

Applied Language Typology: Applying typological insights in professional practice¹

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In this paper we introduce and outline a new research area, Applied Language Typology (ALT). ALT builds on fundamental typological findings in morphology, syntax and semantics. ALT examines the attested and potential practical consequences of these contrasts for different professional contexts of communication, such as translation, the law and second language learning and teaching. We propose three general organising principles that underlie ALT, illustrating how these principles enable us to identify exact points of language contrasts that result in significant practical difficulty, and we suggest future directions in ALT research for the benefit of academics and language practitioners.

Keywords: applied language typology, contrastive language studies, L2 acquisition, L2 teaching, law, language awareness, translation, witness memory

1. Introduction

The research domain of *Applied Language Typology* (henceforth ALT) brings together a variety of descriptive and theoretical findings from areas of the language sciences that are ultimately concerned with language typology and language contrasts. ALT identifies the ways of applying such findings and integrating them into professional practice. Its primary focus is the similarities and differences between individual languages and language groups that have a direct impact on language and communication activities, such as acquisition, processing, translation and multilingual communication in different professional contexts.

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Applied Language Typology is based on ideas that are not entirely new and unfamiliar. What is novel is the underlying applied research goals that drive the formulation of research hypotheses, choice of data and empirical methodologies. In this paper we offer a focused summary of what this research field should comprise as well as a critical account of the themes, approaches and methodologies that can be regarded as belonging to its domain of inquiry. This paper is not intended to be an exhaustive account of all the topics that can fall under the umbrella of ALT. Rather, its aim is to present a set of guidelines for the development of the research domain itself and to critically discuss examples of relevant research so far.

The term *Applied Language Typology* was first introduced in Filipović (2008) and the basic concept reflected a revived and renewed interest in the real-life consequences of language contrasts. ALT highlights the key similarities and differences between any number of languages with regard to their typological features and the consequences of these (especially contrasting) features for language-driven situations, such as multilingual communication in different contexts of use, translation, learning, teaching and linguistic memory. It is necessary at this point to provide an account of what the relationship is among a number of related study areas that bear relevance for ALT. For instance, ALT is closely related to the tradition of the contrastive language studies and to general research in language typology. Contrastive linguistics, aimed at the parallel study of comparable categories in (usually) two languages, began with Lado (1957) and offered a fruitful platform for many inspired contrastive projects. Soon, however, it encountered criticisms that were not always straightforward to address, for example those related to both overprediction and underprediction regarding when and where difficulties in language learning may occur (see Odlin, 1989: 17; see also James, 1990 for a comprehensive account of contrastive linguistics). With the advent of generative linguistics, analyses of language contrasts became almost entirely excluded from mainstream linguistics but thankfully not completely sidelined. Most notably, Greenberg's work on typology and subsequent developments in this area by, for instance, Dryer (1992), Croft (2003), Hawkins (1983), to name but a few, have continued the tradition of a sustained interest in cross-linguistic research and its wider relevance. More recently, contrastive linguistics practices have been adopted by linguists previously involved solely in monolingual research, seeking confirmation of, and refinement for, their theoretical assumptions and research hypotheses based on data from languages other than English. Similarly, psycholinguistic research has started to include cross-linguistic contrasts in experimental studies (e.g. Athanasopoulos and Bylund, 2013; Filipović 2011, 2013; Kousta *et al.* 2008; Lai, *et al.* 2014; Pavlenko, 2014).

We can say that contrastive studies and language typology go hand in hand. Contrastive studies have traditionally mainly focused on two languages of whatever type(s), while language typology studies a large number, ultimately preferably all languages, and classifies them into groups based on a select feature or number of features at different linguistic levels (e.g. morphology, syntax, semantics).² The detailed comparisons available from contrastive studies

²Contrastive linguistics has reclaimed its practical significance with the rising interest in Interlanguage studies. The traditional approach was to compare the learner's mother tongue (L1) with the language (L2) to be learnt. Current approaches within Interlanguage research contrast

are a rich source of information for typological research, along with grammars of individual languages and linguistic fieldwork. Contrastive studies also inform intratypological contrasts, i.e. the differences among languages that may be classified within the same typological group according to a certain criterion (e.g. head-initial languages) but that differ in numerous respects that are crucial for our understanding of how those languages are learned and should be taught. A prime example is the study of English-German contrasts by Hawkins (1986) and also König and Gast (2007). Similarly in the context of semantic typology, contrasting languages based on morphosyntactic, lexical and usage factors in lexicalisation of motion events has enabled us to discover typological clines along which different languages can be positioned (see Filipović, 2006, 2007a; Ibarretxe-Antuñano, 2009; Ibarretxe-Antuñano and Hijazo-Gascón, 2012; Filipović and Ibarretxe-Antuñano, 2015).

