the identification procedure that is more or less identical for the three languages – that is, a Scandinavian MIPVU. Related aims include the presentation of illustrative examples of our metaphor identification procedure on Danish, Norwegian, and Swedish discourse relevant for others using the method in these languages, as well as discussion of inter-rater reliability in the application of Scandinavian MIPVU.

We open this chapter with a brief discussion in Section 7.2 about the links between Danish, Norwegian and Swedish, explaining why there is no need to develop three completely independent varieties of the MIPVU protocol for these languages. Section 7.3 continues with an exploration of particular procedural issues requiring special consideration when applying MIPVU to Scandinavian: choice of dictionaries and demarcation of lexical units. Section 7.4 outlines our Scandinavian procedure, while Section 7.5 presents specific examples of metaphor identification in the three languages using our MIPVU protocol. Section 7.6 goes on to discuss our inter-rater reliability with respect to both demarcation of lexical units and identification of metaphor-related status (indirect/direct/implicit metaphor, not metaphor, etc.). Finally, Section 7.7 offers concluding thoughts.

7.2 Lexico-grammatical features of Scandinavian

Danish, Norwegian and Swedish are all Germanic languages spoken in northern Europe. There are roughly 5 million L1 speakers of Danish in Denmark; in addition, Danish is an important second language in Iceland, the Faroe Islands and Greenland and a minority language in northern Germany. Norwegian is an L1 for roughly 5 million people in Norway. L1 Swedish is spoken by approximately 10 million people in Sweden as well as 300,000 people in Finland, where it is an official language along with Finnish (which belongs to an entirely different language family).

The reasons for regarding Danish, Norwegian, and Swedish as different languages are political and historical rather than linguistic. They arise from the fact that the languages are linked to specific geographical territories in which they are standardized, taught in schools, used in mass media and literature, etc. (Torp 1998: 26). Linguistically speaking, however, Danish, Norwegian, and Swedish are all language varieties of common northern Germanic heritage within a single Scandinavian dialect continuum, i.e. 'Scandinavian'. Consequently, they are largely mutually comprehensible, to the extent that L1 speakers of the three languages may reasonably expect to be able to use their own vernaculars in contact situations with each other rather than having to resort to using a lingua franca such as English. Communication between users of the three languages is thus interdialectal rather than interlingual.

The contrasts between Danish, Norwegian, and Swedish are complicated to map, but Norwegian is generally held to be the 'language in the middle'. While Norwegian and Danish differ most in pronunciation and Norwegian and Swedish differ most in lexis, both pronunciation and lexis contribute to possible challenges between speakers of Danish and Swedish (Torp 1998: 20–26, 155).

Many of the lexical similarities between Danish and Norwegian are due to the historic union between Denmark and Norway that lasted for almost three centuries, from 1524 to 1814. During the Dano-Norwegian union, Norway experienced a situation of diglossia, with Danish as the high/written variety especially in urban areas, and the various Norwegian dialects as low/oral varieties in the rest of the country. The period after 1814 in Norway witnessed the gradual 'Norwegianization' of Danish into the written standard today called *bokmål* ('book language') or Dano-Norwegian, as well as the rise of a rival written standard based on traditional Norwegian dialects, called *nynorsk* or New Norwegian (see e.g. Braunmüller 2002: 2; Torp 1998: 119). Both written standards are currently in official use, with approximately 90% of Norwegian pupils using *bokmål* and the remaining 10% using *nynorsk* (Språkrådet n.d.).

It is lexical differences that are most likely to cause barriers to communication, especially between those who speak Swedish and those speaking either Danish or Norwegian. When it comes to lexis, a typical situation is that Danish and both

Norwegian dialects use more or less the same word, while Swedish prefers a different (Germanic or Nordic) word, exemplified in Torp (1998: 75) by the respective translation correspondents for the verb *to ask*: *spørge* (Danish), *spørre* (Norwegian *bokmål*), *spørje* (Norwegian *nynorsk*), and *fråga* (Swedish). One reason for such lexical differences is that the three languages have borrowed different Low German words into their languages. Low German words were borrowed into Swedish as a result of trade with Germans in the towns of Stockholm and Kalmar, but into Danish due to direct contact between Denmark and its neighboring country. Low German loan words into Norwegian came via Danish, or via trade with Germans in the town of Bergen (Torp 2004: 67; see also Delsing & Åkesson 2005).

One of the earliest linguists to study interaction between speakers of the three languages, Einar Haugen, famously characterized Scandinavian as “semicommunication, the trickle of messages through a rather high level of ‘code noise’” (Haugen 1966: 281), the term ‘code noise’ referring to the extra work required to interpret (or ‘decode’) utterances in a less familiar dialect. If there is problematic communication, it may be due to linguistic divergences between the dialects, and/or perhaps equally due to mental barriers or negative attitudes towards other varieties, as many naturally prefer their own language variety. However, the possibility of miscommunication, something which may arise in *any* form of communicative interaction, should not detract from the high degree of accommodation and convergence between speakers of the three languages. As Braunmüller explains,

the linguistic situation in Mainland Scandinavia of today can metaphorically be characterized as a house lacking a roof, which has wide open doors between its rooms and in which the observer gains the impression that all rooms are still part of one and the same building.
(Braunmüller 2002: 2–3)

The unmediated mutual understanding that speakers of Danish, Norwegian and Swedish enjoy when communicating with each other, either in written or spoken form, opens the possibility of developing a single Scandinavian MIPVU. Accordingly, for the purpose of this chapter, the term ‘Scandinavian’ is henceforth used in reference to the three languages as a whole, as well as when referring to their common features.

7.3 Procedural issues

The overall ambition when applying MIPVU to the analysis of discourse in Scandinavian is to follow the original MIPVU protocol as closely as possible, because previous research has shown the procedure to be a valid, reliable and replicable means of identifying metaphor (see e.g. Steen et al. 2010). However, working with

three languages that differ from both English and also, to some extent, from each other raises certain issues with regard to operational and lexico-grammatical levels.

There are two primary concerns that require resolution. One is that the original version of MIPVU relies heavily on established (online corpus-based) English dictionaries to determine the contextual and more basic senses of words. Corresponding dictionaries for the Scandinavian languages are desired, as quality dictionaries significantly improve the work involved in reliable identification of the senses of words. The second issue is lexico-grammatical, concerning the demarcation of lexical units. The English version of MIPVU usually equates the 'lexical unit' with the orthographic word, but also has a handful of exceptions. Whether any such exceptions exist in Scandinavian, along with how to reliably demarcate them, requires careful consideration. These two matters are discussed in the two following subsections.

7.3.1 Dictionaries

Because of the lexical differences between Danish, Norwegian and Swedish, there is no single dictionary that may be used for all three languages. In addition, dictionaries may clearly vary in quality, so some degree of selectivity is required. We consequently developed three main criteria for selecting dictionaries for use with the Scandinavian version of MIPVU.

First, the dictionaries have to be available in an easily accessible digitized format, with direct online access and/or possibilities for downloading on a computer or as an app. The need for frequent dictionary consultation while working with MIPVU makes reliance upon non-digitized dictionaries a time-consuming option that is unfeasible for all practical purposes. We also decided to restrict ourselves to dictionaries that were either free or low-cost, as lack of funds should not prevent anyone from applying Scandinavian MIPVU to their data. Rather, anyone with online access should be able to identify metaphor.

Second, the three dictionaries should focus mainly on the contemporary language, rather than on etymology, because MIPVU is intended to identify linguistic metaphor in current use rather than origin. This entails that any semantic contrast that contributes to metaphorical meaning must still be recoverable in the language, which is not the case with historical metaphors whose more basic sense(s) may have become archaic. An example of such a historical metaphor is the word *ardent*, whose original concrete meaning related to temperature has been completely supplanted by a meaning related to emotions (see Steen et al. 2010: 6–7). Etymological dictionaries, however, may prove helpful to trace possible links from a non-metaphorical to metaphorical meaning, in much the same way as the *Oxford English Dictionary* does for English.

Third, only dictionaries that are endorsed or developed by a research institution and/or national language council should be considered, as this requirement effectively filters out dictionaries that are created on a less rigorous scientific basis. They should preferably be corpus-based. The rationale for this criterion is to ensure a high quality, to as great extent as possible, with dictionaries based on solid linguistic and lexicographical research.

That said, while English is fairly spoiled for choice when it comes to good corpus-based dictionaries, the situation with regard to Scandinavian dictionaries is less favorable. For Danish, our dictionary of choice is *Den Danske Ordbog* ‘The Danish dictionary’ (DDO), a corpus-based dictionary created by lexicographers from the Society for Danish Language and Literature, a Danish research institution documenting Danish language and literature, past and present. It describes the vocabulary of modern Danish (from 1955 to the present day), and contains almost 99,000 words with more being added each month. A possible alternative would be one of the so-called *Røde ordbøger til det danske sprog* ‘Red dictionaries for the Danish language’, but people who want to consult these reference works have to be students or staff at a Danish school or university, or alternatively, pay to gain access. Because of our interest in low-cost and/or freely available options, we discarded this dictionary for further consideration or testing.¹

For Norwegian *bokmål*, there is only one viable choice at present: the *Bokmålsordboka* (BmO), which is “the first monolingual defining dictionary for modern Bokmål, showing current orthography and morphology, senses and usage examples” (Universitet i Bergen & Språkrådet 2017a).² This dictionary was first published in 1986 and last revised in 2016, through collaboration between lexicographers at the University of Oslo (UiO) and the Norwegian Language Council. In 2016, the University of Bergen took over UiO’s role as collaboratory partner. BmO includes general language, while specialist terminology and infrequent foreign words are omitted. Note also that a new online Norwegian dictionary was published through a collaboration between the Norwegian Academy for Language and Literature and Scandinavian University Press at the end of 2017, after the development of the current chapter: *Det Norske Akademisk Ordbok* ‘The Norwegian Academic Dictionary’. This dictionary is likely to be more suitable for MIPVU than the BmO, but was not published in time to be evaluated here.

For Swedish, our primary choice is the corpus-based dictionary *Svensk ordbok* ‘Swedish dictionary’ (SO), the only Swedish dictionary that currently meets our

1. The Danish dictionary (DDO) is available at <http://ordnet.dk/ddo>. The ‘red dictionaries’ are available at www.ordbog.gyldendal.dk.

2. The Norwegian dictionary (BmO) is found here: <http://ordbok.uib.no/perl/ordbok.cgi>. *Det Norske Akademisk Ordbok* ‘The Norwegian Academic Dictionary’ is available at <https://www.naob.no/>.

three selection criteria. This reference work was developed by linguists from the University of Gothenburg and published by the Swedish Academy, whose mission is the advancement of Swedish language and literature. It contains 65,000 words, to provide an “in-depth description of the general vocabulary of contemporary Swedish”³ with a focus on meaning and use, in combination with historical origins of around 28,000 words. The *Svenska Akademiens ordbok* (SAOB) ‘The Swedish Academy’s dictionary’ can be also used for words from the letters A through V. The dictionary also provides rich etymological information, but the entire dictionary is not yet accessible online.

The situation with regard to etymological dictionaries varies from language to language. Danish has the *Ordbog over det danske sprog* ‘Dictionary of the Danish language’, first published in the period between 1918 and 1946 in 28 volumes, and now available online. It covers the language from 1700 to 1950. Five additional volumes have been published, but are not yet available online. Swedish has the SAOB covering the language from the 1520s to the present. Norwegian *bokmål*, by contrast, has no corresponding etymological dictionary.⁴

7.3.2 Lexical units

The unit of analysis for MIPVU is the lexical unit, which typically corresponds to the orthographic word. The original protocol includes certain exceptions to this general rule. English phrasal verbs, compounds and polywords are all multiword units demarcated as single lexical units and analyzed for metaphor on this basis, and the protocol includes instructions for how to identify them. Any corresponding exceptions in these three Scandinavian languages must therefore be brought to light before the metaphor identification procedure may continue. Although both Scandinavian and English belong to the Germanic language family, there are some differences in their lexical structures that are consequential for the development of the Scandinavian version of the procedure.

First, we find certain types of lexical units requiring special consideration in English to be unproblematic in Scandinavian. For example, Scandinavian compounds are typically formed as either solid or (less frequently) hyphenated orthographic units in cases where English would write two or more words. Because there are (almost) no such spaced compounds in Danish, Norwegian or Swedish,

3. For information about the Swedish dictionary (SO), see <http://www.svenskaakademien.se/svenska-spraket/svensk-ordbok-utgiven-av-svenska-akademien-so-nu-tillganglig-som-app>. This dictionary is available as an app.

4. The Danish etymological dictionary is available at <http://ordnet.dk/ods>. The Swedish etymological dictionary is available at <http://www.svenskaakademien.se/svenska-spraket/svenska-akademiens-ordbok-saob>.

there are no special challenges with identifying Scandinavian compounds as single lexical units. The only possible ‘tricky’ case with respect to lexical demarcation compounds may be the relatively seldom occurrence of hyphenated and spaced elements. This typically occurs in compounds including numerals, as in the Norwegian compound *17. mai-tog* ‘17 May-parade’ (the 17th of May parade celebrating Norwegian Constitution Day). Note that the Scandinavian procedure that we developed also considers these combined spaced and hyphenated compounds to be single lexical units, despite the spaced component, as in the original MIPVU; a sample metaphor analysis of such a lexical unit is presented further on in example (5) of Section 7.5.

In a similar vein, phrasal verbs need not present any particular challenge for the Scandinavian MIPVU. Like Dutch and German (see Chapters 5 and 6 respectively, this volume), the Scandinavian languages also have separable verbs, consisting of a lexical core and a particle that is sometimes separated. In some contexts, the verb is written as a single orthographic word in the form *Particle+Verb*; in other contexts, the verb is written as spaced orthographic words in the form *Verb_space_Particle*. In most cases, there is a difference in meaning between a solid verb and its spaced counterpart, e.g. Norwegian *overse* means ‘to ignore/condone’, while *se over* means ‘to inspect’. Such semantic differences may not necessarily be mirrored in all three languages. For example, Swedish *överse* means both ‘to inspect’ and ‘to have patience with’ while *se över* means ‘to inspect’ and ‘to miss’. In other cases, the solid and spaced alternatives are synonymous, with any difference between them being stylistic rather than semantic, e.g. both Danish *fremlægge* and *lægge frem* mean ‘to suggest’ or ‘to present’, although *lægge frem* could also connote physically laying something in plain sight. However, the borderline between prepositional verbs and phrasal verbs can be rather fuzzy (see e.g. Hanks 2013: 296). As a result, we suggest that Scandinavian MIPVU analyze phrasal verbs in accordance with their orthography, i.e. as one unit when solid and as more than one unit when split.

Further, Scandinavian has a large number of reflexive verbs, indicating that the subject is performing the action expressed by the verb upon itself, as in the following example from Danish:

Dansk Folke-parti vil sætte sig i spids-en.
 Danish people.GEN-party will set.INF itself in tip.ART.DEF.COM
 ‘The Danish People’s Party will **position itself** in the lead.’

All such verbs consist of a main verb (here: *sætte*) and accompanying reflexive pronoun that agrees with the subject (here: *sig*). They are often provided with individual entries in the Scandinavian dictionaries apart from the entry for the main verb in question, in which case the reflexive verb is clearly considered to be a different lexical unit than the lexical verb alone. We consequently suggest that reflexive

verbs be identified as single lexical units, despite consisting of more than a single orthographic word. Their identification is unproblematic. All reflexive verbs are accompanied by a reflexive pronoun, whereas non-reflexive verbs are not accompanied by this type of pronoun. Section 7.5 includes an example of our analysis of just such a reflexive verb; see example (4).

The most challenging multiword unit to identify in Scandinavian is that of polywords. As of this writing, no definitive polyword lists exist for any of the three languages. Moreover, the Scandinavian dictionaries have no clear distinction between common collocations and polywords – the former being between individual lexical units that frequently appear together while the latter being short, fixed expressions that function as individual lexical units. Although we recognize that developing valid criteria for polyword identification in the three languages is important, especially for cross-study comparisons, in-depth research into Scandinavian polyword identification is nevertheless beyond the scope of the present chapter. In the meantime, however, we have developed preliminary polyword lists, one for each of the three languages. The overall goal, with all three lists, was to include as many polywords as possible while excluding what are no more than common collocations.⁵

For Danish, a list of polywords was compiled in collaboration with the Danish Language Council on the basis of their dictionary called the *Retskrivningsordbogen Plus* (www.roplus.dk). The search **[space]** was performed to single out all words containing one or more spaces that are listed in the dictionary as one entity, and thus as a single lexical unit for the purposes of Scandinavian MIPVU. Most words in the list correspond with the expressions in the Norwegian list (see below), with the addition of loanwords from other languages, such as *al dente* from Italian and *en suite* from French. Such foreign expressions are common in spoken and written Danish and may be treated as one lexical unit in Danish, just as they are in English when following the original version of MIPVU. The Danish list consists of 465 polywords.

When it comes to Norwegian, we based our polyword list on a pre-existing list of multiword expressions developed in conjunction with the Oslo-Bergen tagger on the basis of the ‘Lexicographical *bokmål* corpus’, a 100-million word corpus that is balanced between different types of texts and genres. This list consists of 133 expressions that are treated by the tagger as single lexical units.⁶ No background information is provided concerning exactly how this list was compiled, however, and close inspection shows a variety of expressions, only some of which correspond to the English polywords – i.e. expressions that could have been written as single

5. All three polyword lists are available as supplementary material at this volume’s Open Science Framework website, along with more details about the texts; see the Chapter 7 folder at <https://osf.io/vw46k/>.

6. The Oslo-Bergen list is available at <http://www.tekstlab.uio.no/obt-ny/uttrykk.html>.

orthographic words. Others appear to be collocations that might have been overly frequent in the tagged corpus, e.g. *År 2000* ‘Year 2000’. However, this corpus-based list provided a starting point for a narrowed list of polywords alone, something that Pasma, for example, lacked for Dutch when she chose to analyze potential polywords on the basis of their individual elements (Chapter 5, this volume).

Our working list of Swedish polywords was compiled with the help of the Swedish Associative Thesaurus version 2 (SALDO), a descriptive lexicon resource for the modern Swedish written language.⁷ This tool, however, includes a much broader range of phrases than those that fit the MIPVU definition of polywords as fixed expressions functioning as individual lexical items. For instance, the Swedish idiom *vind i seglen* ‘wind in the sails’ (to refer to [metaphorical] momentum) is tagged as a nominal polyword in SALDO, even though it is a strong collocation composed as three separate lexical units rather than a non-separable polyword. To rule out such collocations, we ran the SALDO list through a part-of-speech (PoS) tagger and excluded all expressions that were not annotated as polywords there as well. We also excluded all reflexive verbs on the SALDO list; as explained earlier, there is no need for a list of reflexive verbs as the reflexive pronoun makes them easily identifiable. These exclusions reduced the SALDO list from 137,000 expressions to our final Swedish polyword list with 1869 entries.

The differences in scope between the lists is clearly far from ideal, as is the varied ways in which they were developed. Following our lists, more lexical units will be analyzed as polywords in Swedish than in Norwegian and Danish, and more lexical units will be identified as polywords in Danish than in Norwegian. Polywords are rarely metaphorical, however, so this discrepancy should have few consequences for metaphor identification per se. Nevertheless, we welcome future research on polywords in the three languages.

7.4 Scandinavian MIPVU in a nutshell

Scandinavian MIPVU follows the original English MIPVU, with the primary exception of the procedure’s second step of determining the lexical units in the text/discourse. Although the Scandinavian protocol retains the orthographic word as the unit of analysis for metaphorical use, the exceptions to this general practice differ from those in the original procedure. More specifically, there are two types of exceptions: reflexive verbs and polywords. Reflexive verbs are identified in the three languages by the appearance of the reflexive pronoun colligating with the main verb. Polywords are identified through reference to our polyword lists, similar to the way

7. SALDO is available at <https://spraakbanken.gu.se/eng/resource/saldo>.

in which the original MIPVU protocol relies upon the finite list of multiword expressions developed on the basis of the British National Corpus. If an expression is included on the relevant list, the expression is analyzed as a single word; otherwise, the units are treated as individual lexical units.

One additional minor difference between the original and Scandinavian protocols is worth mentioning. As discussed in Section 7.3, Scandinavian MIPVU considers all compounds to be single lexical units, but no special procedure is needed to identify them because they are nearly always written as solid or hyphenated. Compounding is extremely prolific in the Scandinavian languages, however, making it impossible to include all of them in dictionaries. Indeed, the BmO Norwegian dictionary specifically states that inclusion “is not necessary, because as a rule speakers of Scandinavian easily understand their meaning” (Universitet i Bergen & Språkrådet 2017b).

If the compound is not codified in dictionaries, then it is essentially a novel compound for the purposes of MIPVU, and its basic sense must then be determined through reference to the definitions of its constituent elements. In the original procedure, these constituent components are analyzed individually for metaphor, such that one of them might be judged as metaphor, while the other might be judged as not metaphorical; an example of this is the novel compound *state-masonry* referring to political craftsmanship, where *state* is analyzed as not-metaphorical while *masonry* is metaphor (Steen et al. 2010: 47–48). In the Scandinavian procedure, however, if either of the constituent elements is judged metaphorical in the particular context in which they appear, the entire compound is marked as a metaphor-related word. Our rationale for this decision is that we thus avoid breaking up single orthographical lexical units.

Although the original MIPVU protocol does not call for the use of any particular dictionary when determining contextual and basic meanings, the developers of the procedure nevertheless employed certain dictionaries which figure heavily in their work – the *Macmillan English dictionary for advanced learners* (MM) and the *Longman dictionary of contemporary English* (LM). As discussed in Section 7.3.1, we recommend particular dictionaries for metaphor identification in Scandinavian discourse, one dictionary per language. In addition, both Danish and Swedish have online etymological dictionaries that may sometimes be helpful when attempting to determine the origin of a particular metaphorical expression.

In general, Scandinavian MIPVU may therefore be said to be a single protocol that closely mirrors the original procedure developed for English. Moreover, the three languages are similar enough to each other that the same basic procedure may be applied to all three languages. The only areas where the Scandinavian MIPVU requires three separate operational procedures relate to choice of dictionary and polyword list, i.e. each language requires its own dictionary and list of polywords.

7.5 Application of Scandinavian MIPVU

To determine whether we could apply more or less the same procedure to all three languages, we analyzed discourse in Danish, Norwegian and Swedish. We opted for a text type and topic that would allow us to easily find parallel texts for MIPVU analysis: two newspaper articles per variety about the consequences of the then-fresh Brexit referendum, found in online quality newspapers from Denmark, Norway and Sweden. All in all, three researchers identified linguistic metaphors in slightly more than 4,000 words of Scandinavian text in two rounds of analysis.⁸ Following the work of the Pragglejaz Group (2007), this was done individually with sessions involving group discussions of the data in order to resolve inter-rater discrepancies whenever such was possible (henceforth referred to as ‘pragglejaz sessions’). Prior to our work with the Scandinavian texts, we also analyzed two English newspaper articles about Brexit and compared inter-rater reliability, to ensure that we shared a mutual understanding of the original MIPVU; this work is documented in Chapter 3 in this volume (section 3.2). Here in the current section, we present the application of Scandinavian MIPVU to discourse, taking examples from our data.

We first illustrate a typical case of analysis using Scandinavian MIPVU, ‘typical’ in the sense of comprising a lexical unit that corresponds to an orthographic word: instantiations in Danish, Norwegian and Swedish of the translation correspondent for the English verb ‘stand’. These examples allow us to demonstrate how the same basic procedure may be applied to the three languages, and screenshots of the three relevant section of the various dictionary entries serve to give readers a sense of their differences; see examples with MIPVU analysis in Danish (example 1), Norwegian (example 2), and Swedish (example 3). Each analysis is immediately followed by screenshots of the relevant dictionary entries for the lexeme in the language in question. Note that the translation of ‘stand’ in all three languages is *stå*; the verb and its translation correspondents are italicized in the illustrative sentences.

- (1) *Jeg stå-r med sådan en følelse af et tab.*
 I **stand-PRS** with such a.ART.INDEF.COM⁹ feeling of a.ART.INDEF.N loss.
 ‘I have such a feeling of loss.’ (Danish)

8. A list of the articles selected for analysis is available as supplementary material at this volume’s Open Science Framework website; see the Chapter 7 folder at <https://osf.io/vw46k/>.

9. Note that the masculine and feminine genders have merged into a common gender in both Danish and Swedish, hence *COM* in the translations.

Stå

Contextual meaning: In this context, the meaning of Danish *stå* corresponds to DDO1b “to find oneself in a particular situation or condition”; see Dictionary entry 1.

Basic meaning: The basic meaning is DDO1 “to hold the body in an upright position”; see Dictionary entry 2.

Contextual vs. basic meaning: The contextual meaning contrasts with the basic meaning and the relationship between the two can be viewed in terms of comparison.

We can understand being in an abstract situation in terms of a physical position.

Metaphorically used? Yes.

- 1.b OVERFØRT befinde sig i en bestemt situation eller tilstand, fx i forhold til en forestående handling eller et fremtidigt forløb

GRAMMATIK NOGEN/NOGET står +ADVERBIAL/+ADJEKTIV

EKSEMPLER stå klar/parat [K] | stå tavs [K] | stå på lur [K] | stå stærkt/svagt [K] | stå på spring [K] | stå til regnskab [K] | stå tiltalt [K] | stå til ansvar for [K] | stå ansigt til ansigt med [K] | stå uforstående over for [K]

Det er nødvendigt, at du tilpasser dig omgivelsernes ønsker – ellers kommer du til at stå temmelig alene [SeHør1983](#)

14.000 unge står i øjeblikket uden praktikplads [DR1992](#)

Dictionary entry 1. From the DDO, the contextual meaning of the Danish verb *stå*: ‘to find oneself in a particular situation or condition’. Note that the dictionary notes the contextual meaning as *overført* ‘transferred/figurative’.

1. holde kroppen i oprejst, lodret stilling i hele sin længde mens vægten hviler på strakte ben; opholde sig et sted i en sådan stilling

SE OGSÅ ligge | sidde | stå op

BESLÆGTEDE ORD [...vis](#)

GRAMMATIK NOGEN står (+ADVERBIAL) | NOGEN står op | almindelig i præsens participium brugt som adjektiv

EKSEMPLER stående stilling [K] | stå i kø [K] | stå stille [K] | stå ubevægelig [K] | stå forrest [K] | stå i døren [K] | stå tavs [K] | stå tæt [K] | stå på benene [K] | stå på gulvet [K] | stå med ryggen til [K] | stå længe [K] | komme op at stå [K]

Frøken Danielsen stod oppe på gangen udenfor klasseværelserne og så ned på legepladsen [AltDam1990](#)

Jeg stod som forstenet. Far var altså død [Hjemm1992](#)

om dyr hunden stod glad og logrede [FamJour1988](#)

Dictionary entry 2. From the DDO, the basic meaning of the Danish verb *stå*: ‘hold the body in an upright position’

- (2) *Bygg-verk-et stå-r i fare for å bryte sammen.*
 building-works-ART.DEF.N stand-PST in danger for to break.INF together
 ‘The construction is in danger of collapsing.’ (Norwegian)

Stå

Contextual meaning: In this context, the meaning of Norwegian *stå* corresponds to BmO (unnumbered) “to be in a particular situation or condition”; see Dictionary entry 3.

Basic meaning: The basic meaning is BmO1 “to be in an upright position”; see Dictionary entry 4.

Contextual vs. basic meaning: The contextual meaning contrasts with the basic meaning and the relationship between the two can be viewed in terms of comparison. We can understand being in an abstract situation in terms of a physical position.

Metaphorically used? Yes.

- *være i en viss tilstand*
nå står det til deg nå er det opp
til deg / stå i fare for å miste
noe / livet stod ikke til å redde /
stå for tur / stå for fall / det står
bra til / subjektet står i flertall /
dermed stod det 1–1 var
stillingen 1–1 / stå i lys lue, i
blomst, i stampe / stå ferdig /
huset står tomt / årsveksten
står bra i år / stå godt rustet

Dictionary entry 3. From BmO, the contextual sense of the Norwegian verb *stå*: ‘be in a particular condition’

stå

III **stå verb** (norr. *standa*, infinitiv *stá* og presens *stár* kanskje påvirkning fra østnordisk og lavtysk)



1 *være i oppreist stilling*
hopperen var ustø i nedslaget,
men stod holdt seg på beina /
stå bunnen nå bunnen med
beina / stolpen står på skrå /
trærne stod tett i tett / det stod
skap langs veggene / boka står i
bokhylla / stå og fundere på noe
/ stå på hodet / stå på kne / folk
måtte stå på bussen / stå på
beina

Dictionary entry 4. From BmO, the basic meaning of the Norwegian verb *stå*: ‘be in an upright position’

- (3) *Båda länderna stå-r utanför eurozon-en.*

both country.PL stand-PST outside Eurozone-ART.DEF.COM

‘Both countries are outside the Eurozone.’

(Swedish)

Stå

Contextual meaning: In this context, the meaning of Swedish *stå* corresponds to SAOB (unnumbered) “to hold oneself”; see Dictionary entry 5. The entry’s illustrative examples of the verb indicates that one ‘stands outside’ something abstract.

Basic meaning: The basic meaning is SAOB1A “hold oneself upright on one’s legs”; see Dictionary entry 6.

Contextual vs. basic meaning: The contextual meaning contrasts with the basic meaning and the relationship between the two can be viewed in terms of comparison. We can understand being in an abstract place in terms of a physical position.

Metaphorically used? Yes.

☞ i uttr. *stå utanför* (utan efterföljande bestämning), stundom äv. *stå utom*, hålla sig l. hållas utanför l. hålla sig borta l. ute från l. vara utestängd från gemenskap l. umgänge l. hållas ovetande om ngt o. d.; icke vara med i l. medlem av sammanslutning l. institution o. d. *Vid storaffärer som denna är det säkrast att stå utanför.* Nicander lär .. vara försupen, såsom vi, hvilket väl går an, sedan man kommit in i Akademien, men ej så länge man står utanför. **BESKOW (1836)** i 3SAH XLVII. 2: 85. (*Kungen*) citerade mig för att förmildra det ogillande, som han befarade, att hans oförsiktighet (*i en utrikespolitisk fråga*) skulle väcka, om det tillika kunde sägas, att hans officiella rådgifvare ståt alldeles utanför. **DE GEER Minn.** 1: 267 (**1892**). En polis .. stod och tittade på mig .. så sa han: Fy fan, vad en sån där skulle ha mycket smörj .. då kände jag hur det var att stå utanför och ha alla emot sig. **GUSTAF-JANSON ÖvOnd.** 56 (**1957**). Han står helt utom i denna fråga. **ÖSTERGREN** 9: 584 (**1966**).

Dictionary entry 5. From SAOB, the contextual meaning of the Swedish verb *stå*: ‘in the expression “stand outside”, meaning “to hold oneself”’

I. om person (äv. om sak i personifierad anv. l. i metonymisk anv. för person(er) o. d.) l. personligt väsen l. djur.

A. hålla sig upprätt på sina ben, uppehålla sig ngnstädes i denna ställning, o. i oeg. l. bildl. anv. som jämförelsevis nära ansluter sig härtill.

Dictionary entry 6. From SAOB, the basic meaning of the Swedish verb *stå*: ‘hold oneself upright on one’s legs’

These three cases involving the verb *stå* in the Danish, Norwegian and Swedish discourse thus demonstrate how Scandinavian MIPVU may successfully be applied to the three languages in nearly identical ways. The main difference lies in the etymological details included in the three online dictionaries. As we note in example (3), for example, determination of the contextual sense of Swedish *stå* requires consultation of the illustrative example provided, whereas both the Danish and Norwegian contextual senses may be determined through reference to the

definitions alone – even though illustrative examples are also provided and may prove helpful.

A further example of the application of Scandinavian MIPVU is the reflexive verb in example (4), found in the Danish material in our data. All three Scandinavian dictionaries that we have used treat reflexive verbs in varying ways: sometimes they are given individual entries, sometimes they appear in illustrative sentences in an entry defining the main verb, and sometimes they are completely absent. We contend that this treatment is reflective of the nature of the dictionaries, and thus choose to treat all reflexive verbs as single lexical units, regardless of codification (see Section 7.3.2).

- (4) *Det ha-r manifestere-t sig med de seneste tre*
 It have-PRF **manifest-PTCP** **itself** with the.ART.DEF.PL latest three
folke-afstemning-er. (Danish)
 person.GEN-vote-PL.
 ‘It [skepticism to the EU] has **manifested itself** in the last three popular elections.’

When it comes to reflexive verbs, we have identified their basic senses through reliance upon its dictionary entry, if such an entry exists. If not codified as a reflexive verb, their basic sense is identified through consultation of the dictionary entry for the main verb, since the meaning of the main verb then corresponds to that of the reflexive verb. As an example, Danish *manifestere sig* ‘manifest itself’ from example (4) is not codified in the DDO as a reflexive verb. We therefore look to the dictionary’s entries for the main verb *manifestere* ‘manifest’ to help determine metaphorical status, as follows:

Manifestere sig

Contextual meaning: In this context, the meaning of Danish *manifestere sig* corresponds to DDO 1 for the main verb: *tilkendegive noget klart og tydeligt fx en holdning eller et standpunkt* ‘to express something clearly, for example an attitude or a position.’

Basic meaning: The basic meaning is DDO2 for the main verb: *komme til udtryk i fysisk eller konkret form* ‘to be expressed in physical or concrete form.’

Contextual vs. basic meaning: The contextual meaning contrasts with the basic meaning and the relationship between the two can be viewed in terms of comparison. We can understand expressing an abstract idea (such as skepticism from example (4)) in terms of expressing something in physical form (such as the DDO’s illustrative example of light that appears as wave or particle movement).

Metaphorically used? Yes.

Finally, we present an analysis of a relatively rare type of Scandinavian compound consisting of both spaced and hyphenated elements: *Vote Leave-kampanjen* ‘Vote Leave campaign’. Example (5) stems from the Swedish component of our data, and is the only such compound we ran across in our analysis.

(5)	<i>den</i>	<i>officiell-a</i>	<i>Vote Leave-kampanje-n</i>
	the. ART.DEF.COM	official-ART.DEF.COM	vote-leave-campaign-ART.DEF.COM
	‘the official Vote Leave campaign ’		(Swedish)

The Scandinavian MIPVU protocol considers this type of construction to be a single lexical unit for the purposes of metaphor identification, despite the spaced element in the compound. Moreover, for compounds that are not codified in the dictionary, metaphor is identified through dictionary consultation of the entries for the constituent elements of the compound; if any of these elements are metaphorical in use then the entire compound is marked as metaphor.

The compound *Vote Leave-kampanjen* is an example of a non-codified compound. As it is not included in the Swedish dictionary consulted, we are required to look up the definitions for its three individual elements: *vote*, *leave*, and *kampanje*. The first two elements, however, add an extra complication. They have been borrowed directly from English, and are not codified in the Swedish lexicon at all. Such borrowing, especially from English as we see here, is not uncommon in Scandinavian texts. Our solution is to analyze such English words through application of the original version of MIPVU, with Macmillan (MM) and Longman (LM) as our reference tools, as follows:

Contextual meaning: In this context,

- the meaning of *vote* in the compound *Vote Leave-kampanje* corresponds to MM1 ‘to formally express an opinion by choosing between two or more issues, people, etc.’
- the meaning of *leave* in the compound *Vote Leave-kampanje* corresponds to LM2 ‘if you leave your job, home, school etc., you permanently stop doing that job, living at home etc.’
- the meaning of *kampanjen* in the compound *Vote Leave-kampanje* corresponds to SO (unnumbered) *intensive verksamhet under viss tid i avsikt att påverka* ‘intensive operation for a certain time with the intention to influence’.

Basic meaning: The basic meanings of both *vote* and *kampanje* correspond to their contextual meanings. The basic meaning of *leave* corresponds to MM1 ‘to go away from a place’.

Contextual vs. basic meaning: The contextual meanings of *vote* and *kampanje* do not contrast with their basic meanings. The contextual meaning of *leave* does contrast with the basic meaning, but the relationship between the two can be viewed in terms of contiguity rather than comparison. The relationship between a physical place and an institution is metonymical.

Metaphorically used? No.

7.6 Reliability results

As explained in Section 7.5, three researchers – the authors of this chapter – applied Scandinavian MIPVU to six newspaper articles, two in Danish, two in Swedish and two in Norwegian. This analysis was carried out in two rounds, with a pragglez session in-between to discuss any discrepancies. The present section presents our inter-rater reliability results. Section 7.6.1 presents our agreement with respect to determination of lexical units, the second step of the procedure where analysts demarcate the unit of analysis. Section 7.6.2 goes on to present our agreement concerning the metaphor-related status of each identified lexical unit.

7.6.1 Demarcation of lexical units

After our first independent round applying Scandinavian MIPVU to the newspaper discourse, our inter-rater reliability with respect to demarcation of lexical units indicated strong agreement for the Scandinavian material as a whole. Looking at our inter-rater reliability for the individual languages, we find strong agreement for both Danish and Norwegian, but only moderate agreement for Swedish. For all cases, the inter-rater reliability measures between the three pairs of analysts (1:2, 1:3 and 2:3) ranged from moderate to near perfect, with the least agreement consistently being between Analysts 2 and 3. The specific inter-rater reliability measures for agreement between the three analysts are given in Table 1, along with the corresponding measures for the second round of analysis.¹⁰

Table 1. Inter-rater reliability for demarcation of lexical units

	No. of decisions (3 raters)	Round 1			Round 2		
		κ	95% CI	Interpretation	κ	95% CI	Interpretation
Danish	1285	0.83	0.76–0.90	strong	1	1–1	perfect
Norwegian	1444	0.83	0.78–0.88	strong	0.97	0.94–0.99	almost perfect
Swedish	1428	0.77	0.69–0.83	moderate	0.86	0.80–0.91	strong
Scandinavian	4157	0.81	0.77–0.84	strong	0.94	0.92–0.96	almost perfect

10. Fleiss' Kappa was calculated for three raters, while Cohen's Kappa was calculated for two raters. As McHugh (2012) suggests, the value of kappa was interpreted as indicating the following level of agreement: 0–0.20 *none*; 0.21–0.39 *minimal*; 0.40–0.59 *weak*; 0.60–0.79 *moderate*; 0.80–0.90 *strong*, above 0.90 *almost perfect*. The kappa measure and confidence intervals were calculated using the 'boot' function, a bootstrap for the 'irr' package in R; see our references for the full citations for R, irr and the boot function. Our data and R code is available as supplementary material at this volume's Open Science Framework website, along with a suggested template for MIPVU analysis in Scandinavian; see the Chapter 7 folder at <https://osf.io/vw46k/>.

Our overall strong initial agreement leads us to conclude that our decision to allow for few exceptions to the general rule of equating the lexical unit with the orthographic rule to be wise (see Section 7.3.2). Any sort of exception all too easily leads to discrepancies between analysts, over and above the occasional oversight caused by simple human error when dealing with metaphor identification of thousands of words. Most of our discrepancies concerning demarcation of lexical units were resolved by a pragglejazz session that was followed by second, individual reviews in our database of those cases where we had disagreed in our first look at the data. Inter-rater reliability measures of our decisions after this second round of analysis show greater rates of agreement. For the Scandinavian data as a whole, we were able to reach near perfect agreement about the demarcation of lexical units in all three languages/data sets. Looking at the individual language varieties, our agreement rate for both Norwegian and Swedish was strong, while agreement about Danish lexical units was almost perfect.

Laying the groundwork for metaphor identification by first clearly identifying the unit of analysis is important because precision in demarcating lexical units necessarily affects calculations of metaphorical density in a text. To illustrate this point, consider the figures in Table 2, which shows the number of lexical units identified in the Scandinavian texts as a whole, as well as in the text for each of the three languages, calculated after the two rounds of analysis. We see here that while the calculated figures are close, the three analysts never completely agree about a final tally of the numbers of lexical units in any of the languages. The differences narrowed as a result of our pragglejazz session where we explicitly explored all initial differences in analysis, often related to identification of polywords (see Section 7.3.2). But discrepancies remain even so, ranging from a difference of three lexical units in Danish to ten in Swedish. What this means is that, assuming an equal number of identified MRWs by each analyst, the resulting metaphorical density would be viewed as higher in the Swedish texts of Analyst 3 than in the (identical) Swedish texts of the other two analysts, simply because the former identified more multiword units as single lexical units than the others did. Such an effect would be multiplied as the text length under analysis increases. We therefore want to underline the importance of pragglejazz sessions, because such discussion sessions facilitate a common understanding not just of the identification of metaphorical status, but also of the determination of lexical units – an area that might not otherwise be recognized as potentially problematic.

Table 2. Number of lexical units identified by each analyst

	Analyst	Round 1: Number of lexical units	Round 2: Number of lexical units
Danish	1	1,259	1,259
	2	1,267	1,261
	3	1,264	1,261
Norwegian	1	1,403	1,402
	2	1,410	1,405
	3	1,405	1,401
Swedish	1	1,397	1,397
	2	1,401	1,398
	3	1,390	1,388
Scandinavian	1	4,059	4,058
	2	4,078	4,064
	3	4,059	4,050

7.6.2 Identification of metaphor-related words

Table 3 presents measures for our inter-rater reliability agreement with respect to identification of metaphor-related words – that is, the degree of agreement between us for our codings about the metaphorical status of all the lexical units in our data in both rounds of analysis. Note that the three language varieties are fairly equally represented in the overall ‘Scandinavian’ variety, with 31% lexical units analyzed being Danish, 35% Norwegian and 34% Swedish. All in all, each analyst coded each lexical unit with one of seven possibilities: (1) not metaphor, (2) indirect metaphor, (3) direct metaphor, (4) implicit metaphor, (5) metaphor flag, (6) DFMA or (7) WIDLII. Note that the ‘DFMA’ code was selected only a single time, for the lexical unit *kommentar* ‘comment’, a word functioning in one of the Swedish articles as metalanguage, rather than being integrated into the article’s text.

Table 3. Inter-rater reliability for determination of metaphor-related words

	No. of decisions (3 raters)	Round 1			Round 2		
		κ	95% CI	Interpretation	κ	95% CI	Interpretation
Danish	1285	0.78	0.75–0.81	moderate	0.92	0.91–0.94	almost perfect
Norwegian	1444	0.79	0.76–0.82	moderate	0.90	0.88–0.92	strong
Swedish	1428	0.77	0.74–0.80	moderate	0.87	0.87–0.91	strong
Scandinavian	4157	0.78	0.76–0.80	moderate	0.90	0.89–0.91	almost perfect

One of the major issues affecting our agreement during the first round of analysis was our treatment of prepositions. Fourteen percent of the lexical units in our Scandinavian text consisted of prepositions – that is, 567 out of 4,057 lexical units. The results from our first round of analysis show that we initially disagreed about the metaphor-related status of 155 of the total of 567 prepositions encountered, almost one third of them (ranging from a low of 23% in the Danish articles to a high of 33% in the Swedish articles). Moreover, these 155 prepositions represent 28% of the total (562) number of disagreements among us about metaphor-related status in the first analysis round. What this means is that reaching an understanding of how to code prepositions for metaphor is important in order to maintain a high degree of inter-rater agreement.

Previous research has found prepositions to be the most metaphorical word class of all, at least on the linguistic level (Nacey 2013: 146–147; Steen et al. 2010: 202–203). On the level of communication, however, they are rarely perceived as metaphorical; in other words, the fact that a linguist may be able to analyze a particular preposition as metaphorical in use in a given context does not make that metaphoricity any more salient for interlocutors as they communicate with one another. We found that this same tendency of overlooking the metaphorical nature of prepositions sometimes manifested itself in our initial independent analyses. In our material, prepositions constituted the group that were the most likely to be incorrectly marked as not metaphorical; in most cases, these miscodings amounted to inadvertent oversights that were easily cleared up during our pragglejazz session.

Two prepositions, however, warranted closer inspection: the Scandinavian translation equivalents for the prepositions *of* and *for* (*of* = *af* in Danish, *av* in Norwegian and Swedish; *for* = *for* in Danish and Norwegian, *för* in Swedish). In the original MIPVU protocol for English, these prepositions are never marked as metaphorical in use. The MIPVU developers explain that while the basic meanings of the majority of prepositions have clear spatial meanings, both *of* and *for* were considered to be delexicalized prepositions “exhibiting a problematic distinction between basic and other senses” (Kaal 2012: 115–116; see also Krennmayr 2011: 38).¹¹ This decision may be significant for the calculated metaphorical densities of texts, as these two prepositions are among the most frequent members of a frequent word class (see e.g. Dorst 2011: 169; Nacey 2013: 137–138).

During our first round of analysis, each researcher tackled the question of how to codify *of* and *for* for metaphor analysis, each in her own way. Results showed that this led to some discrepancies in coding, as we were perhaps overly influenced by the contradiction between the decision made for English discourse to overlook

11. Note that Nacey (2013: 137) disagrees with this contention.

them, even though the semantics of the Scandinavian equivalents do not appear to be as watered down as in English. How to code these prepositions thus became one of the specific topics discussed during our group praggeljaz session, leading to the following guidelines for future analysis: For *for/för*, the basic sense is ‘in front of’ (as in the Swedish SO example *en gardin för ett fönster* ‘a curtain for a window’, meaning ‘a curtain in front of a window’). The prepositions *af/av* have two concrete senses that we treat as equally basic: ‘in the direction away from’, as in the Norwegian BmO example *falle av hesten* ‘fall of the horse’ (meaning ‘fall off the horse’), and ‘made of/consisting of’ as in the Danish DDO illustrative example *hendes håndtaske af sort læder* ‘her purse of black leather’ (meaning ‘her black leather purse’).

7.7 Concluding remarks

This study has demonstrated that it is possible to apply a more or less identical MIPVU procedure to Danish, Norwegian, and Swedish. Despite the variations among the three languages, our inter-rater reliability proves that proficient speakers of the three languages may use Scandinavian MIPVU to obtain similar results with regard to both lexical demarcation and identification of potential linguistic metaphors. We maintain that an important contributing factor to high inter-rater reliability is simplification, with as few exceptions to general rules as possible. For instance, in the case of Scandinavian MIPVU, we recommend treating only reflexive verbs and polywords as exceptions to the general rule of equating the single lexical unit with the orthographic word.

Our procedure, while mainly identical for Danish, Norwegian and Swedish, does, however, call for minor variations when dealing with the different languages. For the analysis detailed in the present chapter, we have identified one dictionary per language that may be used, all of which have the advantages of being available online and developed by reputable language institutions. One area for a future expansion of the Scandinavian MIPVU is to extend it to the *nynorsk* variety of Norwegian, in addition to the *bokmål* variety we tested; this would require a fourth online dictionary, but there already exist good candidates for dictionaries and we anticipate no real problems. It should be noted, however, that the available choice of dictionaries in no way matches that for English, where there is a great number of corpus-based learners’ dictionaries to choose from.

One final procedural difference in the application of MIPVU to the three languages concerns polywords, as each variety necessarily has its own list of polywords. That said, our suggested lists are only preliminary attempts at compilation, rather than definitive and finalized proposals. Further research into this area is required, to compile clearly defined and comparable polyword lists for the Scandinavian varieties.

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Linguistic metaphor identification in Lithuanian

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8.1 Introduction

Lithuanian and Latvian are the two surviving Baltic languages of the Indo-European language family. In the course of history, Lithuanian has changed much less than Latvian and is often claimed to be the most conservative of the living Indo-European languages. It has preserved several accents, rich inflection and derivation, a variety of dialectal forms and variable word order, etc. (Ambrazas et al. 1997: 5). For metaphor studies, and for MIPVU in particular, a language like Lithuanian poses several problems, since it uses highly variable elements such as inflections to carry meaning usually expressed in English by prepositions. These problems and their possible solutions are the main focus of the present chapter.

Further, we briefly discuss some operational challenges that any researcher applying MIPVU in Lithuanian inevitably encounters. Then we move on to linguistic challenges and focus on derivational and inflectional affixes, especially some prefixes and the locative, instrumental and dative case forms. Subsequently, we discuss several examples of applying the procedure to Lithuanian, both easy and difficult from the methodological point of view. Then we summarise the main points and offer some suggestions on the adjustment of MIPVU to better account for Lithuanian-specific cases of metaphor expression. After having agreed on the main adjustments, the authors of this chapter annotated one text in Lithuanian for metaphor-related words. We present the results of reliability testing among the analysts at the end of this chapter.

The examples used throughout the paper have been drawn from the authors' individual metaphor studies, dictionaries and the Corpus of the Contemporary Lithuanian Language (CCLL). Information on any other source is provided with each concrete example. The examples represent rather different genres and registers. Since the chapter focuses on systemic features of Lithuanian, such as grammatical cases and their metaphoricity, genre and register seem to be irrelevant for our study.

8.2 Operational challenges: Lithuanian dictionaries

In MIPVU, dictionaries are used for establishing basic senses and then contrasting and comparing them with contextual senses in order to decide whether a lexical unit is used metaphorically or not. The choice of dictionary thus becomes paramount, and adherents of the procedure point out that dictionaries should meet quite stringent selection criteria. First, the dictionaries should be large enough to be adequate for general language analysis and, second, the senses of the words should be relatively recent (Pragglejaz Group 2007; Steen et al. 2010). The first criterion is not so problematic for languages which have comprehensive dictionaries. The second is much more complex, since those dictionaries best suited for MIPVU are corpus-based and thus reflect contemporary language use so that the word sense could be verified in a corpus of contemporary language. The English dictionaries used by MIPVU satisfy both of the above criteria: they are large enough and based on a contemporary language corpus. However, many dictionaries of other languages hardly fit the criterion of contemporary language as they are not based on corpora. For example, historically oriented dictionaries were employed in MIPVU application in Dutch (Chapter 5, this volume) and French (Chapter 4, this volume). None of them were corpus-based. Neither are the dictionaries of the Lithuanian language, resulting in a number of operational challenges.

8.2.1 Dictionaries and corpus of Lithuanian

There are two well-known monolingual dictionaries of Lithuanian: the *Dictionary of the Lithuanian Language* (DLL; Naktinienė et al. 2008) and the *Dictionary of Contemporary Lithuanian* (DCL; Keinys 2012). Both dictionaries have been digitalised and are freely accessible on the Internet. The DLL, the largest dictionary of the Lithuanian language (11 million words), contains both old and contemporary lexicon. Covering an array of obsolete words and/or obsolete senses of contemporary words, with some of them going back to 1547, the dictionary is an outstanding example of a diachronic approach to the Lithuanian language. The DCL is much smaller in size (80,000 words), a fact that might raise tough questions as to whether it is representative and adequate for metaphor research if we compare it, for example, with the *Macmillan English dictionary for advanced learners* (Rundell 2002) as employed in MIPVU. As the title of the DCL suggests, it is supposed to be a dictionary of contemporary Lithuanian. However, even a brief search reveals that a number of words and their senses are obsolete and numerous recent words and/or senses are not included in the dictionary (for example, the contemporary sense of sports in the word *prasižengti* ‘commit a foul’),¹ very much like in the

1. All translations of the dictionary definitions are our own.

DLL. Thus, the question of the present-day users' language in both Lithuanian dictionaries comes to the fore. One of the most reasonable explanations for the absence of more recent words and senses is that neither the DCL nor the DLL is corpus-based, which leaves them outside the standard practices of present-day lexicographers and deprives them of the hallmarks of modern dictionaries. The existing Corpus of the Contemporary Lithuanian Language (CCLL) could be an inspiration for lexicographers to compile a contemporary language users' dictionary. The CCLL contains 160 million words and covers a broad variety of different genres (newspaper texts, scientific texts, legal documents, parliamentary debates, fiction, spoken language texts, etc.). Its first version was launched in 1992 and has since been constantly revised and updated (Rimkutė et al. 2010); however, it has not been morphologically annotated.

The authors of this chapter adopted the DCL as the main referencing source for adjusting MIPVU to Lithuanian for the following reasons: first, it is the only dictionary more or less reflecting contemporary Lithuanian, and second, it contains fewer obsolete words and senses than the DLL. The DLL was used as a 'second opinion' dictionary in cases when the DCL turned out to be insufficient; for example, in the absence of words or senses. Finally, the CCLL was consulted when neither of the dictionaries could tackle problematic issues. Those encountered in applying MIPVU to Lithuanian are discussed further in this section and possible solutions are put forward.

8.2.2 Cross-referencing

The DCL tends to use cross-referencing rather than give separate entries for two or more words in the same word family. This applies mostly to deverbal nouns, so that if you want to look up a deverbal noun, you are redirected to the verb entry. For example, deverbal nouns such as *atėjimas* 'coming', *plėšimas* 'robbery', *draudimas* 'prohibition', *stūgavimas* 'howl', etc., have been derived from the corresponding verbs *ateiti* 'come', *plėšti* 'rob', *drausti* 'prohibit', and *stūgauti* 'howl' by adding the suffix *-im-* and the inflection *-as*: they are simply cross-referenced to the corresponding verbs, possibly under the assumption that the derivational pattern is known to the language user. A similar treatment is also characteristic of de-adjectival adverbs, since neither the DCL nor the DLL provides their definitions; they integrate the adverbs into the entries of corresponding adjectives. Examples are the de-adjectival adverbs *skaudžiai* 'painfully', *glaudžiai* 'closely', *žiauriai* 'violently', *nuosekliai* 'consistently', etc., which are derived from the corresponding adjectives *skaudus* 'painful', *glaudus* 'close', *žiaurus* 'violent', and *nuoseklus* 'consistent' by adding the inflection *-(i)ai*; the adverbs are given only at the end of the entries of the corresponding adjectives without explicating their meaning, as demonstrated in Dictionary entry 1 below:

Dictionary entry 1. Entry of the adjective *skaudus* 'painful' in DCL

Dictionary of Contemporary Lithuanian

skaud[us] , ~i 'painful' 1. kurį skauda 'which hurts': ~i žaizda 'a painful wound'. ~i vieta 'a painful area'. 2. darantis skausmą 'causing/inflicting pain': S. botagas, kirtis 'a painful lash, whip'. 3. aštrus 'sharp', žvarbus 'harsh, fierce, severe', šaltas 'cold': S. vėjas 'a fierce wind'. Skaudūs šalčiai 'extreme/freezing cold'. Jį prausė s. lietutis 'He was being washed by the sharp rain'. 4. prk. 'fig.' nemalonus 'unpleasant', sunkus 'difficult', slegiantis 'overpowering': ~i mintis 'a painful thought'. ~i nelaimė 'a dreadful disaster'. S. nuostolis 'a substantial loss'. S. patyrimas 'a difficult/harsh experience'. 5. prk. 'fig.' aštrus 'sharp', ryškus 'distinctive, loud', skardus 'sonorous, ringing', spigus 'squeaky': S. balsas 'a loud/squeaky voice'. 6. prk. 'fig.' griežtas 'strict, smarkus 'fierce'; piktas 'angry', žiaurus 'cruel, violent': S. žodis, kaltinimas 'a painful word, accusation'. ~i bausmė 'a cruel/harsh/severe punishment', pašaipa 'cruel mockery'. 7. šnek. 'colloq.' kietas 'firm, tough, hard', aštrus 'sharp'; gruoduotas 'roughly frozen': Dabar s. kelias važiuoti (pašalę, gruodas) 'Now the road is hard to drive on (it is frozen, the earth is roughly frozen)'. Ten ~i molynė 'There the clayey earth is rough'. skaudžiai 'painfully' prv. 'adv.': S. įsidūrė pirštą 'S/he pierced/punctured her/his finger painfully'. S. (ryškiai) mėlynas 'Brightly blue'. S. bartis 'to quarrel painfully'. S. apsirikti 'to err painfully/to make a painful mistake'. ~yn 'more painfully' prv. 'adv.', ~ybė 'pain, agony, anguish'(1), ~umas 'painfulness' (2)

Dictionary entry 1 shows a typical case when derived words are given in the same entry as the remaining senses of a polysemous base word. So the seven senses of the adjective *skaudus* 'painful' are consistently presented; however, the derived adverb is given only at the end of the entry without defining its meaning or its relationship with any of the senses of the adjective *skaudus*. This could mean that the derived word can express any of the senses of the adjective and analysts have to rely on their intuition in the process of disambiguation (the same problem is also discussed in Urbonaitė 2015).

Cross-referencing is not a problem solely of Lithuanian dictionaries, as it is also characteristic of dictionaries of other languages. The *Macmillan English dictionary for advanced learners* provides words at the end of the entry for the adjective from which they are derived if the word can be understood by reading the definition for the main entry (Rundell 2002: 11). For example, the adverb *consistently* is presented in the entry of the adjective *consistent*. In many other cases, the words have separate entries. For example, the adjective *slow* and the adverb *slowly* contain their own entries. However, not a single adverb has its separate entry in Lithuanian dictionaries. It makes the procedure of identifying the basic sense of a lexical unit more difficult because, as mentioned previously, analysts have to trust their intuition and decide in which of the senses of the main entry the adverb was used.

8.2.3 Absence of senses

The absence of an entry for a derived word in the dictionaries is closely related to another problem – when dictionaries lack entries for some common senses of the word in question. Naturally, all dictionaries fall behind the continuous development of languages and fail to register all new words and their senses. But it often happens that Lithuanian dictionaries do not include senses that are highly conventionalised and would be natural for native speakers of contemporary Lithuanian. For example, the verb *prasižengti* ‘commit a foul’ is highly conventionalised, but neither the DCL nor the DLL contains an entry for this word; they only give reference to a similar word, *nusižengti*, which is defined as committing a minor law violation punished under a disciplinary or administrative procedure. A native speaker’s intuition suggests that this is not the only conventional meaning of the verb *prasižengti*, as this word is mostly associated with the context of sport, especially basketball, the most popular game in Lithuania. A search for this word in the CCLL corroborates this contention. Out of 699 verbal utterances retrieved from the CCLL, 461 cases were concerned with committing a foul in sports and most of them were used in the newspaper and magazine section, whereas 238 cases conveyed the idea of committing a minor crime. The corpus findings show that the verb *prasižengti* in the sense of committing a foul in sports is equally conventional as that of committing a minor crime and should be presented in the dictionary. This type of discrepancy between dictionary definitions and actual usage has previously been pointed out by several Lithuanian scholars (Rimkutė et al. 2010; Marcinkevičienė 2011). This is a systemic problem and it can hardly be overcome by an analyst alone. The revision of the contemporaneity of senses is more within the realm of lexicographic practice, which often lags behind linguistic analysis. Thus, if the dictionary does not help identify the word sense, the only possible suggestion for an analyst is to turn to the CCLL and trust native speaker’s intuition in verifying if the word in question is used in the sense that is absent in the dictionaries. Referring to large electronic corpora is also recommended by the Pragglejaz Group (2007: 13); however, it has to be admitted that it is inevitably time-consuming and adds to the workload.

8.2.4 Obsolete or dialectal basic senses

Obsolete or dialectal basic senses are also rather common in Lithuanian dictionaries. For example, if we need to decide on metaphoricity of the verb *nagrinėti* in the collocation *nagrinėti bylą* ‘consider a case’, after resorting to the DCL we find out that it provides two senses for the verb. The first is ‘explain the essence, examine, analyse’ and the second ‘separate good things from bad, to clear rubbish’. Though

the second sense is likely to be more concrete, intuition suggests that this meaning is obsolete. This is further confirmed by examining the word usage in the CCLL, which does not provide any examples with the second more concrete sense. As discussed in 8.2.3, to overcome the problem of obsolete senses an analyst has to manually go through the examples presented in the CCLL and decide whether the intuitively obsolete sense is obsolete *de facto*. As obsolete senses cannot be considered basic because they are not part of the contemporary language of a typical speaker, the first meaning is taken as the only one, hence basic. Since it does not contrast with the contextual meaning, the verb *nagrinėti* is not treated as an MRW. If we rely only on the dictionary, we should consider the verb *nagrinėti* as an MRW, but the actual usage of the verb reflected in the CCLL prompts us to adopt a different strategy: verifying the meaning in the corpus.

8.2.5 Conflated concrete and abstract senses

Another problem posed by Lithuanian dictionaries is that in some cases two senses of a word, one more concrete and one more abstract, are blended. For example, in the DCL the noun *objektas* ‘object’ is defined using several words: *kiekvienas daiktas* ‘every thing’, which has a strictly concrete sense; *dalykas* ‘matter’, *reiškinys* ‘phenomenon’, *žmogaus pažinimo ar veiklos dalykas* ‘a matter of human cognition or activities’, which imply only an abstract sense in Lithuanian, as demonstrated in Dictionary entry 2 below:

Dictionary entry 2. Entry of the noun *objektas* in DCL

Dictionary of Contemporary Lithuanian

objèktas ‘object’

kiekvienas daiktas ‘every thing’, dalykas ‘matter’, reiškinys ‘phenomenon’; žmogaus pažinimo ar veiklos dalykas ‘a matter of human cognition or activities’:

Mokslo o. ‘An object of science’ *Gynybos o.* ‘An object of defense’ (ginamoji vieta ‘a defended area’)

A metaphor researcher is challenged with the task of deciding whether to separate a more concrete sense (‘every thing’) from a more abstract one (‘matter’, ‘phenomenon’, ‘a matter of human cognition’) by considering the former sense as more basic. We suggest separating a more concrete sense of ‘thing’ from a more abstract sense ‘phenomenon’ or ‘matter’, and contrasting the contextual sense with the more basic sense of ‘thingness’.

Moreover, there are also discrepancies where a dictionary definition gives a more concrete sense, but the illustrative examples provided are more abstract. For

example, the verb *imtis* is defined as ‘grab, seize something’. The sense can be considered physical, hence basic. But the examples provided in the entry illustrate a much more abstract sense of the word, i.e. ‘take on work, science’. Taking into account that examples provided in dictionary entries are not exhaustive and do not cover all cases of usage, we suggest ignoring the examples and relying only on the definition which provides a concrete sense.

To sum up, non-corpus-based and rather archaic dictionaries in terms of meaning treatment of the Lithuanian language pose a number of operational challenges to MIPVU adjustment to Lithuanian. It would therefore be important not to limit the procedure to dictionaries but refer to other sources as well. As seen from the previous discussion, the problems related to discrepancies between the treatment of words in the dictionaries and their contemporary usage may be overcome by referring to the CCLL and verifying the actual usage of the word in question. However, using the CCLL also poses some difficulties. First, it is problematic to make sure that different analysts would apply the procedure in a similar fashion to ensure replicability. For example, they might not realise that a particular concrete sense is archaic and they would not bother checking it. Also, frequent reference to the CCLL is time-consuming.

8.3 Challenges to MIPVU application in Lithuanian: Grammatical cases and derivational morphology

This section discusses potential problems of identifying metaphoricity in Lithuanian generated by several grammatical cases and derivational morphology. The focus is on three most relevant grammatical cases and derivational morphemes which encode metaphorical meaning in Lithuanian but are not described in MIPVU.

Lithuanian is known for its extremely rich grammatical and derivational morphology. Certain features are unproblematic or less problematic for MIPVU: inflections marking the gender of noun, for example, have no consequences for metaphor identification, since in many cases grammatical gender distinctions of nouns are determined by natural sex distinctions of their referents (Ambrazas et al. 1997: 97), whereas “the gender of nouns denoting inanimate things and phenomena, also names of actions and qualities do not have any semantic motivation” (Ambrazas et al. 1997: 98). However, prefixes and nominal cases are much more problematic in metaphor identification in Lithuanian. To describe the problem in a broader context it is necessary to give a brief overview of Lithuanian cases and their inflections.

The Lithuanian noun has five declensions, or five classes characterised by a set of inflections to produce different case forms. There are seven cases in both

the singular and the plural: nominative, genitive, dative, accusative, instrumental, locative and vocative; approximately more than 70 case forms in total.

Cases share their relational meanings with prepositions. Meanings that are typically expressed in English by prepositions are usually rendered in Lithuanian by cases, or by both cases and prepositions. For example:

- (1) *Jis ein-a gatv-e² ir kalb-a telefon-u.*
 he walk-PRS.3 **street-INS.SG** and talk-PRS.3 **telephone-INS.SG**
 ‘He is walking along the street and talking on the phone.’

Both *gatvė* ‘street’ and *telefonas* ‘phone’ are used in the instrumental case, expressing an implement or instrument, a means or manner of some activity or action (Ambrazas et al. 1997: 511; Anderson 1993: 186). Neither of the two nouns in the above example, however, could be interpreted as purely instrumental. As can be seen from the translation, in English, both nouns appear with the prepositions *along* and *on*, each bringing a different semantic content. Consider two more examples:

- (2) *Mam-a dav-ė vaik-ui obuol-į.*
 Mother-NOM.SG give-PAST.3 **child-DAT.SG** apple-ACC.SG
 ‘Mother gave **her child** an apple.’
- (3) *Lėš-ų skiriama švietim-ui ir kultūr-ai.*
 fund-NOM.PL provide-PASS **education-DAT.SG** and **culture-DAT.SG**
 ‘Funding is provided for education and culture.’

The nouns appearing in the dative case above carry different meanings. In (2) the noun in the dative (*vaik-ui* child-DAT.SG.) clearly expresses the recipient of an apple, which coincides with the default meaning of this case (Ambrazas 2006: 513; Ambrazas et al. 1997: 506). Yet, in addition to the recipient, the dative case can also “express a beneficiary or addressee, sometimes a patient, usually a person to whose advantage (or disadvantage) the action is performed” (Ambrazas et al. 1997: 506). However, in example (3) neither education nor culture, which are rather abstract phenomena, can be interpreted as non-metaphorical recipients or beneficiaries and the usage of these nouns in the dative case renders the metaphorical meaning of education and culture as physical recipients or beneficiaries (human beings). Thus, both these nouns in the above sentence should be marked as MRWs.

The following example illustrates uses of the genitive (*informacija* ‘information’) and locative (*internetas* ‘internet’) cases, the latter being potentially problematic for MIPVU:

2. In the examples, the words or word morphemes in focus are given in bold type.

- (4) *Iešk-au informacij-os internet-e.*
 search-PRS.1 **information-GEN.SG** **internet-LOC.SG**
 'I am looking for information on the internet.'

As pointed out by Creissels (2008: 614), Lithuanian is one of the languages with a prepositionless locative. By contrast, location and other spatial relations are rendered in English and other languages through prepositions, as in example (4) where the preposition *for* colligates with *information* and *on* colligates with *internet*. The locative case in Lithuanian is especially productive, employed in numerous cases which encode different meanings, which, for example, would mainly be rendered by a number of prepositions in English, including *at* (*studijuoju universitet-e* 'I study **at** the University'), *in* (*kėdė stovi kamp-e* 'The chair is standing **in** the corner') and *on* (*mano kompiuterio ekran-e* '**on** my computer screen'). These are all examples of the default locative form, usually referred to as inessive and expressing location of an action or state, or containment (Ambrazas 2006: 527; Ambrazas et al. 1997: 517). A second locative form called the illative is rather archaic but still used in some formulaic expressions in specific discourses (such as legal discourse) and also frequently employed in some dialects. Its default, non-metaphorical, meaning is that of directional movement, typically, into a place or direction towards it (Ambrazas et al. 1997: 518), e.g. *trob-on* 'into the house'. The case is synonymous with the prepositional phrase *į* '(in)to' + NP-ACC (also see example (17) in Section 8.4.2).

Lithuanian cases are potentially problematic for MIPVU, since a single word fuses the lexical meaning of the lexeme and the relational meaning of a grammatical case. Such meaning in English is usually expressed through two separate lexical units, one of which is a preposition. However, while prepositions are separate lexical units and their contextual and basic meanings can be identified under MIPVU, grammatical cases are expressed via word inflections and therefore their role in the creation of a metaphorical meaning cannot be tackled following MIPVU rules. Because the default MIPVU requires to identify the meaning of a lexical unit as a whole, it does not allow taking into account the meaning generated by grammatical cases in Lithuanian. Therefore analysts applying MIPVU to Lithuanian should take steps to identify the contextual meaning of such grammatical cases as locative, instrumental and dative and thus detect their metaphorical use in (con)text. As will be shown in Section 8.4.2, the three grammatical cases express metaphorical meaning in Lithuanian only identifiable when analysing the inflectional meaning (inseparable from the base word) of nouns. Therefore, MIPVU needs to be adapted for more effective application to Lithuanian by introducing a step of taking into consideration grammatical case inflections and describing their role in generating metaphorical meaning.

Furthermore, high variability is demonstrated not only by grammatical but also by derivational morphology. By this, we mainly subsume suffixation and prefixation, both extremely rich in terms of form and semantics. The following examples include several cross-linguistically explicit and thus relatively unproblematic cases:

- (5) *liežuv-is* ‘tongue’ – *liežuv-**au**-ti* ‘to gossip’; *liežuv-**aut**-oj-as* ‘someone spreading gossip’;
- (6) *rasti* ‘to find’ – *iš-rasti* ‘to invent’;
- (7) *duoti* ‘to give’ – *iš-duoti* ‘to betray’;
- (8) *gauti* ‘to get, to receive’ – ***ap**-gauti* ‘to cheat, to deceive’.

When attached to verbs, suffixes and prefixes are often used in Lithuanian to build aspectually marked forms and/or to slightly change the word meaning (Ambrasas 2006; Ambrasas et al. 1997; Jakaitienė 2010). However, as seen in the above examples, in some cases the meaning changes are significant. In example (5) the suffix helps render the metaphorical (and metonymical) meaning of spreading gossip, based on the concrete meaning of a tongue. Example (6) shows a metaphorically motivated change: a rather concrete activity of looking and finding gives rise to the abstract meaning of invention linked to the prefix *iš-*. The more concrete ‘giving’ in example (7) helps explain the more abstract ‘betrayal’ rendered by the prefix *iš-* correlating with the preposition *iš* ‘from, out of’ and prototypically pointing to a container, which, presumably, is one’s mind/head, where secrets and important information are kept. When they are given out, or intentionally become known, they are betrayed. The act of receiving in example (8) gives rise to deception, which might be traced to the meaning of the prefix *ap-* correlating with the preposition *apie* ‘round, about’, prototypically expressing the idea of moving around or about an object or location, taking a detour rather than going straight.

As noted by Ambrazas et al. (1997: 222), 10 out of 12 verbal prefixes have prepositional counterparts typically signifying spatial and directional meaning. Like prepositions, prefixes generate metaphorical meanings, in some cases, more than one. The metaphoricity of several cases and how best treat them in the adjusted version of MIPVU will be demonstrated in Section 8.4.3.

Another semantic element in Lithuanian is the verbal reflexive particle *-si/-s*, rendering a large number of additional meanings to the prototypical meaning of reflexivity realised in the sentence of the type *Ona nu-si-praus-ė* 'Ona washed herself'. They include, but are not limited to, the following cases:

- (9) *Cukr-us* *iš-si-pylè*.
sugar-NOM.SG out-RFL-spill.PST.3
'The sugar spilt.' (Example adopted from Holvoet et al. 2015: 183)

- (10) *Puolėj-as pra-si-ženg-ė penkt-q kart-q.*
 forward-NOM.SG **past- RFL-step.PST.3** fifth-ACC.SG time-ACC.SG
 ‘The forward committed a fifth foul.’

Example (9) could be interpreted as a case of personification, since sugar cannot get spilt without any external force. In example (10) the verb *žengti* ‘step’ with the prefix *pra-* and the reflexive particle *-si-* renders the meaning of committing a foul in sports. The relationship with the primary meaning of stepping, moving forward by taking steps is identifiable in the word. Apparently, the meaning of a foul is contributed by the reflexive particle rather than the prefix, since the word *pra-žengti* (without the reflexive particle) has the meaning of stepping across a boundary or line. The latter meaning is rare as it is only given in one of the two dictionaries (DLL); not a single case of its usage has been found in the CCLL. However, the unprefixated non-reflexive verb *žengti* ‘step’ is a normal, frequently-used verb of contemporary Lithuanian. A more extensive interpretation of example (10) is given in Section 8.4.3.

This description of Lithuanian has only pointed out some characteristic features of the language focusing on potentially problematic issues from the perspective of MIPVU, such as several nominal cases and some affixes. In the next section we demonstrate how MIPVU procedure is applied to Lithuanian.

8.4 Illustrations of MIPVU application in Lithuanian

We start this section with straightforward, and therefore, unproblematic, application. Then we proceed to more problematic cases: grammatical cases and derivational morphology. We argue and demonstrate on concrete examples that at least three cases, locative, instrumental and dative, generate metaphoricity in Lithuanian. In the section on derivational morphology, we mainly deal with verbal prefixes and the verbal reflexive particle *-si/-s*.

8.4.1 Two cases of straightforward application of MIPVU

A successful application of MIPVU in Lithuanian is illustrated below by considering the metaphoricity of two individual lexical units. Let us consider a short excerpt from a research article dealing with punishments for serious crimes:

- (11) *Bausm-ė skir-iama už sunk-ius nusikaltim-us.*
 punishment-NOM.SG impose-PASS for heavy-ACC.PL crime-ACC.PL
 ‘Punishment is imposed for serious crimes.’

To demonstrate how MIPVU works when analysing particular Lithuanian lexical units in context, one word from example (11) is analysed below.

sunkus

Contextual meaning: In this particular context, the adjective *sunkus* means ‘severe’, ‘serious’ or ‘grave’. This corresponds to the fifth sense of the entry of the word given in the DCL, i.e. DCL5³: *didelis* ‘big, considerable’.

Basic meaning: A more basic meaning of *sunkus* is the first sense in the entry of this word in the DCL, i.e. DCL1: *daug sveriantis, svarus* ‘which weighs a lot, heavy/weighty’, which is more concrete.

Contextual meaning vs. basic meaning: The contextual meaning contrasts with the basic meaning and can be understood through comparison. Similarly to heavy objects that may physically burden someone, a grave, serious crime causing damage burdens the affected persons, the offender(s), and society.

Metaphorically used? Yes. The adjective *sunkus* ‘severe; heavy’ is marked as an MRW in this context.

Below is another example of unproblematic application of MIPVU in Lithuanian:

- (12) *Nacionalin-ė kov-os su korupcij-a*
 national-NOM.SG fight-GEN.SG with corruption-INST.SG
program-a
 programme-NOM.SG
 ‘National Anti-Corruption Programme’

kova

Contextual meaning: In example (12), the noun *kova* means ‘(a set of) actions aimed at tackling something such as corruption’. This meaning corresponds to DCL4: *veikimas, norint pasiekti kokį tikslą* ‘action/activity to achieve a goal’.

Basic meaning: A more basic meaning of the lexical unit *kova* is ‘a fight, battle, war’ and corresponds to DCL1: *priešų susirėmimas, mūšis, kautynės* ‘a grapple/battle between enemies, combat, fight’. This meaning is more concrete and relates to physical fighting such as military combat or physical struggle between people.

Contextual meaning vs. basic meaning: The contextual meaning contrasts with the basic meaning and can be understood through comparison. A series of (strategically planned) systematic actions aimed at tackling corruption can be understood in terms of a physical fight against someone, or in terms of a military battle against an enemy.

Metaphorically used? Yes. Thus the noun *kova* is marked as an MRW in this context.

3. This marking is in conformity with the marking used in MIPVU (see Steen et al. 2010), where the numeral signals the sense indicated in the dictionary entry for the word in question.

8.4.2 Grammatical case: From non-metaphorical to metaphorical

Further examples demonstrate challenges posed by some Lithuanian nominal cases: how case inflections change the meaning of a lexical unit from non-metaphorical to metaphorical. Three cases below (examples (13), (14) and (15)) employ the word *straipsnis* ‘article, clause’ appearing in three different cases:

- (13) *Š-is straipsn-is buv-o keič-iamas penk-is kart-us.*
 this-NOM.SG article-NOM.SG be-PST.3 amend-PASS five-ACC.PL time-ACC.PL
 ‘This article has been amended five times.’
- (14) *Kanad-os baudžiam-ojo kodeks-o 83 straipsn-yje numat-yta ...*
 Canada-GEN.SG penal- GEN.SG code-GEN.SG 83 article-LOC.SG stipulate-PASS
 ‘Article 83 of the Canadian Penal Code stipulates ...’
- (15) *Ši-uo kodeks-o straipsn-iu gin-amas asm-ens*
 this-INS.SG code-GEN.SG article-INS.SG protect-PASS person-GEN.SG
ger-as vard-as.
 good-NOM.SG name-NOM.SG
 ‘A person’s reputation is protected by/with this article of the Code.’

As can be observed in the above sentences, in example (13), the noun *straipsnis* ‘article’ is used in the nominative case and its use is non-metaphorical, as there is no contrast between the basic and contextual senses. However, examples (14) and (15) pose a challenge for metaphor analysts since in (14) the use of the same noun in the locative case encodes the meaning of containment, whereas in (15) the use of the noun in the instrumental case signals a metaphorical meaning of an article as an instrument/means to protect someone’s good name. In both (14) and (15) metaphoricality is generated by the grammatical case inflections. Further sections focus on three grammatical cases and provide more evidence for their metaphoricality in Lithuanian. It could serve as a basis for adjusting MIPVU to Lithuanian.

8.4.2.1 The locative case

As has been discussed in Section 8.3, the locative case prototypically signifies a place or containment, when the noun with the locative case inflection refers to a concrete entity (Ambrazas 2006: 527; Ambrazas et al. 1997: 517; Paulauskienė 1994: 134). In other words, when the noun bearing the locative case inflection signifies a three-dimensional object or entity, i.e. an object with length, width and height, the meaning of containment is non-metaphorical. In all other cases, especially when nouns refer to abstract notions, the use of the locative case is metaphorical (Paulauskienė 1994: 134). To illustrate, the sentence below contains several words marked for the locative case referring to non-metaphorical and metaphorical containment:

- (16) *Pavojing-ų nusikaltėl-ių ir laisvė-je, ir*
 dangerous-GEN.PL criminal-GEN.PL and freedom-LOC.SG and
įkalinim-o įstaigos-e yra absoliut-i
 detention-GEN.SG facility-LOC.PL be-PR.SG absolute-NOM.SG
mažum-a.
 minority-NOM.SG

*Lit.*⁴ Dangerous criminals who are both in **freedom** and in detention **institutions** make up a minority of all offenders.

‘Dangerous criminals who remain at large and those in detention institutions make up an absolute minority.’

The above sentence contains two uses of the inessive locative with the nouns *laisvė* ‘freedom’ and *įstaiga* ‘institution, facility’. Since the latter refers to an area or building such as a detention facility/prison, a three-dimensional object capable of containing something inside, the use of this noun in the locative case can be considered non-metaphorical, i.e. it refers to literal containment. The use of the noun *laisvė* ‘freedom’ with the locative case inflection, on the other hand, is metaphorical, since the noun signifies an abstract concept while its locative case inflection creates a metaphorical meaning of physical containment. In English, for example, such meaning is typically expressed via the prepositional phrase *in* + *NP*. However, the identification of such metaphoricity expressed by the locative case inflection in Lithuanian is problematic when applying the original MIPVU protocol. The procedure instructs metaphor analysts to consider only the senses of lexical units and not their grammatical forms. The problem of applying MIPVU to identify a metaphorical meaning becomes even more cumbersome when marking metaphorically used words in contrastive studies dealing with two (or more) languages that are genetically and structurally different and encode the same (metaphorical) meaning by different linguistic means. For example, MIPVU is effective in marking English prepositions as metaphorical in phrases such as *in this article*, *in the family*, *in the criminal code*, where containment is expressed by spatial prepositions, i.e. by lexical means. However, the protocol is unable to detect metaphoricity in the Lithuanian phrases expressing the same meaning encoded by the inessive locative case (*šiam-e straipsn-yje* this-LOC.SG article-LOC.SG, *šeim-oje* family-LOC.SG, *baudžiamaj-ame kodeks-e* criminal-LOC.SG code-LOC.SG).

In addition to the (prototypical) inessive locative case, Lithuanian also features the illative locative case which is commonly used in dialects, and also appears in some formulaic expressions in Standard Lithuanian. Example (17) below

4. Literal translation is provided in cases when the idiomatic English translation fails to capture the word-for-word rendering of the situation.

demonstrates that the illative locative case is also capable of generating a metaphorical meaning. Consider the following example:

- (17) *Moter-is traukia-ma baudžiamoj-on atsakomyb-èn.*
 woman-NOM.SG pull-PASS.PTCP criminal-LOC.ILL.SG liability-LOC.ILL.SG
Lit. A woman is pulled into criminal liability.
 ‘A woman is criminally liable.’

In Lithuanian, the illative locative suffix *-on/-èn* encodes a spatial meaning, namely, it signifies movement/direction towards and into a place or a bounded space, which is roughly equivalent to the meaning of the English preposition *into*. Alongside other linguistic means, the locative case in Lithuanian is thus one way of encoding location and containment. When marking metaphorically used abstract nouns, the locative tends to retain the sense of containment and spatial directionality. It would thus be logical to amend MIPVU for Lithuanian by including the locative case marking in abstract nouns as signalling the meaning of metaphorical containment.

8.4.2.2 *The instrumental case*

In addition to the locative case, the instrumental case may also generate metaphorical meaning in Lithuanian. As has been discussed in Section 8.3, the instrumental case encodes the meaning of manner, instrument, or means. When used with certain verbs of action, nouns in the instrumental case denote a non-metaphorical instrument/means of an action, e.g.

- (18) *Jis ne-mok-ėjo naudo-tis ginkl-u.*
 he not-know-PST.3 use-INF.REFL gun-INS.SG
 ‘He did not know how to use a gun.’

However, when the verb *naudoti-s* ‘to make use’ is followed by more abstract nouns in the instrumental case, the meaning of instrumentality/means is metaphorical, for instance:

- (19) *ES pilieč-iai gal-i naudo-tis teis-e balsuo-ti.*
 EU citizens may use-INF.REFL right-INS.SG vote-INF
 ‘EU citizens may exercise their right to vote.’

The metaphoricity in this example is induced by the case inflection of the noun *teisė* ‘right’ used in collocation with the verb *naudoti-s* ‘to make use of’. In example (20), the noun in the instrumental case may be treated as contributing to the expression of the metaphorical meaning of the noun as well, e.g.:

- (20) *Ši-uo nusikaltim-u pa-dar-oma žal-a (...)*
 this-INS.SG offence-INS.SG commit-PASS.PTCP damage-NOM.SG
 ‘Damage caused by (committing) this offense.’

Instrumentality encoded in the noun *nusikaltimas* offence-INS.SG suggests that the linguistic expression realises the metaphorical meaning of crime as an instrument by means of which damage is caused.⁵ In addition to the instrumental case inflection, metaphorical meaning is also evoked by the verb *padaryti* ‘do, make, commit’, which suggests the metaphorical view of damage as a physical, concrete object ‘produced’, ‘created’ by means of a criminal act, that is, by a metaphorical ‘instrument’ that causes damage. However, while the verb *padaryti* ‘do, make’ can be identified as an MRW in Lithuanian, this cannot be done with the instrumental case inflection generating metaphorical meaning if one strictly adheres to the original MIPVU protocol. It is thus worthwhile amending MIPVU in Lithuanian by taking into account the instrumental case, which contributes to the metaphorical meaning of instrumentality whenever used with abstract nouns.

8.4.2.3 *The dative case*

The meanings of the dative case in Lithuanian suggest that it may be used in both its core sense of a concrete recipient or beneficiary, as well as metaphorically. The dative case is used in a concrete sense when the noun bearing the dative case morpheme refers to a human being, especially in constructions with verbs like *duoti* + DAT + GEN/ACC ‘to give + sb + sth’, for example:

- (21) *Ji man davė čekį.*
 she-NOM.SG **me-DAT.SG** give-PST.3 receipt-ACC.SG
 ‘She gave me a receipt.’

The pronoun in the dative case in example (21) clearly denotes a human, physical (non-metaphorical), recipient. However, a similar construction with a more abstract noun denoting a country or an institution and used in the dative case may suggest a metonymical and/or metaphorical interpretation. In case of metonymy, a country stands for its people, in case of metaphor, a state or an institution is conceptualised as a human being benefiting from something, e.g.:

- (22) *Ką Lietuvai davė eur-as?*
 what-ACC **Lithuania-DAT.SG** give-PST.3 euro-NOM.SG
Lit. What did the euro give to Lithuania?
 ‘What did the euro bring to Lithuania?’

- (23) *Kok-ias garantij-as toks įstatym-as duoda mokykl-ai, ligonin-ei, valstybės įstaig-ai?*
 what safeguard-ACC.PL such statute-NOM.SG give-PRS.3 **school-DAT.SG**
hospital-DAT.SG state-GEN.SG **institution-DAT.SG**
Lit. What safeguards does this law give to schools, hospitals and state institutions?
 ‘What safeguards does this law provide for schools, hospitals, state institutions?’

5. Some of these issues are also discussed in Urbonaitė (2015).

Both sentences (22) and (23) are more likely to be interpreted as metaphorical rather than metonymical, since Lithuania, schools, hospitals or state institutions do not merely stand for the people who live or work there. They are seen as abstract entities thought of as sensible human beings capable of benefiting from the new currency euro or the law. The metaphorical view of schools, hospitals and state institutions as concrete beneficiaries/recipients is reinforced by the use of the verb *duoti* 'give' which in this context does not refer to handing something material to someone but rather to providing something important and beneficial; it is also used metaphorically.

Other cases of a personified view expressed in Lithuanian by the dative case inflection include expressions where abstract nouns in the dative case are used in fixed phrases or formulas with no explicit verb of giving or receiving, e.g.:

- (24) Nusikaltim-ai žmoniškum-ui ir taik-ai.
 crime-NOM.PL humanity-DAT.SG and peace-DAT.SG
Lit. Crimes to/for humanity and for peace.
 'Crimes against humanity and peace.'

As discussed in Section 8.3, the most concrete meaning of the dative case is that of a recipient or beneficiary to whose advantage or benefit something is given or done. However, another use of the dative case encodes the recipient of a disadvantage or the recipient of something such as damage caused by explicit or implicit action or activity. In this regard, the semantic context of example (24) encodes a metaphorical view of humanity and peace as recipients of damage caused by criminal acts. Yet again, since the personified view of humanity and peace is expressed by the dative case inflections, such metaphoricity cannot be detected by applying the original MIPVU procedure in Lithuanian. It would therefore be important to include the dative case used with abstract nouns as generating the metaphorical meaning of a beneficiary or recipient to whose advantage or disadvantage something is done. The metaphorical meaning is based on the concrete meaning of a physical recipient.

8.4.3 Potential metaphoricity of derivational affixes and the reflexive particle

To illustrate how derivational affixes give rise to metaphorical meaning in Lithuanian, several cases of prefixed verbs have been chosen for analysis: the prefixes *i-* '(in)to' and *pra-* 'past, beyond, through' with some reflexive verbs. As has been discussed in Section 8.3, most verbal prefixes have prepositional counterparts typically signifying directional and locative spatial meaning. The prefixes chosen for this analysis correspond to prepositions that are identical or similar in form and carry (basic) spatial meaning provided in dictionaries. The prefix *i-* corresponds to the preposition *i* and has preserved the directional meaning '(in)to'. The prefix

pra- corresponds to the preposition *pro* and carries the directional meaning of ‘past, beyond, through’. In the following example, the prefixal (reflexive) verb *įsimylėti* ‘fall in love’ (derived from the non-metaphorical verb *mylėti* ‘love’) may be interpreted as encoding the metaphorical meaning of a container due to the meaning of the prefix *į-*:

- (25) *Ji į-si-mylėjo kit-q vyr-q.*
 she-NOM.SG into-REFL-love-PST.3 another-ACC.SG man-ACC.SG
Lit. She loved herself into/got herself into love with another man.
 ‘She fell in love with another man.’

The prefix *į-* is semantically linked to its prepositional counterpart signifying a spatial relationship of directionality of one object towards and into (the interior of) another object. Presumably, this meaning is retained in the verb *įsimylėti*, which suggests a metaphorical view of directionality and containment. As in English, falling in love is apparently perceived as a movement into a container; the state of being in love, as signalled by the preposition *in*, is ostensibly based on the source domain of a container. In Lithuanian, the metaphorical meaning is signalled by the directional prefix *į-* as well as the reflexive particle *-si-*, which is associated with an action or activity directed or aimed at oneself.

From the point of view of metaphor studies, the reflexive particle plays a significant role in determining the type of metaphorical mapping. Consider two examples with a non-transitive reflexive verb *įsivelti* in (26) and a transitive non-reflexive verb *įvelti* in (27):

- (26) (...) *į-si-vel-ti į konflikt-q su teis-e.*
 into-REFL-felt-INF into conflict-ACC.SG with law-INS.SG
Lit. ‘to felt oneself into/get oneself felt into a conflict with the law’
 ‘To get into a conflict with the law.’
- (27) *Jie į-vel-ė jį į konflikt-q.*
 they into-felt-PST.3 him-ACC.SG into conflict-ACC.SG
Lit. ‘they felted him in a conflict’
 ‘They brought him into a conflict.’

Example (26) encodes a metaphor whereby the law is personified, i.e. perceived as a human being with whom a lawbreaker is in a conflicted relationship, whereas a conflict, in turn, is viewed as an object/material (such as a net) in which a person becomes entangled. A rough equivalent of the Lithuanian phrase in English would be ‘to entangle oneself in a conflict with the law’ in which the reflexive particle *-si-* indicates that one performs the act of felting/entanglement oneself. The reflexive form of the verb is responsible for the metaphoricality evoked in (26), where an offender is seen as being inside of or part of the entangled object or ‘felted’ material.

In the non-reflexive transitive use of the verb illustrated in (27), the situation is slightly different, since a person who is involved in the conflict is seen by other people as an object which is being manipulated; in other words, entangled in a situation by somebody else.

To be able to show how the problem of metaphoricity of a reflexive particle in verbs could be solved, we go back to example (10), which is repeated below as (28) for the sake of convenience. It is taken from a commentary about basketball.

- (28) *Puolėj-as pra-si-ženg-ė penkt-q kart-q.*
 forward-NOM.SG **past- RFL-step.PST.3** fifth-ACC.SG time-ACC.SG
 ‘The forward committed a fifth foul.’

As has already been discussed in Section 8.3, the verb *pra-si-ženg-ė* ‘[he] committed a foul’ stems from the verb *žengti* ‘step’ by adding the verbal prefix *pra-* ‘past, beyond, through’ and the reflexive particle *-si-*. The basic sense of the verb *žengti* ‘lift your foot and move it forward’, as defined in the DCL. In basketball, or sports in general, players move around the court stepping forward or backward. It seems that the basic and contextual senses differ only in that the basic sense is more general, whereas the contextual sense is more specific, but the difference is not due to comparison. Therefore, the word *pražengti* cannot be considered as an MRW. However, the prefix *pra-* and the reflexive particle *-si-* modify the meaning of the verb.

Similarly to the prefix *i-* in the verb *i-si-mylėjo* ‘she/he fell in love’ in example (26), the prefix *pra-* in *pra-si-žengė* ‘[he/she/they] committed a foul’ has its prepositional counterpart *pro*. The directional spatial senses of ‘through’ and ‘past, beyond’ of the preposition *pro* can be treated as basic and selected as such from the ten senses provided by the DCL. Also, the verb *pra-si-ženg-ė* contains the reflexive particle *-si-*, which in this case has the meaning of an action directed at oneself. Thus, having in mind the meaning of the prefix *pra-*, we may interpret the sports rules metaphorically as a type of barrier, and ‘stepping through’ or ‘beyond’ it or crossing it becomes an action violating the rules. Furthermore, the reflexive particle *-si-* adds the meaning of metaphorical directionality, as players direct the consequences of breaking the rules onto themselves by admitting their fault and being ready to be punished.

This section has demonstrated how prefixes and reflexive particles may change the meaning of the word from non-metaphorical to metaphorical in Lithuanian. Although the discussion has been limited only to a couple of prefixes, it has shown that MIPVU protocol has to be modified to include steps concerned with identifying the basic meaning of a prefix (usually coinciding with the primary concrete meaning of a corresponding preposition) and the primary meaning of the base word. Afterwards the meaning of the derivative should be identified.

8.5 Concluding remarks: Possible adjustments of MIPVU to Lithuanian

We have demonstrated a number of potential pitfalls awaiting researchers who want to apply MIPVU to Lithuanian, a highly inflected language. Numerous case forms and an extremely productive derivational morphology, often rendered in English through prepositions or prepositional phrases, inevitably pose a large number of challenges. The semantics of grammatical and derivational morphemes is more abstract (Luraghi 2003, 2008) and thus more difficult to grasp than the semantics of notional words, let alone metaphorical senses of such morphemes.

Our chapter has focused on the most frequent problems concerned with such morphemes in the analysis of Lithuanian texts. They were mostly concerned with the markers of three cases: locative, instrumental and dative. We also touched upon some prefixes and the reflexive particle *-si-*. As a result, we suggest the following amendments to the MIPVU protocol:

1. Words appearing in the locative, instrumental or dative cases have to be analysed by taking into consideration both their lexical meaning and the default meaning of the case at hand. For the locative case, this is containment, for the instrumental it is instrument or means, and for the dative it is physical recipient or beneficiary. If a word appears in an abstract sense and is used in one of the above cases, the word is identified as an MRW. In the locative case, the abstract MRW presumably expresses metaphorical containment. In the instrumental case, the MRW expresses the idea of metaphorical instrumentality. When an abstract noun is used in the dative case, the noun is an MRW, ostensibly expressing the idea of advantage or disadvantage directly derived from a more concrete recipient or beneficiary (see Section 8.4.2).
2. As regards prefixed verbs, it should be noted that the basic meaning of prefixes usually coincides with corresponding prepositions in their concrete sense. Analysts should first verify the meaning of the base verb, after which the meaning of the resultant derivative should be checked in a dictionary and/or the CCLL (See Section 8.4.3).
3. The same adjustment should be made for verbs used with the reflexive particle *-si-*, whose default meaning conveys the idea of the impact of the physical situation on a self. It is important to verify if the particle, affixed to the verb, changes it into an MRW. Our study has shown that there are several cases where the reflexive particle in an MRW renders the idea of direct or indirect impact of more abstract (social, moral) situation on self (see Section 8.4.3).