Applied Language Typology therefore uses insights from contrastive language studies and language typology, as well as from applied psycholinguistics, and sets up contrastive frameworks based on salient typological features, which help us identify when and how various factors will *facilitate or impede* successful language use in different contexts. These features of language relevant to professional practice may vary from context to context (e.g. in language learning vs. translation), but we argue that all applications can benefit from a clear and general classification scheme that identifies the precise points of contrast between languages (see further section 2) and that seeks empirical confirmation for their role on different occasions of use. In section 3 we discuss certain morphological features relevant for ALT research. Section 4 is focused on some syntactic typological contrasts and their manifestation in second language acquisition. Section 5 discusses a semantic typology, and word and construction meaning contrasts that are relevant for translation-assisted information exchange in legal contexts (such as interviews with witnesses and suspects) as well as their impact on speakers' memory for events. In conclusion (section 6), we emphasise the importance of this ALT approach for the study of language contrasts from both academic and professional perspectives.

2. Language typologies in action: The ALT criteria

In this section we introduce what we believe to be the key ALT criteria and briefly discuss examples from different areas of interdisciplinary linguistic research (translation studies and second language acquisition) in order to capture the ways in which insights from different language typologies can be identified as important in applied contexts and harnessed for the purposes of improved practice.

Theoretical and empirical research in the field of language typology has had a long tradition, especially since the seminal work of Greenberg (1963). Most of the recent studies have been concerned with the relationship between language-specific patterns and potential universal principles that make those patterns possible. As Greenberg (1963, 1966) argued, universals can be absolute (e.g. All languages have consonants, vowels, nouns, verbs, etc.) or show

the learner's version of the L2 with the standard version of that L2 and discusses the influences of many factors on the learners' L2s (including L1 transfer in particular; see Odlin, 1989).

variation (e.g. If a language has X, it generally or always has Y). The variation is the result of contrasts between languages, which is manifested in all areas of grammar, in phonology (e.g. variation in consonant and vowel inventories), morphology (e.g. the structure of word forms), syntax (e.g. word order) and semantics (lexicalisation differences; e.g. see Moravcsik, 2013 for a recent overview). ALT then focuses on the practical consequences of these different typological contrasts in different contexts of use.

Many typological contrasts have direct consequences for a variety of language-driven activities. For instance, in the case of translation studies, typological insights can help us explain why certain lexical and grammatical features are harder to translate than others. One semantic domain, motion lexicalisation, has been extensively researched in this regard (see Ibarretxe-Antuñano and Filipović, 2013 for a detailed overview). Languages differ in terms of how they express motion events, according to Talmy's (1985, 2000) now well-known semantic typology. The distinguishing criterion can be summarised as the dichotomy between whether the manner of motion (*run, lollap, limp*, etc.) is expressed in the verb, as in English, or expressed in an adjunct, as in Spanish (*salir de la casa corriendo* = 'exit the house running')³. Spanish has a significantly less varied lexicon for manner verbs and instead makes productive use of manner verb + path particle constructional combinations (see e.g. Slobin, 1996, 1997; Filipović, 2008). One consequence of this typological difference for translation is that information about the manner of motion is difficult to render from English into Spanish, and this piece of information is often missing in Spanish translations from English (see e.g. Slobin, 1996, 2003, 2006). Conversely, manner verbs are habitually added in translated texts from Spanish into English despite being absent from the Spanish original because the English typological pattern for motion expressions strongly requires the use of manner verbs + path particles (see Slobin, 1996, 2003). These typological contrasts impact translation in all contexts, literary and non-literary (see Slobin, 1996, 2006; Filipović, 2007b, 2010a, 2011). For example, the manner additions absent from the Spanish original texts but present in the English translation result in a difference in interpretation between the original and the translation, e.g. with respect to the speed and pace of events (Slobin, 1996, 2006) and in the understanding of what exactly had happened and where a suspect who is moving may be located at the time of speaking, which is very important in the context of translation-assisted police interviews and in witness testimonies (e.g. see Filipović, 2007b, 2009, 2010a, 2011). This kind of practical consequence resulting from language contrasts (in this case, grammatical and lexical) are of central interest to applied language typology research.