Our (limited) study of the language-specific characteristics of Lithuanian that require adjustments to MIPVU in order to allow the reliable identification of metaphor in Lithuanian has also revealed a number of problems related to Lithuanian dictionaries. In the absence of a dictionary based on a contemporary language corpus, the identification of linguistic metaphor becomes very difficult. Metaphor identification should therefore include reference to the CCLL whenever the dictionaries provide obsolete basic senses or skip them altogether, use cross-references for words of the same family, conflate concrete and abstract senses into one and thus fail to assist in consistently applying the procedure (see Section 8.2). On a more general note, it should be emphasised that lexicographers would be well-advised to compile a corpus-based dictionary of contemporary Lithuanian.

The next section deals with the experience of the three analysts, the authors of this chapter, of applying an adjusted version of MIPVU to Lithuanian. The section demonstrates some calculations into the inter-rater reliability.

8.6 Reliability tests

Following the MIPVU protocol, an inter-rater reliability test was carried out to check the extent to which three analysts agreed in making decisions for MRWs when applying MIPVU to Lithuanian. The test was run at the final stage of adapting MIPVU to Lithuanian, namely, when the analysts had unanimously agreed on what was considered as a lexical unit⁶ and solved the problematic cases of MRWs arising due to peculiarities of the Lithuanian language and dictionary inconsistencies. The test was carried out based on the analysis of an excerpt from academic legal discourse containing 1,305 words. Before starting the test, the annotators agreed on a set of previously developed rules and used two dictionaries (DCL and DLL). In borderline cases, the analysts resorted to the CCLL. First, each analyst individually annotated the text for MRWs by attaching a relevant code. If a lexical unit was considered a MRW, annotator one marked it 1, annotator two marked it 2 and annotator three marked it 3. The annotated texts were then processed using the SPSS software to calculate Cochran's Q and using Excel to calculate Fleiss' Kappa. Fleiss' Kappa was calculated to test inter-rater reliability. It represents the extent to which the raters assign the same score to the same variable (McHugh 2012: 276). The results of the test are presented in Table 1 below.

6. We followed the MIPVU guidelines for what should be considered as a lexical unit. Because they seemed transferrable to Lithuanian, the chapter does not discuss the issue of a lexical unit in Lithuanian.

Table 1. Inter-rater reliability tests across three independent analysts

Text	No. of lexical units	Percent agreement			Fleiss' κ	95% CI	Min MRWs	Max MRWs	Cochran's Q (df = 2)
		Not	MRW	Total					
Academic	1,305	75.17	24.77	99.94	0.94	0.93–	316	329	6.333
legal			(n = 322.5)			0.96			

The results of reliability testing yielded “almost perfect agreement” (McHugh 2012: 282) among the raters ($\kappa = 0.94$, 95% confidence interval 0.93–0.96). The high level of agreement, showing that the data is reliable 82–100% (ibid.: 282), might be explained by the fact that the analysts tested only for a binary decision: metaphor vs. non-metaphor. Although MIPVU distinguishes more than two categories such as non-metaphors, indirect metaphors, direct metaphors, implicit metaphors, WIDLII (‘when in doubt leave it in’) and DFMA (‘discarded for metaphorical analysis’), our data was consolidated into two variables. As we had to decide whether a lexical unit was used metaphorically, we did not focus on types of metaphors. Thus, we assumed that direct, indirect, implicit metaphors and WIDLII are MRWs, whereas other lexical units were considered as non-metaphorical. There were no DFMA cases in the analysed excerpt. Moreover, the test was carried out only after the analysts had worked out the procedure of MIPVU adaptation to Lithuanian and had discussed all debatable issues.

Cochran’s Q was employed to decide if there were differences on a binary dependent variable between the three analysts (Sheshkin 2004: 867). In this case, Cochran’s Q helped to determine the analysts’ bias in identifying MRWs. The results of this test showed that there was little difference between the three analysts’ judgements considering their individual bias (df = 2, Q = 6.33, $p = 0.042$ ($p < 0.05$)). A relatively minor difference between the lowest scoring analyst (316 MRWs) and the highest scoring analyst (329 MRWs) shows that analyst bias did not come into play. The inter-rater reliability test, checking the extent to which the three analysts agreed in making decisions for MRWs, demonstrated that MIPVU with adjusted guidelines for Lithuanian can be reliably applied to Lithuanian texts.

Our study has been limited to a few areas of morphological variability in one language. Presumably, the idea concerning the default meanings of morphemes could be verified by using other morphemes and other highly inflected languages. This could pave the way to more extensive employment of MIPVU in many languages, and thus contribute to the objectivity of metaphor identification in languages other than English.

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Linguistic metaphor identification in Polish

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9.1 Introduction

Polish belongs to the group of West Slavic languages. It is a highly inflected language: nominal forms such as nouns, adjectives, pronouns, numerals and adjectival participles are declined with different case endings, whereas verbs are conjugated with different endings to indicate mood, gender, tense, number and person (Sadowska 2012: 40). The case system of Polish involves seven types of relationships which correspond to the following cases: nominative, accusative, genitive, dative, locative, instrumental and vocative. The vocative is used with titles and personal names when they are used as a part of a vocative phrase, for example, *droga Kasi-u* (voc. sg) 'dear Kasia'. The gender system in Polish distinguishes as its primary categories masculine, feminine and neuter in the singular, and masculine and non-masculine in the plural. Polish is also characterised by a rich derivational morphology for nouns, verbs and adjectives which can mostly be formed by means of prefixation or suffixation. For example, derivation of verbs from verbs can rely on prefixation (*wyrejestrować* 'deregister' < *rejestrować* 'register'), suffixation (*czytywać* 'read repeatedly' < *czytać* 'read'), combination of both (*zapisywać* 'write down repeatedly' < *zapisać* 'write down' < *pisać* 'write'), addition or subtraction of the reflexive particle *się* (*zdzwonić się* 'get in touch with one another by telephone' < *dzwonić* 'call'; *wściekać* 'enrage' < *wściekać się* 'become enraged'; for more examples, see Comrie & Corbett 1993: 722). As will be seen in the next sections of this chapter, reflexive verbs require special treatment from the point of MIPVU analysis. Additionally, in comparison to English, Polish is a synthetic language, which means it has a relatively free word order.

In the course of this chapter we focus on several features of Polish that in our view should be given special consideration in the process of adapting MIPVU. The importance of the features in question came to light during the process of step-by-step application of the original MIPVU to Polish data. In the following sections, we point at the challenging areas and, whenever possible, suggest amendments to

the MIPVU protocol which facilitate the handling of the Polish language data and resolve the problems stemming from the lexico-grammatical differences between Polish and English. We also present the results from applying MIPVU to Polish spoken and written texts and we focus on the question of inter-rater reliability.

Our application of MIPVU to Polish data is, to the best of our knowledge, the first attempt of this sort. It should be noted, however, that researchers such as Dobrzyńska (1994) or Cockiewicz (2011) also tried to come up with a replicable method for metaphor identification in Polish. In addition, Juszczuk & Kamasa (2016) developed a procedure for metaphor identification in coaching sessions conducted in Polish. Their procedure is loosely based on MIP (Pragglejaz Group 2007), but it pays more attention to the immediate neighbourhood of a given lexical unit and identifies metaphors on the basis of unusual co-occurrence of two expressions. Also, Juszczuk & Kamasa (2016) seem to omit the conditions of contrast and transfer between the basic and contextual meaning of a given lexical unit which are required for the identification of metaphorical lexical units in MIP. A more straightforward application of MIP to Polish is presented in the study of scientific texts by Zawislawska (2011), who provides an explanation of MIP in Polish along with examples of analyzed Polish words but does not propose any language specific changes to the method apart from recommending *Uniwersalny słownik języka polskiego* (Dubisz 2003) as the reference dictionary.

9.2 Data collection and coding

The primary motivation underlying our study was testing MIPVU as a method for linguistic metaphor identification in Polish and adapting it to the Polish language context. Put differently, the goal of the study was to localize the methodological problems occurring in the process of applying MIPVU to Polish and to provide solutions to these problems in the form of clear guidelines for annotators. To have a broader view of the applicability of MIPVU across different genres, we used the procedure to identify metaphors in both written and spoken registers. Our dataset includes 5,079 words of radio programme transcripts and 2,525 words of newspaper articles, which yield a total of 7,604 words. The radio data under analysis includes excerpts from *Dobronocka*, a radio programme devoted to psychology broadcast by *Trójka* ‘Third channel’ of the Polish Radio. We selected this radio programme since we already had experience with applying MIPVU to radio talk in English (Marhula & Rosiński 2014), hoping that working with a similar type of data would facilitate our overall performance in the process of applying MIPVU. Three newspaper articles (on technology, sports and politics) were extracted from the online service of two major Polish daily papers, *Gazeta Wyborcza* and *Rzeczpospolita*.

These were primarily chosen as a counterpoint to the loosely structured conversations on psychology of *Dobronocka*. The whole dataset was annotated in Libre Office Calc (spreadsheet application) by two analysts.

For the purposes of our study, we have selected *Słownik języka polskiego* ‘Polish Language Dictionary’ by Wydawnictwo Naukowe PWN (*SJP PWN*; Bralczyk et al. 2005) as the primary dictionary. Currently, the SJP PWN dictionary is the most comprehensive corpus-based dictionary of Polish available online and free of charge. It contains circa 100,000 entries and is regularly updated. However, the employment of this dictionary along the lines of MIPVU was not free from problems, which are discussed in Section 9.3.2.1. A possible alternative to SJP PWN was the *Uniwersalny Słownik Języka Polskiego* (Dubisz 2003) which is of similar size. Unfortunately, in order to use this dictionary, researchers are required to pay a subscription fee.

9.3 Linguistic issues

In this section, we focus on the process of rendering MIPVU a reliable and replicable metaphor identification procedure for Polish. We primarily deal with the main steps of MIPVU, namely, division into lexical units, which, for the sake of simplicity, we call ‘unitisation’, as well as the issue of localising metaphor-related words (MRWs), which is called ‘itemisation’ and concerns problem areas such as dictionary use, analysis of prepositions, metaphors across grammatical categories, borrowings or novel metaphors.¹

9.3.1 Demarcation of lexical units: Unitisation

On the whole, in our study, we follow the general rule established in MIPVU for English which advocates dividing any kind of text under analysis into lexical units on a word by word basis (the first step of the procedure). For example, along the lines of MIPVU (Chapter 2, this volume), even idioms or fixed collocations should be divided into their component parts. A closer inspection of the Polish data reveals, however, that some MIPVU guidelines for unitisation require elaboration when it comes to their application to Polish. The first problematic issue concerns establishing a list of multiword expressions that are to be treated as non-decomposable lexical units, that is, those phrases which cannot be split without a significant loss

1. For a detailed discussion of unitisation and itemisation in linguistic data analysis, see Krippendorff (2004) and Marhula & Rosiński (2014).

in meaning. Such a list for English was taken from the British National Corpus.² For Polish, however, none of the available dictionaries or corpora provides a complete list of non-decomposable multiword sequences such as *na pewno* ‘for sure’, *w ogóle* ‘at all’, *na przykład* ‘for example’. For this reason, we carried out the process of unitisation relying on SJP PWN dictionary entries: whenever a multiword sequence appeared as a separate dictionary entry, it was treated as non-decomposable. The items that were classified as non-decomposable are provided in Document 9.2 on this volume’s Open Science Framework (OSF) website,³ and include multiword greetings (*dzień dobry* ‘good morning’), commonly abbreviated phrases (*na przykład* ‘for example’, *i tak dalej* ‘et cetera’, *między innymi* ‘among others’), listing expressions (*po pierwsze* ‘firstly’, *po drugie* ‘secondly’), phrases expressing cause, effect or purpose (*po to* ‘because of’). This list is by no means complete and is open to extensions by future studies.

Another group of expressions that in our view should not be split for analysis in Polish is that of reflexive verbs, for example, *uwolnić się* ‘set oneself free’, *uciekać się* ‘to resort to something’. The above verbs have different meanings in reflexive and non-reflexive form (*uwolnić* ‘set free’, *uciekać* ‘run away’). During unitisation it is important to appropriately recognize the verb form so that later on, at the level of itemisation, the basic meaning of the reflexive or non-reflexive verb can be contrasted with its contextual meaning. The analyst should also remember that the reflexive particle *się* takes different positions in the sentence structure and not always immediately precedes or follows the reflexive verb. For this reason, the annotator should be sensitive to those instances of reflexive verbs where the reflexive pronoun is detached from the verb.

The issue of phrasal verbs, which is of a huge concern in English, is non-existent in Polish. However, when it comes to verbs which combine with prepositions, for example, *wpłynąć na* ‘to influence someone/something’, *zachorować na* ‘come down with’, *wchodzić w* ‘enter something’, we divide them into separate units for analysis. In this respect we follow the practice of MIPVU.

Last but not least, it should be mentioned that within the area of unitisation we have made a minor departure from the original MIPVU with respect to the treatment of proper names. MIPVU suggests that all proper names listed in the dictionary should be treated according to their stress pattern: if they have a primary stress, they are treated as single lexical items; if, however, they receive a rising stress, they are divided into separate lexical items. Thus, due to their secondary stress, *United Kingdom* and *New York*, for instance, make two distinct lexical units each

2. The List of Multiwords and associated tags in BNC2 is available at <http://www.natcorp.ox.ac.uk/docs/multiwd.htm>.

3. The volume’s OSF website is available at <https://osf.io/vw46k/>.

(Chapter 2, this volume). We treat all proper names appearing in the SJP PWN dictionary as single lexical units, regardless of their stress pattern (SJP PWN does not indicate the stress pattern for proper names). For example, *Biały Dom* ‘White House’, which appears in the dictionary as a separate lexical entry, is treated as a single unit, despite its secondary stress in Polish.

9.3.2 Establishing the basic and contextual sense: Itemisation

As explained in Chapter 2 of this volume, the second step of MIPVU is concerned with the identification of MRWs, which involves the recognition of contrast and possible metaphorical transfer between the basic and contextual sense of a given lexical unit. At this point, MIPVU requires selecting a dictionary for the purpose of reference. In our study, we encountered several types of problems with establishing the basic sense of lexical units. For example, we found it necessary to list the basic meanings of the most common prepositions in Polish: we created a list of prepositions outlining their basic meanings. In this section, we also discuss our approach to borrowings, novel metaphors and the question of metaphors across grammatical categories.

9.3.2.1 Dictionary issues

A significant issue regarding dictionary use involved determining the basic sense of a given lexical unit on the basis of its dictionary entry: for some lexical entries, the dictionary conflates the basic and abstract senses of a given unit. A case in point is the lexeme *odporny* ‘resistant’ in the sentence given in (1).

- (1) *Odporne na korozję karoserie umiemy robić od dekad.*
 resistant-NOM.PL on corrosion bodywork.PL can-PRS.1P do-INF since ages
 ‘We have known how to make corrosion-resistant car bodies for decades.’

Odporny has two senses outlined in the SJP PWN dictionary:

odporny ‘resistant’

1. SJP PWN1: *niewrażliwy na wpływy fizyczne lub moralne* ‘insensitive to physical and moral influences’
2. SJP PWN2: *nieulegający zakażeniom drobnoustrojami chorobotwórczymi* ‘not prone to infection due to pathogenic microorganisms’

The first definition is broad enough to encompass concrete, physical influences with more abstract, moral ones.⁴ The second sense is human-oriented but narrowed

4. Our secondary dictionary, discussed below in this section, was of little assistance here as it provides a definition of *odporny* which also conflates its physical and abstract meanings.

down to the medical context. Such phrasing of the dictionary entry gave rise to differences in annotation decisions between the analysts: it was difficult to single out the basic sense since SJP PWN1 and SJP PWN2 both relate to the physical and human reality. In the post-analysis session we treated the broad definition SJP PWN1 as more basic than the specialist medical sense. Consequently, we marked the unit as non-MRW.

Other examples highlight other issues related to the use of the SJP PWN dictionary, for instance, the need to treat several definitions in one dictionary entry as a collection of basic meanings. This idea was already suggested by Badryzlova et al. (2013) who developed a similar solution for Russian. Let us consider the dictionary entry of *emisja* ‘emission’:

emisja ‘emission’

1. SJP PWN1: *puszczenie w obieg pieniędzy, papierów wartościowych, znaczków pocztowych; też: pieniądze, papiery wartościowe, znaczki pocztowe pущone jednocześnie w obieg* ‘the issue of notes, bonds, stamps; also: notes, bonds, stamps put simultaneously into circulation’
2. SJP PWN2: *nadawanie programu radiowego lub telewizyjnego* ‘the broadcast of a radio or a TV programme’
3. SJP PWN3: *wysyłanie przez ciała energii, np. światła, dźwięku, elektronów* ‘the act of sending energy, for example, light, sound, electrons’
4. SJP PWN4: *wypuszczanie do atmosfery pyłów lub gazów* ‘the act of releasing dusts or gases into the atmosphere’
5. SJP PWN5: *wydobywanie głosu w śpiewie* ‘producing sound while singing’

In our view, it would seem reasonable to regard senses SJP PWN2–4 and, arguably, SJP PWN5 as a collection of the basic senses of *emisja*. Under such interpretation *emisja* in *emisja gazów* ‘emission of gases’ would show no potential for metaphorical reading.⁵

Following the practice introduced by MIPVU, apart from the SJP PWN dictionary, we have also selected our secondary point of reference, that is a second dictionary whose role is to serve as a back up in cases where SJP PWN clearly conflates concrete and abstract meaning descriptions.⁶ The dictionary in question, *Słownik*

5. The above issue is not exclusively related to Polish or Russian and has been also observed in English for the verb *serve* (Steen et al. 2010: 53), where the proposed solution involved determining the historically oldest sense of *serve* and the derived senses which all are instantiations of the same basic idea.

6. In the course of our analysis, however, unlike the authors of MIPVU, we did not refer to any etymological dictionaries (cf. the use of Oxford English Dictionary in MIPVU; see Chapter 2, this volume).

języka polskiego by Doroszewski et al. (1958–1962; *SJP*D), is easily accessible through the online version of *SJP* PWN, but it is a much older dictionary of Polish. In the course of our MIPVU analysis, we made references to this dictionary only when it was impossible to establish the basic sense of a given lexical unit on the basis of *SJP* PWN. A case illustrating the need for a second dictionary is the lexeme *ochrona* ‘protection’ in the phrase *prawna ochrona przed deportacją* ‘legal protection against deportation’. Let us consider the following definitions:

ochrona ‘protection’

SJP PWN: *zabezpieczenie przed czymś niekorzystnym, złym lub niebezpiecznym* ‘protection against something unfavourable, bad or dangerous’

SJPD: *zabezpieczenie, opieka, osłona przed zniszczeniem, uszkodzeniem, szkodą, niebezpieczeństwem itp.* ‘protection, care, shelter against destruction, damage, loss or danger etc.’

The definition provided in *SJPD* was used by one of the analysts to support the view that for the lexeme *ochrona*, its basic physical sense revolves around the notion of physical protection. Although *SJPD* does not single out this sense as a separate dictionary definition, it profiles the physical aspects of *ochrona* and defines the basic meaning of this term far more clearly than the *SJP* PWN dictionary (protection against destruction or damage). As a result, it is possible to establish the transfer between physical protection and more abstract legal protection, and consequently treat *ochrona* in the phrase *prawna ochrona przed deportacją* as a MRW.

9.3.2.2 Grammatical category

One of the tenets of MIPVU is that the basic sense of a given lexical unit should be searched for within the same grammatical category. As Steen et al. (Chapter 2, this volume) write,

A more basic sense has to be present for the relevant grammatical category of the word form as it is used in context. This is because a grammatical category in a text specifies a particular class of concept and referent, which may not be altered when looking for basic meanings, for otherwise the basis of comparison is shifted. When the dictionary shows that a word may be used in more than one grammatical category, you hence have to examine the various meanings of the word within its grammatical category. Contextual and basic meanings are therefore contrasted as two alternative uses for the same word form in the particular grammatical role that it has in the text.

In general, we followed the above practice. For example, in the case of nouns such as *wpływ* ‘influence’ as in *wpływ na gospodarkę* ‘influence on the economy’ or *rozwiązanie* ‘solution’ as in *wymusić rozwiązanie* ‘to force a solution’, we ignored their deverbal origin. The noun *wpływ* reifies the verb *wpłynąć* ‘to influence’ which

itself clearly displays metaphorical potential as its most basic sense denotes motion on water. *Rozwiązanie* is a reification of the verb *rozwiązywać* ‘to solve’, the basic meaning of which refers to untying or undoing something. However, both nouns, unlike the verbs with metaphorical potential they derive from, have only an abstract sense listed in the dictionary and, according to MIPVU guidelines, cannot be marked as MRWs.

Importantly, Steen et al. (Chapter 2, this volume) point out that, when the description of a lexeme in the dictionary is limited to one grammatical category, analysts are allowed to make a comparison of the various meanings of the lexeme across different grammatical categories. In some cases, such practice was also employed in the course of our analysis: in the SJP PWN dictionary, the definitions of some lexical items were restricted to one lexical category and thus we made a cross-category comparison between the senses of a given lexeme. A case in point is the noun *dotarcie* ‘getting to someone’ in *dotarcie do tysiąca osób w ciągu jednej doby* ‘reaching a thousand people in one day’ which is not defined in the SJP PWN dictionary. Both SJP PWN and SJPD, however, note that this noun has its origin in the verb *dotrzeć* ‘to get to’ (both dictionaries provide a direct link to the lexical entry for the verb):

dotrzeć ‘to get to’

SJP PWN: *dostać się dokądś lub do kogoś z trudem* ‘to reach a place or a person with difficulty’

SJPD: *dostawać się dokąd, do kogo z pewnym wysiłkiem, trudem* ‘reaching a place, person with effort, difficulty’

When used in the context of reaching or getting to a person with a message (i.e. communicating a message instead of reaching a destination or a person physically), this verb is undoubtedly metaphorical. We interpreted the noun *dotarcie* in a parallel manner: in our data, it is employed to refer to the act of successful lecturing to a large audience, which gives it a metaphorical reading.

9.3.2.3 Prepositions

In the data analyzed by Steen et al. (2010) prepositions contributed significantly to the overall number of MRWs. Without a detailed description of their basic senses and regular references to their dictionary definitions, a consistent annotation of prepositions in terms of MIPVU might become a challenge in some languages, as some of other chapters in this volume demonstrate. In our study, the doubts concerning the metaphorical status of prepositions contributed to a large number of disagreements between the annotators. We encountered significant problems with arriving at the basic sense of a given preposition since the SJP PWN dictionary does not always offer useful definitions. For example, the entry for the Polish preposition *na* ‘on’ lists ten senses, none of which profiles the basic spatial

relationship as in *książka jest na stole* ‘the book is on the table’. The preposition *w* ‘in’ is only mentioned in the dictionary in the form of the prefix *w-* related to the CONTAINER schema, but it is undefined as a separate preposition. Therefore, in our view, it would be much easier to analyze Polish prepositions with reference to a list of their most basic senses. This problem is not unique to Polish and has been also observed, for example, in Russian by Badryzlova et al. (2013). Following their practice, we compiled a list of the basic meanings of Polish prepositions on the basis of a cognitive study of prepositions by Przybylska (2002) that relies on image schematic relationships and a typology of motion events. The list, which is presented in Document 9.3 on this volume’s OSF website, allowed us to unanimously analyze a number of otherwise problematic examples. Three of them are discussed below.

The first example concerns the preposition *z* ‘with’ as used in the expression *tabu zwiqzane z emocjami* ‘a taboo connected with emotions’ (or literally ‘a taboo tied to emotions’). The SJP PWN does not offer any definition for *z* as a preposition and therefore it cannot serve as a reference point in the analysis of this unit. The contextual sense of *z* here denotes an abstract adjacency relationship between a taboo and emotions. In our list of the basic meanings of prepositions the prototypical relationship denoted by *z* is the physical adjacency of material phenomena. This concrete sense contrasts with the contextual sense and enables meaning transfer to the abstract sense of connection between a taboo and emotions.

The observations made in the course of our study suggest that the list of the basic senses of prepositions develops the annotators’ awareness of the metaphorical potential of prepositions. A case in point is the preposition *do* ‘to’ as in *dopasować do* ‘to fit/adjust to something’. One of the analysts initially disregarded the metaphorical potential of this preposition, treating *dopasować do* as a common fixed prepositional phrase similar to a fixed pattern of verb complementation. However, after consulting the list of the basic meanings of prepositions, it turned out that *do* may profile a goal in the SOURCE-PATH-GOAL schema exploited in the process of comparison (cf. Radden and Matthis 2002). Since the preposition *do* displays some potential for profiling the interpretation of ADJUSTMENTS in terms of MOVEMENTS between a SOURCE and a GOAL, we marked this preposition as a MRW.

The list of the basic meanings of prepositions also helps in excluding those instances of prepositions which at first sight seem to be metaphorical but upon closer inspection do not carry such potential. Let us consider the case of *przed* ‘in front of/before’ as used in the expression *ochrona przed deportacją* in (2).

- (2) *ochrona przed deportacją*
 protection before deportation
 ‘protection against deportation’

Przed, in collocations with the noun *ochrona* ‘protection’ (see the discussion of *ochrona* in Section 9.3.2.1), evokes a scenario of confronting danger and its contextual sense is closer to English ‘against’ rather than ‘in front of/before’. Among various senses, the SJP PWN entry for *przed* provides examples of using this word similarly in relation to avoiding physical phenomena, e.g. *zasłoniła twarz przed wiatrem* ‘she covered her face from the wind’. This may suggest a potential metaphorical transfer between avoiding physical harm and more abstract harm as deportation in (2). This reasoning does not hold, however, if we profile the basic meaning of *przed* as a strictly spatial relationship as in Document 9.3 on this volume’s OSF website. The contrast between the basic and contextual sense remains, but it does not warrant the metaphorical transfer necessary to mark *przed* as a MRW.

9.3.2.4 Borrowings

Since the analyzed newspaper texts and radio programmes deal with topics such as psychology, sports, technology or politics, they contain relevant specialist borrowings from English. In the course of annotating our dataset we came across five cases of borrowings, which inspired us to establish rules about how to deal with expressions of this sort.

One article in the newspaper dataset discussed a parliamentary obstruction process known as *filibuster*. This term is not codified in SJP PWN, therefore we could not inspect it in terms of basic and contextual meaning and decided to discard it from metaphor analysis. However, this was not the case with all borrowings in our data. The phrase *mieć coacha* ‘to have a coach’, which comes from the radio talk data, includes a borrowing from English referring to a *life coach* defined by the Macmillan dictionary (MM; Rundell 2002) as ‘someone who provides advice and support to people who want to improve their lives, helping them to make decisions, solve problems, and achieve their goals’. It may be argued that in English the term *life coach* is in itself metaphorical as it is an extension from the basic meaning of *coach*, namely ‘someone who trains a sports player or team’ (MM). The SJP PWN includes a similar variant of the latter sense for the term *coach*:

coach ‘coach’

SJP PWN: *trener, zwłaszcza drużyny piłkarskiej* ‘a trainer, especially of a football team’

The SJP PWN entry for *coach* does not mention life coaching, relevant to the phrase *mieć coacha* from our data. Still, even though the basic sense of *coach* is narrowed down to a coach of a football team, it is possible to follow the line of reasoning for English, and establish the metaphorical transfer between a football team trainer and a life coach.

To summarize, our proposed rule for borrowings in Polish is to discard non-codified lexical units from the analysis. In the case of borrowings which are defined in the SJP PWN dictionary, regular MIPVU rules should be applied.

9.3.2.5 Novel metaphors at the level of morphology

Steen et al. (2010: 41) suggest that new-formations in English should be analyzed as if they consisted of more than one lexical unit. This recommendation seems to be more problematic in Polish if we take into consideration the rich system of prefixes, which gives Polish language users a very creative tool for developing novel morphological constructions. SJP PWN accounts for conventional words derived by prefixation, consistently providing separate definitions for them. Yet, in our dataset, we encountered three instances of novel complex words, which raised a few questions concerning their proper analysis. Let us consider the following example:

- (3) *W Stanach to potrafią tysiące wolontariuszy jechać i z*
 in States so can-PRS.3PL thousand. PL volunteer. PL go-INF and with
tymi którzy przeżyli katastrofę, kataklizm, cokolwiek
 those who survive.PST catastrophe cataclysm whatever
po prostu wy-oddychać.
 simply: out.breathe
 ‘in the States it’s possible that thousands of volunteers go and with those who
 survived a catastrophe, cataclysm, whatever simply *breathe out*.’

The newly coined verb in (3), *wyoddychać*, consists of the verb stem *oddychać* ‘to breathe’ and the prefix *wy-* ‘out-’.

oddychać ‘breathe’

SJP PWN: *wciągnąć powietrze do płuc i wydalić je* ‘inhale the air into the lungs and exhale it’

wy- ‘out’

SJP PWN: *przedrostek tworzący czasowniki pochodne, najczęściej z nadaniem czasownikowi następujących odcieni znaczeniowych: ruch od wewnątrz na zewnątrz, od dołu ku górze* ‘a prefix denoting inside-out or bottom-up movement’

The prefix *wy-* in relation to the verb activates the CONTAINER schema signalling movement outside of the container as well as exhausting the substance inside the container. By using the novel verb *wyoddychać* the speaker suggests that a container holding some emotional substance may be emptied out by means of breathing. In this way a novel metaphor is created and its salience is actually stressed by the formation of a new word. The above example shows how the system of Polish prefixes may become a factor in the process of creative word formation. A helpful strategy

for MIPVU in Polish while dealing with such novel complex words is to analyze the basic meanings of their morphemes in line with the guidelines for English (see Steen et al. 2010: 47–49). However, in those cases where a new word is created by means of prefixation it might be difficult to indicate which morpheme specifically carries the metaphorical potential. Thus, in our view, not single morphemes (as in MIPVU for English) but whole new word formations should be marked as MRWs or non-MRWs.

9.3.3 Metaphor and declination

As Steen et al. (2010: 12) repeatedly highlight, MIPVU has been designed to identify metaphors primarily at the word level: it is not concerned with metaphors at the level of morphology or at the higher, discourse event level. However, as noticed by Urbonaitė in her study of Lithuanian (2015; see also Chapter 8, this volume), it is difficult to ignore metaphors resulting from the case system. She shows how the CONTAINER and INSTRUMENT domains may be metaphorically encoded in the locative and instrumental cases by means of case inflection alone, without the use of prepositions. Unlike in Lithuanian, in Polish the locative and instrumental cases involve the use of prepositions which carry the metaphorical meaning and thus can be annotated as MRWs. Thus, for example, in the phrase *historia z dreszczyk-iem* (INS.SG) ‘a story with a thrill’, the preposition *z* ‘with’ is used metaphorically since it denotes physical adjacency of two abstract entities. For the vocative case in Polish the situation is analogical to Lithuanian: metaphor can be encoded at the level of word morphology by means of inflection alone. Although we did not come across any such examples in our data, it should be noted that it is possible to encode a metaphor by means of the vocative noun form in Polish, especially when the noun in question is a proper name of some inanimate entity. An example of this phenomenon occurs in the well-known opening line of the epic poem *Pan Tadeusz* by Adam Mickiewicz:

- (4) *Litwo, ojczyzna moja! Ty jesteś jak zdrowie.*
 Lithuania-voc.sg fatherland-voc.sg my-voc.sg you are like health
 Lithuania, my country! Thou art like health.’

The utterance in (4) personifies *Lithuania* as the addressee of the invocation. The metaphor is constructed by means of the vocative case and metaphor researchers applying MIPVU to Polish should be sensitive to such mechanism of personification.

On the basis of the above example, it can be observed that adapting MIPVU to languages with a rich case system may involve problems related to metaphors at the level of morphology. This phenomenon cannot be easily handled as long as

the procedure focuses on metaphors at the word level only. Therefore, we suggest that for languages such as Polish or Lithuanian, where the case system is rather complex and metaphors may surface in the inflected noun forms, some specific rules on how to treat inflected nouns be established. For example, in Polish the use of the vocative case in personifications is rare, but it should still be taken into account by annotators. In our view, the vocative form of inanimate nouns should be marked as a MRW. This decision may be additionally motivated by the fact that vocative forms are most often used with reference to animate objects, such as people or animals, and addressing either concrete or abstract inanimate entities with the vocative form stands out as a rather awkward but nevertheless clear instance of personification.

9.3.4 Metaphor categorisation: Direct, indirect and implicit metaphors

Steps three and four of MIPVU provide instructions on identifying types of MRWs other than indirectly used MRWs, that is, direct MRWs and implicit MRWs (see Chapter 2, this volume). In our study, we did not encounter significant problems in distinguishing between these three MRW types in Polish. Indirect MRWs rely on the contrast between the contextual meaning of a given unit and its more basic meaning which is absent from the actual context. Direct MRWs can be identified when a lexical unit is used in its basic sense as a part of some form of cross-domain comparison. Following the MIPVU guidelines, we identified direct metaphors in expressions of the form *A is like B* by marking *B* as a direct MRW. Expressions which pointed at inclusion or similarity relations in Polish, such as *to jest taki rodzaj* ‘it is a type of’, *tak jak* ‘just like’, *tak jakby* ‘as if’, *takie* ‘such’, *przypominał* ‘resembled’, also guided the interpretation of direct MRWs. These phrases function as metaphor flags (see step five of MIPVU in Chapter 2, this volume). Third person personal pronouns or anaphoric expressions referring to earlier instances of MRWs were in turn annotated as implicit MRWs. Examples of direct and implicit MRWs are presented below.

- (5) *Brak to jest taki rodzaj dziury.*
 lack this is such type hole
 ‘Lack is a type of a hole.’
- (6) *Taki dialog ze sobą prowadzimy też w myślach. Mało kto prowadzi go na głos.*
 such dialogue with ourself-PL lead.PRS.1PL also in thought.PL few who
 lead.PRS.3 it on voice
 ‘We lead such a **dialogue** with ourselves in our thoughts. Few lead it out loud.’

In (5), the word *brak* ‘lack’, a specialist term from psychoanalysis related to a feeling of existential emptiness, is explicitly categorised as *rodzaj dziury* ‘a type of hole’ and thus *dziury* ‘hole’ has been marked as a direct MRW. In (6), the third person pronoun *go* ‘it’ refers back to the metaphorical term *dialog* ‘dialogue’ which makes it an instance of implicit metaphor. The lexical unit *dialog* itself is an indirect MRW as its basic meaning refers to a conversation between two people (SJP PWN1), whereas the contextual meaning refers to an internalized discussion with oneself.

9.4 Sample analysis

In this section we present an excerpt from the Polish dataset with our annotation of indirect and direct MRWs. Units are demarcated with the | symbol. Indirect metaphors are given in bold, direct metaphors are underlined and one instance of a borrowing which has been discarded from metaphor analysis has been crossed out. The excerpt comes from the radio talk data and is devoted to the problem of persistent thoughts. A detailed analysis of a fragment starting with the lexical item *sztuka* is provided below.

- (7) *dużo | osó**b** | ma | takie | różne | natrętne | myśli | prawda | takie | własne | jakieś | fobie | i | i | czasami | **prostą** | metodą | jest | akceptacja | tego | co | **płynie** | bo | my | bardzo | często | staramy się | mówi się | nawet | nie myśl | prawda? | co | jest | bardzo | trudne | trudno | jest | nie | myśleć | jeżeli | się | już | zdefiniuje | tą | słynną | powieść | o | tym | nie | myśl | nie | myśl | o | słoniu | czy | tam | nie | myśl | o | cebuli | czy | o | czymś | generuje | od razu | myśl | także | pewnie | **prostą** | umiejętnością | której | warto | się nauczyć | jest | taka | sztuka | **przepływu** | taki | taki | ~~flow~~ | **przepływ** | przez | głowę | niech | one | sobie | **płyną** | trochę | tak jak | woda.*

‘Many people have these persistent thoughts, right? Some sort of phobias and sometimes a simple method is to accept the things that flow. Because we very often try to ... Some people even say don’t think, right, which is very difficult. It’s difficult not to think. If one defines ... that famous story about ... don’t think ... don’t think of an elephant or don’t think of an onion or whatever, it immediately generates a thought. So surely a simple skill worth learning is the art of flow, something like flow, flow through the head, let them flow a bit like water.’

sztuka

Contextual meaning: The same as the basic sense (SJP PWN2).

Basic meaning: *Sztuka* in its basic sense refers to a skill that requires talent or special qualifications. This meaning corresponds to SJP PWN2: ‘umiejętność wymagająca talentu, zręczności lub specjalnych kwalifikacji’ [a skill which requires talent, dexterity of special qualifications].

Contextual meaning vs. basic meaning: The contextual meaning does not contrast with the basic meaning.

Metaphorically used? No.

przepływu-GEN.SG (*przepływ*-NOM.SG)

Contextual meaning: Flow of thoughts or consciousness. This sense is not present in the dictionary.

Basic meaning: A more basic meaning of *przepływ* is SJP PWN1: 'przemieszczanie się cieczy, gazu itp. z jednego obszaru do drugiego' [the movement of a liquid or gas from one area to another].

Contextual meaning vs. basic meaning: The contextual meaning contrasts with the basic meaning (the basic meaning refers to the flow of material substances, an aspect which is not present in the contextual meaning), but it can be understood in terms of comparison with the basic meaning (consciousness understood as a movement of a liquid).

Metaphorically used? Yes (indirect metaphor).

taki

Contextual meaning: The same as the basic sense.

Basic meaning: The only sense of *taki* in SJP PWN: 'zaimek odnoszący się do cechy danych osób lub przedmiotów, o której była wcześniej mowa' [a pronoun referring to a feature of a person or object mentioned earlier].

Contextual meaning vs. basic meaning: There is no contrast or transfer between the basic and contextual sense.

Metaphorically used? No.

flow

Contextual meaning: An abstract movement of thoughts or consciousness.

Basic meaning: This unit is not defined in SJP PWN.

Metaphorically used? This lexical unit has been discarded from metaphor analysis as it is a borrowing from English not present in the SJP PWN dictionary.

przepływ

Metaphorically used? Yes (indirect metaphor). See the analysis above.

przez

Contextual meaning: Abstract spatial movement.

Basic meaning: A more basic sense relates to a dynamic relation, movement across space (see Document 9.3 on this volume's OSF website).

Contextual meaning vs. basic meaning: The basic meaning involves concrete movement, the contextual meaning is abstract. The flow of thoughts across an abstract space can be compared to a movement through a concrete space.

Metaphorically used? Yes (indirect metaphor).

głowę-ACC.SG (*głowa*-NOM.SG)

Contextual meaning: The contextual meaning corresponds to SJP PWN2: 'siedlisko rozumu, myśli' [the dwelling place of mind, thoughts].

Basic meaning: A more basic meaning of *głowa* is SJP PWN1: 'część ciała człowieka i zwierząt, zawierająca mózg i narządy zmysłów' [a body part of humans and animals containing the brain and sense organs].

Contextual meaning vs. basic meaning: The contextual meaning profiles abstract thought processes whereas the basic meaning refers to a body part which is responsible for these processes. Thus the relationship between the basic and contextual sense is metonymic rather than metaphorical.

Metaphorically used? No (but this lexical unit is used metonymically).

niech

Contextual meaning and basic meaning: A particle of the imperative mode which occurs at the beginning of sentences or verbal phrases and expresses requests, orders or wishes.

Metaphorically used? It does not offer any potential for metaphorical meaning.

one

Contextual meaning and basic meaning: A plural pronoun referring back to *myśli* ('thoughts').

Metaphorically used? One as an anaphoric expression does not offer any potential for metaphorical interpretation (the antecedent expression *myśli* is also not metaphorical).

sobie

Contextual meaning: In this context, the expression *sobie* underlines the fact that thoughts flow independently of our will. This sense is not present in the dictionary.

Basic meaning: SJP PWN1: 'wyraz dodawany do czasownika, podkreślający niezależność działania danego obiektu' [a word added to a verb, stressing the independent actions of an object].

Contextual meaning vs. basic meaning: The contextual sense builds upon the basic sense and there is no contrast between them.

Metaphorically used? No.

płyną-PRS.3PL (*płynąć*-INF)

Contextual meaning: The verb denotes abstract movement of thoughts in a stream of consciousness. This sense is not present in the dictionary.

Basic meaning: A more basic meaning is SJP PWN2: 'o ludziach, zwierzętach, pojazdach itp.: przemieszczać się w jakimś kierunku po powierzchni wody lub w wodzie' [about humans, animals, vehicles, etc. to move in a particular direction on the surface of water or in water].

Contextual meaning vs. basic meaning: The basic meaning evokes movement in water, the contextual meaning is an abstract movement of thoughts. This abstract movement of thoughts is understood in terms of movement in water.

Metaphorically used? Yes (indirect metaphor).

trochę

Contextual meaning: An adverb reducing the degree of similarity.

Basic meaning: SJP PWN: ‘przysłówek komunikujący, że stopień cechy lub zakres stanu rzeczy bądź zjawiska, o których mowa w zdaniu, nie jest duży’ [an adverb communicating that the degree of an intensity of a feature or a phenomenon described in the sentence is not high].

Contextual meaning vs. basic meaning: There is no contrast between the basic and contextual sense.

Metaphorically used? No.

tak jak

Contextual meaning and basic meaning: A comparative phrase whose meaning is similar to *like* in ‘A is like B’.

Metaphorically used? No. It is a metaphor flag (MFlag).

woda

Contextual meaning: Water (SJP PWN1).

Basic meaning: SJP PWN1: ‘przezroczysta, bezbarwna ciecz, niezbędny składnik organizmów żywych’ [a transparent colourless liquid, essential to living organisms].

Contextual meaning vs. basic meaning: There is no contrast between the basic and contextual sense: *woda* is used in its basic sense. However, it works as a source term in a direct metaphorical comparison in which thoughts are compared to water.

Metaphorically used? Yes (direct metaphor).

9.5 Applying MIPVU to Polish: Reliability measures

In order to verify the reliability of our analysis we followed the statistical procedure of checking inter-rater agreement. We measured the Cohen’s Kappa coefficient for the whole dataset as well as for its two subsets, assuming that the cut-off point for reliable results equals 0.8 as suggested in Steen et al. (2010: 149–165). It should be noted, however, that since there is no long lasting tradition of interpreting kappa scores in linguistic annotation studies, such cut-off points are rather arbitrary and the results should be interpreted in comparison with other metaphor identification studies (see Steen 2007: 125, cf. Landis & Koch 1977: 165). For example, in the case of MIP, the researchers reported kappas in the 0.6–0.8 range (Pragglejaz Group 2007: 21). Our results are summarized in Table 1.

Table 1. MRWs and inter-rater agreement for the whole dataset (numerical results)

	No. of lexical units	Unanimous MRW	Unanimous Not MRW	Min. MRWs	Max. MRWs	Cohen's κ itemisation	Cohen's κ categorisation
Radio	4777	7.5% (n = 358)	87% (n = 4166)	465	471	0.74	0.86
Newspaper	2443	10.5% (n = 256)	85% (n = 2079)	294	321	0.80	1
Total	7220	8.5% (n = 614)	86.5% (n = 6245)	759	792	0.77	0.94

We have analyzed 7,220 lexical units in total, including 4,777 lexical units in the radio data and 2,443 in the newspaper data. The table presents the number of unanimous MRWs and not-MRWs we obtained in the process of annotation. The minimum number of MRWs represents the lowest number of items identified by one rater, while the maximum number of MRWs the highest number of items identified by one rater. If we compare the difference between the minimum, maximum and unanimous numbers of MRWs, it already becomes apparent that, although we found a similar number of metaphorical items, our decisions were not always the same with respect to which lexical units in particular were counted as MRWs. The kappa score for itemisation in the whole dataset comes out at 0.77, which is slightly below the earlier mentioned cut-off point. However, it should be noted that the respective agreement scores for the two sub-corpora show a different picture: it appears that our rating decisions were more unanimous for the newspaper data than for radio talk (kappa scores for these two text types are 0.80 and 0.74, respectively). When it comes to our decisions regarding different MRW types (categorisation), the kappa scores were much higher. The kappa score for categorisation in the full dataset reached the level of 0.94. As in the case of itemisation, inter-rater agreement for the radio subset was lower than for newspaper articles where our decisions were identical (complete agreement). To provide a point of reference for the reliability of our results, we can compare them with the results for inter-rater agreement in the MIPVU analysis that we carried out for English data in an earlier study. The kappa scores for itemisation in English spoken data, more specifically BBC radio talk, were slightly lower and came at 0.73 (Marhula & Rosiński 2014).

The reported difference in inter-rater agreement scores between radio talk data and newspaper articles in Polish might be conditioned by two main factors: the lexical and structural differences between the analyzed genres as well as an increasing level of experience of the annotators (we annotated the radio data first, and the experiences collected in that process helped us avoid many discrepancies in

the analysis of the newspaper texts). Additionally, some of the amendments to the method arose during the annotation of the first subset. However, we cannot deny the fact that not only the accumulated experience but also the less complex character of the written genre contributed to a smaller number of discrepancies in the newspaper data. Simply put, in our view, written text displayed an advantage over spoken text with respect to the application of metaphor identification procedure. We hope that future studies of MIPVU in Polish will make further comparisons of metaphor identification in the two genres in question and will verify the above observations against a larger body of data.

9.6 MIPVU for Polish: Final guidelines and conclusions

Our analysis of the Polish data indicates that MIPVU is applicable to Polish, but some amendments to the original procedure are required. In our view, special attention should be paid to two major areas. The first of these concerns the demarcation of lexical units in Polish which requires individual rules for reflexive verbs, multiword expressions and proper names. The second one centres around the process of establishing the basic and contextual sense in the case of prepositions, borrowings, new formations and those linguistic units which are not precisely defined in the reference dictionary. Addressing the above issues along the guidelines presented in this chapter will render MIPVU a reliable procedure for metaphor identification in Polish. We have incorporated the suggested amendments in the procedure for Polish into the protocol available at this volume's Open Science Framework website.⁷

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7. The protocol is Document 9.1 in the Chapter 9 folder, while Document 9.4 is the protocol written in Polish; see <https://osf.io/vw46k/>.