Furthermore, typological contrasts can significantly inform second language learning and teaching. For example, studying typological contrasts from an ALT perspective, as advocated in Filipović and Hawkins (2013), can lead to a better understanding of which L2 features will be easier or harder to learn for speakers of different first languages (see section 4 for further discussion and examples). This underlying insight can lead to a more focused and efficient teaching and training in second language education contexts.

³ The dichotomy is in fact not a really stringent one since the typology is best understood as a cline along which languages are distributed (as originally proposed in Filipović, 1999, 2002, 2007a). This however does not impact the general claims and discussion of the present paper.

In the following sections we illustrate how language typology can be applied in ways that can solve practical problems in learning, translation, the law and possibly other language-driven professional contexts. To begin with, we need to identify certain general criteria that we can use to detect those *language contrasts that can potentially result in practical difficulty*, regardless of the particular area of grammar or lexicon in which they originate. Not all differences between two languages will necessarily lead to miscommunication and mistranslation or indeed to facilitated communication and translation. The following three general types of contrasts between languages appear to be centrally important for a number of applied domains:

- a) the presence vs. absence of a category (lexical or grammatical) in two or more contrasting languages (e.g. evidentials are found in Turkish, but not in English; agentivity distinctions in Spanish caused motion constructions, but not in English; see section 5)
- b) more restrictive vs. less restrictive category (lexical or grammatical) that is present in two (or more) contrasting languages (for example, kinship terms; a more encompassing category of *nipote* in Italian subsumes the more restrictive categories of *nephew* vs. *grandchild* in English)
- c) complementarity relations in concept or event lexicalisation (whereby the same or similar concept is expressed using different patterns available in two or more contrasting languages; for example, nominative/accusative vs. ergative/absolutive case marking, or path-verb vs. manner-verb motion event lexicalisations)

We illustrate next how these ALT criteria can inform different areas of practice and explain problems that arise within them.

3. Applying insights from morphological typology

Languages have been traditionally classified based on their patterns of word formation (Sapir, 1921; Comrie, 1989: 42-46). This classification on the morphological level includes isolating, agglutinating and inflectional groups of languages. Within these three ideal prototypes, there can be variation along the dimensions of synthesis and fusion, for which Sapir proposed quantitative indices. Isolating languages are positioned towards the analytic end of the scale while agglutinating and inflectional are placed towards the synthetic end. Crucially, languages may possess features of more than one of the idealised prototypes. Therefore, this division into morphological types is a useful tool, to be applied selectively for specified morphological subdomains, rather than for languages as a whole. Languages occupy positions on a cline from analytic to synthetic, and from few to many morphemes per word, and cannot be easily boxed into just a single whole category. Analytic languages (e.g. English or Mandarin Chinese) have few or no morphological processes at the word level while synthetic languages use morphology extensively to signal different meaning relationships at both word and sentence level

We can apply this knowledge of typological contrasts to predict the source of difficulty in second language acquisition, for example, and direct language

instruction towards the specific points of contrasts between an L1 and L2. In the context of applied typology, we can predict and test whether this is the case and adjust our teaching time, emphasis and focus accordingly, as well as our choice of pedagogical tools and materials. In fact, some previous studies have indicated that second language education can benefit from a typological focus on morphology in some specific cases since this particular domain can be very problematic due to the differences at this level (see Filipović, 2007a, 2010b). Vidaković (2006) and Filipović and Vidaković (2010) have shown that morphological features present in one language and completely absent from another (see ALT criterion a), section 2 of this paper) can be a significant obstacle in second language acquisition. Namely, Serbian learners of English performed much better in the acquisition of English motion lexicalisation patterns, while English learners of Serbian had difficulties with the Serbian morphosyntactic pattern when acquiring Serbian motion verbs and constructions. Vidaković (2006) identified the precise points of difficulty, which mainly comprised the verbal perfective derivational prefixation and suffixal aspect-person-number-gender morphemes of Serbian (such as *is-plesao* = *out-dance*-PFV.3rdSG).⁴ The Serbian morphological features (both derivational and inflectional) constituted a much more complex morphosyntactic system overall than that of English, and these were the precise points of the difficulty in the L2 Serbian acquisition, even at higher levels of proficiency (see also Hasko, 2010 for similar findings with regard to English learners of L2 Russian). The following example illustrates a typical error pattern of English learners of L2 Serbian (the example (1) is an illustration of an error and the correct form that is required is given in (2)):