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Linguistic metaphor identification in Serbian

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10.1 Introduction

The Metaphor Identification Procedure Vrije Universiteit (*MIPVU*; Steen, Dorst et al. 2010) has brought far-reaching changes in existing approaches to metaphor analysis and is quickly stepping outside of its initial English language context. Recently, the procedure has also found its application in Slavic languages, facilitating important insights on, for example, multimodal metaphors in Ukrainian (Bobrova 2015) or the possibilities of corpus metaphor annotation in Russian (Badryzlova et al. 2013). Still, to this day, comparatively little has been written systematically on the methodological aspects of applying *MIPVU* to Slavic languages, which remains a notable gap given that languages in this group exhibit particularly complex morphological structure already noted as challenging for *MIPVU*. The present chapter aims to address this gap by discussing the application of *MIPVU* to Serbian, a South Slavic language in which there have been no systematic attempts to apply *MIPVU* so far.

Overall, our goal is twofold. Firstly, we wish to present a list of potential problems and solutions that may serve as guidelines for *MIPVU*-based analyses of Serbian data, and possibly be helpful for metaphor identification in related Slavic languages. Secondly, we wish to open up a discussion of metaphorical meanings encoded in nominal inflection, which bears potential relevance not just for *MIPVU*, but for metaphor analysis in general.

In particular, we draw attention to the fact that in the Serbian language metaphorical meanings comparable to those carried by English prepositions (Krennmayr 2011) are encoded not only by means of prepositions but also by means of prepositionless case inflection. Such case-encoded metaphors make it problematic to apply *MIPVU* in its current form to Serbian data (or indeed to other languages with prepositionless realizations of case). This issue has been pointed out recently for Lithuanian (Chapter 8, this volume) and Polish (Chapter 9, this volume) in a few examples, but we find it very common in our data, stemming from the numerous prepositionless realizations of case in Serbian (e.g. *daje ljudima-DAT* “gives to people”, *igranje rečima-INST* “playing with words”).

10.2 Relevant lexico-grammatical properties of Serbian: Inflectional morphology and case

Serbian is one of the standard varieties of Serbo-Croatian, the pluricentric South Slavic language from which four national standard varieties evolved following the disintegration of former Yugoslavia (the other three being Croatian, Bosnian and Montenegrin). Despite the sociopolitical fragmentation of Serbo-Croatian, the linguistic core that enabled its prior unitary codification remains clearly discernible, with its successors being structurally homogeneous and mutually intelligible (cf. Browne 2002, Bugarski & Hawkesworth 2006, Hawkesworth 2006, Kordić 2006). The present chapter focuses on linguistic metaphor identification in Serbian since the material, the primary lexicographic resource and the electronic corpus used in the analysis belong to that particular variety, but the findings are also applicable to the other three varieties of the Serbo-Croatian linguistic complex (cf. Chapter 7, this volume, for the discussion on MIPVU in Scandinavian).

Like other Slavic languages, Serbian is a Subject-Verb-Object (SVO) language with flexible word order and complex fusional inflectional morphology. Of particular interest for the application of MIPVU is its case system, with seven traditionally recognized cases: nominative, genitive, dative, accusative, vocative, instrumental and locative (for comprehensive treatments of the syntax and semantics of cases in Serbian, see Stevanović 1989, AntoniĆ 2005). In addition to the category of case, Serbian nouns are morphologically marked for gender (masculine, feminine and neuter) and number (singular and plural), with four declension groups, whereby there is a considerable degree of inflectional syncretism (for instance, the suffix *-i* can mark the masculine + plural + nominative combination, as in *prozor-i* 'windows', as well as the feminine + singular + dative/locative combination, as in *kutij-i* 'to/in/on (the) box'). Gender-number-case agreement is obligatory (for more details on agreement in Slavic languages, see Corbett 2010).

Among the seven cases, nominative and vocative are independent, with the former indicating the subject or nominal predicate and the latter indicating the addressee in communication. Among the remaining five oblique cases, locative always requires a preposition (*biti u kući* 'to be in the house'), while genitive, dative, accusative and instrumental can be used with or without a preposition; for example, (a) genitive: *izaći iz kuće* 'to get out of the house' and *krov kuće* 'the roof of the house', (b) dative: *ići ka doktoru* 'to go towards the doctor' and *dati (nešto) doktoru* 'to give (sth) to the doctor', (c) accusative: *ući u kuću* 'to go into the house' and *graditi kuću* 'to build a house', (d) instrumental: *pričati sa doktorom* 'to talk with the doctor' and *biti zadovoljan doktorom* 'to be satisfied with the doctor'. Also, a single case can be combinable with different prepositions and a single preposition can be combined

with different cases, whereby the particular preposition-case combination is determined by the argument structure of the verb.

With regard to the applicability of MIPVU, it is the prepositionless use of genitive, dative, accusative and instrumental that merits special attention, with a view to the metaphoricity of grammatical case without accompanying prepositional marking. Thus, for instance, MIPVU would detect the metaphoricity of the English preposition *with* in *beam with joy*, but it would miss the analogous metaphoricity of the prepositionless instrumental case in Serbian *zračiti radošću* ('beam joy-INST'). In order to make the Serbian MIPVU comparable to the English and other language versions of the procedure, it is necessary to systematically take this morphological category into consideration.

In Section 10.5 we discuss how this kind of case-encoded metaphoricity can be approached when applying MIPVU to Serbian, in relation to more basic senses of cases. Given the complexity of Serbian case semantics, describing the basic case senses is not an easy task. Nevertheless, based on the available detailed characterizations of the case system in Serbian and related cognitive-linguistic explorations of Slavic case (e.g. Stevanović 1989; Piper 1997; AntoniĆ 2005; Wierzbicka 1981; Janda 1993, 2002) and on the understanding of 'more concrete' (related to bodily action; more precise; easier to see, hear etc.) as described in MIPVU on the lexical level, we identified the basic sense(s) of each case, mainly as located in the physical domain. For present purposes, this classification is somewhat less complex since we are interested only in prepositionless oblique cases; a simplified list of basic meanings for these cases in Serbian is presented in Table 1.

Table 1. The basic meanings of Serbian oblique cases (prepositionless use)

Case	Basic meaning	Example
GENITIVE	physical part/possession	<i>Terminal 1 Beogradskog aerodroma</i> 'Terminal 1 of Belgrade Airport'
DATIVE	directedness of movement	<i>prići ulazu</i> 'approach the entrance'
	recipient of physical object	<i>ponudila je Džejmiju sendvič</i> 'she offered a sandwich to Jamie'
ACCUSATIVE	affected object of physical action	<i>polomili su prozor</i> 'they broke the window'
	object of perception, emotion, cognition	<i>videti kuću</i> 'to see the house'
INSTRUMENTAL	physical instrument	<i>otvoriti ključem</i> 'to open with a key'

10.3 Operational issues

10.3.1 Data

The material used for analysis is composed of 12 randomly selected articles from three major Serbian daily newspapers (*Politika*, *Blic* and *Novosti*) comprising 5460 words in total.¹ The small corpus size we opted for facilitated careful metaphor identification, and allowed for in-depth analysis of each issue observed and each instance of disagreement among analysts, while still granting sufficient insight into hundreds of metaphorical expressions.

10.3.2 Procedure

Corpus annotation was done by two analysts (K. Bogetić, A. Bročić), native speakers of Serbian, both PhD holders working in the area of metaphor. Both analysts had previously applied MIPVU and had attended practical workshops held by MIPVU researchers (G. Steen, S. Nacey); this means that potential departure from MIPVU resulting from errors or misunderstanding of the procedure is minimized. The initial coding involved a small subsample of the corpus (about 15%), followed by discussion. Minor issues and errors were noted and resolved jointly, together with a senior researcher (K. Rasulić); the whole corpus was then annotated independently by the two analysts. Finally, the data set was subjected to statistical analysis for reliability.

10.3.3 Selection and use of dictionary

An essential feature of the MIPVU procedure is its reliance upon carefully chosen dictionaries for lexical segmentation and the determination of the more basic and contextual senses of lexical units. The dictionaries chosen for English, the *Macmillan dictionary for advanced learners* and the *Longman dictionary of contemporary English*, are both corpus-based and general purpose dictionaries, thus reflecting current usage. They are at the same time intended for learners of English, and as such employ carefully structured and comprehensive sentence definitions, expanded by illustrative quotes which show how a particular word is used in actual discourse (see Krennmayr 2008; Steen, Dorst et al. 2010; Nacey 2013).²

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1. The publication dates of the articles included in the analysis fall between 2011 and 2016.
 2. As explained by Nacey (2013: 101), in the early stages of the development of the method definitions alone were consulted when determining basic meanings of lexical units; later, however,

The choice of lexicographic resources for Serbian is considerably more limited than for English. As our primary tool, we selected the one-volume *Rečnik srpskoga jezika* [Dictionary of the Serbian Language] (RSJ; Matica srpska 2007), which represents an updated and condensed version of the older six-volume *Rečnik srpskohrvatskog književnog jezika* [Dictionary of the Standard Serbo-Croatian Language] (RMS; Matica srpska/Matica hrvatska 1967–1976). We chose the RSJ dictionary as our primary tool because it has a number of key features which make it suitable for this type of metaphor analysis. For example, like Macmillan and Longman, it provides elaborate, detailed meaning definitions for each entry, and only infrequently defines word meanings by means of synonyms. Moreover, definitions are in the vast majority of cases expanded and accompanied by illustrative quotations extracted from actual discourse (literary works, admittedly, predominate) as well as constructed ones, and information regarding typical collocates and patterns of usage is provided.

Still, in cases where (1) the RSJ failed to provide entries for the less frequent words of Serbian due to restricted space, (2) the sense descriptions provided were not detailed and comprehensive enough and illustrative examples were not included or (3) we felt that a sense which we intuitively perceived as a potentially more basic sense was not highlighted either by means of a separate definition or through illustrative sentences, we resorted to two other dictionaries as secondary tools – the aforementioned RMS dictionary along with *Rečnik Srpske akademije nauke i umetnosti* [Dictionary of the Serbian Academy of Arts and Sciences] (RSANU; Srpska akademija nauke i umetnosti 1959–2016). The RSANU is the most comprehensive dictionary and definitive authority on Serbian, but its construction is still under way and to date the dictionary has been completed up to the letter P (the last entry is the noun ‘*pogdegod*’ ‘here and there’), with the 20th volume having been issued in 2018.³

Finally, when all three dictionaries failed to adequately illustrate how a lexical item is used in a more basic sense, or when we encountered lexical items which do not receive separate entries in the dictionaries (for instance, deverbal adjectives and nouns), we consulted the electronic *Korpus savremenog srpskog jezika* [Corpus of contemporary Serbian] (KSSJ). The KSSJ currently contains 113 million words, with the last update having taken place in 2013; it is relatively evenly balanced across

the importance of illustrative sentences came to the fore as these sentences often indicate whether a more basic meaning encompasses both concrete and abstract senses, and whether it applies only to people, animate entities in general, or simultaneously to animate and inanimate entities.

3. The RSANU dictionary currently has 230 000 entries, but in its final form, it is expected to consist of over 30 volumes and contain around half a million entries. The RSANU is still not available as an online resource, but its digitization is under way.

different genres of written language. Section 10.4 provides a detailed account of how we made use of the resources available, and the situations in which those tools proved to be inadequate.

10.4 Unit demarcation and contextual/basic meaning identification

10.4.1 Determining lexical units

The second step of the MIPVU protocol requires researchers to determine the lexical units in the text being analysed (see Chapter 2, this volume). As the decisions made at this step of the procedure may have a significant bearing on the quantitative aspect of the analysis, establishing clear rules for lexical segmentation should be the researcher's paramount consideration. According to MIPVU, the basic unit of analysis, the so-called lexical unit, usually corresponds to an orthographic word, except for multiword units such as *phrasal verbs* and *polywords*. As for *compounds* and *proper nouns* consisting of more than one word, there has to be primary stress on the first word in order for them to be treated as single lexical units.

While phrasal verbs are ubiquitous in English, these verbs do not exist in Serbian. However, *reflexive verbs* constitute a candidate for the status of non-decomposable lexical units in Serbian, and more widely, Slavic languages. As rightly argued by Marhula & Rosinski (Chapter 9, this volume), reflexive verbs should not be split for analysis since these verbs often display meanings which are completely different from those of their non-reflexive counterparts. A case in point is example (1) from our data.

- (1) *Svi su se pravili neveštima.*
 everybody.NOM.PL be- AUX.3.PL self-REFL make.PTCP:3.M.PL dumb-INST.PL
 'Everyone acted dumb.'

Unlike the non-reflexive verb *praviti* 'to make', which has a more basic meaning as in *praviti ručak* 'to make lunch', the reflexive verb *praviti se* has solely the contextual sense 'pretend to be' and would thus not be considered a metaphor-related word (MRW). This highlights the importance of being consistent in applying the rules for lexical segmentation and also regarding reflexive verbs as single units, as inconsistent application would lead to different decisions regarding the metaphoricity of a large number of verbs.

When it comes to polywords, analysts dealing with English are advised to turn to the BNC for a list for such fixed expressions (Chapter 2, this volume), but such lists are, unfortunately, not always readily available in the case of less researched languages. The KSSJ corpus, extensive though it is, fails to provide researchers with

an inventory of potential polywords. We analysed as polywords only the expressions which meet the following criteria: fixed word order and presence in at least one of the relevant dictionaries, albeit under the headword of the unit (e.g. *u stvari* ‘in fact’, *bez obzira na* ‘regardless of’, *budući da* ‘seeing as’, *u vezi s(a)* ‘in relation to’ etc.). Still, based on our data, such fixed expressions are rather infrequent overall (fewer than 20 found in our 5460-word corpus), so this is not likely to be a major problem for analysts.

Serbian compounds come in two varieties: solid compounds and the so-called ‘semi-compounds’, which are hyphenated two-word constructions whose components keep their individual stress (Stevanović 1989: 399–402; Stanojčić & Popović 1997: 141–142). Examples include the following: *spomen-kuća* ‘memorial house’ (lit. ‘memory house’), *grad-država* ‘city state’, *gas-mask* ‘gas mask’. Following MIPVU practice regarding solid and hyphenated compounds, we treated both compounds and semi-compounds as single units only if they are listed as such in the dictionary. If they are not codified in the dictionary, we considered them novel formations to be treated as two separate lexical units. MIPVU additionally specifies the rule for treating compounds which are spelt as two separate words in English: if there is primary stress on the first word, they are to be treated as single lexical units (e.g. *secondary school*, *power plant*) whereas in the case of falling stress patterns, researchers should mark each word as a separate unit (*nuclear power*) (see Chapter 2, this volume). The treatment of such word combinations in Serbian proved to be problematic during our analysis for several reasons. Apart from the fact that they are not recognized as either compounds or semi-compounds in the existing grammar descriptions, they are listed in the dictionaries in a rather haphazard fashion – for example, the Serbian equivalent of *secondary school* – *srednja škola*, which would be treated as a single lexical unit in English (see Krennmayr 2008), is listed only in the RMS. More importantly, the aforementioned stress criterion is not applicable to Serbian because both elements bear equal stress in Serbian compounds and semi-compounds. We therefore analyzed each of the two components of such two-word constructions separately. In some cases, however, adjectives can be formed from such word combinations, pointing to the greater semantic unity of their constituent components (Pešikan et al. 2010: 86). Word combinations of this kind are predominantly determinative, with the first component modifying the meaning of the second, for example, *spoljna trgovina* ‘foreign trade’ → *spoljnotrgovinski* ‘related to foreign trade’, *krivično pravo* ‘criminal law’ → *krivičnopravni*, *visoko obrazovanje* ‘higher education’ → *visokoobrazovni*, *srednja škola* ‘secondary school’ → *srednjoškolski*, *hladni rat* ‘cold war’ → *hladnoratovski*, etc. Those word combinations are to be regarded as single lexical units, provided they are codified in standard dictionaries alongside the corresponding adjectives.

Further, the MIPVU rules regarding lexical segmentation of English proper nouns proved to be inadequate when applied to Serbian. Apart from the fact that proper nouns are not given independent headword status in the Serbian dictionaries, researchers would be unable, as in the case of compounds, to rely on the stress criterion. In line with the principle of MIPVU that one lexical unit should correspond to a single referent in the discourse world (Steen, Dorst et al. 2010), we suggest that all proper nouns be treated as single lexical units (cf. Nacey 2013; Chapters 8 & 9, this volume). As the modified rules may give rise to numerical discrepancies in cross-linguistic studies (for example, comparing English and Serbian), lexical items such as proper nouns and compounds should always be specifically labeled in both sets of data, thus making the data more immediately comparable.

Lastly, a clear rule should be established for the lexical demarcation of ‘preposition + negative pronoun’ constructions in Serbian. Namely, when preceded by prepositions, negative pronouns are split and prepositions inserted between the two parts. In standard Serbian, for instance, *s(a) nikim-INS*, corresponding to ‘with nobody’ (lit. *s(a) nikim-INS*) are written as the split construction *ni sa kim* (‘not with anybody’), but *ni* and *kim* do not bear meaning as individual words. They are the split parts of the negative pronoun *niko* (‘nobody’) and designate a single referent in the discourse world. We therefore find that it is only adequate to regard such grammatical splits as ‘preposition + negative pronoun’ and count them as two, not three units.

10.4.2 Contextual and basic meaning identification

The third step in the procedure requires the researcher to determine the contextual meaning of a given lexical unit (3.a), whether the lexical unit has a more basic contemporary meaning (3.b), whether its contextual and basic senses *sufficiently differ*, and if so, whether there is a metaphorical mapping, or *relation of comparison* between them (3.c). It is thus clear that, before proceeding to decide whether there is a metaphorical mapping between the contextual and basic senses, the researcher must establish that the two senses are sufficiently distinct. To this end, and to ensure the method’s reliability, an operational definition for the criterion of sufficient distinctness is provided – only senses which are listed as separate, numbered entries following the same headword are to be regarded as sufficiently distinct (Chapter 2, this volume). Sufficient distinctness is determined on the basis of Macmillan, as the primary tool, but the method nevertheless stipulates that researchers resort to Longman whenever they suspect that Macmillan has merged senses which they intuitively perceive to be sufficiently distinct. This is illustrated by Steen, Biernacka et al.’s (2010: 180–181) analysis of the definitions of the verb

‘groom’: while Macmillan does not establish separate numbered entries for the ‘human grooming an animal’ and ‘humans grooming themselves’ senses, making it impossible to view the latter as potentially metaphorical, Longman does separate these senses.⁴ During our analysis, however, it became clear that the rigorous application of this rule would not be entirely applicable as concrete and abstract senses are often conflated under the same sense description in the dictionaries we have at our disposal. Let us look at one example from our data:

- (2) *Vuk-Ø zadržao turcizme u*
 Vuk-NOM.SG **keep.PST.3.M.SG** Turkish.loanword.ACC-PL in
jezik-u
 language-LOC.DEF
 ‘Vuk **kept** Turkish loanwords in the language.’

All three dictionaries merge the physical sense of the verb *zadržati* ‘stop/keep somebody from moving’ and the abstract sense – *zadržati bes, čuđenje, tok vremena* ‘keep anger, amazement to oneself, stop the flow of time’, which, if one decides to apply MIPVU rules rigorously, might suggest that the senses are simply manifestations of one overall meaning, and that the lexeme is consequently monosemous. The same can be said of a number of lexical items we came across in our corpus: the noun *opseg* ‘perimeter’ and ‘scope’, the verb *istražiti* ‘search an area’ and ‘research/study, investigate something’, the verb *obnoviti* ‘to repair sth so that it looks as good as it did originally’ and ‘renew, make something start happening again’, to name but a few. All three researchers felt that the physical senses of these lexical items were common in contemporary Serbian, and that by not recognizing the distinction between those physical and more abstract senses we would fail to take into account the potential metaphoricity of a large number of lexical units. A quick corpus (KSSJ) search of 100 random hits confirmed our intuitions: *obnoviti mostove/spomen-obeležje/crkvu/porušene objekte/fasadu/hotel* ‘rebuild bridges/memorial/church/destroyed buildings/façade/hotel’; *istražiti plaže/ruralni Knjaževac*, ‘search beaches/rural areas of Knjaževac’; *opseg struka* ‘the perimeter of the waist’. We

4. While the existence of separate numbered senses is a prerequisite for regarding the senses as distinct, it is still the individual analyst’s task to decide whether such numbered senses are indeed sufficiently distinct, rather than the manifestations of one encompassing meaning (for an example see Nacey’s (2013: 108) analysis of the definitions of the verb *serve* in Macmillan). Furthermore, it is the analyst’s judgment that is called upon when determining associations between distinct senses – i.e. for a relationship between two senses to be judged metaphorical, there has to be a relation of comparison between them, and not, for example, one of generalization, specification, and metonymy, and it is up to the analyst to ascertain that relationship (Krennmayr 2008; Steen, Dorst et al. 2010; Nacey 2013).

therefore take into account that contextual and basic senses need not necessarily be separated by numbers; they can be subsumed under a single numbered entry and separated by letters (e.g. 1.a, 1.b), or sometimes even merged within a single sub-entry description and separated by punctuation marks (semicolons).⁵ It is, however, essential that the meanings that meet basic sense criteria should always be clearly profiled and highlighted either *in the definition itself* or through the *illustrative quotes* provided. Researchers should still consult the KSSJ when in doubt so as to ensure that the degree of subjectivity is kept to a minimum.

This is not a major departure from the MIPVU method, but merely highlights the need for caution when making decisions on dictionary use, especially in languages whose lexicography is not as developed as that of English. For example, it has recently been noted that it would sometimes be inadvisable to place too much trust even in the way dictionaries separate senses. Based on the analysis of sense descriptions found in two authoritative French dictionaries, Reijnierse (Chapter 4, this volume), for example, shows how reliance on one dictionary rather than the other may lead to completely different decisions regarding metaphoricity of a number of lexical items. As argued by Reijnierse, dictionaries can at times be indiscriminate in the way they indicate whether a word is used figuratively, in their use of Roman, Arabic numerals, or more importantly, whether separate senses are indicated by numbers, rather than letters. A case in point is another example from our corpus – the noun *pad* ‘fall’. The RSJ lists the following sense descriptions: 1.a. an act of moving towards the centre of the Earth, 1.b. an act of suddenly going onto the ground, without intending to, 1.c. collapse of a building, 1.d. a loss of political, economic, etc. power or success (fall from power, fall of the government), 1.e a reduction in the value, amount, price of sth (a fall in temperature), 1.f. a fail (in a test) 2. *fig.* a. a sudden onset or arrival (the fall of night) 2.b moral decline, deterioration. The RMS, on the other hand, separates all the aforementioned senses by numbers. Furthermore, while the RSJ marks the senses 2.a and 2.b as figurative, the RMS includes *fig.* only next to the moral decline sense of ‘pad’. It could be further argued 1.d and 1.e could also have been marked as figurative by a different group of lexicographers. Even the RSANU, despite providing the most fine-grained and detailed analysis of the senses, lumps the ‘fall of night’ sense of *pad* with its strictly physical senses.

5. The latter can be illustrated with the following sub-entry definition of the verb *razviti* ‘to develop’, as listed in both the RSJ and the RMS: 3.a. to cause something to grow, become bigger, stronger, to strengthen, enlarge; to cause something to become more advanced and elaborate, to perfect; to advance something: ~muscles, ~shoulders, ~chest; ~thinking skills, ~faculties, ~taste, ~imagination, ~economy, ~industry, ~technology. Nevertheless, it is important to emphasize that this was by no means frequent in the material analysed.

There is an even greater need for KSSJ consultation in the case of *deverbal nouns* and *deverbal adjectives*, as these lexical units are defined through the meanings of the verbs that they derive from and do not have separate entries in the Serbian dictionaries. Similarly, Pasma (2012; see also Chapter 5, this volume) and Urbonaitė (2015; see also Chapter 8, this volume) have identified the same problem concerning the application of the method to Dutch and Lithuanian respectively. A case in point is the seen in example (3).

- (3) *nema veze sa obnavljanje-m*
 have.3.SG.NEG link-GEN.SG with **renewal-DEF.INS.GEN**
neosmanističkih pretenzija
 neo-Ottoman.GEN.PL pretension.GEN.PL
 ‘is not related to the **renewal** of neo-Ottoman ideological pretensions.’

The noun *obnavljanje* is derived from the verb *obnoviti*, which, as previously mentioned, has both a concrete (to repair, rebuild) and an abstract meaning (to renew, make something start happening again). Our intuition that *obnavljanje* is still used in a more basic sense was further corroborated by abundant corpora examples: *obnavljanje vodovoda/voznog parka, škola, infrastruktura, porušenih objekata/hidroelektrana* ‘the rebuilding of the water supply network/rolling stock/schools/infrastructure/destroyed buildings/water plant’.

While frequent corpus (KSSJ) consultation may severely prolong the procedure, this step is necessary at this stage to ensure greater reliability of the findings and greater adherence to the MIPVU procedure.

10.5 Case-encoded metaphoricity

The original MIPVU procedure makes a good case for using the word as the unit of analysis, but the authors do on a few occasions acknowledge the problems that might occur in languages with more complex morphological systems (Chapter 5, this volume). While application to languages other than English has so far required only minor adaptations, the application of MIPVU to our Serbian data has highlighted a bigger problem. Consider the following example taken from one of the newspaper articles in our corpus:

- (4) *Student-i su na internet-u zas-uti*
 student-NOM.PL are on internet-LOC.SG shower-PTCP.PASS.3.M.PL
skraćenic-ama.
abbreviation-INST.PL
 ‘Students are showered **with abbreviations** on the internet.’

First, the metaphoricity of *zasuti* ‘showered’ is unproblematic and easily captured by MIPVU. Second, if we look at the equivalent English sentence first and apply MIPVU to it, it is easy to identify the preposition *with* as metaphorical – its basic meaning is social/human oriented, that of accompaniment and spatial proximity (as usually described in cognitive linguistics, cf. Dirven 1993), ie. ‘if one person or thing is with another or does something with them, they are together or they do it together’ (MM1), while the contextual meaning is one of ‘saying what is used for doing something’ (MM3) and can be linked to the basic meaning by similarity (togetherness of agent and another entity). However, it is impossible to identify the equivalent metaphorical meaning in the Serbian example using MIPVU. The contextual meaning of *skraćénica* ‘abbreviation’ is the same as the basic meaning, that of ‘a short form of a word’. Evidently, still, there is metaphorical meaning carried by this linguistic expression whereby the sense of physical instrumentality is given to an abstract entity. It is encoded by the instrumental case, more or less equivalent to the preposition + noun construction in English, but MIPVU provides no grounds for its identification.

The use of prepositionless nominals requires a brief elaboration at this point. As in theoretical and descriptive cognitive linguistic accounts (see e.g. Brugman & Lakoff 1988; Klíkovac 2006; Rasulić 2004) the metaphoricity of prepositions has frequently been highlighted in MIPVU-based analyses. In quantitative investigations prepositions are actually found to be the word class most often used metaphorically in English (Steen, Dorst et al. 2010; Krennmayr 2011). However, in Serbian and related Slavic languages many meanings equivalent to those of English prepositions are encoded in grammatical case, as in the example above. Case-encoded metaphoricity can be created on the linguistic level through similarity with a more basic case meaning, much like the metaphoricity in prepositions, but it is ‘invisible’ on the lexical level of analysis.

This is a problem for MIPVU metaphor identification. MIPVU is designed to operate on the word level only, which means that it does not recognize case-encoded metaphoricity that can occur in Serbian. A similar problem has recently been noticed in Lithuanian, where some metaphorical meanings are encoded in the locative and instrumental cases via case inflection alone (Chapter 8, this volume), and in Polish, in instances of the prepositionless vocative (Chapter 9, this volume). We find the issue even more pervasive in our data, stemming from the numerous prepositionless realizations of case in Serbian. All the oblique cases (genitive, dative, instrumental, accusative) can encode metaphorical meaning when used without prepositions, for example:

- (5) *na počet-ku* *t-e* *crn-e* *statistik-e*
 on beginning-LOC.SG that-GEN.SG black-GEN.SG **statistic-GEN.SG**
 ‘at the beginning of that dark **statistic**’

- (6) *vodi nov-om nasilj-u*
 lead-PST.3.SG new-DAT.SG violence-DAT.SG
 'leads to new violence'
- (7) *dosegnuti broj-k-u*
 reach.INF number-ACC.SG
 'reach the number'
- (8) *zemlj-e razaran-e ratov-ima i sukob-ima*
 country-NOM.PL destroy-PTCP.PASS.3.F.PL war-INST.PL and conflict-INST.PL
 'counties destroyed with wars and conflict'

If such metaphors resulting from the case system are overlooked, it is difficult to conduct quantitative investigation of linguistic metaphors in Serbian. For instance, if we attempted a comparison in metaphor frequency between our Serbian news discourse and Krennmayr's (2011) English news discourse, the results obtained through MIPVU would be skewed – while Krennmayr's analysis counts metaphors of the type given in (4) and the list above, the equivalent metaphorical senses would be missed in Serbian as they are not encoded on the lexical level. Also, case-encoded metaphoricity may be relevant in various further analyses of metaphorical representations of abstract concepts and the fact that MIPVU cannot identify it in Serbian is a notable drawback compared to its application in English.

Nevertheless, we believe that the problem can be resolved and that it does not render MIPVU inapplicable to Serbian or similar languages. In order to include case-encoded metaphors in the analysis, what is needed is an additional step in the procedure that allows the researcher to identify the metaphoricity marked in case forms. This means that the final count of linguistic metaphors needs to include both lexical and inflectional metaphors. It should be noted at this point that depending on one's aims, the decision to ignore case-encoded metaphor may sometimes be valid, but we find that researchers must be aware of the role of grammatical case in encoding metaphoricity in Serbian words and of what is missed if such metaphoricity is ignored. Thus, we here aim to highlight the grammatically encoded metaphor and to point to the systematic criteria that can be established for such metaphor identification.

In the following section we outline a proposal for a possible adaptation of MIPVU allowing it to identify case-encoded metaphoricity, while keeping the analysis grounded in the lexical level. Given the complexity of Serbian case semantics, the procedure is meant to serve as a basic guiding principle and a preliminary proposal of a 'case-sensitive MIPVU' for Serbian, but is likely to be refined in future analyses. The modified approach may assist in metaphor investigations in Slavic languages, whose case morphology is typically complex (Janda 2002), but our focus here remains specifically on Serbian.

10.5.1 Solutions

We propose that the problem of Serbian case inflection can be solved by introducing an additional step in the procedure. For simplicity, we use the terms lexical and inflectional metaphor for the two types of linguistic metaphor. By *case meanings* we refer to the meanings encoded via case; the term is used for convenience and readability of the procedure (and must not be confused with the potential metaphoricality of the cases themselves). The modified procedure involves the usual first three steps of MIPVU, together with an added Step 4:

4. a. For each independent prepositionless oblique-case nominal in the text, establish its case and case meaning in context. (The 'context' includes semantic content, syntactic roles as well as lexical choice).⁶ *skraćenicama: Instrumental Case, abstract means*
 - b. Determine whether the case meaning in context differs from the more basic case meaning but can be understood in comparison with it. *skraćenicama: the case meaning⁷ in context (abstract means) differs from the more basic case meaning (physical instrument) and IS understood by comparison with the basic meaning. cf. Table 1*
- Inflectional metaphor? Yes.

It is clear from the description that step 4 follows the MIPVU logic of differences in basic and contextual senses. Each Serbian case has a prototypical, basic meaning (basic case meanings are anchored in the physical/spatial domain, such as physical part, instrument, location, direction; see Section 10.2 for the full list), so the question is simply whether the nominal involves this more basic case meaning or has a different contextual meaning encoded via case. Ideally, the most efficient way is for steps 3 (determining lexical metaphor) and 4 (determining inflectional metaphor) to be done in parallel, though researchers can choose their own approach depending on corpus size and research aims. On the whole, the main implication of a procedure modified in this way is that both lexical and inflectional metaphors need to be counted as metaphorical lexical units, if we are to make sure the 'hidden' metaphorical meanings are not missed and that the findings are analogous to those that would be obtained using MIPVU in English.

It should be noted that establishing a link through similarity is crucial with inflectional metaphor, and requires perhaps more attention than when establishing

6. The 'context' includes semantic content, syntactic roles as well as lexical choice.

7. 'Case meanings' more precisely refer to the meanings encoded via case; the term is used for convenience and readability of the procedure (and must not be confused with the potential metaphoricality of the cases themselves).

lexical metaphor. Some case forms used outside the basic case sense may simply be the results of sound change diachronically or remnants of old morphology,⁸ rather than reflecting a metaphorical extension from a more basic meaning (as is discussed in our sample analysis in Section 10.6). In accordance with MIPVU principles, unclear cases should be marked as WIDLII; still, if absolutely no reasonable basis of similarity can at all be established between a case meaning in context and the more basic meaning, the unit should not be marked as metaphorical.

Another point to note is that the additional step only involves prepositionless nominals. In ‘preposition + noun’ constructions metaphoricity is easily identified on the preposition (word) level, following the basic MIPVU procedure. We acknowledge the fact that prepositions and inflection contribute to nominal meanings together (Šarić 2014), but for the purpose of identification, it makes much more practical sense to mark this metaphor on the preposition (word) level, rather than repeat the process on the following noun.

Also, the procedure requires looking only at the headword – the independent nominal. Consider example (9).

- (9) *vođen* *jednostavn-im činjenic-ama*
 guide.PST.PASS.3.M.SG simple-INST.PL fact-INST.PL
 ‘guided by simple facts’

Here our procedure allows us to identify metaphoricity in the instrumental case *činjenicama*; modifier-head agreement means that the same inflectional ending is borne by the preceding adjective (*jednostavnim*), but this is part of the same metaphorical meaning and it would be misleading to mark the metaphoricity twice. Thus, only the independent nominals, the headwords of phrases, need to be marked for inflectional metaphor.

10.6 Sample analysis

In the following section we present the results of sample analysis and show how the procedure works in practice, using a small corpus of newspaper texts in Serbian. A quantitative overview of the number of MRWs (lexical and inflectional) is given first, followed by a more detailed discussion of inflectional metaphor.

8. Unfortunately, these diachronic changes are insufficiently documented for the researcher to rely on any existing description (see Comrie 1978).

10.6.1 An overview in numbers

Overall, the demarcation of lexical units was found to run smoothly when applying the small modifications to MIPVU for Serbian. Thus, the modified procedure allowed us to identify both lexical and inflectional metaphor, leaving just a small number of problematic cases. The statistical procedure for inter-rater agreement followed the guidelines of Steen, Dorst et al. (2010). We measured the Cohen’s Kappa coefficient for our whole corpus employing binary classification. The results of a reliability test are given in Table 2.

Table 2. MRWs and inter-rater agreement for lexical and inflectional metaphor

	Number of lexical units	Number of unanimous MRWs	Minimum number of MRWs	Maximum number of MRWs	Cohen’s Kappa
Lexical metaphor	5118	703	733	758	0.933
Inflectional metaphor	5118 (550)	242	257	273	0.833

In total, 5118 lexical units were analyzed, and demarcated with nearly 100% annotator agreement; out of these, 550 are lexical units which are oblique prepositionless nominals and may potentially involve inflectional metaphor. To establish annotator agreement for MRWs, we measured a separate Cohen’s Kappa score for both lexical and inflectional metaphor. Of all 5118 lexical units in the sample, 703 are unanimously found to be lexical MRWs, while 242 are inflectional MRWs.

For lexical metaphor, we obtained a kappa score of 0.933, which is rather high if we consider the cut-off point for reliable results to be 0.8 (cf. Artstein & Poesio 2008). In part, the high score may be attributed to the initial annotator discussion of about 15% of the corpus, which was subsequently annotated again as part of this data analysis; still, the high overall result supports the claim that MIPVU is generally transferrable to Serbian data.

For inflectional metaphor, it is important to bear in mind that only 550 lexical units in total are oblique prepositionless nominals that have the potential to mark inflectional metaphoricity; these are the units that were analysed, so the number is given in the brackets. The score for inflectional metaphor is notably lower, at 0.833, but still above the threshold for sufficient kappa. It should also be noted that it is not impossible for the same word to carry both lexical and inflectional metaphoricity (e.g. *propisani kulturnom vrednostima* ‘prescribed with cultural values’); both can still be captured in the adapted MIPVU procedure (in Step 3 that looks at contextual and basic senses of nouns, and our added Step 4 that looks at contextual and basic case meanings). Instances where both the noun and case are metaphorical are comparatively rare in our corpus (23 lexical units), but this may in part be due

to the nature of the topic of the articles; further work is needed to explore this kind of ‘double’ metaphoricity. In the rest of this section, the metaphoricity encoded by the four prepositionless cases will be observed in some more detail.

10.6.2 Case-encoded metaphor

As can be seen in Table 3, the percentage of inflectional metaphor, i.e. of the oblique prepositionless nominals that encode metaphorical meanings within them, is by no means insignificant. Their figure is only three times lower than the one for lexical metaphor, and about 5% of lexical units in the corpus carry inflectional metaphoricity. Employing the modified procedure described in Section 10.5, we found the analysis to be mostly unproblematic, though still more difficult than the determination of lexical metaphors due to more nuances one must pay attention to when establishing case meanings. More details on prepositionless nominals and inflectional metaphor are given in Table 3 (using the average number from the two annotators). The table includes labels like ‘metaphorical’ and ‘non-metaphorical’ for simplicity, while referring to metaphor encoding; the units we marked as WIDLII are included in the ‘metaphorical’ count.

Table 3. Metaphor encoding in prepositionless oblique cases

	genitive	dative	accusative	instrumental	all
Metaphorical count	109	31	96	29	265
Metaphorical %	39.2	72.1	54.5	54.7	48.18
Non-metaph. count	169	12	80	24	285
Non-metaph. %	60.8	27.9	45.5	45.3	51.82
Total no.	278	43	176	53	550

The total count shows that the most frequent prepositionless oblique case is the genitive, followed by the accusative. This is not unexpected, given their importance in syntactic structure (they are sometimes seen as distinct, ‘syntactic’ cases in modern Slavic languages, see Comrie 1978) and the range of meanings they have come to express in Serbian. For purposes of metaphor identification, they are thus sometimes more difficult to pin down, and indeed our annotator disagreements in the preliminary subsample analysis mainly involved these cases. Consider, for instance, the genitive construction:

- (10) *osećanje* *stid-a*
 feeling-NOM.SG shame-GEN.SG
 ‘a feeling of shame’

At first sight it is more difficult to link the genitive *stida* ‘of shame’ to a more basic partitive/possessive meaning. This can be a general difficulty with the Serbian genitive, as it has developed a range of senses held together mostly by its prominence as the noun phrase adjunct of a noun, rather than solely by the semantics of the situation described. Still, in this example the partitive/possessive meaning of the genitive case is linked to the abstract contextual meaning, and can be seen as more basic (Comrie 1978). More generally, the issue is similar to the treatment of the preposition ‘of’ in English (‘edge of a chair’ vs. ‘feeling of duty’), which has been recognized as a difficult case (Pragglejaz Group 2007), but can be resolved following similar logic. Namely, what Nacey (2013) aptly explains for the English preposition *of* is relevant for the Serbian genitive constructions as well – their metaphoricity can result “from the very fundamental distinction between encodings of relationships involving concrete entities (edge of a chair) and those involving abstract entities (feeling of duty)” (Nacey 2013: 84). This is very important in identifying the metaphoricity in difficult examples of syntactic cases like the above, but also central to understanding the kind of metaphoricity encoded in case inflection. Most simply put, again following the logic in Nacey (2013), case encoded metaphoricity occurs when the defining properties or relationships of abstract entities can be understood in terms of some physical aspect of more concrete entities.

While the genitive and the accusative appear to be the most frequent prepositionless oblique cases, they are not the ones that encode metaphoricity most often. Our analysis suggests that the dative is most frequently metaphor encoding, followed by the instrumental and the accusative. In the rest of this analysis we will illustrate the metaphoricity encoded by the dative and the instrumental case, found to be rather unproblematic from the perspective of our adjusted procedure. The description that follows does not aim to be exhaustive, but provides some more illustration of the kind of metaphorical meanings encoded by case and ‘hidden’ within words in Serbian.

10.6.2.1 *The dative*

Our analysis suggests that the Serbian dative is frequently used with an abstract sense that often involves metaphorical meaning (31 out of the 43 prepositionless dative nominals involve inflectional metaphor). Thus, for instance, abstract meanings can be expressed through an idea of movement or direction:

- (11) *bi-moglo da vodi novum nasilju.*
 could CONJ lead.PRS.3.SG new-DAT.SG violence-DAT.SG
 ‘could lead to new violence.’

In this example discussing potential actions of the Syrian army, the dative encodes a metaphorical sense – from the perspective of the modified MIPVU, the contextual meaning is result/consequence, while the more basic meaning is direction of

movement (cf. Table 1). The meaning in context is understood through comparison with the basic meaning, where violence is presented as a physical point in space that one can reach. The metaphorical meaning encoded in the inflection is further motivated by the verb *voditi* 'lead', which contributes to the spatial understanding of *nasilju* 'to violence'. Again, this metaphorical meaning is not visible on the word level as it stems from the interplay of word meaning and grammatical (case) form; nevertheless, it is easily identified using the modified MIPVU procedure.

The Serbian dative inflection can also encode linguistic metaphors whereby the directional meaning of physically receiving something motivates other abstract senses:

- (12) *Džastin-u se Džesik-a dopada-la.*
Justin-DAT.SG REFL Jessica-NOM.SG like-PST.3.F.3
 'Justin liked Jessica / Jessica appealed to Justin.'
- (13) *Na sto-lu nam je ćas-a.*
 on table-LOC.SG **we-DAT** be.PRS.3.SG bowl-NOM.SG
 'To us a bowl is on the table (...). / Our bowl is on the table.'
- (14) *Rusij-a im je partner*
 Russia-NOM.SG **they-DAT** be.PRS.3.SG partner-NOM.SG
 'Russia is a partner to them. / Russia is their partner.'

Example (12) involves what is sometimes described as the "experiencer dative" whereby the use of nominals that express emotions or impressions is motivated by the dative sense of recipient (Rudzka-Ostyn 1996). According to cognitive grammar accounts of the Slavic dative, the link can be understood as stimulus given to the dative referent (Janda 1993). Examples (13) and (14) illustrate another specific use of the Serbian dative, involving a combination of possession and affectedness linked to the more basic directionality/giving sense. Despite semantic closeness with possessive adjectives, possessive datives involve the sense of 'affectedness of the possessor', whereby the dative-case nominal is profiled as an event participant, one to whom an action is directed (Vujić 2016).

Finally, we have come across several instances of the dative used in the non-basic sense, but one that cannot be linked to the basic sense in any transparent way, possibly reflecting historical development of the case (e.g. *svojevremeno mladima* 'suitable for youth'); according to our procedure, such uses are not marked as metaphorical.⁹

9. It should also be noted that there are other specific uses of the Serbian dative which may encode metaphoricity not present in the corpus; to give just one example, the so called 'discourse mobilizing datives' (cf. Rudzka Ostyn 1996: 367) as in *Ko nam je to došao!*, literally 'Look who has come to us!', express emotion via meanings of directionality, and are likely to be common in conversational and more informal language.

10.6.2.2 *The instrumental*

In our corpus we found a number of examples of instrumental case nominals in which the physical ‘instrument’ sense can be attributed to an abstract entity that does not otherwise possess it (29 out of the 53 prepositionless instrumental nominals involve inflectional metaphor). The abovementioned *zasuti skraćenicama* (‘showered with abbreviations’) is an obvious example. The kinds of ‘instrumentality’ conveyed can be diverse, for instance:

- (15) *Majkl* *Daglas* *je* *Ketrin*
 Michael-NOM.SG Douglas-NOM.SG be-AUX.3.SG Kathryn-ACC.SG
osvojio *jedn-om* *rečenic-om*.
 win.PST.3.M.SG one-INST.SG sentence-INST.SG
 ‘Michael Douglas conquered Kathryn with one sentence.’
- (16) *Ljud-i*, *nošen-i* *zanos-om* *stečen-e*
 person-NOM.PL carried-PTCP.3.M.PL enthusiasm-INST.SG gained-GEN.SG
nezavisnost-i ...
 independence-GEN.SG
 ‘People, carried by *the enthusiasm* of gained independence ...’
- (17) *Tinejdžer-i* *engleski* „obogaćuju” *različit-im*
 teenager-NOM.PL English-ACC.SG enrich.PRS.3.SG different-INST.PL
skraćenic-ama
 abbreviation-INST.PL
 ‘Teenagers “enrich” English with different abbreviations (...)’

All these cases involve a kind of hidden metaphoricity encoded via case inflection, whereby nouns like *rečenica*, *zanos*, *skraćenice* are used in a “physical instrument” sense; this metaphorical meaning is usually further motivated semantically by the verb ‘conquer’, ‘carry’, ‘enrich’). The metaphorical sense often contributes to the rhetorical effect of the selected representation, as in the ironic discussion of abbreviations and emoticons as ‘enriching’ language (17).

Finally, as with the dative case, we have come across several examples of the instrumental used in a non-basic sense in which no reasonable link via similarity can be established with the more basic meaning. They typically involve the complement use (*učinili bogatijim* ‘made richer’, *učiniti nenastanljivo* ‘make uninhabitable’), which cannot be linked to the “physical instrument” sense in any plausible way, and for which it would be incorrect to assume metaphorical extension. This confirms our word of caution given above, specifically, that in the case of inflectional metaphor, more care needs to be given to the comparison by similarity. In addition, we have encountered a few instances of the instrumental used to represent time and space meanings (*godinama* ‘for years’, *harati Afrikom* ‘pillage in/through

Africa') that have led to some annotator disagreement; these are perhaps possible but difficult to link to the "physical instrument" sense (best treated as WIDLII), and we find they require further analysis in terms of case meaning and metaphoricity.

10.7 Conclusions

We have presented the first systematic attempt to apply MIPVU to Serbian, drawing on a corpus of newspaper articles. On the whole, we have found that the procedure for determining lexical metaphor is applicable to Serbian, but some minor adaptations are needed, mostly concerning the demarcation of lexical units. The sample analysis and high annotator agreement results suggest that the modified procedure can be implemented easily and reliably.

However, one problem we have highlighted is the existence of case-encoded metaphoricity in Serbian. Our findings are in line with recent warnings that adapting MIPVU to languages with rich case systems may involve difficulties (e.g. Lithuanian and Polish; see Chapters 8 and 9 respectively, this volume). In order to tackle this problem, we have proposed an additional step in the MIPVU procedure that allows it to identify case-encoded metaphoricity in a relatively straightforward way, following the MIPVU logic of differences in basic and contextual meanings. Practical application of this step is found to be feasible and to yield good reliability scores. Of course, given the complexity of the semantics of Serbian case, here noted to be particularly challenging for the genitive and the accusative, we find that further research on the way these cases encode metaphor would be very helpful for MIPVU analyses of Serbian, but it remains beyond the scope of this work. Generally, we hypothesize a similar approach is needed for case-marking languages in order to make the procedure equivalent to MIPVU in English.

Introducing the inflectional aspect into the tried-and-tested word level MIPVU brings in an added focus, but can easily work in parallel with lexical metaphor identification. We hope our analysis serves to open a discussion on this insufficiently examined aspect of metaphor. Specifically, the case-encoded metaphoricity we described calls for more attention to the role of grammatical means in creating metaphoricity in language.

Finally, nevertheless, the analytic relevance of case-encoded metaphoricity ultimately depends on research goals and requires further exploration. More careful consideration is needed of the benefits and costs of including this kind of metaphoricity in particular types of metaphor analyses. Beyond metaphor identification, we are yet to understand the processing mechanisms, cognitive status, as well as the potential discourse-rhetorical impact of grammar-encoded metaphor, which are

all likely to differ from lexical metaphor. We hope that our analysis will serve as a step in this direction, by presenting cross-linguistic differences as not just methodologically challenging, but indicative of the many shapes and sizes in which we can encounter metaphor in language.

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Bogetić and Bročić contributed equally to this work.

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Linguistic metaphor identification in Uzbek

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11.1 Introduction

MIP is known as a reliable tool for metaphor identification that was originally developed to analyse metaphor in English discourse. This chapter presents some experiences with applying MIP to Uzbek, which belongs to a different language family than English. Uzbek belongs to the southeastern branch of Turkic language family, and is an agglutinative language with suffixing morphology, sound harmony, and a head-final constituent order (Johanson 2006: 287–289). This chapter discusses the challenges with finding metaphorically used words in Uzbek discourse and makes suggestions as to how MIP can be adjusted for the analysis of Uzbek language data.

Understanding the workings of MIP in English is essential in order to adapt it to Uzbek. As a first step, issues that come into play when applying the procedure to English discourse need to be reviewed. As the Pragglejaz Group stated in 2007, multiword units are one of the issues that may pose problems in studying metaphor identification in English, something which also holds true with respect to Uzbek discourse. Another issue that may present challenges in finding metaphorically used words in both languages is general and vague descriptions in dictionaries. Although English and Uzbek are different languages with respect to their grammatical and syntactic features and lexical characteristics, the concerns that arise in the endeavour to detect metaphors are similar to some extent. This chapter shows that MIP can be adapted to Uzbek by applying adjustments that are related to some features of the Uzbek language.

In order to develop the Uzbek version of MIP, metaphorically used words in Uzbek discourse have been identified in a sample that contains examples from Uzbek fiction texts. The necessary adjustments when applying MIP to Uzbek concern methodological issues in the use of an Uzbek dictionary and linguistic details that are predominantly specific to Uzbek, rather than to the different steps of the procedure. This study highlights some difficulties encountered during analysis, and specifies the adjustments made when applying MIP to Uzbek discourse. Illustrative examples are also provided. Adjustments are proposed in three areas: the use of

dictionaries, markers of locative and dative cases, and compound verbs in the Uzbek language.

This chapter gives an overview of how to adapt and adjust MIP in the study of metaphors in Uzbek discourse. It brings into question various issues concerning metaphor identification in Uzbek fiction texts. It shows that, although Uzbek and English are members of different language families, MIP can be used for Uzbek with slight adjustments.

11.2 Operational issues

11.2.1 Data collection

The data this chapter draws upon have been collected following the guidelines in the dissertation *Metaphors in Uzbek* (Gen 2015). The aim of this dissertation was to characterise the use of metaphors in fiction in modern literary Uzbek. In the absence of a coded corpus of Uzbek texts, designing a sample from scratch was fundamental. The resulting sample contains 80,000 words extracted from short stories, poems and a novel, authored by a number of Uzbek literary authors; these sources are listed in Document 11.1 in this volume's Open Science Framework (OSF) website.¹ As Eckmann states, the term 'modern literary Uzbek' refers to written language of Uzbek which has been written after 1921 (Eckmann 1966: 1–13). Since the purpose of the dissertation *Metaphors in Uzbek* is to characterise the use of metaphors in fiction in contemporary written Uzbek, all the authors and poets who are the subjects of this research were born after 1920. Since novels are considerably long texts that mostly repeat the same style, including only one novel in the data collection seemed appropriate for the purposes of the dissertation. Short stories constitute the majority of the broad selection of literary texts, followed by fifteen poems and a novel.

One point that affects the data collection is that the research in *Metaphors in Uzbek* is based on MIP rather than MIPVU. The first two steps of MIPVU are the same as MIP (Steen, Dorst et al. 2010: 26). However, MIPVU aims to find direct expressions of metaphor along with indirect expressions of metaphor (Steen, Dorst et al. 2010: 21). The current research does not include direct forms of metaphor (e.g. similes), implicit expressions (e.g. substitution or ellipsis) or signals of potential cross-domain mappings (Steen, Dorst et al. 2010: 38–41).

1. The OSF website is available at <https://osf.io/vw46k/>.

11.2.2 Dictionary use

Since Uzbek does not have a corpus-based dictionary, *O'zbek Tilining Izohli Lug'ati* (A comprehensive dictionary of Uzbek, 2006–2008; hereafter O'TIL) has been used as a reference tool for finding basic and contextual meanings of lexical units in Uzbek discourse. O'TIL is a five-volume printed dictionary, with no online version. Instead, the electronic version based on the printed dictionary has been employed for this study. O'TIL represents the written language after the 1917 October Revolution, which is classified as contemporary Uzbek (Eckmann 1966). Since archaic meanings of lexical units are not a concern of MIP, referring to a non-historical dictionary like O'TIL is legitimate. The texts that O'TIL is based on are literary, political, scientific texts, as well as periodicals, textbooks and translations of Lenin's publications which were printed after 1917. O'TIL includes illustrative examples of these genres with almost every headword. In a nutshell, words that O'TIL includes as headwords and idiomatic expressions defined under these headwords are considered the best available representation of contemporary written Uzbek.

Being an agglutinative language, Uzbek presents a difficulty when it comes to the analysis of its metaphors. Words derived from stem words are not included in O'TIL as separate entries as long as the meaning of the derived word remains intact (Vol. I, 2006–2008: 1–25). These kinds of derived words do not have a completely separate meaning from their stems, except in some cases. Whether they constitute a distinct meaning or not, attention must be paid to stems to determine a more basic meaning of these lexical units.

The most characteristic method of Turkic languages' word formation is derivation by suffixes. The majority of derivative suffixes are unproductive or barely productive in modern Uzbek (Bodrogligeti 2003: 145 [Vol. 1]). Although derivational suffixes create a new lexeme based on a stem, the general semantic meaning of the new word may not differ substantially from the meaning of the stem. By way of example, many suffixes have syntactical functions: *+li* and *+siz* form adjectives from nouns; *+uvchi* forms adjectives from verbs; *+chaq* and *+choq* form nouns from nouns; *+cha*, *+chasiga*, *+larcha*, *+lab*, *+gacha*, *+day*, *+dek* and *+roq* form adverbs from nouns; *-ish* and *-uv* form nouns from verbs. Lexemes that are formed with these suffixes do not have a completely different meaning from their stems and are not included in separate entries in O'TIL. For instance, while the noun *mukofot* 'award' is a separate entry as a stem word, the adjective *mukofotli* 'awarded' cannot be found as a separate entry in O'TIL even though it is quite commonly used in contemporary Uzbek. As Bodrogligeti explains, the suffix *+li* in the word *mukofotli* "forms adjectives indicating a possession of or a being furnished with what is expressed by the base word" (2003: 372 [Vol. 2]). Since the lexical unit *mukofotli* is not found in O'TIL as an entry, determining a more basic meaning of it is possible

by looking at its stem *mukofot* and also knowing the basic semantic function of the derivational suffix *+li*.

The meaning of a word form which is affixed with one of the suffixes mentioned above may sometimes be changed. In such cases, O'TIL includes only the meaning which differs from the basic one. This different meaning is often metaphorical in the discourse. For example, the word written in bold and italics in the following sentence is a derived word that carries a different meaning from its stem:

- (1) *Men qanday noinsof, yuzsiz odam-man!* (U, 129)
 I what relentless **barefaced** man-1SG
 'What a relentless, **barefaced** man I am!'

As mentioned above, *+siz* in the word *yuzsiz* is one of the derivational suffixes whose function is to indicate "the absence of what is expressed by the base word" (Bodrogligeti 2003: 372 [Vol. 2]). The basic meaning of *yuz* is (physical) 'face'. Derived from *yuz*, the basic meaning of *yuzsiz*, 'having no face', is derived from that of *yuz*, while its contextual sense is 'barefaced'. O'TIL includes only the contextual meaning 'barefaced' of the word *yuzsiz*. The reason why O'TIL includes *yuz* 'face' and *yuzsiz* 'barefaced' as separate entries is because the contextual meaning of *yuzsiz* is completely detached from the meaning of its stem, *yuz*. The contextual meaning of the word contrasts with the basic one but can be understood in comparison with it; therefore the lexical unit can be coded as metaphorical in this context even though O'TIL does not include the 'having no face' basic meaning of *yuzsiz*. Moreover, even though 'barefaced' is a metaphorical meaning of *yuzsiz*, it is not indicated as metaphorical in the dictionary.

The original MIP protocol treats the meaning of the lexical units defined by a single entry as the basic meaning. This decision is sometimes problematic for Uzbek. With respect to *yuzsiz*, we note both its basic and contextual meanings are used in contemporary Uzbek discourse, despite the basic sense being excluded from the dictionary. The reason why the dictionary omits the basic meaning of *yuzsiz* 'having no face' is because this basic meaning is directly related to the basic meaning of its stem, *yuz* 'face' and not radically different from it. This situation necessitates looking at the stem word *yuz* in the dictionary and understanding the semantic function of the suffix *+siz* to determine the basic meaning of *yuzsiz*. Otherwise, basic meanings would not be determined correctly, and some possible metaphorical meanings may be overlooked in some of the cases. Taking this situation into account, applying MIP to *yuzsiz* in (1) yields the following analysis:

yuzsiz

Contextual meaning: In this context *yuzsiz* means 'impudent, shameless, barefaced' (O'TIL)

Basic meaning: A more basic meaning of *yuz* is ‘the front part of human head, frontal view; face’ (O’TIL1); *+siz* indicates ‘the absence of what is expressed by the base word’. Consequently, a more basic meaning of *yuzsiz* is ‘having no face’ (not included in O’TIL).

Contextual meaning vs. basic meaning: The contextual meaning contrasts with the basic meaning and can be understood in terms of comparison. An abstract state of being shameless can be understood in terms of a physical condition of having no face.

Metaphorically used? Yes.

Another important feature of O’TIL that can cause confusion while searching for metaphorically used words, is that the dictionary includes only the lexicalized abstract meanings of some entries, but not their basic meanings. By way of illustration, consider the words *qaramay* ‘regardless of’ and *qaraganda* ‘compared to, in relation to’. These are both word forms with inflectional suffixes that are codified in the dictionary with the aforementioned meanings. Lexical units that stem from the verb *qara-* ‘to look’, have highly conventional metaphorical meanings in Uzbek:

- (2) a. *qara-may*
look-ADV
- b. *qara-gan-da*
look-PTCP-LOC

The inflectional suffixes *-may* and *-ganda* form gerunds from the base verb. Bodrogligeti describes the inflectional functions of these suffixes as follows: “the gerund in *-may* indicates the absence of an action at the time or in the time span the action expressed by the finite verb takes place, i.e. it states that something is not happening when or while this action is being carried out” (Bodrogligeti 2003: 596 [Vol. 2]). Similarly, “the gerund in *-ganda* presents an action as the time frame of or the condition for the action expressed by the finite verb or as the obstacle in spite of which this action will take place” (Bodrogligeti 2003: 601 [Vol. 2]). In addition to this, he notes that a few gerunds with *-ganda* and *-may* have become lexicalized, meaning that they have joined the lexicon of modern literary Uzbek and are codified as individual lexical entries (Bodrogligeti 2003: 596–601 [Vol. 2]).

The basic meaning of *qaramay* (2a) is ‘without looking’, but this sense is not referred in O’TIL, because *-may* is an inflectional suffix and the dictionary does not include words with inflectional suffixes unless they are lexicalized. O’TIL includes two sense entries for *qaramay*. The first entry only refers to the headword *qara-* ‘to look’ (O’TIL1), the stem verb of *qaramay*. The second entry is ‘regardless of’ (O’TIL2), which is the lexicalized meaning of the word. Determination of a more basic meaning of *qaramay* requires us to pay attention to its stem *qara-*. In other words, we can only see the relationship between the concrete and abstract meanings of the word *qaramay* by checking this stem in the dictionary. We can then

judge the word to be metaphorically used when it carries the meaning of ‘regardless of’ – that is, when the abstract domain of understanding is represented by means of the concrete domain of seeing.

By contrast, O’TIL does not make reference to the verb *qara-* ‘to look’ in its entry for the headword *qaraganda* (2b), even though it is also an inflectional suffixed word that similarly comes from the stem verb *qara-*. The dictionary omits the basic meaning of *qaraganda* or any reference to its stem, assuming its abstract meaning of ‘compared to, in relation to’ to be its general meaning. It should also be noted that the word forms *qaramay* and *qaraganda* are used in their basic meanings ‘without looking’ and ‘looking at’ in contemporary Uzbek, despite these definitions not being included in O’TIL. Such a situation makes it difficult to treat the meanings for these words provided in the dictionary as a more basic meaning, without any reference to their stem (which does offer a more basic meaning). We run the risk of mistakenly identifying some lexical units as not metaphorical in use, when their basic senses can actually be located in the dictionary. In short, the dictionary does not allow researchers to easily identify the basic meaning of such words. The research for this chapter, however, has been carefully conducted so as not to overlook a possible metaphorical meaning of such lexicalized units, through systematically uncovering more basic meanings by checking the stems in the dictionary.

11.3 Linguistic issues

11.3.1 Locative, dative and ablative cases

One issue that is relevant to metaphor identification in Uzbek discourse is about the markers of locative (+*da*), dative (+*ga*), and ablative (+*dan*) cases. These markers cause a special condition in terms of identifying metaphorically used words in Uzbek discourse. Case forms are “syntactic entities fulfilling specific functions in the sentence” (Bodrogligeti 2003: 71 [Vol. 2]). A noun in the locative, dative or ablative case functions as an indirect object in the sentence. Uzbek has postpositions rather than prepositions, and case markers are parallel to postpositions in terms of their semantic function. However, postpositions are individual lexical units whereas case markers are bound morphemes. Case markers basically specify concrete spatial relations between the noun phrase to which it is attached and other components of the sentence. When these markers are attached to words that express abstract notions like time, emotion or state, they conceptualise these notions as concrete spaces. In such cases, the contextual meaning contrasts with a more basic meaning and can be understood in comparison with it.

However, it is difficult to make sure whether it is the suffix or the word form as a whole that gives the lexical unit its metaphorical meaning. This difficulty rises from Uzbek's feature of being an agglutinative language: case suffixes may transform a lexical unit that would not otherwise be a metaphorically used word into one. The use of these case suffixes in abstract and concrete contexts is illustrated below, along with the suggested adaptation for application of MIP to Uzbek:

Locative markers

"Nouns in the locative case fulfill the adverbial functions of time or place expressing when or where the action takes place or where something is or is not" (Bodrogligeti 2003: 90 [Vol. 2]). The locative case marker indicates a physical or abstract location. Sometimes it expresses continuity, manner, purpose or cause of the action. The following sentences illustrate the use of the locative case marker *+da* in concrete and abstract contexts:

- (3) *Eshik old-i-da bir dam to'xta-b, u yoq bu yoq-qa*
 Door front-POSS.3SG-LOC a moment stop-ADV that side this side-DAT
qara-di. (S, 67)
 look-PST.3.SG
 'He stopped in front of the door for a moment, looked around.'
- (4) *Ikromjon yolg'izlik-da nima qil-adi?* (U, 209)
 Ikromjon loneliness-LOC what do-FUT.3SG
 'What will Ikromjon do in loneliness?'

In example (3), *+da* in *oldida* (< *old+i+da*) 'in front of' indicates a physical location with respect to the door: metaphoricity is not involved in here. However, in (4), the reference is to an abstract location of loneliness.

The unit of analysis for MIP is the lexical unit, which in most cases is equivalent to the orthographic word (Pragglejaz Group 2007: 15). This study generally follows this same principle for Uzbek and does not break up word forms into their morphemes. For this reason, we take the word form *yolg'izlikda* as a single unit for application of MIP. However, a problem arises because the word form *yolg'izlikda* (< *yolg'izlik+da*) contains an inflectional suffix and is thus not listed in O'TIL. Without considering the word form suffixed with locative case marker *+da*, application of MIP to the word *yolg'izlik* yields the result that *yolg'izlik* is not a metaphorically used word.

But this decision changes if we do take the locative marker *+da* into consideration. The Uzbek version of MIP therefore requires an adjustment when determining the basic and contextual meanings of word forms suffixed with the case markers. In the present case, our reference point in establishing the contextual and

basic meanings has extended beyond the dictionary. In order to establish a basic and contextual meaning of *yolg'izlikda* as a unit, we have to consider the stem form together with semantic functions of the case suffix which is attached to it. In this way, applying MIP to *yolg'izlikda* yields the following analysis:

yolg'izlikda < *yolg'izlik*+*da*

Contextual meaning: In this context *yolg'izlikda* means ‘when being alone’ (not included in O’TIL).

Basic meaning: A more basic meaning of *yolg'izlik* ‘Being alone, aloneness, loneliness’ (O’TIL1); the locative marker +*da* indicates ‘a physical location’. Consequently, a more basic meaning of *yolg'izlikda* is ‘physically being in an abstract notion of loneliness’ (not included in O’TIL).

Contextual meaning vs. basic meaning: The contextual meaning contrasts with the basic meaning and can be understood in terms of comparison. An abstract state *yolg'izlik* can be understood in terms of a physical location via the locative case marker +*da*.

Metaphorically used? Yes.

Dative markers

The dative suffix indicates the destination or the target of the action. Bodrogligeti (2003: 90 [Vol. 2]) states that “nouns in the dative case fulfill the role of the indirect object”. Example (5) illustrates the use of dative case marker +*ga* in a concrete context:

- (5) *Konsul'tatsiya otq'az-adigan o'qituvchi-ning tob-i*
 Consultative-committee sit-PTCP instructor-GEN health-POSS.3SG
qoch-ib qol-ib, institut-ga kel-olmay qol-ibdi. (TA, 72)
 flee-ADV stay-ADV institute-DAT come-ABIL-NEG-ADV stay-PST.3SG
 ‘The instructor at the consultative committee got sick, could not come **to the institute**.’

In example (5), +*ga* in *institutga* ‘to the institute’ indicates the physical destination of the action: metaphoricality is not involved in here. In the following sentence, by contrast, the dative case marker +*ga* shows the abstract destination of the action:

- (6) *Bu qaror-ga u qachon kel-di?* (M, 106)
 This decision-DAT he when come-PST.3SG
 ‘When did he come **to this decision**?’

As mentioned with respect to locative markers, a word form suffixed with a case marker is analysed as a single unit in the procedure. The lexical unit *qarorga* in (6) is not included in O’TIL as an entry, because it is a word form affixed with a

case suffix. Application of the adapted Uzbek version of MIP to *qarorga* yields the following result:

qarorga < *qaror*+*ga*

Contextual meaning: In this context *qarorga* expresses orienting thoughts to a decision (not included in O'TIL).

Basic meaning: A more basic meaning of *qaror* is 'judgement on a business or issue; exact idea that goes into operation; agreement, decision' (O'TIL1); the dative case marker +*ga* indicates 'a physical destination.' Consequently, a more basic meaning of *qarorga* is 'a physical orientation towards an abstract notion of decision' (not included in O'TIL).

Contextual meaning vs. basic meaning: The contextual meaning contrasts with the basic meaning and can be understood in terms of comparison. An abstract notion *qaror* can be understood in terms of a physical destination via the dative case marker +*ga*.

Metaphorically used? Yes.

Ablative markers

The ablative case indicates a separation from the noun to which it is attached. Sometimes it specifies the source, cause, time or space of the action. "Nouns in the ablative case fulfill a variety of adverbial functions as complements to verbs, finite or nonfinite" (Bodrogligeti 2003: 90 [Vol. 2]). The following sentence illustrates the use of the ablative case marker +*dan* in its basic meaning:

- (7) *Nihoyat, ko'prik old-i-ga kel-ib egar-dan tush-di.*
 At-last bridge front-POSS.3SG.DAT come-ADV saddle-ABL get-off-PST.3SG
 'At last he came to the bridge and got off the saddle.' (U, 6)

In example (7), +*dan* in *egardan* 'from the saddle' indicates the physical separation from the saddle: metaphoricity is not involved in here. By contrast, the following sentence illustrates the use of the ablative case marker +*dan* in an abstract context:

- (8) *U yarim soat chama-si tinimsiz ishla-b, juda hol-dan toy-di.*
 He half hour approximate-POSS.3SG ceaselessly work-ADV very
 health-ABL slip-PST.3SG
 'When he worked about half an hour ceaselessly, he felt exhausted.' (U, 105)

The unit *holdan* in (8) is not included in O'TIL as an entry, because it is a word form suffixed with a case suffix. Applying MIP to *holdan* yields the following analysis:

holdan < *hol*+*dan*

Contextual meaning: In this context *holdan* expresses a separation from health (not included in O'TIL).

Basic meaning: A more basic meaning of *hol* is 'mental or physical possibility, strength, energy' (O'TIL5); the ablative case marker +*dan* indicates 'a physical separation'. Consequently, a more basic meaning of *holdan* is 'a physical separation from an abstract notion of health' (not included in O'TIL).

Contextual meaning vs. basic meaning: The contextual meaning contrasts with the basic meaning and can be understood in terms of comparison. An abstract notion *hol* can be understood in terms of a concrete space via the ablative case marker +*dan*.

Metaphorically used? Yes.

Similar to the function of locative and dative cases, the ablative case allows for an abstract notion to be understood in terms of a concrete space. In some contexts, it is difficult to understand where the metaphoricity is located, even if the basic meaning of the case suffixes is spatial. In cases of such word forms, we can imagine two possible solutions: either (1) the suffix (+*da*, +*ga* and +*dan*) is metaphorical regardless of the word form, or (2) the word form is metaphorical in itself (*oldida*, *qarorga* and *holdan*). In other words, it might make sense to take the morpheme as the level of analysis when it comes to agglutinative languages (as in solution 1). On the other hand, retaining the original MIP would result in taking the lexical unit as the basic unit of analysis (as in solution 2).

Which approach is more appropriate for Uzbek discourse? Consider the example of *kel-* 'to move towards somebody by flying, walking or using a transport vehicle; to arrive at the place where somebody is [to come]' (O'TIL1) in *qarorga kel-* [decision-DAT come] 'to come to a decision' in (9), reproduced here for the sake of convenience.

- (9) *Bu qaror-ga u qachon kel-di?* (M, 106)
 This decision-DAT he when come-PST.3SG
 'When did he come to this decision?'

The meaning given above is the basic meaning of the word *kel-* in the dictionary. The expression including *kel-* is a widespread idiomatic expression in Uzbek. MIP treats "each component of an idiom as a separate lexical item" (Pragglejaz Group 2007: 27). Such an approach suits Uzbek discourse, and this study therefore also considers idiomatic expressions as decomposable components and treats each component as a separate lexical item. The question here is whether the component of the idiomatic expression *kel-* affects the metaphoricity of the other component *qarorga*. *Kel-* is metaphorically used in (9) since its basic meaning relates to physical motion. Since *qaror* 'decision' is used in its basic meaning when considered without the case

suffix attached to it, metaphoricity can be thought to stem only from the verb *kel-*, rather than from the noun *qaror*. However, metaphoricity is not only provided by the verb indicating physical motion to the abstract noun which is suffixed with case markers. It is also influenced by the word form *qarorga* which belongs to the idiomatic expression *qarorga kel-*.

The use of the word form *yolgizlikda* [loneliness-LOC] ‘in loneliness’ in example (10), reproduced below, further demonstrates such a situation.

- (10) *Ikromjon yolg'izlik-da nima qil-adi?* (U, 209)
 Ikromjon loneliness-LOC what do-FUT.3SG
 ‘What will Ikromjon do in loneliness?’

In this example, no verb indicates physical motion in the sentence; instead, the word form *yolgizlikda* ‘in loneliness’ may be judged as a metaphorically used word because of the locative marker *+da* (thus arguably conceptualised as a container). Consequently, *yolgizlikda* carries metaphoricity on its own without the need for a metaphorically used verb, unlike the example *qarorga kel-* in (9). In principle, all the case markers are members of the same grammatical category, and one might therefore think that all word forms suffixed with case markers need to be analysed in a standard way, for the sake of consistency. We could thus have also concluded that *yolgizlikda* ‘in loneliness’ is not a metaphorically used word, parallel to the analysis that *qarorga* is not a metaphorically used word. However, this type of decision would have lost sight of the metaphoricity in *yolgizlikda* whereby an abstract situation is understood by means of a concrete space. As a result, in cases where nouns are suffixed with the case markers that enable understanding of an abstract notion by means of a concrete space, we can certainly conclude that there is metaphoricity.

The question may be asked whether metaphoricity derives solely from the case suffix, or from the word form as a whole. Treating case suffixes such as *+ga* as metaphorical independently of the word form to which they are attached (as in *qarorga*) would be ignoring their grammatical and semantic functions. Morphemes always have semantic functions in the grammar. *Qaror* meaning ‘decision’ and *qarorga* meaning ‘to a decision’ have two separate meanings, and the latter has the potential to carry metaphoricity to some extent, depending on the context. This is the reason why metaphoricity is detected by analysing the word form as a whole when an abstract meaning like time, state or emotion is conceptualised as a concrete space via a dative, locative or ablative case marker. Following the original MIP suffixes are not considered to be individual lexical items, and are not independently coded for metaphor.

11.3.2 Compound verbs

Uzbek lexical units mostly comprise single orthographic words, but in exceptional cases, lexical units may consist of two or more separate units. In Uzbek, one type of these multiword units are called compound verbs, which need to be treated differently in the procedure. There are two possible solutions: They can be treated as single lexical units or as separate lexical units.

There are two types of compound verbs in Uzbek, nominal compound verbs and descriptive compound verbs (Coşkun 2000). Intrinsically, in both types of compound verbs, the components are orthographic words that compose a collocation referring to a particular concept.

Nominal compound verbs consist of a nominal combined with a lexical auxiliary verb. The following sentence contains a non-metaphorical nominal compound verb:

- (11) *Ona, qazo-yim yet-ib olam-dan o't-sa-m,*
 Mother death-POSS.1SG reach-ADV world-ABL pass-CON-1SG
bola-m o'z qo'l-i bilan qabr-ga qo'y-adi, de-b
 child-POSS.1SG own hand-POSS.3SG by grave-DAT put-FUT.3SG say-ADV
umid qil-ar-di. (U, 154)
hope do-PRS.PST.3SG

‘The mother **was hoping** that if she passes away and leaves the world, her child would bury her by his/her own hands.’

Nominal verb compounds are inflected in a similar way to ordinary verbs. Nominals in Uzbek nominal verb compounds are frequently of foreign origin. Auxiliary verbs can be found listed in Uzbek grammar books. Verbs like *qil-* ‘to do, to make’, *et-* ‘to do, to make’, *bo’l-* ‘to be, to become’, *ber-* ‘to give’, *ol-* ‘to take, to get’, *sol-* ‘to put in or on’ etc. are auxiliary verbs which can collocate with nominals (Coşkun 2000: 242). Auxiliary verbs are lexical items in Uzbek and they can be found as entries in dictionaries. In (11), *umid* ‘hope’ is an Arabic word, followed by *qil-* ‘to do’, the collocation of which (*umid qil-*) means ‘to hope’.

Descriptive verb compounds consist of a gerund combined with an auxiliary verb (Coşkun 2000: 178; Merhan 2008: 367). Auxiliary verbs used in such kind of compounds are also referred to as descriptive verbs. As Bodrogligeti explains, “descriptive verbs are action verbs in auxiliary function. They follow the gerunds in *-a/-y* or *-b/-ib* of the main verb in order to expand its meaning with modal, aspectual, directional, or phrasal characteristics inherent in their original meanings” (2003: 723 [Vol. 2]). Verbs like *ol-* ‘to take’, *ber-* ‘to give’, *bor-* ‘to go’, *bol-* ‘to be, to become’, *kel-* ‘to come’, *ket-* ‘to leave, to go’, *qol-* ‘to stay’, *qo’y-* ‘to put’, *o’tir-* ‘to sit’, *tur-* ‘to stand’, *yot-* ‘to lie down, to stand’, *yur-* ‘to walk’ etc. are descriptive verbs which can collocate with a gerund (Coşkun 2000: 178). It should be noted that while

some auxiliary verbs can collocate both with nominals and main verbs, some others like *qil-* ‘to do, to make’ can only collocate with nominals. The following sentence contains a metaphorically used descriptive verb compound:

- (12) *Bechora qiz ... Koʻrpa-yostiq-qa bogʻla-n-ib qol-di endi.*
 Desperate girl Quilt-pillow-DAT tie-REFL-AD stay-PST.3SG now
 ‘Desperate girl ... She is **confined** to bed from now on.’ (M, 108)

Auxiliary verbs can be used as main verbs in certain contexts. When auxiliary verbs are used as main verbs they are called full verbs. “Full verbs are verbs with a complete paradigm. They are verbs with lexical meanings and are parts of the lexicon. In auxiliary role their lexical meanings may change, fade, or disappear entirely” (Bodrogligeti 2003: 718 [Vol. 2]). For example, the auxiliary verbs *qil-* ‘to do’ in (11) and *qol-* ‘to stay’ in (12) are delexicalized to some extent, and have lost their clear meaning in the context. However, the auxiliary verb *ol-* ‘to take, to get’ is used as a full verb in the following sentence:

- (13) *Bu-n-dan tashqari, aʼzo-lar mehnat kun-lari-ga ham sholi*
 That-ABL outside member-PLU work day-POSS.3PLU-DAT also rice
ol-adi-lar. (U, 59)
take-FUT.3PLU
 ‘Except this, members **will take** rice for work days.’

Ol- ‘to take, to get’ in (13) is not in the auxiliary verb role, but in the full verb role. It is not bonded to any other lexical unit in the sentence either semantically or syntactically. The reason why compound verbs are not found in O’TIL would be because their components are regarded as separate lexical items. Common nominal verb compounds are defined in the dictionary under the headings for the nominal units of the compounds. For example, *umid qil-* ‘to hope’ is defined under the nominal *umid*. O’TIL may not contain a list of compound verbs, but whether an auxiliary verb is used as a full verb or not can be predicted by looking at the syntactic relations in a sentence. For example, *umid qilardi* [hope do-PRS-PST.3SG] ‘was hoping’ in (11) is the predicate of the sentence as a whole, while *oladilar* [take-FUT.3PLU] ‘will take’ in (13) is the predicate of the sentence by itself where *sholi* ‘rice’ is the object. We can easily avoid confusing the two by being attentive to the context and their syntactic functions in the sentence.

Descriptive verb compounds are not given a place anywhere in the dictionary, not even under a component of the compound. This is because it is never certain which main verbs can establish a collocation in Uzbek. However, in Uzbek grammar, auxiliary verbs vis-à-vis their context are unique guides in understanding if a collocation is a verb compound. They can be easily recognised by virtue of their specific syntactic and lexical characteristics.

O'TIL considers each component of compound words to be individual lexical units, which is why they are listed as separate entries. However, separate words do not offer any clue about the contextual meaning. In these units, meaning may seem to be contingent upon that of the nominal or the main verb, but only the whole multiword unit can reveal the true contextual meaning.

The function of the auxiliary verb in nominal verb compounds is to allow the nominal to function as a verb. For example *qil-* 'to do, to make' in (11) enables the noun *umid* 'hope' to transform into a verb, 'to hope'. Since the meaning of auxiliary verbs is firmly tied to the nominal, it is difficult to establish its contextual meaning when it is considered a separate unit. In other words, *umid qil-* cannot be regarded simply as the sum of *umid* and *qil-*. Moreover, the dictionary does not give a suitable contextual meaning for auxiliary verbs. According to the dictionary, *qil-* "serves for word formation – makes verbs in several meanings from a part-of-speech like noun, adjective etc." (O'TIL4).

Auxiliary verbs in descriptive verb compounds are in a slightly different position than those in nominal verb compounds, because they serve to expand the meaning of the main verb to a certain degree. In *bog'lanib qol-* 'to stay' in (12), *qol-* 'to stay, remain' is used to evoke that the action happened unexpectedly. "With gerunds in *-b/ib* it [*qol-*] is used to express that the action is accomplished for good, it took place only once, or it happened unexpectedly" (Bodrogligeti 2003: 735 [Vol. 2]). The basic meaning of *qol-* is 'to remain in a place without going some other place, to stay' (O'TIL1). Both *bog'lan-* and *bog'lanib qol-* have the same meaning of 'to be tied' but the manner of action is evoked in the latter.

Auxiliary verbs are closely tied to the nominal or main verb in both types of compounds. Since compound verbs in Uzbek refer to a single concept, it would be appropriate to consider them as a single unit rather than as separate units. Because the lexical meaning of the auxiliary verbs of compounds are faded, it is difficult to determine the contextual meaning of the separate elements of all components of compounds. Yet, since O'TIL does not include all the compound verbs in separate headings, determining which structures are compound verbs requires grammatical knowledge of Uzbek. Because O'TIL is not effective in showing these multiword expressions, the Uzbek version of MIP proposed here treats the individual elements of compound verbs as separate lexical units.

Application of Uzbek MIP to the compound verb *bog'lanib qol-* in (12) thus yields the following analysis:

bog'lan-

Contextual meaning: In this context *bog'lan-* means 'not to leave a person or a place' (O'TIL3)

Basic meaning: A more basic meaning of *bog'lan-* is 'reflexive form of *bog'la-*, to tie by making knot; to interconnect; to consolidate' (O'TIL1).

Contextual meaning vs. basic meaning: The contextual meaning contrasts with the basic meaning and can be understood in terms of comparison. In this sentence, ‘not to leave a place’ can be understood in terms of ‘to be tied by making knot’.

Metaphorically used? Yes.

qol-

Contextual meaning: The contextual meaning of *qol-* is ‘to remain in a place without going anywhere; not to leave the place where she/he is’ (OTIL1).

Basic meaning: A more basic meaning of *qol-* is ‘to remain in a place without going anywhere; not to leave the place where she/he is’ (OTIL1).

Contextual meaning vs. basic meaning: The contextual meaning is the same as the basic meaning.

Metaphorically used? No.

11.4 Sample analyses

Providing scholars with explicit criteria for metaphor identification, MIP is a reliable tool for different research purposes in the study of metaphor. This section provides sample analyses to illustrate some potentially problematic issues that arise during the process of metaphor identification in Uzbek discourse. For this study, MIP has been followed step-by-step to find metaphorically used words in Uzbek, where a single researcher analysed the same text in two rounds, the second round taking place six months after the first.

One feature of O’TIL that can cause problems when identifying metaphorically used words is the fact that some lexical units have been defined by general and vague meanings. For example, a problem arises in the use of the noun *bor* as a predicate in a nominal sentence. The dictionary provides a general meaning for such a use: ‘there is/are, existing’. Yet this description is too vague to make a decision whether the meaning is abstract or concrete. The same problem holds true for the noun *yo’q* ‘there is not’ which is the antonym of *bor*. The following sentences involve abstract uses of the two words:

- (14) *Men-ing ham bosh-im-da siz-lar-ni-kacha bo’l-ma-sa ham*
 I-GEN also head-POSS.1SG you-PL-ACC-TERM be-NEG-COND.3SG even
anchagina ko’rgilik-lar bor. (U, 75)
 quite.a.lot consequence-PL there.is
 ‘Though not the same as yours, I also have my own consequences.’
- (15) *Hech qanaqa shart-im yo’q.* (U, 98)
 any what-kind condition-POSS.1SG there.is.not
 ‘I do not have any conditions.’

Bor in (14) and *yo'q* in (15) are nominal predicates of the sentences. Since there is one general meaning for each of them in the dictionary, the procedure instructs us to analyse them as monosemous nominals. Here, following the procedure risks ignoring possible metaphorical uses, which would only be overcome by making a distinction between their concrete and abstract meanings. However, making a distinction between abstract and concrete meanings of the words would cause a deviation from the dictionary. This would make it difficult to find metaphorically used words in a reliable and replicable way. A second option is to adhere to the dictionary and analyse the words as monosemous, rather than distinguish between their abstract and concrete meanings. We have chosen this latter option for the Uzbek version of MIP proposed here, in order to be systematic and promote replicability. This decision is one that could be revisited in the future, as lexical tools available for Uzbek improve.

Another problem arises in the word *burun*, which has several metaphorical meanings. The following example illustrates the word *burun* in the meaning of 'before':

- (16) *Faqat ikki yil burun oyog'-i-ga bod kel-ib,*
 However two year before foot-POSS.3SG-DAT rheumatism come-ADV
sal oqsa-b qol-di. (MBRT, 57)
 a.little limp-ADV stay-PST.3SG
 'However, two years ago he started to limp a little because of the rheumatism in his legs.'

The dictionary offers three meanings for *burun*: 'I.1. organ for smelling [nose], 2. spout, 3. the hole in a lock for putting key [keyhole], 4. bow of a ship; II. the long and narrow part of land that sticks out from the coast to the sea [headland]; III. *adverb* before, formerly, in previous time'. The contextual meaning of *burun*, which is evoked in example (16), is described in sense III: 'before'. At first glance, these three meanings may seem unrelated. But an etymological dictionary defines *burun* as follows: "literal 'the nose' (of a human being or animal), 'the beak' (of a bird) and the like; hence 'a protruding natural feature, headland, peak (of a mountain)'; hence metaphorical 'in front, preceding' and by a further development 'preceding in times, previous' (Clauson 1972: 366). According to this definition, the meaning 'before' stems from the meaning 'headland'; and the meaning 'headland' stems from the meaning 'nose': this would indicate that sense I.1. is the basic meaning of the word; I.2., I.3., I.4. and II are metaphorical extensions of I.1.; sense III is a metaphorical extension of sense II. It would be possible to make a distinction between the basic and abstract meanings of *burun*.

However, O'TIL has three separate entries for the three meanings of the word. It treats *burun* as three separate lexical units with three unrelated meanings. In this

case it seems convenient to regard the meanings ‘headland’ and ‘before’ as inactive metaphorical meanings. Thus, for the Uzbek version of MIP proposed here it has been decided to adhere to the dictionary, and view the word *burun* as having three separate entries with three different general meanings. This decision is in accordance with MIP because it aims “to mark as metaphorical any word that has an active metaphorical basis” (Pragglejaz Group 2007: 30).

11.5 Conclusion

This chapter has given an overview of how to adapt and adjust MIP to best identify metaphors in Uzbek discourse. It has discussed various challenges and some possible solutions concerning the application of MIP to Uzbek. The chapter, through the discussion of various issues concerning finding metaphorically used words in Uzbek literary texts, has shown that MIP can be applied to Uzbek, on the condition that a slight adjustment concerning the use of O’TIL be made, and in consideration of linguistic characteristics of Uzbek.

Decisions of the analyst play a major role in determining the number of metaphorically used words in the text. This is why mentioning the decisions of the analyst is also important in such cases. Explaining these adjustments makes the procedure more transparent for future analysts. Through different sections in the article, a number of issues that require particular attention in identifying metaphors in Uzbek and adjustments in the procedure have been discussed. Two of such issues are related to the use of a dictionary. First, O’TIL does not include the word forms affixed with certain derivational suffixes which do not change the basic meaning of the stem word. Second, O’TIL does not include the basic meaning of the word forms which are lexicalized with inflectional suffixes. An adjustment is needed concerning the use of O’TIL in these situations: determining a more basic meaning of these lexical units requires consulting the dictionary definition of the stem. This necessity arises from the agglutinative structure of Uzbek.

Another issue concerning finding metaphorically used words in Uzbek is related to the linguistic characteristics of Uzbek. First, noun phrases suffixed with dative, locative and ablative cases need specific treatment in the procedure. A word form which is suffixed with a case marker has been treated as a unit. While determining the basic and contextual meanings, the word form has been considered together with the semantic functions of the case suffix which is attached to it. A second point that needs to be addressed is compound verbs in Uzbek. Compound verbs have been taken as separate lexical units in the procedure for Uzbek because O’TIL does not contain all of the compound verbs.

Furthermore, there is another challenge that needs to be discussed. A special case mostly stems from the definition of some lexical units in too general or too vague terms without making a distinction whether they are abstract or concrete in the dictionary. General and vague descriptions make it difficult to distinguish between abstract and concrete meanings. In order to get replicable results, lexical units that have general descriptions in O'TIL have been taken as monosemous in the procedure for Uzbek.

Some of the topics covered in this chapter have discussed the linguistic features of Uzbek that pose challenges for the application of MIP, as is the case with the inflectional structure of Uzbek. Some of the issues seen in Uzbek are similar to those in English or Dutch, such as multiword units or general and vague meaning descriptions in dictionaries. However, each language requires a particular linguistic treatment and attention to its operational details while applying the procedure. This necessitates various adjustments to MIP when applying it to a language other than English.

This chapter has demonstrated that an explicit procedure such as MIP, which has been originally developed to analyse metaphor in English discourse, can work well for a language other than English, provided some adjustments are made. In order to avoid complete reliance on intuition when identifying metaphor, applying the procedure without skipping any step is of vital importance. In the future, research into the replicability of metaphor identification analyses in the form of e.g. inter-rater reliability studies, would be welcome. Nonetheless, when meticulously followed, MIP provides valid results in Uzbek discourse.

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Linguistic metaphor identification in Chinese

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12.1 Introduction

This chapter addresses the fundamental methodological issues in applying MIPVU (Steen et al. 2010) to linguistic metaphor identification in Chinese discourse. Since MIPVU takes English as its basis, it is of great interest to evaluate the transferability of the procedure to a typologically more distant language like Chinese. Different from English, Chinese uses a morphosyllabic writing system (DeFrancis 1989) in which the basic orthographic units are characters. Each character represents a phonological syllable and, in most cases, corresponds to a morpheme. Accordingly, a word in Chinese can comprise more than one character and, without explicit word-delimiters, any two or more consecutive characters can stand for a word or a phrase, or even run across a word/phrase boundary. Chinese is also known for its relatively simple morphology, with compounding being the most important word formation process. The general lack of morphological clues also obscures the distinctions between certain word classes (e.g. between verbs and adjectives) (cf. Cheung 2016). The foregoing orthographical and morphological characteristics of Chinese may pose challenges in particular for the delimitation of the unit of analysis within MIPVU.

To date, MIPVU has not yet gained wide currency in the research field of metaphor in Chinese. There have been only a few studies that explicitly mentioned using MIPVU's immediate predecessor, MIP, to identify metaphor in Chinese discourse (e.g. Chuang 2012; Han 2014; Tay 2015). These works were generally more interested in the conceptual patterns underlying the Chinese metaphorical expressions in the particular genre of discourse under scrutiny and less concerned with a critical evaluation of the transferability of MIP to Chinese. To our knowledge, there has been no prior attempt to perform full-text annotation of metaphor in Chinese using the refined version of MIP. The purpose of the present study, then,

is to systematically assess the adaptability of MIPVU for Chinese. The bulk of this chapter is devoted to a number of key operationalisation and linguistic issues encountered in using the procedure to identify metaphor-related words (MRWs) in Chinese discourse. The potential challenges pinpointed and practical guidelines offered in this chapter are grounded in a multi-year team-effort project on building a metaphor-annotated corpus of Chinese texts.

12.2 Operationalisation issues

This section introduces the corpus from which the data annotated in this study were drawn and elaborates on the rationale of our choice of lexical tools as well as how we address their limitations in terms of linguistic metaphor annotation.

12.2.1 Data of this study

The data annotated for this study were randomly sampled from the Lancaster Corpus of Mandarin Chinese (LCMC; McEnery & Xiao 2004; Xiao 2017). LCMC was created as a Chinese match for the balanced British English corpus, FLOB, which also has a matching American English corpus, FROWN. LCMC comprises five-hundred 2,000-word samples of written Chinese texts published in Mainland China. The one-million-word balanced corpus was word-segmented and part-of-speech tagged using an open source, the Chinese Lexical Analysis System developed by the Institute of Computing Technology, Chinese Academy of Sciences (ICTCLAS). The core lexicon of ICTCLAS incorporates a frequency dictionary of eighty thousand words with part-of-speech information.¹ The major attraction of using data from LCMC is that its complete set of processed texts is licensed free of charge for researchers so that we can make further processing necessary for our project. This study set out to annotate files taken from the text categories in LCMC representative of three distinct registers, namely, academic discourse, fiction and news. The goal of this project was to annotate approximately ten thousand words for each register.²

1. More information about the system is available at http://www.ict.ac.cn/jszy/jsxk_zlxx/mfxk/200706/t20070628_2121143.html.

2. See Lu and Wang (2017) for the distribution of MRWs by register and by lexical category in the Chinese corpus as well as for the details and results of the inter-annotator reliability test conducted.

12.2.2 Choice of lexical tools

An ideal lexical tool for our project would be a Chinese dictionary comparable to the *Macmillan English dictionary for advanced learners* adopted by the Pragglegaz Group (2007) and Steen et al. (2010). Given the current lack of a large-scale, corpus-based dictionary for Chinese, we decided to use two types of lexical tools to make the most informed decisions: a lexical database, namely, the Chinese WordNet (CWN, 中文詞彙網路), and two reference dictionaries. CWN, a language resource developed by Academia Sinica, subsumes more than 8,700 lemmas, mostly medium-frequency words, and 23,000 senses (Huang et al. 2010).³ The information for each lexical entry includes part of speech, sense description, illustrative examples, corresponding English synset(s) from the Princeton WordNet, lexical semantic relations, etc. (Lee et al. 2009). CWN can provide a sound basis for meaning comparisons because of its clear divisions and elaborate definitions of word senses, accompanied with detailed grammatical category information and corpus-attested examples.

However, due to the limited coverage of CWN, we also use the following two reference dictionaries as our main tools: 现代汉语规范词典 *Xiandai Hanyu Guifan Cidian* [A Standard Dictionary of Modern Chinese] (XHGC; Li 2014) and 现代汉语学习词典 *Xiandai Hanyu Xuexi Cidian* [A Learner's Dictionary of Modern Chinese] (XHXC; Commercial Press Dictionary Research Centre 2010).⁴ Both are authoritative, updated dictionaries of contemporary Chinese with a wide coverage of vocabulary, but each has different merits in terms of metaphor identification. The major strength of XHGC lies in the care taken with the relations among word senses. According to its preface, the distinct senses are listed, to the extent possible, in the order of semantic extension. Such information can be helpful in that historically older senses are more likely – though not necessarily – to be more basic, that is, more concrete, specific and human-oriented. The dictionary also designates the sense(s) obviously without (or with unknown) relationships with the other senses in the same entry. As for XHXC, this dictionary is specifically written for first language learners of Chinese and generally has slightly more elaborate definitions, especially for multi-functional words such as prepositions and localisers. The illustrative examples in this dictionary also tend to be more varied and longer with richer contextual information.

For words covered in CWN, we rely only on the sense descriptions provided by the lexical database to perform meaning comparisons. For any word not found in CWN, if it is listed in both XHGC and XHXC, we adopt the finer-grained

3. CWN is available at <http://cwn.ling.sinica.edu.tw/>.

4. Both dictionaries are currently available only in print.

definition(s) between the two dictionaries to determine its contextual and more basic meaning.

12.2.3 Use of lexical tools

For the most part, we have found the uses of Chinese WordNet and the two dictionaries rather smooth for the execution of the protocol of MIPVU. Still, there exist a small number of challenges in using the lexical tools, especially when it comes to the identification of indirect metaphors. Our guidelines below for the less straightforward uses of these tools are aimed at promoting more systematic interpretations of the sense descriptions and consistent uses of the part-of-speech information provided by the Chinese lexical resources in the application of MIPVU.

12.2.3.1 *Sense descriptions*

Different meanings of a word that are listed as separate, numbered senses in the Chinese lexical tools are deemed as sufficiently distinct from one another. However, the divisions of word senses by the two Chinese reference dictionaries, due to their non-corpus-based nature, are sometimes too crude or not clear enough. We then have to rely on punctuation marks and conjunctions, when available, to delineate possible distinct senses conflated in one definition, as illustrated below. These textual cues serve as secondary criteria of sufficient distinctness between word meanings.

- The basic and extended meanings of a word may be conjoined with a semi-colon, as illustrated by the definition of *huí-dào* return-arrive ‘to return to’ in XHGC: ‘返回并到达(原来所在的地方); (情况变化后)恢复到原来的状态’ ‘to return to and arrive at (the original location); (after a change of situation) to return to the original state’. The change-of-location and change-of-state meanings of the word can be contrasted and understood in comparison with each other (i.e. via the conceptual metaphor STATES ARE LOCATIONS) and therefore are deemed as sufficiently distinct.
- The literal and figurative meanings of a word may also be conflated in one sense description while separated by the use of commas or periods. These two punctuation marks are mostly found in the definitions of compounds (e.g. *mìng-mài* life-vein ‘lifeline’ and *qǐ-bù* rise-step ‘to start’) which are almost exclusively used in their extended senses in contemporary Chinese. In this study, we still treat the original, literal meanings of these words as their basic senses to avoid unwarranted exclusion of linguistic metaphor.
- The Chinese-specific slight-pause mark, “、” (*dunhao*), whose function is to set off items in a series, can be used to enumerate a word’s different uses in

distinct conceptual domains. Consider the sense description of *fàngdà* ‘to enlarge’ in XHGC: “把图像、声音、功能等扩大、提高或增强” ‘to expand images, heighten sounds/voices or strengthen functions, etc.’. Among the three predominant, sufficiently distinct uses of the verb mentioned, the one in the domain of size (of an object) is taken as more concrete, and thus more basic, than the other two, which pertain to the domains of volume (of a sound/voice) and strength (of a function).

- Another symptom of sense conflation is the use of the conjunction *huò* ‘or’ to link concrete and abstract usages of a word in the dictionary definitions. For example, both XHGC and XHXC define the adjective *xiǎoxíng* as “形体或规模小的” ‘small-sized or small-scale’, a definition that conflates two distinct senses of the word, with the size-related one being more concrete and thus more basic than the scale-related one. For cases like this, the single definition is treated as encompassing more than one sense.

Moreover, the lexical relation of antonymy, when explicitly specified in the lexical tools, may be relied on when the definition of one lexical unit is less detailed than that of its antonym, or is even non-existent. For example, the sense description of *fàngdà* ‘to enlarge’ (cited above) informs our decisions with regard to its antonym *suōxiǎo* ‘to reduce; to shrink’, whose definitions in the dictionaries (i.e. “收缩使变小” ‘to shrink to make smaller’ in XHGC and “使紧缩变小” ‘to reduce/tighten and make smaller’ in XHXC) are less elaborate. Since the dictionaries indicate that *fàngdà* and *suōxiǎo* are antonymous to each other in the definitions of both words, these two verbs are treated as sharing the same set of conceptual domains (i.e. size, volume, strength, etc.) in their meanings/uses.

Apart from the issue of sense division, another concern is that reference dictionaries often define meanings in terms of synonyms that themselves require further interpretation (Pasma 2012; Veale et al. 2016). One common definition-by-synonym pattern found in Chinese dictionaries involves compound words that share one morpheme. A case in point is the use of the word *gēnsuí* ‘to follow’ to define another two synonymous verbs, *gēncóng* and *gēnzhe*, in the dictionaries (none of the three words can be found in CWN). According to the dictionary examples, both *gēnsuí* and *gēnzhe* have a clear, spatio-physical sense (‘to move behind or after someone else’) as their basic meaning. By contrast, in both XHGC and XHXC, *gēncóng* is illustrated with only one type of abstract examples that all take humans as its object (e.g. “跟从师傅多年” ‘following the master for many years’ and “你带领大家创业, 我们跟你” ‘You lead us to start a business, and we will follow you.’). To ascertain whether *gēncóng* and its two synonyms have a comparable basic meaning, we consulted multiple balanced Chinese corpora and concluded that, like *gēnsuí* and *gēnzhe*, *gēncóng* does have the same concrete sense, albeit with extremely low

frequency.⁵ In any case, decisions regarding problematic cases that arise from the inadequacies of the dictionaries are recorded in a database shared by all annotators participating in this study to minimise unnecessary disagreement and maximise internal consistency.

12.2.3.2 *Part-of-speech information*

One major difference between MIPVU and its predecessor is that the extended version also takes the distinction between word classes into the consideration of lexical units. Take the multi-functional lemma *jīngguò* as an example: instances of the word used in different parts of speech (i.e. as a noun, a verb, or a preposition) are taken as separate lexical units; accordingly, the nominal ('process; course of event') meaning of the word should be analysed irrespective of its verbal ('to pass through') and prepositional ('through; after') meanings. Additionally, within the grammatical category of verbs in Chinese, the following finer distinctions are made, contingent on the availability of the relevant detailed information in the lexical tools:

- The transitive and intransitive senses of verbs, as a rule, should not be compared with each other. For example, the contextual meaning of *jìnxíng* used transitively (as in *jìnxíng yánjiū* 'to do research') cannot be compared with the meaning of the same verb used intransitively (as in *xiàng qián jìnxíng* 'to move forward'). Since the Chinese dictionaries, unlike the Macmillan dictionary, do not provide transitivity information for verbal senses, we can only rely on CWN for this grammatical distinction.
- We also avoid directly comparing the contextual meaning of a word used as a postverb in resultative verb compounds (to be introduced in Section 12.3.2.2) to its meanings as a lexical verb. For example, the meaning of *zhù* ('firm; fixed') as an attainment postverb (e.g. *lā-zhù* pull-fixed 'to hold on to') should not be compared with its meaning as a regular verb ('to live; to stop'). Note that the senses in the role of postverbs are assigned to the grammatical category of adverbs in CWN and that of verbs, with additional notes indicating the special usage, in the two dictionaries.
- Some lexical verbs in Chinese can also be used as causative verbs (e.g. *gěi* 'to give', *jiào* 'to call' and *ràng* 'to let') or modal verbs (e.g. *yào* 'to want; to require'). The contextual, causative or modal meanings of such verbs should

5. The corpora consulted, besides LCMC (<http://www.lancaster.ac.uk/fass/projects/corpus/LCMC/>), included the Chinese National Corpus (<http://www.cncorpus.org/index.aspx>), the CCL [The Centre for Chinese Linguistics at Peking University] Corpus (http://ccl.pku.edu.cn:8080/ccl_corpus), and the Academia Sinica Balanced Corpus of Modern Chinese (<http://asbc.iis.sinica.edu.tw>).

not be compared with the meanings of these words as full verbs. Note that the modal senses are assigned to the grammatical category of adverbs in CWN and that of auxiliary verbs in the two dictionaries.

As can be seen above, Chinese lexical tools may differ in the part-of-speech categories designated to the same type of word senses, which can be attributed to the fuzzy boundaries between certain word classes in Chinese (cf. Cheung, 2016). One long-standing debate in this area concerns whether adjectives in Chinese should be analysed as an independent category or as a subclass of verbs. Such indeterminate categorical status is indeed reflected in the practice that the (uses of) words tagged as adjectives in LCMC and labelled as such in the dictionaries are designated as one subtype of intransitive verbs (with the tag “VH”) in CWN. Another area of controversy is that a subgroup of Chinese prepositions, with their historical origins as verbs, also have verbal properties and thus could be alternatively classified as verbs. The word *suízhè* ‘along with’, for example, is designated as a preposition in both CWN and LCMC, but as a verb in the two dictionaries. For cases like this, we inevitably have to set aside the conflicting word-class information and still use the sense descriptions available to identify their contextual and more basic meanings. It is therefore imperative for annotators to be aware of the possible discrepancies among different Chinese lexical tools in their inventories of part-of-speech categories to ensure consistency in meaning comparisons.

The categorical fluidity among word classes in Chinese (cf. Tsou & Kwong 2015) may also create problems for practical use of the lexical tools. That is, the same Chinese word, without changing its form, can assume different grammatical roles, depending on its syntactic context; however, its sense descriptions in the tools are limited to its primary grammatical function(s). To illustrate, some nouns can be borrowed as temporary classifiers (e.g. *dùzi* ‘belly’ as in *yī-dùzi-qì* one-belly-gas ‘a bellyful of anger’) and tagged as such in LCMC, but these secondary uses are not documented in CWN or the two dictionaries. The contextual and basic meanings of these words in the role of classifiers thus have to be examined with reference to their sense definitions in the word class of nouns.

12.3 Linguistic issues

This section first discusses the main methodological challenges in the delimitation of lexical units in Chinese texts and then explains how the Chinese-specific lexical types are catered to with regard to the unit of analysis.

12.3.1 Demarcation of lexical units in Chinese texts

This study, following the basic protocol of MIPVU, also takes the word or ‘lexical unit’ as the relevant unit of analysis.⁶ In so doing, metaphorical interpretations below (i.e. orthographic or morphemic) or beyond (i.e. phrasal or syntactic) the word level are not considered in our annotation scheme. However, given the character-based writing system, the notion of ‘word’ may not be as intuitive to Chinese speakers (Packard 2000; Sun 2006). Chinese texts are composed of strings of characters without explicit word delimiters like white spaces in English. The lack of transparent word-boundary indicators, along with morphological simplicity in Chinese, makes it challenging to segment Chinese texts into words (cf. Huang & Xue 2015).

Still, it is generally held in the literature that the notion of ‘word’ can be operationalised in Chinese in a way similar to how it is viewed in other languages (Chao 1968; Packard 2000). Li and Thompson (1981), for example, argue that a Chinese word can be defined based on its semantic and syntactic independence and integrity, a characterisation in line with the definition of ‘lexical unit’ by Steen et al. (Chapter 2, this volume), namely, “grammatical units which designate one specific referent in the discourse.” The possible comparable operationalisation of ‘word’ or ‘lexical unit’ ensures the general applicability of MIPVU in Chinese.

In this project, we externalise as much as possible the decision-making involved in the identification of lexical units. Our general strategy for determining the boundaries of lexical units is to minimise the number of exceptions to the tokenisation and part-of-speech tagging as given by LCMC, the source of the data of this study. Since the corpus provides an objective, frequency-based word segmentation independent of the study of metaphorical use, we have followed most of LCMC practice in deciding what counts as a lexical unit. Words provided with an independent part-of-speech tag are taken as separate lexical units. Before annotation, obvious segmentation and tagging errors were manually corrected to ensure the internal consistency of our corpus.

12.3.2 Chinese-specific types of lexical units

This subsection explains how some lexical types more specific to Chinese that may present operational challenges to the demarcation of lexical units are addressed in this study. We provide our guidelines for analysing (i) two problematic types of

6. In this chapter, the terms ‘lexical unit’ and ‘word’ are used interchangeably in contexts where the distinction between the two is not important.

compounds, which may be treated as phrases because their parts can be separated, (ii) reduplicated words, and (iii) three types of lexical units with their own special part-of-speech tags, namely, proper names, idioms and fixed expressions.

12.3.2.1 *Verb-object compounds*

A verb-object compound (VOC) in Chinese consists of two morphemes with a syntactic relation of a verb and its direct object. Rather than constituting a uniform class, VOCs have different degrees of ‘wordhood’ in that they vary in their compositionality in meaning and separability of their parts. It is the latter property that makes some verb-object sequences appear to have dual status of both a morphologically complex word and a syntactic phrase. While some VOCs are entirely or almost inseparable (e.g. *zhù-yì* inject-meaning ‘to pay attention to’) and thus considered more word-like, others allow insertion of constituents of various grammatical complexity between the two morphemes. Take the compound *sā-huǎng* cast-lie ‘to tell a lie’ as an example of how its separability can affect how lexical units and the basic meanings are determined for the VOCs alike. On the morphemic level, the compound involves the conceptual metaphor, VERBAL BEHAVIOUR IS PHYSICAL ACTION (Jing-Schmidt 2008). On the word level, the compound has only one sense, according to CWN and the Chinese dictionaries, and thus is rarely, if ever, used metaphorically. When used without any intervening element, the compound is segmented as one word and treated as such in the word class of verbs. However, the two parts of the compound can also be separated by the aspect marker *le*, a measurement phrase composed of a numeral and the generic classifier *ge*, or a modifier of the object constituent (e.g. *sā hěn dà de huǎng* ‘to tell a big lie’). In these cases, the discontinuous verb-object sequence behaves more like a phrase than a compound, so the two morphemes, *sā* and *huǎng*, are taken as separate lexical units. The verb *sā* ‘to cast’ would be considered metaphorically used since its contextual meaning related to verbal behaviours can be contrasted with its more basic, physical action meaning.

12.3.2.2 *Resultative verb compounds*

A resultative verb compound (RVC) in Chinese is essentially a V-V complex verb in which V_2 , or the postverb, indicates a certain result of the action or process expressed by V_1 . Based on the nature of the postverb, RVCs can be further categorised into the following major types: stative (e.g. *chī-bǎo* eat-full ‘to eat until full’), directional (e.g. *pǎo-shàng* run-ascend ‘to run up’), and attainment (e.g. *kàn-dào* look-arrive ‘to see’) (Packard 2000). Moreover, RVCs, compared to VOCs, are subject to a higher degree of regularity in terms of the separability of their parts. In general, other than the potential markers (to be explained below), RVCs do not allow intervening constituents such as aspect markers or measure words between

V_1 and V_2 , a property suggesting that RVCs grammatically function more like a single verb than VOCs (Thompson, 1973). One exception is that the parts of directional RVCs whose postverb involves *lái* ‘to come’ and *qù* ‘to go’ can be split by the direct object of V_1 (Li & Thompson, 1981) (e.g. *dài-lái* bring-come $\rightarrow$ *dài shū lái* ‘to bring a book (towards the speaker)’). In this case, the two split constituents would be segmented as separate words with their own part-of-speech tags and therefore treated as independent lexical units.

It is worth noting that not all RVCs are segmented as one word in LCMC; some are processed as two separate words because these compounds are not included in the frequency dictionary incorporated in the tokeniser used by the corpus (see Section 12.2.1 for more details). Given the productive formations of RVCs in Chinese, some members in this open class are expected to be more idiomatic and lexicalised than others. Consider the two directional RVCs that share the same postverb: *zǒu-rù* ‘to walk into’ and *tóu-rù* ‘to put/throw in(to)’. The former is segmented as two words in LCMC, does not enter CWN or the two dictionaries consulted, and has a more compositional meaning. In contrast, the latter is processed as a single word in the corpus and also listed in all the lexical tools adopted. Additionally, this RVC has developed, out of its basic sense of putting or throwing an object into a container, several conventionalised figurative senses, one of which, according to CWN, is “比喻將精神或情感集中在特定對象上” [‘figuratively meaning’] to focus energy and emotion on a specific target’. It follows that such superficial inconsistency in the tokenisation of RVCs, in fact, corresponds to some degree to their various levels of lexicalisation exhibited. Thus, depending on whether a given RVC is processed as one or more words in LCMC, we accordingly analyse the compound as a single lexical unit or as separate lexical units.

Moreover, not all of the RVCs segmented as a single word in LCMC can be found in the Chinese lexical tools adopted. To determine the basic meaning(s) of these complex lexical units, we have to analyse their concordance citations sampled from multiple balanced Chinese corpora (cf. Deignan 2015). To illustrate, consider the uses of the RVC *pèng-shang* bump-up ‘to bump into’, which is processed as a single word across Chinese corpora but cannot be found in CWN or either of the dictionaries selected for this study. Our concordance analysis revealed that a more common meaning of the compound is “to meet someone unexpectedly” (e.g. *pèng-shang shúrén* ‘to bump into an acquaintance’), which can be contrasted and understood by comparison with another less frequent sense, “to accidentally hit against something” (e.g. *pèng-shang jiāoshí* ‘to bump into a submerged rock’). The latter is the most concrete meaning of *pèng-shang* and thus established as its basic meaning, so contextual uses of the RVC in the former sense would be considered metaphorical.

One of the distinguishing structural characteristics of RVCs is that most of them can occur in the potential form (Li & Thompson 1981; Wiedenhof 2015). This productive pattern of RVCs features the insertion of a morpheme, either the affirmative *-de-* ‘obtain’ or the negative *-bu-* ‘not’, between the two verbs to indicate that the action or process conveyed by V_1 can or cannot achieve the result expressed by V_2 . A small number of potential forms are segmented as one word in LCMC and treated as single lexical units, including those that are highly lexicalised with extended idiomatic meanings and likely to be listed in the dictionaries (e.g. *guò-bù-qù* pass-NEG-go ‘cannot get through; to find fault with; to feel sorry’) as well as the RVCs exclusively used in the potential form (e.g. *mǎi-de-qǐ* buy-obtain-ascend ‘able to afford’). However, most potential forms are segmented into three words and thus taken as multiple lexical units, a practice that has consequences for establishing the basic meanings of the verb constituents. Consider the RVC, *kàn-chū* look-out ‘to make out; to perceive’, in which the postverb can only have an attainment reading. While the compound is segmented as one word in the corpus, its negative potential form, *kàn-bù-chū* look-NEG-out ‘unable to make out/perceive’ is processed as three separate lexical units. In the latter case, *chū*, taken as an independent lexical unit, should be considered an MRW here since its attainment meaning in the RVC can be contrasted with its more basic, physical sense of exiting.

12.3.2.3 Reduplications

In Chinese, classifiers, adjectives and verbs may be reduplicated to form new words. Reduplicated words generally do not enter CWN or the dictionaries and thus require additional operational guidelines. While the process of reduplication has systematic semantic effects, the root morpheme still carries the primary semantic weight that affects whether a given use of the reduplicated word is metaphor-related. For example, reduplication of classifiers expresses the meaning ‘each, item by item’ (e.g. *piàn* ‘slice/flat piece’ → *piàn-piàn* ‘each slice’) and reduplicated verbs usually present an action as a minor event, limited in time, scope, or importance (e.g. *zuò* ‘to do’ → *zuò-zuò* ‘to do a little’) (Li & Thompson 1981; Sun 2006; Wiedenhof 2015). Our general guideline for annotating the unfound lexical units that involve reduplication, full or partial, is as follows: the basic and contextual meanings of reduplicated forms are determined based on the sense descriptions of their root forms. To illustrate, the use of the reduplicated adjective *duǎn-duǎn* ‘short’ in the context of *duǎn-duǎn jǐ tiān* ‘within a few days’ would be considered metaphorical, for its contextual, temporal meaning contrasts with the more basic, spatial meaning of *duǎn* and can be understood in comparison with it. In this case, the reduplicated form would be marked as metaphorically used.

12.3.2.4 Proper names, idioms and fixed expressions

Proper names, idioms and fixed expressions, for all of which the LCMC tagset has special tags, generally do not require additional coding. The tags for proper names include “nr” for personal names (e.g. *kǒngzǐ* ‘Confucius’), “ns” for place names (e.g. *táiwān* ‘Taiwan’), “nt” for organisation names (e.g. *liánhéguó* ‘the United Nations’) and “nz” for other proper nouns (e.g. *fójiào* ‘Buddhism’).⁷ Each of the proper names in these categories receives an independent tag and therefore is taken as a single lexical unit. Note that the first name and surname of a given personal name are processed as separate words, both tagged with “nr”, and therefore treated as such in this study.

Idioms (or *chengyu* in Chinese), tagged with “i” and also taken as single complex lexical units, are mostly composed of four characters and characterised by their self-contained, largely inflexible nature (Chien & Harris 2010). While some Chinese idioms can have a literal reading, the majority of them are meant to be figurative only (e.g. *qīng-miáo-dàn-xiǎ* light.in.weight-trace-light.in.colour-write ‘to down-play’). The intended, figurative interpretations of idioms necessarily involve indirect uses of their individual parts. For this reason, idioms covered by the Chinese dictionaries but erroneously segmented into multiple words in the corpus were manually corrected to avoid overestimation of lexical units and metaphor density.

The complex lexical units tagged as fixed expressions (“f”) in LCMC may not be tokenised in the same manner in other Chinese corpora, which would systematically affect whether the parts of these expressions should be examined for potential metaphorical meaning. Consider the phrase *shìshí-shàng* fact-on ‘in fact’, in which the localiser *shàng* ‘on’ is metaphorically used, given that its contextual, abstract meaning can be contrasted with its basic sense regarding physical location. However, the entire phrase is segmented as a fixed expression in LCMC, similar to how polywords in English are treated in BNC, and thus taken as a single lexical unit, one with an invariably non-metaphorical usage. Yet the same phrase may be processed as two words by other Chinese word segmentation tools; in this case, *shàng*, as a separate lexical unit, would be marked as an MRW.

7. Proper names that serve a purely referential function (for example, when words like *cǎixiá* ‘rosy clouds’ and *dàdào* ‘avenue’ are used as personal names) were not analysed for metaphorical usage. See Dorst & Kaal (2012) for more discussion on the issue of proper names in linguistic metaphor identification.

12.4 Annotation categories

MIPVU serves to identify not only indirect but also direct and implicit expressions of metaphor in discourse, which are coded as MRWs. This section demonstrates, with examples drawn from our annotated corpus data, how the three forms of linguistic metaphor can be identified via MIPVU in Chinese texts.

12.4.1 Indirect metaphor

Indirect metaphor, the ‘classic’ category of linguistic metaphor, is operationalised based on the contrast between the contextual meaning of a lexical unit and its more basic meaning.⁸ Example (1), taken from an academic text explaining the differences between linguistics teaching and language teaching, illustrates how indirect uses of lexical units that may be explained by cross-domain mapping can be identified via MIPVU. Specifically, the sample analysis below shows that two words in (1), namely, the preposition *duì* and the noun *mùdì*, should be marked as MRWs.

- (1) 语言学 教学 对 不同的 教学 对象 可以 有
yǔyánxué jiāoxué duì bùtóng de jiāoxué duìxiàng kěyǐ yǒu
 linguistics instruction for different NOM instruction subject can have
 不同 的 教学 目的
bùtóng de jiāoxué mùdì
 different NOM instruction goal (J60)⁹
 ‘Linguistics teaching can have different instructional objectives for different learners.’

Duì (preposition)

Contextual meaning: “引介事件所涉及的對象或範圍” ‘introducing the subject or scope involved in an event’ (CWN sense 6)

Basic meaning: “引介動作的方向” ‘introducing the direction of an action’ (CWN sense 9)

Contextual vs. basic meaning: The contextual meaning involves non-specific subject(s) of a complex, more abstract event while the basic meaning concerns the spatial direction of an action. The subject of an event can be understood through comparison in terms of the direction of an action.

Metaphorically used? Yes.

8. In this study, word meanings that may not be available to the typical contemporary Chinese language user, including archaic and dialectal senses, labelled “文” and “方” respectively in XHGC, as well as slang meanings, marked as “俚語” in CWN, are disregarded in the search for a more basic meaning despite that they may be more concrete, specific or human-oriented.

9. The abbreviations employed for glossing of Chinese are available at this volume’s Open Science Framework website; see Document 12.1 in the Chapter 12 folder at <https://osf.io/vw46k/>.

Mùdì (noun)

Contextual meaning: “想要達到的目標或結果” ‘the goal or result wanted to be achieved’ (CWN sense 1)

Basic meaning: “想要到達的位置” ‘the location wanted to be reached’ (CWN sense 2)

Contextual vs. basic meaning: The contextual meaning concerns an abstract goal or result whereas the basic meaning involves a concrete location. The goal to be attained can be understood through comparison in terms of a physical location to be reached.

Metaphorically used? Yes.

One particular kind of indirect use of lexical units that is typically not registered in the dictionaries as a separate sense is personification. Linguistic realisations of conceptual personifications usually involve a violation of selection restrictions (Dorst 2011). Consider the use of *shāo* ‘to take along’ in (2), an example in the news register. According to the sense description of the word in XHGC and XHXC – “顺便带东西或传话” ‘to bring along something or pass on a message’, the verb requires a human agent. However, the selection restriction of the verb is violated here by having a non-human entity, in this case, *fēng* ‘wind’, as the agent of the action. Therefore, the word *shāo* receives a code for indirect metaphor, added with a note of personification.

- (2) 如今人们都在欢度佳节，他们却只能在这
rújīn rénmen dōu zài huāndù jiājié, tāmen què zhǐ-néng zài zhè
 now people all PROG celebrate festival 3PL yet only-can at this
 京城最高处，让掠过塔上的风
jīngchéng zuì-gāo chù, ràng luèguò tǎ shàng de fēng
 capital most-high place let sweep tower on NOM wind
 向亲人们捎去一声问候 (A26)
xiàng qīnrén men shāo qù yī shēng wèn hòu
 towards family PL take.along go one sound greeting
 ‘Now other people are all celebrating the festival, but they, at the highest place of the capital, can only ask the wind sweeping past the top of the tower to send their greeting to their family members.’

12.4.2 Direct metaphor

MIPVU recognises that indirectness in conceptualisation can be directly as well as indirectly expressed by language. Direct metaphors, which can take the forms of similes, analogues or other non-literal comparisons, are identified based on topical incongruity, often with the help of a limited set of metaphor flags or signals such as

like, as, and seem in English (cf. Goatly 1997).¹⁰ For the linguistic manifestations of direct metaphor in Chinese, consider (3), an example from a news text that reported how a pedestrian saved a child falling from a building. Here the word *jiàn* ‘arrow’ is used directly (i.e. no contrast between the contextual meaning and its basic meaning) to introduce an incongruous local referent into the discourse. By setting up a cross-domain comparison between a person and a shot arrow in terms of the speed of movement, the word is annotated as a direct metaphor.

- (3) 孩子“自由落体” 坠向地面。任志庆 像
háizi “zìyóu luòtǐ” zhùi xiàng dìmiàn. Rén Zhìqīng xiàng
 child free falling/body fall towards ground (personal name) like
 箭 一样 冲向 孩子的 落点 (A03)
jiàn yīyàng chōng xiàng háizi de luò diǎn
 arrow alike dash towards child ASSOC fall point
 ‘The child was free falling to the ground. Zhiqing Ren dashed like an arrow
 towards the point of fall of the child.’

In addition, the directly expressed metaphor in (3) is flagged by the concurrent use of *xiàng* ‘like’ and *yīyàng* ‘alike’. These two words, which often co-occur with each other, respectively belong to two distinct types of metaphor signals in Chinese that differ in their lexical categories and relative position to the direct metaphors. Signals of the first, more common type, including *xiàng* ‘to resemble’, *hǎoxiàng* ‘like’, *rú* ‘as’, *rútóng* ‘like’, *yóurú* ‘just as’, and *hǎobǐ* ‘can be compared to’, are used before the direct metaphor and tagged as verbs or prepositions. The second type of flags, including *yīyàng* ‘alike’, *side* ‘-like’, and *bān* ‘sort’, are used after the direct metaphor and tagged as particles (*zhuci*). Still, it is possible, while far less common, in Chinese that direct expressions of metaphor occur without any explicit textual cues.

12.4.3 Implicit metaphor

Other than the first two explicit forms of metaphor, MIPVU also identifies implicit metaphor, a product of “the underlying cohesive link (grammatical and/or semantic) in the discourse which points to recoverable metaphorical material” (Steen et al. 2010: 15). Implicit metaphor can work by substitution through pro-forms like pronouns or by ellipsis through absent words that may be inserted into grammatical gaps (cf. Halliday & Hasan 1976). Example (4), excerpted from a fiction text,

10. The concept of ‘metaphor flag’ roughly corresponds to the notion of ‘*yuci*’ in the traditional Chinese rhetorical analysis of similes. See Yuan (1982) for a more comprehensive inventory of *yuci*, or metaphor flags, in Chinese.

illustrates how the cohesive use of the pronoun *tā* ‘it’ can be implicitly metaphorical by substitution. In this case, the antecedent of the pronoun can be traced back to the noun, *jīqì* ‘machine’, an MRW involved in the cross-domain comparison between the society and a machine. Therefore, *tā* receives a label for implicit metaphor.

- (4) 我们 的 社会 是 一 部 超常 强 大 的 机 器 ,
wǒmen de shèhuì shì yī bù chāocháng qiángdà de jīqì,
 2PL ASSOC society COP one CL above.normal powerful NOM machine
 我 只 不 过 是 卷 进 这 部 机 器 里 的 一 颗
wǒ zhǐbùguò shì juǎn-jìn zhè-bù jīqì lǐ de yī kē
 1SG only COP roll-into this-CL machine inside NOM one CL
 石 子 , 只 能 让 它 嘎 嘎 两 声 (K04)
shízi, zhǐ-néng ràng tā gāgā liǎng shēng
 pebble only-can make 3SG creak two sound
 ‘Our society is an extraordinarily powerful machine. I’m only a pebble caught
 up in this machine and can only make it creak twice.’

Since we did not find any occurrence of implicit metaphor by ellipsis in our relatively small sample data, it remains to be ascertained whether and, if so, how this subtype of implicit metaphor works in Chinese discourse.

12.4.4 Borderline cases

In actual practice of annotation, there are inevitably some cases in which the limited linguistic context allows both literal and non-literal interpretations of certain lexical units. Apart from the binary scale (i.e. MRW vs. non-MRW), MIPVU also adds a third category of ‘When In Doubt, Leave It In’ (WIDLII) to accommodate these borderline cases of metaphor. A case in point is example (5), in which *shàng* ‘up’ and *xià* ‘down’ can be understood as being used either in their basic, height-related senses or in their extended meanings that involve some kind of cross-domain mapping, say, between heights and cardinal directions (e.g. north/south as up/down). Due to the lack of situational knowledge, the two ambiguous lexical units are taken as potentially metaphorically used and coded as WIDLII.

- (5) 从 上 街 头 到 下 街 头 , 经 常 传 着 “剃 头 佬 说”
cóng shàng jiētóu dào xià jiētóu, jīngcháng chuán zhe “tìtóulǎo shuō”
 from up street to down street often circulate DUR barber say
 之 类 的 最 新 要 闻 (K26)
zhīlèi de zuì-xīn yàowén
 and.so.on NOM most-new important.news
 ‘From up the street to down the street, there often circulates the latest important
 news prefaced by “the barber says ...” of some sort.’

12.5 Conclusions

The present study confirms that MIPVU can be flexibly adapted for Chinese. In fact, the application of MIPVU to linguistic metaphor identification in the Chinese texts sampled from LCMC is largely smooth (cf. Lu & Wang 2017), despite the methodological challenges discussed in this chapter. We have provided our guidelines for how to treat the sense descriptions and part-of-speech information given by the lexical tools adopted when sense confluences are suspected or when conflicting word-class assignments are found. Concordance analyses may be required to determine the basic meanings of the lexical units whose meaning definitions in the Chinese WordNet and/or the reference dictionaries are inadequate or unavailable. The operationalisation of ‘lexical unit’ needs to be – and can be – adapted to Chinese-specific lexical types (e.g. verb-object compounds, resultative verb compounds and reduplicated words) based on the word segmentation tool and part-of-speech tagging provided by the corpus.

Due to less clear-cut word boundaries and more fluid word classes in Chinese, there are inevitable discrepancies among word segmentation tools in their tokenisation strategies and part-of-speech categories, which may systematically lead to different annotation results. The methodological issues discussed and the solutions provided in this chapter for the adaptation of MIPVU to Chinese, given the lexical resources adopted in our project, are by no means exhaustive or conclusive. Further additions or modifications to our guidelines are expected, for example, when there are better lexical tools available. It is hoped that this study would stimulate future research to work jointly towards a more transparent and rigorous procedure for identifying metaphor-related language use in Chinese discourse.

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Linguistic metaphor identification in Sesotho

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13.1 Introduction

This chapter presents the application of MIPVU (Steen et al. 2010) to Sesotho, a Bantu language spoken in Lesotho and in some parts of the Republic of South Africa (Demuth 2007: 529). Operational issues and language-specific characteristics of Sesotho are discussed that (a) pose challenges for demarcating lexical units, and that (b) require attention such as verb extensions which, though found under one headword in the dictionary, have distinct meanings. We also present an adjusted version of the MIPVU protocol for application to Sesotho, and illustrate its application in a sample analysis.

The major operational challenge in the application of MIPVU to Sesotho is that no corpus-based dictionaries are available for Sesotho. Most of the dictionaries are multilingual, designed to provide English translations of Sesotho words. Sense descriptions are often very general, and consist of a single word or a short phrase. Section 13.2 details how the characteristics of the available dictionaries affect metaphor identification in Sesotho. To resolve this challenge, we propose to use one Sesotho dictionary in conjunction with the *Macmillan English dictionary for advanced learners* (MM; Rundell 2002).

The demarcation of lexical units is complicated by the fact that Sesotho is an agglutinative language. Unlike English, Sesotho makes frequent use of prefixes which are attached to the root to mark agreement, negations, or tense. The challenge for analysts applying MIPVU to Sesotho is whether to treat these morphemes as independent lexical units or as parts of one lexical unit. This matter is further complicated by the fact that some of these morphemes are orthographic words that are not attached to any formatives in Sesotho writing. Section 13.3 discusses how these language-specific features affect the demarcation of lexical units. The general guideline that we propose to deal with this challenge is to follow the boundaries of the orthographic word when demarcating lexical units (13.3.1). However,

multiword expressions that appear in the dictionary (discussed in Section 13.3.2), the first person singular object marker *n-* as well as the reflexive marker *i-* (discussed in Section 13.3.3), the locative case marker *-ng* (discussed in Section 13.3.4) the affixation of locative case markers, and the prefixes *ra-* and *ma-* to some nouns (discussed in Section 13.3.5), constitute exceptions to this guideline.

Further linguistic characteristics of Sesotho that affect the use of MIPVU are discussed in Section 13.4. These include verb extensions (Section 13.4.1) as well as reduplicated words, diminutive markers, and augmentative makers (Section 13.4.2). For these characteristics, explicit guidelines are provided to smoothen the application of MIPVU to Sesotho.

The adjusted MIPVU protocol for Sesotho is presented in Section 13.5, and its application in practice is illustrated, in Section 13.6, by means of example analyses from Thomas Mofolo's novel *Chaka* (2014). We end this chapter with some concluding remarks in Section 13.7.

13.2 Operationalization

This section discusses the first issue that presents difficulties in the application of MIPVU to Sesotho: the use of a dictionary. Sesotho does not have corpus-based dictionaries. Instead, the majority of the dictionaries in Lesotho are bilingual dictionaries that provide English translations of Sesotho words. These dictionaries provide just one word or a short phrase of two words as sense descriptions of Sesotho words. As a result, the sense descriptions in these dictionaries are typically not detailed enough to enable analysts to determine if there is a more basic sense of a word that contrasts with, and can be compared to, its contextual meaning.

Four Sesotho dictionaries may be considered potential candidates for the identification of contextual and more basic meanings of lexical units: *Patlamantswe Ya Sesotho Ya Machaba/Sesotho International Dictionary* (PYS; Chitja 2010), *Bukantswe* (Buka; Olivier 2016) the *English-Southern Sesotho Dictionary* (ESD; Hamel 1965), and the *Sesuto-English Dictionary* (SED; Mabile 2000). In comparison with other Sesotho dictionaries (such as *Longman sethantsho sa Sesotho* (Hlalele 2005) and *English-Sotho Vocabulary* (Casalis 1979), these four dictionaries contain a larger number of lemmas. In the next section, we discuss the features of each dictionary that may make it a suitable candidate for the application of MIPVU to Sesotho. In addition, we discuss the potential problems that of each of these dictionaries poses for the application of MIPVU.

13.2.1 The Sesotho dictionaries

PYS

This dictionary is available online and is also downloadable in pdf format. PYS is a bilingual dictionary that provides English translations of Sesotho words. The English translations are very short (consisting of one word or a short phrase), as can be seen in (1) below. In addition, the dictionary provides detailed meaning of the words in Sesotho. Usually the dictionary provides only one sense description of words.

Example (1) displays the entry for the word *bolaea* ‘to kill’:

- (1) *ho felisa bophelo ba motho kapa ba ntho e phela*
 to end life of person or of thing it living
 ‘To terminate a life of a human or any living being’

In some cases, the dictionary provides examples of the situations in which a word can be used. A major shortcoming of PYS is that it does not have entries for some Sesotho words. For example, the word *kana*, as used in the sentence (2), is absent in the dictionary.

- (2) *Nandi o kana Senzanghakhona.* (Mofolo 2014: 1)
 Nandi she choose Senzanghakhona
 ‘Nandi chooses Senzanghakhona.’

Another shortcoming of the dictionary is that it usually provides only one meaning of the word, which in most cases seems to be the basic sense in that what it describes is more concrete, more physical-orientated. The definition of *bolaea* ‘kill’ in (1) is a case in point. Only one sense description (that of the termination of a life) is provided, despite the fact that according to SED *bolaea* can also mean ‘to cause much harm’ or ‘to break a pot’. Of all the dictionaries, only SED provides another meaning of *bolaea* as ‘to cause much harm’ or ‘to break a pot’. In addition, some words which are present in SED are absent in this dictionary. For instance, the word *kana*, which is present in SED, is absent in PYS.

Buka

Buka is an online bilingual English-Sesotho dictionary. The dictionary provides only one sense description of a word. The dictionary provides English translations of Sesotho words. Buka has the advantage of being available online, which means that it is easily accessible. However, Buka has even fewer entries than PYS. As is the case with PYS, the word *kana* cannot be found in Buka. Therefore, using this dictionary may frequently hinder an analyst from establishing whether the contextual meaning of a word has a metaphorical relationship with a more basic meaning.

Furthermore, the descriptions in the dictionary are single words that may also need to be analysed further using another dictionary to establish what their precise meanings are. Example (3) displays the entry for *bolaea* 'kill' in Buka.

- (3) slaughter (v); murder (v); kill (v)

ESD

ESD is an English-Sesotho dictionary. The dictionary provides Sesotho translations of English words. Under each English headword are related English words (and expressions) and their Sesotho translations. The dictionary was intended to be used for checking the Sesotho translations of English words instead of looking up the meaning of Sesotho words. One cannot use the dictionary to find the meaning of the Sesotho word such as *bolaea* 'kill' since the dictionary does not have an entry for *bolaea*. The word *bolaea* appears only as a part of the description of the English word 'kill', as shown in example (4).

- (4) Kill: *ho bolaea*

SED

Similar to all other Sesotho dictionaries, SED is a bilingual dictionary that provides English translations of Sesotho words (in one word or a short phrase). Although the dictionary usually provides one sense description of a word, there are instances when it provides multiple senses as well. In comparison with other Sesotho dictionaries, SED is the most suitable for identifying metaphor-related words (MRWs) in Sesotho texts. One advantage of SED is that it contains more lemmas than any other Sesotho dictionary, making it the biggest dictionary of Sesotho. For instance, the words *kana* 'to choose [a partner] in a game of boys and girls', *sefuthi* 'blacksmith' *ntsukunyane* 'one who does not know how to shape an axe' and *moronono* 'something strong; vicious and untameable animal', which are absent in other dictionaries, are present in SED. Another advantage of using SED over other Sesotho dictionaries is that it provides multiple sense descriptions for one entry. The entry for *bolaea*, shown in (5) is an example. SED gives four definitions of *bolaea*: to kill, to murder, to do much harm, and to break (a pot). As a result, SED contains conventionalised metaphors for some entries, next to more basic meanings.

- (5) v.t. to kill, to murder, to do much harm; to break (a pot)

Despite the advantages SED has over the other dictionaries, it shares some of their characteristics that also make it less suitable, at least when it is used as the only dictionary for metaphor identification in Sesotho. One such shortcoming is that sometimes the information given by the dictionary regarding the meaning of a

word is so general and vague that an analyst cannot decide whether the meaning given refers to an abstract or concrete concept. This occurs mostly when only one word or a short phrase is provided as a definition. Another challenge in using SED is that it provides only one meaning (typically a more basic meaning of a word), even if other meanings are common in language use as well.

The overview of the available Sesotho dictionaries above has shown that, although some have features that could be useful for the application of MIPVU, the dictionaries generally have shortcomings that make them unsuitable candidates for metaphor identification.

In comparison to the other dictionaries, SED has features that make it more suitable for metaphor identification in Sesotho. Firstly, the dictionary contains more lemmas than any other Sesotho dictionary, making it the biggest dictionary of Sesotho. Secondly, the dictionary provides multiple sense descriptions for one entry. However, as indicated, SED has shortcomings that make it unsuitable to be used on its own in metaphor identification. We propose that an analyst identifying metaphor in Sesotho should use SED and Macmillan as a backup. Macmillan is chosen as a backup because it is the main dictionary used for metaphor identification in English. In the next section we show how the two dictionaries, SED and Macmillan, should be used.

13.2.2 The use of SED and Macmillan

Given the limitations of the various dictionaries that are available for Sesotho (see Section 13.2.1), we have proposed that two dictionaries should be used when applying MIPVU to Sesotho: SED and Macmillan (as a backup). After following Steps 1 and 2 of MIPVU, the analyst should consult SED to find out if the contextual and a more basic meaning of a lexical unit are present in the dictionary. If both the contextual and a more basic meaning are present, the analyst should proceed with the remaining steps of MIPVU. It is important to note that SED does not number different sense of lexical units even if they are distinct. Therefore, unlike in the case of English, the degree of distinctness between the different meanings of words cannot be determined on the basis of layout of the entry. An analyst has to decide whether senses are distinct enough based on his/her interpretation of how they are related with each other.

If SED gives information that is considered insufficient to enable an analyst to make a decision about the metaphorical use of a lexical unit, the Macmillan dictionary should be used as a second option. SED could be considered to provide insufficient information to identify metaphor if: (1) it gives only one sense of a lexical unit, and (2) it describes words in a general or vague way by giving just one

word or a short phrase as a description. When using Macmillan, the analyst should look up the senses of the English translation of the Sesotho word as provided by SED. The analysis of the two Sesotho words *hae* and *patile* as used in sentence (6) below illustrates how the two dictionaries could be used to analyse Sesotho data.

- (6) *Leha Senzanghakhona litaba tsa hae le Nandi a na li*
 Even Senzanghakhona affair of his and Nandi he did it
patile haholo-holo ...
 hide lot-RED ...
 'Although Senzanghakhona tried so much to **hide his** affair with Nandi ...'

Hae

SED provides sufficient information to apply MIPVU to this lexical unit.

Contextual meaning: 'A possessive pronoun third person singular, First Class, his, her'.

Basic meaning: 'A possessive pronoun third person singular, First Class, his, her'

Contextual vs. basic meaning: The contextual meaning does not contrast with the basic meaning.

Metaphorically used? No.

Pata

The information provided by SED is not sufficient to determine the contextual and the more basic meanings of the word. SED defines *pata* as: 'to hide, to conceal and bury'. In this case, Macmillan should be consulted. We use the English translations, 'hide', 'conceal' and 'bury' as our search items.

Contextual meaning: In the context to *pata* means 'to prevent people from knowing about' an affair. This corresponds with the meaning of 'hide' in Macmillan: 'to not allow people to find out about something' (MM6)

Basic meaning: MM1 describes 'hide' as: 'to put something in a place so that no one can find or see it'.

Contextual vs. basic meaning: The contextual meaning contrasts with the basic meaning and can be understood in comparison with it. Preventing people from finding out (knowing) about one's affair can be understood in terms of putting an object in a place so that no one can find or see it.

Metaphorically used? Yes.

13.3 Demarcation of lexical units

This section discusses the second issue that presents difficulties in the application of MIPVU to Sesotho: the demarcation of lexical units. The nominal system of Sesotho requires other parts of speech such as predicatives to have a marker that shows agreement with a noun. As is the case with other Bantu languages, every

noun in Sesotho belongs to a class that is determined by its prefix. To show plurality, a noun takes a plural prefix and becomes a member of a different noun class. Singular nouns that belong to the same class take similar plural prefixes. How this system works is illustrated by the following examples: *lejoë* 'stone', *lesole* 'soldier', and *leholimo* 'heaven'/'sky'. These nouns all have the prefix *le-* and belong to Class Five. In their plural forms these nouns take the prefix *ma-*: *majoe* 'stones', *masole* 'soldiers', and *maholimo* 'heavens'/'skies'. They become elements of Class Six. In all, there are twenty-three Bantu noun classes. However, Sesotho has only twelve classes; the language does not use some of the prefixes that are used in some other Bantu languages (Demuth & Weschler 2012).

By requiring the other parts of speech to use markers that show agreement with the noun, Sesotho creates a system where there are many prefixes in a sentence, as illustrated in (7). In order to facilitate agreement between the noun *banana* 'girls' and the qualificatives and predicative in (7), the possessive marker *ba-* is prefixed to *tsekolo* 'school', the adjectival marker *baba-* is prefixed to *ngata* 'many' and the subject marker *ba-* is prefixed to the verb stem *rata* 'love'. The markers signify Class Two, in which the noun *banana* belongs. Similarly, the relative marker *tse-* is prefixed to *thata* 'difficult' to facilitate agreement between the qualificative and the noun *libuka* 'books' and the pronoun *tsena* 'these'.

- (7) *Ba-nana ba-sekolo baba-ngata ba-rata li-buka tsena tse-thata.*
 PL-girl POSS-school ADJ-many SUB-love PL-book these REL-difficult
 'The majority of female students love these difficult books.'

Of the twelve parts of speech found in Sesotho, only descriptives (adverbs and idio-phones), conjunctives, and interjectives (interjections and exclamatives) are not required to show agreement with a noun. All substantives (nouns and pronouns) and qualificatives (adjectives, relatives, enumeratives, and possessives) should have morphemes that show the class of a noun. There are seven types of such morphemes, whose function is to facilitate agreement between a noun and another part of speech.

The following subsections first detail the demarcation of lexical units for free morphemes in terms of the orthographic word (13.3.1) and multiword expressions and compounds (13.3.2). Then, the demarcation of lexical units for bound morphemes is discussed for the first person singular object marker *n-* and the reflexive marker *i-* (13.3.3), the locative case marker *-ng* (13.3.4), and Class 1(a) prefixes *ra-* and *ma-* (13.3.5). In order for MIPVU to be able to identify metaphors realized through these elements adjustments should be made to the protocol that allow the analysis to go below the level of the word, and treat these bound morphemes as independent lexical units.

13.3.1 The orthographic word

In English, the demarcation of lexical units often corresponds with the boundaries of an orthographic word. This means that in English the trend is to consider every free morpheme as a word. This is probably influenced by the fact that in English a free morpheme is generally a unit that can be assigned a Part-of-Speech (PoS) tag. In Sesotho, by contrast, the question of what counts as a “word” poses problems because not every free morpheme can be assigned a PoS tag in Sesotho. Being an agglutinative language, prefixes are very frequent in Sesotho, with several morphemes constituting one part of speech.

One reason for the high number of morphemes in a single part of speech in Sesotho is the nominal system, which requires that in the majority of parts of speech a root is prefixed with a morpheme that facilitates agreement with the noun. An example of the use of multiple morphemes to make one part of speech and the disjunctive writing system that separates these morphemes is shown in the predicative *o ne a sa ba rate* ‘he did not like them’ in (8). This examples consists of six free morphemes: the subject marker *o* (which facilitates agreement with the noun Pule) the tense marker *ne*, the subject marker *a* (which facilitates agreement with the noun Pule, too), the negative marker *sa*, the object marker *ba*, and the stem *rate*.

- (8) *Pule o ne a sa ba rate.*
 Pule he did he not they like
 ‘Pule did not like them.’

One option to deal with this challenge is to treat all formatives constituting one part-of-speech element as one lexical unit. For instance, the predicative *o ne a sa ba rate* could be considered one lexical unit, despite the fact that it consists of six orthographic words. An advantage of this approach is that it creates a match between the lexical unit and what is considered a part of speech in the descriptive grammars of Sesotho (see Doko & Mofokeng 1957; Guma 1982). It also matches the boundaries of a word in spoken Sesotho, in which the end of a word is marked by lengthening the penultimate syllable (Demuth 2007: 530): the predicative *o ne a sa ba rate* is treated as one word by lengthening the syllable of the final morpheme *rate*. A disadvantage of this approach is that it leads to a high number of multi-word expressions, the majority of which are not found in the dictionary. Most of the Sesotho dictionaries regard every free morpheme as equivalent to a word, regardless of whether it is a stem and/or a formative such as a subject marker whose role is to provide a concordial agreement between a verb and a noun such as *o* and *a* in (8) above whose role is to facilitate agreement with the noun Pule.

Another solution to this challenge is to follow the boundaries of an orthographic word, similar to the original MIPVU protocol. A major advantage of this solution

is that analysts can find most of the lexical units in SED, as the entries in SED are orthographic words. For instance, all the six morphemes of the predicative *o ne a sa ba rate* are found as entries in SED. A possible disadvantage of this solution is that following the boundaries of an orthographic word results in a situation in which each of the morphemes that are part of one part of speech are treated as a lexical unit.

Because following the boundaries of the orthographic word allows the use of a dictionary, we propose to use this solution to demarcate lexical units. There are, however, special cases that call for a different treatment. These are discussed next.

13.3.2 Multiword expressions and compounds

Similar to English, there are multiword expressions in Sesotho that should be treated as single lexical units because they refer to one referent. However, the clues that are used in English to decide whether a multiword expression should be treated as a single unit or not are absent in Sesotho. There is no corpus such as the BNC that could be checked for multiword expressions, and the use of stress to determine if a compound noun is conventionalised or not cannot work in Sesotho since Sesotho dictionaries do not show stress patterns of words.

To verify if multiword expressions are conventionalised, SED should be consulted. Once a multiword expression appears in the dictionary, it should be regarded as a single lexical unit. This guideline should be followed even if the multiword expression is found as a run-on in another entry. For instance, the adverb *ka boomo* ‘on purpose’ is found as a run-on of *boomo*. The expression should be treated as a single lexical unit.

13.3.3 The first person singular object marker *n-* and the reflexive marker *i-*

The first person singular object marker *n-* and the reflexive verb marker *i-* are treated in a different way from the other subject and object markers in Sesotho. While other object markers are treated as free morphemes, these two formatives are always attached to a verb stem. This is illustrated in example (9), in which the morphemes are attached to the verb stem *arabella* ‘speak on behalf of’, which becomes *karabella* in line with Sesotho phonology that requires a word beginning with a vowel sound to add the sound [k] if it is preceded by either the reflexive *i-* or the object marker *n-*. The marker *n-* represents the speaker, while the marker *i-* represents the subject who also is an object of an action.

- (9) *I-karab-elle se-ke ua n-karabella.*

REF-answer-APPL not you me-answer-APPL

‘Don’t speak for me, speak for yourself.’

Despite this different treatment from other subject and object markers that are written separately from the verb stem, the object marker *n-* and the reflexive marker *i-* also represent entities, and not processes as the analysis of (9) has shown. *I-* is found as an independent entry in the dictionary, although the dictionary also provides some reflexive verbs that have *i-* attached to the verb, such as *ipata* 'to hide oneself', *ikoka* 'to nurse oneself' and *ichapa* 'to punish oneself'. *N-* is not present in the dictionary. In dealing with these two elements the analyst should deviate from the practice of demarcating lexical units on the basis of the orthographic word. Instead, the markers *n-* and *i-* should be analysed independently from the verb stem they are affixed to.

As an exception to this guideline, reflexive verbs that appear as such in the dictionary (that is as a reflexive verb with the reflexive marker bound to the verb) should be analysed as one lexical unit because the presence of such a reflexive verb in the dictionary is an indication that it is a conventionalised form amongst the Sesotho speakers.

13.3.4 The locative case marker *-ng*

The locative case marker *-ng* is a bound morpheme that is sometimes attached to words to give them spatial orientation. For instance, the word *joala* denotes beer, but when affixed with the locative case marker *-ng*, it denotes a location. The noun *joaleng* (created by attaching the suffix *-ng* to *joala*), no longer refers to an alcoholic beverage but to a place where such a drink could be obtained, e.g. a bar.

The locative case marker can also be affixed to an abstract noun to denote a situation or a state. For instance, the locative case marker can be attached to the words *litsietsi* 'problems', *mahlomola* 'grief', *bocha* 'youth' to describe the situations of being in trouble, being in sorrow and the state of being young, respectively. Clearly there is a metaphorical relationship between the two meanings of these words (with and without *-ng*), one which denotes place and the other which denotes a situation. As in other languages, experiencing a certain situation or being in a certain state is described in terms of being in a certain place. English, for instance, uses prepositions denoting a location, such as 'in', to describe a situation/state, such as being 'in' love. Usually, sentences with an abstract noun affixed with a locative use words from the domain of location, as examples (10) and (11) show. The expression *siile* 'left' and *khutlela* 'return to' suggest a physical space which the subject Pule can occupy, leave and go back to.

(10) Pule o *n-tš'iile mahlomole-ng*.

Pule he me-left sorrow-LOC

'Pule's departure (e.g. death) has left me in great sorrow.'

- (11) Pule o rata ho khutlela boche-ng
 Pule he like to return-to youth-LOC
 'Pule wants to be young again'

According to the original MIPVU protocol, metaphor identification should be at the level of a word. This implies that metaphor which is realised by attaching a locative case marker to an abstract noun is not identified as metaphor. Matters are exacerbated by the fact that *-ng*, as a bound morpheme, cannot be found as an independent word in the dictionary. For these types of words, in which an abstract noun combines with a locative case, we propose that the abstract noun and the locative case marker should be analysed separately for their relation to metaphor.

13.3.5 The affixes *ra-* and *ma-*

Another common metaphor that MIPVU does not detect is one that is realised through the use of the two prefixes *ra-* and *ma-*. The prefix *ra-* carries the meaning 'father of'. In some related Sotho-Tswana languages, *ra-* (or its variant *rra-*) is a free morpheme that has the same meaning as 'father', and that can be used interchangeably with the other terms that refer to father such as *ntate*, *papa*. In its basic function in Sesotho, *ra-* is attached to a proper name to indicate a father of the person the name refers to. For example, *ra-* can be attached to the noun Pule to form Rapule, which means 'father of Pule'. The prefix *ma-* carries the meaning 'mother of', and is an independent word in some Sotho-Tswana language which means 'mother' (not the possessive 'mother of'). In its basic function in Sesotho, *ma-* is attached to a proper name to indicate the mother of the person the name refers to. The name Mapule, derived from the affixation of *ma-* to Pule, means 'mother of Pule'.

The two morphemes, *ra-* and *ma-* can also be attached to common nouns 'to show a person's peculiarities' or 'ownership' (SED). To show that a female has a big nose, she might be referred to as *manko* which means the mother of a nose. This expression is created by attaching the prefix *ma-* to the Sesotho word for nose, *nko*. A man that owns sheep might be referred to as *ralinku*, which means the father of sheep and is derived from the attachment of *ra-* to the Sesotho word for sheep, *linku*.

Though in their basic functions *ra-* and *ma-* are used to show a parent/child relationship between human beings, the morphemes can also be used when one of the referents is a non-human. In *ralinku*, *ra-* is attached to the non-human element *linku* 'sheep'. In some instances both the parent and the child denoted by the use of *ra-* might be non-human. For example, a property such as a house or a car that is frequently affected by disasters might be called either *malitsietsi* 'mother of trouble' or *ralitsietsi* 'father of trouble'.

When *ra-* and *ma-* refer to ownership and having certain peculiarities, these morphemes are metaphorical. Owning something is distinct from being a parent to someone. However, owning something can be understood in terms of being a parent to someone. An owner of a property is expected to love, protect and be responsible for it, just as a parent is expected to love, protect and be responsible for his or her child.

The fact that SED has listed the metaphorical senses of *ra-* and *ma-* shows how conventional these metaphorical uses are. In order to enable MIPVU to identify metaphor realised through the use of the prefixes *ra-* and *ma-*, these prefixes should be analysed separately from the noun when they have not formed a name of a person.

13.4 Further linguistic characteristics of Sesotho that affect the use of MIPVU

This section deals with elements of Sesotho that do not call for an adjustment to MIPVU, but that may affect the procedure and therefore require an explanation of how they should be treated during the use of the procedure. These language-specific characteristics include verb extensions (discussed in Section 13.4.1) and words created through the process of reduplication, diminutive markers, and augmentative makers (discussed in Section 13.4.2).

13.4.1 Verb extensions

Explicit instructions are needed on whether to treat each verb extension as an independent lexical unit or whether to treat all extensions developing from one verb as different forms of one single lexical unit. The extensions are created through a morphological process in which an affix is attached to a verb to give it a new meaning. Sesotho has nine verb extensions. Examples (12)–(14) show some of the extensions that are developed by adding suffixes to the verb *jara* ‘carry’.

- (12) Thabo, *jara* Pule.
 Thabo, carry Pule
 ‘You should carry Pule, Thabo.’
- (13) Pule *o ea jaruoa*.
 Pule he is carry-PASS
 ‘Pule is being carried.’

- (14) Pule o ea jareha.
 Pule he can be carried
 'Pule can be carried.'

Other extensions include the 'applied' which shows that an action is performed on behalf of someone/something (e.g. *jarela* 'to cause to carry'); the 'extensive' that can show that an action is performed repeatedly (e.g. *jaraka* 'to carry things multiple times'); the 'causative' that shows that the subject causes another to do something (e.g. *jarisa* 'to help or to cause to carry'); the 'intensive' which shows that the action is performed intensively (e.g. *jarisisa* 'carry intensely'); the 'perfective' which may denote the perfect tense or show that one is performing an action intensively, working in a similar way to the intensive extension (e.g. '*jarella*' which shows that one is carrying a lot of items on one's back); the 'reciprocal' which shows that the two subjects perform a similar action to one another (e.g. *jarisana* 'to cause each other to carry something'); and the 'reversive' which can show a reverse of an action (e.g. *jarolla* 'to unload').

Despite the fact that SED lists all extensions under one headword, we propose that each verb extension should be regarded as an independent lexical unit. In checking for the contextual and basic meanings of a verb extension, reference should be to that extension only, not to any other related verb. For instance, *jaruoa* 'to be carried' (passive) and *jareha* 'can be carried' (neuter-passive) should be treated as two different lexical units. The reason for regarding each extension as an independent lexical unit is that each extension represents different concepts. The examples *jara*, *jarolla* and *jareha* show this. *Jara* signifies that an action is being performed, *jaralloa* that that an action is being undone, and *jareha* shows the quality of the subject (operating in a similar way to an adjective).

13.4.2 The diminutive marker, the augmentative marker, and reduplication

An analyst of Sesotho texts needs additional information about the way in which words created by diminutive case markers, augmentative case markers, and those created through reduplication should be analysed for metaphor. A difficulty that arises when analysing words derived by adding diminutive and augmentative case markers to existing words, and words derived through reduplication is that the majority of these do not appear in SED. Coming across a form that does not occur in the dictionary can pose a challenge to the guideline that the meanings of lexical units should be determined through the use of a dictionary. Another question is whether to treat the words created through these morphological processes as the same lexical units as the forms they derive from.

The words formed by reduplication and the addition of diminutive and augmentative case markers should be treated as the same items as the words they derive from. A reason for regarding reduplication and the addition of augmentative and diminutive markers as inflection is that reduplication, augmentative markers and diminutive markers seem to work in a similar way as the inflection morphemes in English; they do not change the word class of an expression. For example, the word class of the adverb *holimo* 'high' does not change when it is reduplicated: *holimo-limo* 'very high' is still an adverb.

However, if reduplicated forms and words created by adding a diminutive suffix appear in the dictionary, reference should only be to those words, not the forms they derive from. To determine the meaning of these words, an analyst should strictly rely on how the dictionary defines them. The presence of some words that are formed by reduplication and some words that are created by affixation of the diminutive marker in the dictionary seems to have been influenced by the fact that they represent different concepts from the words they developed from. The reduplicated forms and words formed by adding diminutive and augmentative case markers appear as independent entries in SED, separate from the words they derive from. For example, *boholo* and its reduplicated form *boholo-holo* appear as independent entries in SED because the two lexical units refer to two distinct concepts. *Boholo* refers to 'old age' whereas *boholo-holo* refers to 'very old times'. Age is different from a period such as 'very old times'. In addition, *thele* and its reduplicated form *thele-thele* appear as independent entries because *thele* is an idiom used to describe the process in which a meal falls off the mill-stone while *thele-thele* is a noun that refers to the meal that falls off the grinding stone. Similarly, *qhala* 'to scatter' and *qhala-qhala* 'one who scatters things' are independent entries in SED because the two words belong to two different classes; *qhala* is a verb and *qhala-qhala* is a noun.

Words that are formed by addition of diminutive markers to existing words that appear in SED include those that refer to young ones of some animals. For instance, SED contains the words *potsanyane* 'a kid' and *taoana* 'a lion cub' which refer to a young goat and a young lion, respectively. The word *potsane* is the diminutive form of *poli* 'goat' and the word *taoana* is the diminutive form of *tau* 'lion'. The two diminutive forms *potsanyane* and *taoana* are distinct from the words they derive from and they represent distinct concepts to the ones represented by the words they derive from. A 'lion cub', which *taoana* refers to, is a different concept from a 'lion', which the word *tau* refers to. Therefore, one should not treat a diminutive form such as *taoana* which appears in the dictionary as the same lexical unit as the word it derives from.

13.5 MIPVU adjusted for Sesotho

Below are the guidelines of MIPVU, with some adjustments to fit the nature of Sesotho. The adjusted procedure has developed from attempts to deal with the challenges that the nature of Sesotho poses to the procedure.

1. Read the entire text-discourse to establish a general understanding of the meaning
2. You have to find metaphor-related words by going through the text on a word-by-word basis.
 - a. In principle, words are all items that are written as free morphemes (orthographic words) and have an independent entry in the dictionary.
 - b. Exceptions to a. include
 - i. Compounds – if the combination of certain words is listed as a compound in the dictionary, then take all individual items as one single word
 - ii. First person singular object marker *n-* – if an orthographic word is constituted by the object marker *n-* and a verb, the two elements should be separated and each should be analyzed on its own.
 - iii. Reflexive verbs – if an orthographic word consists of a reflexive pronoun and a verb to create a reflexive verb but the reflexive verb does not appear in the dictionary, the reflexive pronoun and the verb should be separated from each other. Each item should be analyzed on its own.
 - iv. Locative case marker *-ng* – if an orthographic word consists of an abstract noun and a locative case marker *-ng*, the two elements should be separated and each should be analyzed on its own.
 - v. The prefixes *ma-* and *ra-* – if the noun formed by the prefixes and the base is a name of a human being and does not appear in its form in the dictionary, the prefixes *ma-* and *ra-* should be analyzed separately from a base they are attached to.
 - vi. Verb extensions – all verb extensions appearing under one headword should be treated as independent lexical units and each should be analysed on its own.

13.6 Sample analysis

In this section, we apply the adjusted MIPVU protocol for Sesotho to a series of examples. We first present an analysis of all the lexical units in a sentence (example 15). Example (16) then illustrates the analysis of an abstract noun that has been

affixed with the a locative case marker *-ng*. Finally, example (17) presents a case where the back-up dictionary, Macmillan, was consulted. All illustrative examples come from the novel *Chaka* (Mofolo 2014).

- (15) *Morero oa rona mona o leba-ne le bana ba ahileng Bokone.*
 Purpose of us here it face-RCP with these they built Bokone.
 'Our purpose here is to concentrate on those who live in Bokone.'

Demarcation of lexical units:

Morero / oa / rona / mona / o / lebane / le / bana / ba / ahileng / Bokone

Morero

Contextual Meaning: In this context, *morero* means 'the purpose (of telling the story)'.

This corresponds with SED's definition: 'purpose or plan'.

Basic meaning: 'Purpose or a plan' (SED)

Contextual vs. basic meaning: The contextual meaning and the more basic meaning do not contrast.

Metaphorically used? No.

Oa

Contextual Meaning: The word is a possessive marker. It denotes ownership of *morero* 'purpose' by *rona* 'us', working in a similar way to the English preposition 'of'.

Basic meaning: 'Preposition, after nouns of the First Class and Second Class Singular; *morenaoaka*, my chief.' (SED)

Contextual vs. basic meaning: The contextual meaning and the basic meaning do not contrast.

Metaphorically used? No.

Rona

Contextual Meaning: First person pronoun plural, in the possessive form; 'ours'.

Basic meaning: 'personal pronoun, first person plural, in the possessive case, our'. (SED)

Contextual vs. basic meaning: The contextual meaning and the more basic meaning do not contrast.

Metaphorically used? No.

Mona

Contextual meaning: *Mona* refers to 'a situation'. This meaning is not present in SED.

We therefore consult Macmillan, using the Sesotho translation, 'here' found in SED as a search term. The contextual meaning is found as 'in the present time or situation', (MM6).

Basic meaning: 'Here' (SED)

Contextual vs. basic meaning: The contextual meaning and the more basic meaning contrast. Being in situation can be understood in comparison to being at a place. A current situation can be seen in terms of being a close location.

Metaphorically used? Yes.

O

Contextual Meaning: *O* is a subject marker representing the noun *morero* (singular noun from class 2).

Basic meaning: ‘Pronoun, Second Class singular in the nominative case’ (SED)

Contextual vs. basic meaning: The contextual meaning and the more basic meaning do not contrast.

Metaphorically used? No.

Lebane

Contextual meaning: *Lebane* in this context means ‘concerns’. *Morero* ‘the purpose or plan’ of the author concerns those living in Bokone. This corresponds with the meaning of *lebane* in SED. The dictionary shows that the expression *tabaena e lebane le ‘na* (literally: ‘that issue and I are *facing each other*’) means ‘that affair concerns me’.

Basic meaning: ‘To face one another’ (SED)

Contextual vs. basic meaning: The contextual meaning contrasts with the basic meaning and can be understood by comparison. ‘Concerning’ oneself with or concentrating on a subject (the people of Bokone) can be understood in terms of the physical act of (facing or looking at) and reciprocally being faced by that subject.

Metaphorically used? Yes.

Le

Contextual meaning: *Le* links the two arguments, *morero* ‘plan’ and *bana* ‘these’; ‘with’.

Basic meaning: ‘Preposition, with’ (SED)

Contextual vs. basic meaning: There is no contrast between the contextual meaning and the more basic meaning.

Metaphorically used? No.

Bana

Contextual meaning: *Bana* has been used as word pointing at the characters people living in Bokone.

Basic meaning: ‘demonstrative pronoun of the First Class plural; ‘these’ (SED)

Contextual vs. basic meaning: There is no contrast between the contextual meaning and the basic meaning of the word.

Metaphorical used? No.

Ba

Contextual meaning: Possessive marker, showing that the people whose story will be discuss belong to Bokone; 'of'

Basic meaning: 'Possessive particle of nouns of the First Class plural, of' (SED)

Contextual vs. basic meaning: There is no contrast between the contextual meaning and the basic meaning of the item.

Metaphorically used? No.

Ahileng

Contextual meaning: the expression describes a quality of being resident at a certain place. SED describes *ha* as 'to reside or to live'.

Basic meaning: 'to build' (SED)

Contextual vs. basic meaning: The contextual meaning does not contrasts with the basic meaning.

Metaphorically used? No.

Bokone

Contextual meaning: A term used to refer to a place where the Nguni people live at. The Sesotho translation of the place *Kwa-Nguni*.

Basic meaning: Being a proper name, the item is not included in SED.

Contextual vs. basic meaning: There is no contrast between the use of the word and its basic sense of being a Sesotho version of the place *Kwa-Nguni*.

Metaphorically used? No.

In the next example we only analyse *theohela litabeng* (literal: 'descend to the issues'). Our objective is to demonstrate how a lexical unit with the locative case -ng is analysed.

- (16) *Hoa lokela hore, re e-sò theohele litabe-ng re ke re bolele kamoo*

It right that we NEG descend issues-LOC we say how

lichaba li neng li lutse.

PLU-nation they sit how

'It is appropriate that before fully concentrating on discussing the main issues we show how people lived.'

Demarcation of lexical units:

Hoa / lokela / hore / re / eso / theohele / litabe / ng / re / ke / re / bolele / kamoo / lichaba / li / neng / li / lutse

Theohele

Contextual meaning: 'To fully concentrate'.

More basic meaning: The more basic meaning of *theohela* is the 'to come down to' (SED).

Contextual vs. more basic meaning: The contextual meaning contrasts with the basic meaning and can be understood by comparison. ‘Fully concentrating’ on the situation of discussing the main issue after some introduction can be understood in terms of ‘coming down to’ some location.

Metaphorically used? Yes.

Litaba

Contextual meaning: the main issue (the events of Chaka’s story)

Basic meaning: ‘issue’ (SED)

Contextual vs. basic meaning: The contextual meaning does not contrast with the more basic meaning.

Metaphorically used? No.

-Ng

Contextual meaning: The case marker is attached to *litaba* ‘issue’ to denote a situation in which *litaba* ‘issue’ (i.e. the events of Chaka’s life) are being narrated. The noun *litabeng* has the meaning ‘the situation in which the issue is being discussed’.

Basic meaning: The case marker shows location.

Contextual vs. basic meaning: The contextual meaning contrasts with the more basic meaning and can be understood by comparison. A situation in which the main issues are being discussed can be understood in terms of being a certain location.

Metaphorically used? Yes.

Lutse

Contextual meaning: ‘to live or to reside’ (SED)

Basic meaning: The basic meaning in SED: ‘to sit down’.

Contextual vs. basic meaning: There is a contrast between the contextual and the more basic sense of the word. The act of residing at a certain place can be understood in comparison to the physical act of sitting down.

Metaphorically used? No.

In (17) we demonstrate how Macmillan should be used as a backup.

(17) *ntho e kholo, bolelang lehlohonolo.*

thing it big, it say luck

‘See an important symbol of luck.’

Bolelang

Contextual meaning: In this context, the verb *olelang* (basic form *bolela*) means ‘to symbolize something’. A snake symbolizes good luck in Bokone. This meaning is not present in SED. Macmillan is consulted, using the ‘say’ which is given as the meaning of *bolela* by SED, as a search term. The meaning corresponds to that of the English translation of *bolela* ‘say’ as given by MM3: ‘to mean something’.

Basic meaning: The basic sense of say as given by MM3: 'to express something using words'.

Contextual vs. basic meaning: The contextual meaning contrasts with the more basic meaning and can be understood by comparison. 'To mean something' to someone, such as a snake meaning or symbolizing good luck to people of Bokone can be understood in terms of 'expressing something using words'.

Metaphorically used? Yes.

13.7 Conclusion

This chapter has explored the application of MIPVU to Sesotho, identifying challenges that the special nature of Sesotho poses for the procedure. The chapter has also shown that with adjustments, the procedure can be used to identify MRWs in Sesotho texts.

The first challenge is related to the available Sesotho dictionaries. None of the Sesotho dictionaries are corpus-based. Most of the available Sesotho dictionaries are bilingual and they often contain only the most basic meanings of words even if other conventionalized meanings are possible. A further challenge with Sesotho dictionaries is that the information they provide for word senses is very vague and general. Often, the definitions consist of just a single word or a short phrase. To deal with this challenge, we propose that an analyst should use one Sesotho dictionary, SED, which has an advantage of containing more lemmas than any other Sesotho dictionary and of providing multiple sense descriptions for one entry. in conjunction with Macmillan. When SED is deemed to provide insufficient information to allow an analyst to make decisions about the contextual and more basic meanings of a lexical unit (and the relationship between the senses) Macmillan should be consulted as a second option.

The other challenges are caused by the agglutinative nature of Sesotho. A single part of speech in Sesotho usually is constituted by multiple morphemes. In spoken Sesotho a word is equivalent to all these multiple morphemes making one part of speech. However, in the disjunctive writing system, some of the morphemes that may be perceived as affixes by some scholars are orthographic words. This makes it difficult to decide what counts as a lexical unit. The solution is to follow a practice similar to the one applied to English where a lexical unit is often an orthographic word. An exception to this general guideline are multi-word expressions that appear in that form in the dictionary. An advantage of following the boundaries of an orthographic word and referring to the dictionary to check if a multi-word expression should be treated as a single lexical unit is that an analyst is able to find the words in the dictionary. The practice of analyzing two elements that form

one orthographic word separately from each other should also be followed when dealing with an abstract noun affixed with a locative case marker *-ng* and a noun affixed with *ra-* and *ma-*.

The last part of the chapter dealt with morphological process which, although they do not present challenges for MIPVU, *do* affect the operation of the procedure. These include verb extensions, words created through reduplication, and the addition of diminutive markers, augmentative markers, and gender markers. We have proposed that each verb extension should be treated as an independent word different from the other extensions of the same verb. This chapter contributes to metaphor identification and analysis in Sesotho in that it has adjusted MIPVU so that it can operate smoothly on Sesotho. With the adjusted procedure, identifying metaphors in Sesotho texts is not problematic. However, one limitation of the current work is that it has not been tested for reliability. It is important that future research focuses on the issue of the reliability of the procedure adjusted for Sesotho. Furthermore, it is important that future work applies the adjusted procedure to different texts in order to see how it works in different registers.

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Linguistic metaphor identification in English as a *lingua franca*

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14.1 Introduction

One of the most important aims of using a standard procedure for identifying metaphors in discourse is to permit replicability or to allow meaningful comparisons to be made between different types of texts, registers or genres. The procedures developed for such purposes – MIP (Pragglejaz Group 2007) and MIPVU (Steen et al. 2010) – have proved their value on numerous occasions (e.g. Dorst 2011; Herrmann 2013; Kaal 2012; Krennmayr 2011). This has allowed researchers interested in analysing different types of discourse in English not only to describe their own findings but also to relate them to those of others, thus contributing to the provision of more complete and nuanced descriptions of the presence and role of metaphor in English text. One might therefore be forgiven for asking why, given that these two metaphor identification procedures were developed to deal with the English language, it should be necessary to introduce modifications to the procedure when this language is being used as a *lingua franca*. After all, even if English is systematically being used as a means of communication between speakers with different language backgrounds, it is still recognizably English, is it not? Surely English is English and a metaphor is a metaphor in any variety of the language? So why change anything?

The purpose of this chapter is to describe some of the problems that emerged in the course of identifying metaphor-related words (MRWs) in a corpus of 27 transcripts of conversations between Spanish Erasmus students and their English-speaking lecturers at five European universities – and the modifications made to MIPVU in response. These problems affected each stage of the metaphor identification procedure, from what should be considered a lexical unit to whether its contextual meaning could potentially be understood in comparison and contrast to its more basic (dictionary) meaning. In dealing with these problems, the concern was to balance the need to be faithful to the special characteristics of the data while

not introducing so many variations on the basic procedure that it would be impossible to compare our results with other studies of a similar nature (for example, a metaphor-driven analysis of the same kind of academic mentoring sessions carried out between native speakers of English [NSEs]).

In Section 14.2, I consider some of the problems associated with English as a *lingua franca* (ELF) and the challenges it poses to metaphor analysts. I then describe the corpus itself in Section 14.3, paying attention particularly to the participants involved in the academic mentoring sessions recorded and the topics dealt with. In Section 14.4, I describe in turn the issues thrown up by the data and how they were resolved in each case. Finally, in Section 14.5, I describe the way the criteria were applied across the whole corpus and the mark-up system used for the metaphor related language uses located.

14.2 Metaphor in English as (academic) *lingua franca*: Problems and challenges

It is a commonplace to state that language use varies. The same person does not use language in the same way when chatting to a friend, writing a formal letter or composing an academic essay. Nor do different groups of speakers using their language for any of these purposes necessarily express themselves in the same ways: teenagers do not speak exactly the same way as their parents; women speak differently from men; lawyers and bricklayers differ in their speech, just as people from different areas of the same country may be mutually incomprehensible on occasion, despite sharing many features of their common language. And obviously speakers who are communicating through a second or foreign language (L2) may produce forms that differ from all of those already mentioned.

Such variation has proved of interest to scholars who have sought to explore the differences in metaphor use in different registers (e.g. Steen et al. 2010), in the same mode in different contexts (e.g. talk [Cameron 2008]), or simply when different topics are spoken or written about [e.g. Golden 2012]). As the authors of the longest and most ambitious volume on variation in figurative language use conclude:

[T]he use of metaphor and metonymy is dependent on the interaction among different components of genres and registers, and particularly discourse community membership, communicative function, field, tenor and mode. This applies quite clearly, for example, to variation in the frequencies of figurative expressions in different datasets and to the choice of source domains to talk or write metaphorically about particular topics.

(Deignan et al. 2013: 317)

All in all, then, the findings confirm that speakers' use of metaphor varies across different contexts of use. Furthermore, so far, it would appear that MIP, MIPVU or other metaphor identification procedures (e.g. Cameron's Metaphor Identification through Vehicle terms or MIV [Cameron 2003]) have proved adequate for the purposes for which they were designed: to identify metaphors in different types of English discourse. However, whether the procedure is adequate to deal with metaphor use in ELF remains an open question.

To the best of my knowledge, there have been no studies that test the adequacy of MIP or MIPVU against any corpus of non-standard English, except in relation to *learner* English (e.g. Chapetón-Castro & Verdaguer-Claver 2012 or Nacey 2013). On the one hand, such studies have described metaphor when used by a relatively homogeneous group of speakers, that is, in corpora consisting of the written or oral production of a group of speakers or writers who share the same first language (L1). On the other, although learner English is an interesting and valuable site for exploring variation, it is not the same as analysing metaphor in English as a *lingua franca*. ELF interactions are characterized by the fact that they involve speakers with different L1s, sometimes including those whose L1 is English. Furthermore, in this context, comparison between the language found in such interactions and a standard variety of English is not necessarily seen as useful or relevant. In the words of prominent proponents of the so-called "English as lingua franca movement", "non-native speakers [...] and all English varieties, native or non-native, are accepted in their own right rather than evaluated against a NSE [native speaker English] benchmark" (Jenkins et al. 2011: 283–4). As Seidlhofer puts it, "[i]t is highly problematic to discuss aspects of global English, however critically, while at the same time passing native speaker judgements as to what is appropriate usage in ELF contexts" (Seidlhofer 2009: 137). While it will always be of interest to applied linguists to discover how and why NSE differs from non-native speaker English (NNSE), this focus is not always seen as pertinent to ELF researchers, who may, with Brutt-Griffler (1998: 387) endow ELF users with important roles and authority as "agents of language change", largely as a consequence of the fact that speakers of ELF far outnumber those of NSE. Hence the study of this "variety" of English provides an excellent site for the study of variation and change in contemporary English, according to many ELF researchers (see e.g. Widdowson 2016 or Trudgill 2016 for discussion).

However, the view that ELF should not be considered in relation to NSE is far from unproblematic, since the description of any non-standard variety of English relies to a large extent on a comparison between the variety under scrutiny and a standard one, if only to avoid the redundancy in accounts of those aspects of grammar, vocabulary or phonology which are the same in both standard and non-standard varieties. More importantly, as O'Regan (2014: 536) points out, the claim that ELF might constitute "an emerging English that exists in its own right"

(Jenkins 2007: 2) reifies the concept of ELF as a *thing-in-itself*, implying a stability of forms and meanings that denies one of its fundamental characteristics: ELF is plurilingual and variable. Any one ELF interaction may bring together speakers with two different L1 s, and the contact languages used in that particular interaction may resemble each other in some formal aspects (e.g. both speakers fail to mark present tense verbs for third person singular) while differing in others. Thus, the view that ELF constitutes one particular variety of English in its own right that can be submitted to the same techniques of analysis as used in sociolinguistic or dialectological research is impossible to uphold. Rather, what is amenable to analysis is the *interaction* itself: the communicative behaviour of the participants, which may result in successful communication or communication breakdown. And of course this is of particular importance for metaphor-driven analyses of ELF interactions, if we wish to describe the presence and functions of metaphor in these particular contexts. At the same time, recognition that we are not dealing with a stable variety of English also poses problems for a purely semiotic analysis of these kind of data (cf. Steen et al. 2010: 220), as will be seen.

According to Seidlhofer (2001), what has been frequently observed in ELF conversations is that mutual intelligibility rarely appears to be a problem. This view is borne out by the data in the EuroCoAT corpus which is the focus of the present chapter, where only one obvious instance of problematic communication was found (involving the pronunciation of “text”). The absence of obvious disfluencies in these ELF conversations may respond, among other things, to application of the so-called “Let-it-pass” principle, which means that “interactants tend to gloss over utterances which cause difficulty rather than trying to sort them out explicitly” (Seidlhofer 2001: 143), a phenomenon that has been interpreted in different ways. For Seidlhofer herself, this may reflect what Firth (1996) termed the “discursive accomplishment of normality”. It should be acknowledged, however, that how the application of the “let-it-pass” principle is interpreted by different analysts seems to depend crucially on the kind of ELF interactions examined. In the business calls he analysed, Firth found that participants carried out a great deal of interactional work aimed at endowing the talk with “normal characteristics” and thus refrained from repairing or completing each other’s utterances so as to avoid focusing on the *form* of each other’s talk (Firth 1996: 256). In contrast, House (1999) concluded that ignoring incomprehensible input from a conversational partner (in this case, the interactions were between international students) arose from the fact that the interlocutors were paying little attention to what their conversational partner was saying. House thus attributed this behavior to interactants’ mutual disattention or a “palpable lack of mutual orientation” (House 1999: 82). What seems clear is that any interpretation of the verbal behaviour of conversational partners in this kind of interaction must establish clearly what category the instances of particular types

of behavior actually fall into, in the context in which they appear. In this case, this concerns what can be considered a metaphor or a non-metaphor, according to a reliable method for identification, such as MIPVU.

An example of the kind of problem encountered in the ELF corpus is the following. MacArthur et al. (2015) described the metaphorical use of sight terms in the EuroCoAT corpus, looking closely at metaphorical uses of the verbs *look*, *see* and *focus*. However, a point not dwelt on in this publication was the potential problems raised by the use of different prepositions after *focus* (MacArthur et al. 2015: 203), something that would be very unlikely to occur in NSE talk. The Spanish L1 speakers chose the preposition *on* 24 times after the verb (i.e. 82.7% of uses); however, *in* also appeared after *focus* (17.2% of uses) in their speech. Furthermore, the same speaker might switch from one preposition to another in the course of the same conversation (e.g. UE3). Given that speakers did not self-correct or challenge each other's non-conventional use of *in* before the prepositional object, we can assume that the "let-it-pass" principle was operating on each occasion. An entirely different question, however, is whether the alternative usage should be regarded as a metaphor or as an error (I discuss this issue in greater detail in Section 14.7). But before turning to describing how such issues were resolved, it is pertinent first to describe the data analysed.

14.3 The European corpus of academic talk (EuroCoAT)

Detailed information about the EuroCoAT corpus is available at www.eurocoat.es. The transcripts themselves, as well as descriptions of the spelling and mark-up systems used, along with a list of all publications and conference papers arising from the corpus, are available to researchers interested in this corpus. Here, I provide a brief outline, focusing only on those aspects which are relevant for the present chapter.

Twenty-seven conversations between lecturers and Spanish undergraduate students were video-recorded at five different European universities between April and November 2012. This yielded a total of 5 hours, 47 minutes and 33 seconds of conversational data (consisting of conversations lasting between 6 minutes 32 seconds [the shortest] and 22 minutes 22 seconds [the longest]). The video-recorded conversations were transcribed, using a slightly modified version of the conventions used for the Vienna-Oxford International Corpus of English (VOICE [2013]). The transcription of each conversation underwent four stages to ensure, as far as possible, the accuracy and homogeneity of the 27 transcripts: the first version of the transcript was the result of the work of a research assistant; this was then checked for accuracy by two other researchers independently. Any disagreements about the way elements of the conversation had been transcribed were discussed and

resolved by the three researchers involved. Finally, all transcripts were proof-read and corrected by one person to ensure that the spelling and mark-up conventions had been consistently applied across the corpus.

The dictionary of reference for the spelling of words in the transcripts was the *Oxford English Dictionary*, which in the case of compounds did not always match the entries for the same compounds in the reference dictionary used for identifying MRWs (*Macmillan English dictionary for advanced learners* [MM; Rundell & Fox 2007]). There are at least three different ways of spelling the same compound in English (as two separate words [*web site*], as one word [*website*], or with a hyphen [*web-site*]) and different dictionaries vary in which spelling they record for each. These differences in spelling do not, however, affect the status of a combination like *web + site* as a compound noun or identification of it as a single lexical unit (see Section 14.4).

Each transcript was assigned a place identification (UE, UI, UNL and US, refer to recording made in England, Ireland, the Netherlands and Sweden, respectively) followed by a number, referring to the order in which the recordings were made. Hence, US2 is the transcript of the second recording made at a university in Sweden. The resulting corpus comprised 55,718 words,¹ of which 38,384 were uttered by the lecturers and 17,280 by the students.

The interactions recorded at the different European universities involved 48 different speakers, and in only one conversation did the conversational partners share the same first language (L1), Spanish, although in all of them English was the vehicle of communication. Of the 48 speakers involved, only fourteen declared themselves to be L1 speakers of English, while the remaining 34 were using English as their second (L2) or third (L3) language. The latter had different L1 s: Spanish (27), Catalan (1), Greek (1), Dutch (2), Chinese (1), Swedish (1) and German (1). That is, the proportion of L2/L3 speakers of English to L1 speakers was approximately 3: 1, a situation mirroring the most conservative of estimates of users of English worldwide.² That is, the EuroCoAT corpus is quite unlike other English corpora such as the British National Corpus, the Bank of English or the COCA, which have been used to inform much lexicographical and grammatical research into modern English and to produce the dictionaries or grammars of spoken and written English used to describe how English is used nowadays by L1 speakers of the language, in its major geographical varieties. Furthermore, these are the type of corpora and dictionaries which have been used to explore metaphor in different

1. These were the tokens used for generating word lists, and did not include items not found in dictionaries, such as hesitation markers like *mhm* or the orthographic representation of speaker sounds, such as *haeh*.

2. In fact, the ratio of L2 speakers of English to L1 speakers is normally cited as 5: 1.

registers or genres (e.g. Dorst 2011; Herrmann 2013; Kaal 2012; Krennmayr 2011), using MIP or MIPVU.

In addition, as already pointed out, EuroCoAT differs from corpora of *learner* English, such as those analysed by Nacey (2013), Chapetón-Castro & Verdaguer-Claver (2012) or Littlemore et al. (2013) for metaphor use. The language data contained in such corpora is relatively homogeneous, in that the producers of the text are all L2/L3 speakers of the language (albeit with different proficiency levels) and very often share the same mother tongue. This means that researchers interested in exploring the metaphors used by L2 speakers of English can make principled decisions about, for example, what to consider an error and what to consider a creative use of metaphor in the context in which it is produced. In contrast, such decisions cannot be applied to a corpus of *lingua franca* interactions, if only because some of the speakers involved are L1 speakers, therefore making the question of “error” irrelevant. Furthermore, the number of different L1 s that might be influencing the production of any unusual or non-standard metaphors makes it impossible to generalize about them: the novel metaphors produced by an L1 speaker of Dutch, for example, are likely to be quite different from those produced by an L1 speaker of Spanish. And, within the corpus itself, each “contact” language use, as regards metaphor, would be statistically insignificant (except as regards the L1 speakers of Spanish) and decisions made specifically in regard to these individual productions would not prove illuminating in regard to the corpus as a whole.

In sum, the EuroCoAT corpus presented challenges to the metaphor researcher who, while recognizing the heterogeneous nature of the language data it contains, nevertheless had to seek to adopt analytical decisions which would deal with identifying the MRWs it contains as a homogeneous data set. In the next sections I describe what decisions were taken, why, and how they were applied, in relation to the different stages of MIPVU.

14.4 Lexical units

One of the first problems encountered in the identification of metaphors in the EuroCoAT corpus was what to consider a lexical unit. This affected, above all, polywords, phrasal verbs and compounds. I will deal with each of these in turn and describe the decisions taken.

In general, MIPVU takes the word (i.e. a string of orthographical characters with a white space on either side) as the unit of analysis. Some exceptions to these are the polywords or the fixed multiword expressions that figure on a list compiled by the BNC, which are regarded as non-decomposable and hence one lexical unit. Detailed discussion in Steen et al. (2010: 170–172) and Nacey (2013: 88–90) draws

attention to the difficulties involved in analysing such units and the contradictions evident in the BNC list (e.g. *a great deal* would be regarded as one unit but not *a great deal of*, meaning that in the latter case *deal* would be regarded as metaphorical while in the former it would not). Furthermore, the BNC list seems incomplete: modern dictionaries such as the *Macmillan English dictionary for advanced learners* (MM) or the *Longman dictionary of contemporary English* (LM) (also based on corpus evidence) include a much larger number of fossilized phrases or multiword units (MWU) which would also be candidates for treatment as polywords. Hence we did not use the BNC list as a reference but rather entries in the reference dictionary used (MM).

In order to identify a MWU as one lexical unit or polyword, we submitted each to two tests: the first had to do with whether the polyword has a specific grammatical function in discourse; the second was the test of *internal modification*. A polyword was only identified as such if, and only if, the fossilized string played a clearly defined grammatical role, recorded in the reference dictionary. Examples of these are, subordinating conjunctions like *as long as*, quantifiers like *a lot of* or *a bit of*, wh-question polywords like *how long ...?* or disjuncts and conjuncts like *of course* or *by the way*. All of these contain at least one word that is potentially metaphorical (for example, *long*, *lot*, *bit*, *course*, *way*) if the string were regarded as decomposable. None of such MWUs were treated as non-decomposable (i.e. as polywords) unless they displayed resistance to internal modification. This means that if another word could be added or substituted in the same frame without altering the overall meaning or function of the string, it was regarded as (potentially) decomposable; if this was not possible, it was treated as a polyword (i.e. as *one lexical unit*). For example, clear cases of the impossibility of internally modifying a string occurs with *of course*, *as long as*, *by the way* or *a lot (of)*. However, *a bit (of)* does allow an extra word to be inserted (e.g. *a little bit (of)*/*a blind bit of*), which meant that in the procedure adopted here, *a bit (of)* was not treated as one lexical unit while another similar string (*a lot of*) was. This procedure meant that the analytical procedure regarding *a good/great deal (of)* was different from that taken in Nacey (2013): it was regarded as decomposable because the entry for this item in the MM is *a good/great deal of something*: the frame for the string is *a deal (of)* and the substitution of the words *great* or *good* does not change its function or overall meaning (a large amount or quantity of something).

The rationale behind the procedure taken to decide on the (potential) decomposability of MWUs like those discussed was that there is a host of evidence that L2 speakers of English do not use or process chunks like these in the same way as L1 speakers (see e.g. the work of Wray and her colleagues: Wray 1999, 2005 or Wray & Fitzpatrick 2008). If an L2 speaker produces **in the one hand*, for example, s/he is not reproducing a formulaic expression learnt as an unanalysed whole (i.e. *on the*

one/other hand); rather, the insertion of a different preposition shows that the string has been at least partially decomposed. This means that the resultant expression contains elements that can be regarded as possibly metaphorical *for this group of speakers* and should be taken into account when tagging a corpus of ELF conversations. Evidently, such a modification to MIPVU departs from the strictly semiotic analysis advocated, which does not “make claims about cognitive processes and products” (Steen et al. 2010: 220).

The potential for decomposability also affects two other kinds of word strings: phrasal verbs and compounds. Phrasal verbs, such as *pass off* or *turn (someone) away*, are treated as polywords in most standard accounts, and in MIPVU they are considered single lexical units. However, it is well known that L2 users of English have great difficulty with these combinations of *verb + particle*, inserting different, non-standard particles (see e.g. Alejo 2010). Again, this points to the fact that for these speakers, phrasal verbs are very often decomposed rather than being learned or used as unanalysed wholes. This view of phrasal verbs affected the identification of many such strings as potentially metaphorical. For example, in MIPVU, the phrasal verb *narrow down* in the following utterance would not be regarded as a MRW:

- (1) Lecturer: the topics covered in the lectures that we spoke about (.) erm **narrow** the course **down** for you (UI5)

MM records only one sense for *narrow (something) down*: to reduce the number of possibilities, which is its contextual meaning here. However, our identification of the phrasal verb as consisting of two lexical units meant that both were counted as metaphorical on the basis of their individual definitions in the dictionary (*narrow*: to become or make something narrower, in contrast with its contextual meaning here of something like “restrict”; *down*: to or towards a lower place, in contrast to its contextual meaning here, which has nothing to do with movement through space, but is used to express the reduction of something). Thus the mark up for this extract was as follows:

- (2) Lecturer: the topics {SMet} covered {VB} {/SMet} {LMet} in {PREP} {/LMet} the lectures that we spoke {LMet} about {PREP} {/LMet} {LMet} narrow {VB} {/LMet} the {LMet} course {N} {/LMet} {LMet} down {PART} {/LMet} for you

Initially, the possibility of considering compound nouns or adjectives as compositional (and treating them in the same way as phrasal verbs) was also discussed, given that there is evidence that L2 speakers of English may similarly insert non-standard elements in certain compounds (see MacArthur 2011, 2015b for discussion of compounds with *line* used by Spanish speakers of English). However, the decision taken in the end was not to consider these as consisting of two lexical

units for two reasons. Most importantly, the evidence on which such a decision would rest is not sufficiently robust at present. Besides, a decision such as this (given the characteristics of the corpus and the very large number of compounds identified) would make it impossible to make any meaningful comparisons between the density of metaphors in EuroCoAT and other corpora using MIPVU.

It should be mentioned that certain compounds may be truncated and other elements inserted into them. Such clippings or insertions also pose a challenge in the identification of lexical units, as can be seen in the extracts below, which illustrate various uses of *web*, *page* and *site*:

- (3) Lecturer: which are erm the ones available on the department (.) er **web** < spel>
c t </spel> **site** (UE1: 07)
- (4) Student: I don't think i have this one in my **web** < spel> c t</spel> (UE1: 32)
- (5) Lecturer: all sorts of forms erm (.) er useful **web pages** (.) study skills documents
(UE1: 49)
- (6) Student: I was e (.) e reading a (.) the (.) em lecture notes em (.) I know in this
site (US5: 03)

In (3), we find the initials CT (course tools) inserted between the two components of the compound *website*, giving rise to a form not recorded in MM; in (4) the resulting compound has been clipped ('web CT'); in (5) *web* is used in a compound (*web page*) recorded in the dictionary (a page or document that you can read on a website), while in (6) *site* has the contextual meaning of *website*, but the compound has been clipped. Thus, although the contextual meaning of all of these is very similar (a place on the Internet where information is available about a particular subject, organization, etc.) and obviously derive from the same compound, only *web page* in (5) was identified as a compound, and thus not considered a MRW. In the other cases, *web* and *site* were treated as single lexical units and hence regarded as MRWs (the more basic meanings of *web* and *site* are "a net of thin threads that a spider makes in order to catch insects" and "an area of land where something is being built or could be built", respectively).

14.5 Contextual meanings

Inevitably, when dealing with the utterances of non-native speakers of English, the meaning of certain words and phrases may be difficult to pin down, as they may be the result of transfers or calques from the L1 of a particular speaker. Consider, for example, the use of the words in bold type in the following excerpt from the corpus:

- (7) Lecturer (L1 Dutch): I've instructed them not to focus on details (.) but on the the **red line** (.) of their lecture (UNL2: 42)

“Red line” sounds a little odd to the L1 speaker of English and may prove difficult to interpret. Do lecturers at universities in the Netherlands use the colour red to highlight the important points in their presentations? Do these words have anything to do with the compound “red line” recorded in MM (“a statement, typically by a government, of acts that they regard as unacceptable and will respond to”)?

An instance such as this points to the need for more than one analyst, with different L1s, to decide what the meaning of these unusual language uses are – or at least to consult with others with expertise in other languages, particularly the L1 concerned (in this case, Dutch). In the case of *red line*, although this combination is unusual in English, knowledge of a European language (Spanish, for example, or Dutch) which have a cognate of *line* (Spanish *línea* or Dutch *lijn*) will help the researcher to recognize that *line* here has the contextual meaning of a conventional metaphorical use of English *thread* (“an idea or condition that exists in all the different parts of something and that connects them”), while *red* has the contextual meaning of (something like) “important”. Hence the sense of *red line* here could be glossed as “the most important points (of the lecture)”. The contextual sense of these words comes, then, from the Dutch expression (*rode draad*) and is a calque of a metaphorical expression in a language other than English.³

MRWs such as these were marked up in the transcripts as resulting from the influence of the speaker's L1, to distinguish them from other MRWs whose metaphorical senses would likewise not be recorded in a dictionary such as MM (the tag used to bracket such MRWs is in bold type):

- (8) so i've i've instructed them not to {LMet} focus {VB} {/LMet} {LMet} on {PREP} {/LMet} details but {LMet} on {PREP} {/LMet} the the <L1nldinf> {LMet} red {ADJ} {/LMet} {LMet} line {N} {/LMet} <L1nldinf> of their lecture

The mark up system developed by VOICE, identifying transfer effects from the L1 on pronunciation, grammar or lexical production of a L2 speaker with the {L1inf} tag, was used in the EuroCoAT corpus only to identify lexical transfers or calques. The L1 in each case is specified in each case using the standard international code for that language (e.g. “nld” in <L1nldinf> refers to Dutch spoken in The Netherlands). Of course, not all cases involved MRWs, as can be seen in (9), uttered by the same lecturer:

3. It could be objected that the basic sense of this phrase is to be found in Dutch, rather than in English. However, as the metaphor is realised in English, it was this language that was used as reference here and elsewhere for all contextual and basic meanings of lexical items.

- (9) Lecturer (L1 Dutch): This is er okay study advisor (1) and he's **sitting** er: (1) he's there on (.) Tuesdays and Thursdays (.) from (.) twelve till two (.) er at the
 <spel> c </spel> (1) <26> one </26> (UNL2: 116)

The use of the verb “sit” in this context is unusual in NSE, although not in Dutch, the lecturer's L1. However, although this usage was tagged as <L1ndinf>, it was not identified as a MRW because the basic meaning of *sit* as glossed in *MM* (“to be in a position in which the lower part of your body rests on a seat or on the ground, while the upper part of your body is upright”) is not sufficiently distinct from its contextual meaning here (something like “be present [in an office]”) to justify this. The use of this verb here could be regarded as metonymic or even literal (a lecturer may be seated the whole time s/he is in the office waiting to receive students) but not potentially metaphoric, even if it is unconventional in NSE.

14.6 More basic meanings

Publications arising from MIP and MIPVU describe in detail how decisions are arrived at as regards the more basic sense of lexical units in the discourse analysed. In MIP (Pragglejaz Group 2007: 3) basic meanings tend to be “[m]ore concrete [what they evoke is easier to imagine, see, hear, feel, smell, and taste]; [r]elated to bodily action; [m]ore precise (as opposed to vague); [h]istorically older”, adding that “[b]asic meanings are not necessarily the most frequent meanings of the lexical unit”. In MIPVU (Steen et al. 2010: 54), the historically older sense of a word was regarded as largely irrelevant, the approach instead being “more explicitly and intentionally synchronic”. Specifically, as Dorst et al. (2013: 80) explain, in line with notions of embodied cognition, MIPVU adopts a “human-oriented approach” to basic senses, meaning that in the case of verbs, for example, “sense descriptions involving humans as Agents are given priority over sense descriptions involving inanimate objects or abstract entities as Agents”. Two aspects of these descriptions are worth focusing on in regard to the EuroCoAT corpus.

First and foremost, the identification of a more basic meaning, which will determine whether its use in context is potentially metaphorical or not, begs an important question in dealing with L2 English discourse. It assumes that the producers of the discourse have access to more than one sense of the lexical item they are using or hearing, or that their mental representation of the semantic potential of words resembles in some way the reference dictionary used by the analyst to decide on what the basic meaning of that word is. However, such reference dictionaries are compiled on the evidence of NSE discourse, which may in fact bear very little resemblance to word usage in NNSE discourse. Should the basic meaning of *way*, for

example, when used by an L2 speaker of English be taken to be “the particular road, path, or track that you use to go from one place to another” or one of the other five more frequent senses of this word given in the reference dictionary, when a speaker’s utterances suggest that she does not master the “basic” sense of *way*? This issue is discussed by MacArthur and Littlemore (2011: 218) in relation to a conversation in which an L2 user of English used *way* three times (*in a different way*; *they eat a certain way*; and *the way they do it*) but did not appear to have access to the basic sense of the word, as shown in her use of a gesture instead of the word itself when producing something approximating the phrase *give way to*:

- (10) There is like a little bridge where there’s just one road and you have to go (*incomprehensible*) and you have to give {gesture} to the coming vehicles.

(MacArthur & Littlemore 2011: 218)

The issue of basic meanings, and how analysts’ and speakers’ intuitions may conflict with each other is still unresolved and will remain so until robust evidence – in the form perhaps of a dictionary of ELF – is available to researchers looking at these kind of data. However, the ELF corpora available at present are not sufficiently large nor sufficiently varied in terms of the kind of linguistic data they contain for such lexicographical work to be undertaken: the VOICE corpus, for example, only contains about one million words of transcribed conversational data, covering a fairly limited range of speech events in terms of domain (mainly professional or educational) and only one mode (face-to-face conversation). And, in the absence of such research into word meanings for NNSEs, it is practically impossible, without lengthy pre- or post-studies, to determine what senses words like *way* may have for the L2 speaker of English, in order to determine what the basic sense of a word is for him or her. In fact, frequency may very well turn out to be a much more important factor in determining this, in contrast to the MIP or MIPVU methods. As Amaya-Chávez (2010) has shown, it may happen that in an instructed second language acquisition setting, the basic sense of a word such as *cool* is never encountered in the teaching materials used, and learners may thus be familiar with its use to describe someone who is fashionable (e.g. *He’s really funny and cool*) but not with the basic sense it has for NSEs (i.e. pleasantly cold). However, until such time as reference materials become available, the analysts identifying the basic senses of words in ELF corpora must rely on standard reference works describing NSE usage, however unsatisfactory this may seem.

In relation to the historically older sense of a word, as opposed to the “human-oriented approach” of MIPVU, this raised interesting issues for the analysis of the more basic senses of some words in the EuroCoAT corpus. A particularly arresting case was that of a lecturer’s explanation of the terms “amplification and attack” in computer science, using the verb *reflect*:

- (11) Lecturer: so the **reflecting** is erm (1) that you play it off of someone else so you don't go directly (.) to the target? but erm (.) like for example don't you play (.) er pool do you play billiard (.) so instead of going directly to the ball you would er then (.) er go to a corner first and then it would **reflect** hit it at a different angle (US5: 70–78)

MM offers the following three main senses of *reflect* in contemporary English: (PHYSICS) 1. if a surface reflects something, you can see the image of that thing on the surface (a) if light reflects, or if something reflects light, the light shines back off that thing 2. to show the existence or nature of something 3. To think about something carefully. None of these exactly gloss the contextual sense the verb has in (11): to deflect or turn back. The question raised by this usage was whether the analyst should take one of the senses cited in MM then as its more basic meaning, motivating a possibly metaphorical use in this context. This is one possibility, although it ignores the etymology of the verb and the historically older – though relatively infrequently used – sense of this verb, as recorded in the *Oxford English Dictionary* (OED): Sense 1: “to turn or direct in a certain course, to divert; to turn away or aside, to deflect”, found in texts from the first half of the 15th century to the late 19th century. This source indicates that the more basic meaning of *reflect*, as glossed in MM (“Of mirrors or polished surfaces, to shine back light rays or images”) is a slightly later development (second half of the 15th century) and constitutes a semantic extension of the “deflect/turn back” sense of the verb, which has since then become its most frequent sense. Cases such as this highlighted the occasional need to consider the history of a word when deciding on its more basic meaning, which, in an academic context, might reflect a historically older, though relatively infrequent sense of certain words.

The decision to analyse phrasal verbs as decomposable occasionally meant that MM did not record any possible basic sense for the verb as used in such combinations. So, for example, the verb *figure* was found 5 times followed by *out* in three different transcripts in the EuroCoAT corpus (e.g. “*just figure out what I should include in this paragraph*”). Since phrasal verbs such as this were being treated as two lexical units, it was necessary to decide on what basic or contextual sense *figure* might be taken to have, given that in contemporary English, according to MM as well as the *Longman Dictionary of Contemporary English* this verb is not used transitively in contemporary English unless the direct object is a that-clause. (“*I figured that Joe would have received my letter by now*” is an example cited in MM). Interestingly, however, we found one unusual transitive use of this verb by a NSE lecturer:

- (12) Had to try and **figure** a way of getting you to report back to the other groups (UI3: 150)

Here, as can be seen, the lecturer is not using the verb with the sense of “to believe that something is true, although you do not know for certain” (MM2 for *figure*) but rather with exactly the same meaning given by this dictionary for the phrasal verb *figure out*: “to be able to solve a problem”. That is, in all 6 instances of *figure* used as a verb, we had to resort to the etymological information contained in the OED to decide on its basic sense when used transitively. And, according to this source, *figure* (sense 2) means “to represent in a diagram or picture”, which was taken as the basic sense motivating its contextual sense of mentally working out how to solve a problem.

14.7 Deciding on metaphorical meanings

Both MIP and MIPVU appeal to a similarity view of metaphor: “decide whether the contextual meaning contrasts with the basic meaning but can be understood in comparison with it” (Pragglejaz Group 2007: 3) or “[w]hen you have two sufficiently distinct meanings of a lexical unit and one seems more basic than another, these senses are potentially metaphorically related to each other *when they display some form of similarity*” (Chapter 2, this volume: 37, italics mine). The question of “distinct meanings” is helpful when deciding whether a figurative sense of a lexical unit is a case of metaphor or metonymy. However, the similarity view is not always able to account for the obvious metaphoricity of certain lexical items. Consider the following extract from the corpus, when a lecturer was giving a student advice on how to interpret lecturers’ feedback on written assignments:

- (13) Lecturer: “hopefully also comments saying this is good this is the right **line**
this is a **strong** argument” (UE1: 326)

The question one might ask here is whether logical reasoning (i.e. “argument”) has a sufficiently well-defined structure that we can say that the basic meaning of “line” or “strong” contrasts with and can be *compared* with a property or attribute of “arguments” (something “line-like” or “physically robust”)? In my view, this question of adopting a similarity approach to metaphorical meanings – resonant of traditional rhetorical scholarship – in metaphor identification procedures has received less attention than it deserves. Yet it is important because it does not sit very well with the cognitive view of metaphor (Lakoff and Johnson 1980) which underpins much of the metaphor-driven research using MIP or MIPVU (Dorst et al. 2013, for example, explain their human-oriented approach to basic senses in relation to “embodied cognition”). In the EuroCoAT corpus we found a great deal of reification or the use of ontological metaphors. Such metaphors do not manifest

or make plain any pre-existing similarity between an abstract and a concrete entity but rather allow an abstract concept to be talked and reasoned about as though it were the concrete entity in question. Such ontological metaphors are, of course, the basis for many of the conceptual mappings described by cognitive linguists, and the two words in bold script in (13) are examples of this type of metaphor, which in turn realize conceptual metaphors (e.g. ARGUMENTS ARE JOURNEYS and ARGUMENTS ARE BUILDINGS). However, in identifying such uses as metaphorical, we have to acknowledge that we were not strictly following the guidelines set down in our seminal texts for identifying metaphor in discourse. That is, do they “display some form of similarity” or do they contrast with but can be understood in comparison with each other? Or is it rather that anything can be compared to anything, and similarity is in the eye of the beholder, as it were?

The recognition that *similarity* or comparison and contrast are not the definitive characteristics of metaphorical meanings of words was, in fact, helpful when deciding whether unconventional uses of words in L2 speaker discourse can be regarded as potentially metaphorical or not. For example, if we compare the L1 lecturer’s use of *strong line* (13) with the L2 speaker’s use of *red line* (7), we can appreciate that both uses of *line* have exactly the same contextual meaning (an idea or condition that exists in all the different parts of something and that connects them). What is unusual in the L2 speaker’s utterance is the use of *red*, which is an unconventional metaphorical collocate in English with this sense. Such cases were flagged as such ({UNC}), as were all other unconventional, but potentially metaphorical, uses of words in the corpus. For example, as has been mentioned, different L1 Spanish speakers showed a preference for *in* rather than the bound preposition *on* after *focus*. It was even found that the same speaker could switch from one preposition to another in the same conversation, as can be seen in the words uttered by a Spanish student in following excerpts:

(14) yeah i focus too much **on** theory (UE3: 24)

(15) i don’t know if to to be focus only **in** english only **in** the question or to study all the the module (UE3: 180)

The use of *in* after *focus* obviously does not replicate NSE usage, and it is of course of interest to annotate obvious divergences between NSE and NNSE such as these. However, it does not follow that, just because it is unconventional, the use of the different preposition is simply an error rather than an alternative, though still metaphorical conceptualization of the act of mentally attending to a particular object. NSEs typically construe that object of attention as a surface (*on*) but the Spanish speakers sometimes formulate this as a container (*in*). In neither case, however, could one confidently assert that there exists a pre-existing similarity between theories or questions and two- or three-dimensional objects or that either can be

compared more felicitously to one or another. These, like the strength and linear qualities attributed to arguments in (13), are ontological metaphors, allowing the speaker to talk about mental activity in terms of visual attention to a distal stimulus. The only difference between the way a Spanish speaker and a NSE might refer to this activity is by how they construe the shape of the object of their (metaphorical) gaze.

More problematic were cases where L2 speakers involved in the conversations displayed metaphorical *uptake* of another's words, when these words would normally not be identified as MRWs using MIP or MIPVU. MacArthur (2015a) discusses at length the case of "saying" verbs used by a lecturer when referring to writing (US3). The verbs he used in about five minutes of talk about a student's essay were *say* (16 times), *contradict* (9 times), *tell* (once) *talk* (3 times), and *argue* (once). None of these verbs (except, arguably, *talk*) would normally be regarded as metaphorical using MIPVU. However, the student's response to the lecturer's words "matched" his saying verbs, but with a clearly metaphorical use of the verb *speak*:

(16) Student: But when I *speak* em (.) like being me? e⁴ I can't put I?

It would be quite unconventional for a Spanish speaker to refer to the act of writing as *speaking* as this student does here. Rather, what seems to prompt this use of *speak* is an attempt on her part to mark her contribution as coherent to the advice her teacher is giving her. This student has already displayed the ability to pick up on the lecturer's MRWs (*clear* and *focus*) and recycle them in her own contributions to the discussion of an essay she had written (MacArthur 2016) and here she is continuing to display this kind of interactional competence. Most importantly, her response suggests that she has interpreted the lecturer's use of the saying verbs metaphorically (i.e. the saying verbs for her have a basic sense denoting speech and their use to denote writing is metaphorical), which licenses her unconventional metaphorical use of *speak*.

A similar phenomenon has been found elsewhere. For example, MacArthur (2011: 34–36) discusses in detail a lecturer's use of sight and speech verbs when talking about academic work. This prompted an apparently incoherent response from his Spanish L1 student interlocutor, who went on to talk about watching and listening to television as a way of preparing a written academic assignment, a superficially abrupt change of topic which seemed to be caused by the student's over-literal interpretation of the lecturer's use of the verbs *look*, *talk*, *call* and *say*. That is, the potential metaphoricity or not of a word's sense in context may be shown by the way a conversational partner reacts to another's words, whether or not this matches the analyst's decision to regard these uses as metaphorical or not

4. This alternative spelling of the hesitation marker *er* renders a characteristic pronunciation when uttered by some of the Spanish speakers.

(based on the reference dictionary and a distinction between basic and figurative senses of a word).

In order to cope with the phenomenon of what I have termed *metaphorical uptake*, we developed the MetRes (metaphor resonance) tag, which was used to flag words that could acquire a certain metaphoricity in context, while at the same time not being clearly identified as MRWs,⁵ according to MIPVU. This development was based on the work of Cameron and Low (2004), who point out that words not normally regarded as metaphorical may acquire metaphoric potential because of their use in close proximity to a semantically related word which is being used metaphorically. For example, if we look at the entries for an adjective such as ‘basic’ in MM, we find that the word no longer appears to have any relation with the sense retained by the noun ‘base’ (“the bottom part, edge or surface of something”), which has to do with physical structure. Hence, in the context of an utterance such as “some of the **basic** books” (UI7: 77) in the EuroCoAT corpus, there is no contrast between the contextual meaning of this word and its meaning as recorded in the dictionary: “forming the main or most important part of something”. However, when this same word was used by a lecturer (“so the **basic** *wide* reading *comes from* your textbooks” [UI5: 253]) alongside words to do with physical structure (italicized), used metaphorically to describe the sources of knowledge needed to be consulted in preparing for an upcoming exam, this seemed likely to trigger a metaphorical understanding of ‘basic’, recalling its relation to ‘base’ (in bold script in (17) below).

(17) Lecturer: I do need you to have that **foundation level** first (UI5: 275)

Thus, the saying verbs used by the lecturer in US3 were similarly tagged as having metaphorical resonance because they similarly triggered a metaphorical understanding of these verbs, shown by the student’s use of *speak*.

14.8 Application of the modifications to MIPVU: Mark-up system and the search for coherence

Some of the modifications described earlier (particularly as regards the demarcation of lexical units) were decided on by three members of the research team before beginning to identify the MRWs in the corpus. A particularly important decision at this stage was also to omit identification and mark-up of “implicit” metaphors, which were not of particular interest to a project aimed at identifying

5. The WIDLII tag (“when in doubt leave it in”) could possibly have been used instead of the MetRes tag. However, it was thought to be important to distinguish between the phenomenon described here and other kinds of unclear cases in metaphor identification.

and describing the lexical units used metaphorically in this particular corpus of academic conversations. Implicit metaphors are linguistic items (typically pro-forms like *this* or *that*) which are co-referential with lexical units identified as MRWs, but do not in themselves provide any insights into how and when these lexical units are used metaphorically. Other decisions, such as including etymological information when seeking to determine the more basic sense of a lexical unit, were taken in the course of the identification of MRWs in the corpus, in response to specific difficulties experienced.

The procedure adopted to ensure coherence in the application of the different steps of the metaphor identification procedure went through three stages. The first involved samples from the corpus (two complete transcripts), which were analysed by one researcher (the author) and two others to check for agreement. Disagreements were discussed and resolved by the three researchers involved. At this stage, it was detected that certain lexical units (sight terms) could be interpreted as literal and metaphorical at the same time (see MacArthur et al. 2015 for details), as in the following example:

- (18) Lecturer: I have some NOT so good responses to some questions and you will see what people have done in the past (UE6)

The lecturer was talking about bringing some old exam scripts to the classroom in order to help prepare students for an upcoming exam. His use of *see* therefore literally denotes the act of using the eyes to perceive something. At the same time, however, this act of *seeing* implied the mental activity of understanding. In cases such as this, we decided to create a new category of MRWs which identified confluences of literal and metaphorical meanings, which were then marked with an additional tag, {CONF}:

- (19) you will {LMet} see {VB} {CONF} {/LMet} what people have done

During the transcription phase of the academic conversations, all the uses of words and expressions by the participants that were deemed to be the result of L1 influence had been tagged as such. However, it was also considered useful to add other distinguishing tags to each MRW identified to facilitate easy location of any particular category of metaphor use. So, each MRW was accompanied by a tag which identified the kind of speaker ({LMet} for the lecturers; {SMet} for the students; {RMet} for the researchers who occasionally intervened in the conversations) and each MRW was similarly tagged for part of speech ({PREP} for preposition; {PART} for particle; {N} for noun; {NCL} for noun classifier, and so on). As regards the type of metaphorical language use identified, the categories distinguished were {MET} or indirect metaphors, {WIDLII} or “when in doubt leave it in”, {ANA} or analogy,

and {DIR} for direct metaphor. Additional tags were {UNC} for the unconventional MRWs produced by the L2 speakers, as well as the {CONF} tag already described. Thus, examples (14) and (15) involving the use of *focus* were marked up as follows:

(20) yeah i {SMet} focus {VB} {/SMet} too much {SMet} on {PREP} {/SMet} theory
(UE3: 24)

(21) i don't know if to to be {SMet} focus {VB} {/SMet} only {SMet} in {PREP}
{UNC} {/SMet} english only {SMet} in {PREP} {UNC} {/SMet} the question
or to study all the the {SMet} module {N} {/Smet} (UE3: 180)

After the initial sampling phase was concluded, the first researcher (the author) applied the criteria agreed on to the whole of the corpus, referring back to other members of the research team in case of doubt. This was occasionally necessary. For example, in the transcript labelled UNL4, the topic of conversation was an assignment for a software architecture class, in which the students had to adopt the roles of stakeholders, managers or developers. The issue raised here had to do with whether nouns such as *stakeholder* should in this context be regarded as metaphorical or non-metaphorical, given that they did not denote a “real” stakeholder but rather a role adopted in the pretend world of the assignment. After discussion, it was agreed that these uses should be regarded as MRWs.

Given that the EuroCoAT corpus is relatively large, we thought it important to ensure that exactly the same criteria had been applied to the whole of the corpus, in order to that possible MRW candidates had not been missed and the criteria always applied consistently and correctly. Therefore, after the first researcher had finished tagging the transcripts for metaphor-related words, a research assistant (previously trained in the metaphor identification procedure) went through the entire corpus again, looking at the different types of MRWs according to word class. This procedure (i.e. isolating particular types of words), involved looking at the data in a different way and sought to complement (rather than simply repeat) the linear and discourse-oriented approach adopted in the earlier analysis. This different approach did in fact prove useful: the research assistant found, for example, in her search for prepositions, cases where some potential MRWs had been missed. These were highlighted and then re-submitted to the metaphor identification procedure, and agreement between the first researcher and the research assistant was reached after discussion of each case. The three stages described ensured, as far as is humanly possible, that each and every metaphor-related use of language in the corpus was correctly identified and tagged.

14.9 Conclusion

Dealing with a corpus of ELF interactions posed a number of challenges for the identification of metaphorical language uses, following MIPVU. As has been described, certain modifications were introduced, which affected all four stages of the procedure. These aimed at adapting MIPVU to the special characteristics of the linguistic data examined. This meant that, on occasion, we took into account findings from second language acquisition research on L2 processing, a position that is expressly rejected by MIP and MIPVU (Steen et al. 2010: 220). However, these modifications tended to be conservative and others were avoided that might seriously compromise comparability with frequency figures in other datasets. For example, we rejected the possibility of regarding compounds as decomposable, because this would have affected the overall count of MRWs to such an extent that our figures could not be compared with the findings of other researchers using MIPVU.

Our development of different tags, described in the previous section, made it possible to conduct focused searches of the corpus to locate specific aspects of the MRWs found. The {UNC} tag, for example, enables rapid identification and quantification of all MRWs that diverge from NSE usage in this corpus. Likewise, the {L1inf} tag makes it possible to distinguish unconventional MRWs which are the result of L1 influence from those which are not.

In my view, the MetRes tag was among the more innovative and promising aspects of the modified procedure for identifying metaphor-related words in a corpus of ELF conversations. It opens up a new area of research by helping to locate and identify metaphor uptake by L2 speakers of English, moving away from sole reliance on dictionary evidence to identify potential metaphors, by highlighting how they may be interpreted by L2 speakers in context. As has been seen, the absence or presence of metaphor resonance across turns (seen not only in metaphorical or literal interpretation of another's words but also in the systematicity with which semantically related MRWs are used by both speakers in interaction [MacArthur 2016]) indicates how closely a hearer is attending to another's words and may shed light on the quality of that particular interaction. Whether or not the "let-it-pass" principle is operating in any particular ELF interaction may thus be revealed by attention to this hitherto ignored aspect of metaphor behaviour.

Of course, some of the modifications described in this chapter, and the reasons for introducing them, could usefully be applied to metaphor-driven analyses of other kinds of linguistic data. For example, although the position that ELF constitutes a particular variety of English has been explicitly rejected here, it does not follow that other varieties of English (e.g. dialects that have been well described by lexicographers) would not be amenable to analysis using dictionaries other than

those recommended by MIP or MIPVU. For example, major and minor geographical varieties of English may differ in important ways as regards word senses, and it would be logical to use a dictionary that records the senses of words for a speaker of Irish English, for example, rather than that of a speaker of British or American English, as recorded in *MM* or *LM*, in order to make principled decisions about the potential metaphoricality of lexical units in a corpus of Irish English texts. Likewise, the MetRes tag, developed here to examine metaphorical uptake in ELF interactions, might also prove useful in shedding light on metaphorical behaviour in any kind of conversational data – or metaphor-driven analyses of dialogue generally – whether between NSEs or NNSEs or a mixture of both.

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Afterword: Some reflections on MIPVU across languages

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15.1 Introduction: Counting metaphors without an identification procedure

I will begin my reflections on this remarkable volume by going back in time more than two decades, to the beginning of my own academic career. My first two papers on metaphor were both published in 1996, and involved data in English and Italian, respectively: ‘Metaphor and mind style in Ken Kesey’s *One Flew Over the Cuckoo’s Nest*’ (Semino & Swindlehurst 1996) and ‘Politics in football: Metaphor in the discourse of Silvio Berlusconi in Italy’ (Semino & Masci 1996). Although both papers were primarily qualitative, they both involved a comparative analysis of metaphor frequencies in different sections of our texts/data. While I am still reasonably happy with the qualitative analyses, the quantitative component of each paper is now, frankly, embarrassing. My only excuse is that they were written before any metaphor identification procedure existed, such as MIP (Pragglejaz Group 2007) and MIPVU (Steen et al. 2010).

In the first paper, Kate Swindlehurst and I argued that *MACHINERY* metaphors were central to the representation of the mind of the narrator of *One Flew Over the Cuckoo’s Nest*, and that they decreased in frequency after a particular turning point in the novel. To back up this claim, we provided raw and relative frequencies of *MACHINERY* metaphors for every 10 pages before and after this point in the novel. The difference we reported was considerable (7 vs. 2 instances per 10 pages), but we provided no detail in the paper of how we went about doing the counting in the first place, and I no longer have any records to reconstruct our approach.

In the second paper, Michela Masci and I showed how Berlusconi used football, war and other metaphors in a set of spoken and written texts from 1994 as part of his (successful) campaign to become Italy’s Prime Minister. At the request of the paper’s reviewers, we added a quantitative section to the final version of the paper in which we reported the frequencies of different types of metaphor (by source domain) in our different datasets, including both raw frequencies and some

normalised frequencies per 1,000 words. In introducing this quantitative analysis, we recognised the ‘considerable methodological difficulties with conducting quantitative work on complex and slippery phenomena such as metaphor’ (Semino & Masci 1996: 262), and then proceeded to explain that, ‘in the process of counting, we disregarded the variable of length’, so that ‘extended metaphors’ were treated in the same way as one-word metaphors (Semino & Masci 1996: 263).

Nowadays, I would not let myself, my students or the unfortunate authors of any papers I might be asked to review, get away with such a cavalier approach to the identification and quantification of metaphors.

15.2 MIP, MIPVU and English

When, in 1999, Gerard Steen invited me to join a group of 10 metaphor scholars who would work on a procedure for metaphor analysis, I enthusiastically accepted not just because of the composition of that group, but because I was aware that my own approach to metaphor identification in previous studies was inadequate. Although it took until 2007 for our Metaphor Identification Procedure to finally see the light, it provided the field with a clear, rigorous and accessible method that could be applied widely, and that made it unacceptable, in future research, to be vague or unprincipled about the analysis and quantification of metaphor in linguistic data. Three years later, the team that produced MIPVU (Steen et al. 2010) added more detail to the method, and broadened its scope to include potential signals of metaphoricity (e.g. ‘as it were’) as well as similes and other explicit markers of comparison. The latter were labelled ‘direct metaphors’ (e.g. ‘cancer is a long and winding road’) as opposed to metaphorically used words, or ‘indirect metaphors’, such as ‘battle’ in ‘my battle against cancer’.

If, in the mid-1990s, MIPVU had been available to my colleagues and myself, my colleagues and I would have been both expected and able to:

1. Be clear about what our unit of analysis was for identifying and counting the frequency of metaphors;
2. Have a clear and principled reason for using anything other than the orthographic word as the default unit of analysis; and
3. Adopt one or more dictionaries as external sources of reference for deciding whether a particular word has a more basic meaning than the one that applies in context, and hence have a solid basis for deciding whether the latter can be understood via a comparison with the former, resulting in the attribution of metaphoricity to that word in context.

We would have also had a model for checking whether our respective individual analyses were sufficiently similar to one another to achieve reliability, and for enabling others to replicate similar analyses on the same or other data. In other words, MIP and MIPVU have dramatically changed the field of metaphor research for the better.

15.3 MIPVU in languages other than English: The contribution of this book

Apart from a chapter on Dutch in Steen et al. (2010), both MIP and MIPVU were developed and demonstrated on English data. From a general perspective, this is unproblematic: a broad definition of ‘metaphor’ as communicating and/or thinking about one thing in terms of another on the basis of some form of comparison, transcends the distinctions between languages, or even modes of communication. From a more specific perspective, however, MIPVU (and MIP before that) operationalises metaphoricity in verbal data in terms of specific linguistic decisions and of specific external sources of reference. At that level, one cannot assume that what applies to English (or Dutch) will straightforwardly apply to other languages. This is why this volume is needed and important.

My main reaction while reading through the chapters, therefore, is pride and optimism for the field of metaphor study. The depth and quality of reflection and of suggested adjustments to MIPVU show not just that scholars across the world take methodology seriously in metaphor analysis, but also that they are able to identify and surmount difficulties that would otherwise undermine our ability, as metaphor scholars, to properly appreciate the findings of one another’s studies and to carry out parallel work across languages. It is also appropriate that, while European languages account for several of the chapters, the book spans across different language families and geographical regions (e.g. the inclusion of Sesotho and Mandarin Chinese), and also recognises the issues posed by different ‘variants’ of the same language (through the inclusion of a chapter on English as a *Lingua Franca*).

More specifically, the chapters concur in identifying two main problem areas in extending MIPVU to other languages: (1) identifying the linguistic unit of analysis, or ‘lexical unit’; and (2) selecting and using dictionaries as external sources of reference. The treatment of both these issues highlights both the considerable strengths of MIPVU and some potential pitfalls in its application.

15.3.1 Problems with lexical units

The choice of the orthographic word as the main unit of analysis for English is not unproblematic, but it rests on solid ground: the word has a reasonably stable status as the main unit of meaning in English, and is broadly recognised as such both by lay people and dictionaries. The exceptions that need to be made for multiword expressions (such as phrasal verbs and compounds) can be fairly explicitly based on a combination of grammatical/phonetic criteria and external sources of reference such as dictionaries.

Concerning this aspect of MIPVU, the authors of several of the chapters in this book had to deal with well-known typological differences across languages and language families. In many languages, the unit of meaning that is best suited for establishing a contrast between basic and contextual meanings is larger than the orthographic word. This applies to languages that use inflection, derivation, pre/suffixation and compounding to express grammatical and semantic relationships that English expresses via separate words. In this respect, it is English that is in fact unusual among the world's languages. In a small number of languages, in contrast, the relevant unit of meaning is smaller than the orthographic word. Mandarin Chinese is the clearest example of this in the volume, as different characters tend to make up a single concept. Additional complications are posed by differences in how multiword expressions can be identified and externally validated as lexical units. In addition, Chapter 14 on English as a lingua franca acts as a reminder that, even within the same 'language', what counts as a 'word' or multiword 'chunk' varies depending on who is speaking or writing. In fact, the variation identified in that chapter will also apply in communication between native speakers of any language, for example when young children are involved.

The ways in which these problems are handled in the different chapters leads to two main conclusions, in my view. On the one hand, it is clearly possible to arrive at criteria that are explicit and rigorous enough to adapt MIPVU to any language, and to ensure comparability in analysis not just within each language but across languages, or at least 'good enough' comparability. On the other hand, some of the distinctions that MIPVU makes for English cannot be extended to other languages. An example is to do with boundaries between different parts of speech and different grammatical uses of the same word. MIPVU states that, when searching for basic meanings of words, the analysis should not cross part-of-speech boundaries (e.g. 'key' as a noun vs. 'key' as an 'adjective' when used as a premodifier), or even boundaries between transitive and intransitive uses of the same verb and count vs. non-count uses of the same noun. Dictionaries are used in the description of MIPVU to validate the existence of those boundaries. Some of the chapters in the book show that a similar approach is not always possible in other languages, either

because parts-of-speech boundaries do not work in the same way (e.g. Mandarin Chinese), or because existing dictionaries do not make those distinctions (e.g. Lithuanian), or for both reasons. Another example is the approach to multiword proper names, where MIPVU uses English word stress (as recorded in dictionaries) to decide whether to take the whole multiword chunk as a single lexical unit or whether to deal with each word separately. In many other languages, word stress does not work as a valid criterion for this decision.

In the latter kind of problem (i.e. MIPVU distinctions for English that cannot be extended to other languages), however, the lesson that emerges for me from reading the various chapters is to do with potential weaknesses in the original MIPVU. The decision not to cross part-of-speech boundaries, or even smaller boundaries such as transitive and intransitive uses of the same verb, is in fact problematic for English too. It makes potentially controversial assumptions about the mental structure of the lexicon and about language processing, and ultimately also relies on decisions made by dictionary-makers, which may not always be principled and consistent. While this is an area where decisions do need to be made in analysis, I would argue that they need to be made flexibly and realistically, depending on the language and the purpose of the analysis. And, crucially, whatever decision is made should not give analysts, or readers, the impression that it reflects a totally clear-cut linguistic or conceptual boundary.

The issue of proper names highlights a different kind of problem, in my view. The original MIPVU team had good reasons for coming up with a maximally detailed procedure that they could all reliably apply, and that could act as a model for others. But in practice I suspect that, in most projects, it would not be worth spending a lot of precious researcher time to implement a distinction between multiword proper names as decomposable units or not, even if it were possible to do this rigorously and systematically. In most cases, a cost-benefit analysis would probably conclude that proper names are not important or frequent enough to merit that kind of attention. In a few cases, ad hoc decisions can be easily declared for frequently occurring proper names. For example, in Semino et al.'s (2018) study of metaphor for cancer and the end of life, we had many occurrences of the multiword proper name *Liverpool Care Pathway*, which refers to a particular approach to the care of people dying in hospitals in the UK. We decided to deal with each word separately but made it clear how many metaphorical instances of 'pathway' in our results were part of the proper name. We could equally have made the opposite decision and declared how many instances of 'pathway' were then excluded from our quantitative results. In this respect, the decision in some chapters to deal with all multiword proper names in one way or the other (e.g. Chapter 9 on Polish) seems to me the most appropriate for most projects in any language (including English), unless proper names were a focus in themselves (e.g. metaphoricity and various

types of symbolism in the names of characters in Dickens's novels, or in the Harry Potter series). For the purposes of some projects, a decision to exclude all proper names from the metaphor analysis could also be the most appropriate.

Finally for this section, I was surprised to see very little discussion of pronouns and other cross-referring expressions as valid lexical units for a metaphor analysis, resulting in what MIPVU calls 'implicit metaphors' (e.g. the use of 'it' to refer back to the referent of a metaphorically used noun). Alongside the approach to part-of-speech boundaries, this has always been for me the most problematic aspect of MIPVU. It relies on a potentially controversial view of metaphor in discourse, and can considerably inflate the figures for metaphoricity in some genres, such as academic writing. It is also one of the outcomes of a MIPVU approach to metaphor identification that would be very difficult to present as convincing to non-linguist stakeholders in research (e.g. in my case, healthcare professionals). As languages differ in pronoun use (cf. the omission of subject pronouns in Italian), I was expecting this to come up as an issue more often than it did. Regardless, my own view is that, if implicit metaphors are counted, it should always be made clear what their contribution is to total figures for metaphoricity, to allow readers of different persuasions to make meaningful sense of reports of quantitative findings.

15.3.2 Problems with dictionaries

An issue that is reported over and over again in the chapters of this book concerns the availability of dictionaries, and, in some cases, annotated corpora, as sources of reference for establishing lexical units and basic meanings. MIPVU made use for these purposes of two corpus-based dictionaries (the *Macmillan English dictionary for advanced learners* and, to a lesser extent, the *Longman dictionary of contemporary English*) and of the annotated version of the British National Corpus. Even for English, this was at times problematic, but, together, these three sources of external reference enabled the team to arrive at principled and consistent decisions. All of this is possible, however, because English is the world's current Lingua Franca, and it has more dictionaries (including aimed at learners) and annotated corpora than other languages.

The issue that is pointed out in relation to other languages is that existing dictionaries are often not corpus-based and not aimed at learners. As a result, entries for common words in particular tend to combine concrete and abstract senses (i.e. merging basic meanings and conventional metaphorical meanings), and to be organised by lemmas (i.e. without distinguishing between variants of the same 'word' that fall under different parts of speech). Similarly, for most of the languages discussed in this book there are no annotated corpora available to be used for

the purposes of decisions about lexical units and grammatical categories. Overall, therefore, languages other than English tend to have fewer and less suitable sources of external reference to assist in the application of MIPVU.

As with the previous section, reading these discussions led me to reflect on both strengths and weaknesses of MIPVU. On the one hand, it is important to make use of independent sources for decisions about basic meanings and lexical units (in that order, I would argue). This is particularly important for team projects. On the other hand, no external source, and particularly dictionaries, should be turned into a god-like authority over words, multiword expressions, or meanings. Dictionaries are the result of editorial policies, commercial imperatives, individual decisions, etc. (see also MacArthur 2015), and even highly reliable corpus taggers make mistakes, and are based on particular approaches to morphology and grammar. A reader of the original version of MIPVU could be forgiven for forgetting all of this.

I was therefore heartened by those chapters that treated dictionaries and, where relevant, annotated corpora, as resources to be exploited flexibly and critically by metaphor researchers (e.g. Chapter 10 on Serbian). I was less heartened when dictionaries seemed to constrain excessively the judgement of researchers, especially when they were clearly not adequate to assist a metaphor analysis. In a couple of cases, I balked at seeing the dictionary as the agent of the identification process (i.e. in phrasings such as ‘Dictionary X identified *n* metaphor-related words’; see also Dorst & Reijnierse 2015). Crucially, when contributors reported the results of analyses based on different dictionaries, the quantitative differences were small (e.g. chapter on French).

Reading the chapters in this book has therefore confirmed my belief that, while it is important to make good use of dictionaries, they should be used critically, i.e. as inevitably imperfect resources for the analyst. It should therefore also be regarded as acceptable to override or ignore dictionaries where they are not fit-for-purpose, and to make decisions on the basis of one’s own criteria or even intuitions, as long as one records those decisions, applies them consistently, reports them and justifies them.

15.4 Concluding caveats, and looking ahead

The development of MIP and MIPVU, and the publication of this multilingual volume on MIPVU, have placed the field of research on (verbal) metaphor on a strong methodological footing. This makes greater demands on all of us as metaphor scholars, but also enables us to conduct better research, and to make sense of and compare our respective findings in more meaningful ways. However, as with any other similar procedure, the application of MIPVU is a means to an end, not an end in itself.

All research projects happen for a reason, in a context, with constraints on time and resources, and with different stakeholders and audiences. Research on metaphor, in particular, can address questions from many different disciplines and societal domains, including cognitive science, politics, health, education, climate science and many others. Only a minority of projects will therefore involve the identification of *all* instances of metaphoricity in a particular dataset, as was the case with the project that led to MIPVU. Depending on a project's research questions and audiences, analysts may only set out to identify metaphors that relate to particular topics, and may decide that some aspects or distinctions within MIPVU are not relevant or appropriate (see Chapter 8 on Polish in particular for similar observations).

For example, in a recent project on metaphors for cancer and end of life (Semino et al. 2018), my colleagues and I only identified metaphors in our data that related to the experiences of illness, healthcare and dying/death. In that context, we decided it was appropriate to exclude from the analysis, for example, several delexicalised verbs and all temporal uses of spatial prepositions. It was also entirely appropriate not to include implicit metaphors at all, not just because of our own doubts about their status, but also because it would have been entirely counterproductive to have to spend time justifying their inclusion to healthcare professionals and other stakeholders interested in our work. There is a fine line between alerting non-linguists to the presence of metaphoricity in places where they had not previously noticed it, on the one hand, and, on the other hand, losing valuable collaborators by insisting on decisions or distinctions that they would perceive as obscure or irrelevant. Applying the whole of MIPVU all the time, and taking dictionaries too seriously, would have placed me on the wrong side of that line on many occasions.

At this point, some readers may object: are you now arguing that anything goes? No: I am arguing that the availability of MIPVU, and its multi-lingual adaptations in this volume, give us a model that we can adapt for the purposes and contexts of different research projects, as long as we are rigorous, consistent and explicit in how we use and adapt the procedure. In that way, any internal comparison within a single project's datasets will be reliable; the whole approach will be replicable; and comparisons across studies within or across languages that may have adapted MIPVU slightly differently (or used different dictionaries) will still be possible, particularly where differences in frequencies are large. And, crucially, interdisciplinary collaborators and non-academic stakeholders will still be on board.

Similarly, the availability of MIPVU, and its extension to other languages, should not fool us into thinking that metaphoricity in discourse is a binary phenomenon, or that all borderline cases are captured by the WIDLII tag ('When In Doubt Leave It In'). It is useful and necessary, for many research purposes, to approach metaphoricity in a way that enables us to make yes/no decisions about

verbal expressions, but the phenomenon remains multi-faceted and scalar (as well as often multimodal).

In spite of these caveats, this book is a shining model of methodological good practice, both in the identification of a particular linguistic phenomenon within and across languages, and in the willingness to put oneself and colleagues on the line by carrying out reliability studies and publishing the results. Looking back, this is what I would have needed, in the mid-1990s, to make a better job of my first studies of metaphor in English and Italian. Looking ahead, this is what will ensure that research on metaphor continues to thrive, and hopefully encourage similar methodological advances in the study of other phenomena.

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This volume explores linguistic metaphor identification in a wide variety of languages and language families. The book is an essential read for anyone interested in researching language and metaphor, from students to experienced scholars. Its primary goals are to discuss the challenges involved in applying the Metaphor Identification Procedure Vrije Universiteit (MIPVU) to a range of languages across the globe, and to offer theoretically grounded advice and guidelines enabling researchers to identify metaphors in multiple languages in a valid and replicable way. The volume is intended as a practical guidebook that identifies and discusses procedural challenges of metaphor identification across languages, thus better enabling researchers to reliably identify metaphor in a multitude of languages. Although able to be read independently, this volume – written by metaphor researchers from around the world – is the ideal companion volume for the 2010 Benjamins book *A method for linguistic metaphor identification: From MIP to MIPVU*.



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