- (1) **Plesali* *su na balkon.*
Dance-IPFV.3rdPL COP on balcony
“They danced onto the balcony.”
- (2) *Isplesali* *su na balkon.*
Out-dance-PFV.3rdPL COP onto balcony
“They danced onto the balcony.”

These grammatical points are not explicitly taught as morphosyntactic typological contrasts. Filipović and Vidaković (2010) explain that an understanding of these key typological contrasts and their application to the practical context of second language instruction can provide significant benefits for both teachers and learners (see also Filipović, 2008; and Filipović *in press* for further discussion and examples).

However, sometimes L2 complexity does not need to mean delayed or harder acquisition. If complex expressions are very frequent in an L2 and not highly idiosyncratic (as prefixes discussed above in Serbian and other Slavonic languages can be; see Filipović 2007a), the input to learning would certainly encourage their acquisition by learners. The study of this *interaction of multiple factors in L2 acquisition* (such as complexity and frequency), driven by

⁴ See also Filipović (1999, 2002, 2007a, 2010b), where these difficulties are predicted based on both theoretical discussion of Serbian and English grammars and extensive empirical (corpus) data.

typological information of the kind described in this section, has been advocated and empirically supported in Filipović and Hawkins (2013). Their proposed CASP model (*Complex Adaptive System Principles*) for SLA is informed by the relevant typological contrasts and usage frequency information. To put it simply, different does not always mean difficult to acquire as we discuss in the next section. Studying how typological differences manifest themselves in the processing of second language acquisition is a worthwhile pursuit for applied language typology because it reveals what is easy and what is difficult to learn for specific L1-L2 combinations and it makes these findings useful for more efficient second language education (see Hawkins and Filipović, 2012: Chapter 4 for extensive recent literature review).

In translation, however, different does indeed generally mean difficult. For instance, evidential markers in Turkish can perhaps be learned easily by second language learners whose L1 does not have grammaticalised evidentials (e.g. English) due to their frequency in L2 Turkish, but the problem for translators still remains (Givón, 2009: 337) For instance, the Turkish evidential marker *miş* can refer to numerous different types of evidence for the source of the speaker's knowledge (e.g. retrospective, reflective, observable or third-hand/hearsay; see Aikhenvald, 2003, 2004; also Aikhenvald and Dixon, 2003 for further details). Many other languages (e.g. Quechua, Aymara, and Yukaghir) require the speaker to mark the main verb or the sentence as a whole for evidentiality, or offer an optional set of affixes for indirect evidentiality. In English, this category is not grammaticalised, but there are a number of optional ways in which similar meanings can be expressed (though less precise or informative with regard to the source of information), such as *She seems/looks/would be tired*. Translations into English from a language with grammaticalised evidentiality will have to involve decisions based on additional information available in individual situations (such as narrative context or knowledge about the semantics of evidential, which can vary from two markers to six or more; see Aikhenvald, 2004). An applied typology approach to the study of this domain would define the practical implications of the presence vs. absence of a category (see ALT criterion a), section 2) and omission or addition of information in translation that could lead to differences in interpretation, especially in contexts where these differences are significant beyond the language contrasts themselves (e.g. legal context of witness interview or court examinations). For instance, it may be important to state, in a witness testimony, where the witness gets his or her knowledge from: personal experience or a third party source? Evidentials may make that information automatically available in Turkish, while in English that information may not be readily or habitually available and may be challenging, or even impossible, to translate properly into English (see Givón, 2009: 337). In other words, applied typology analysis involves going beyond the statement that languages differ typologically with regard to what is grammaticalised and obligatory vs. optional and habitually unexpressed, and looking for the consequences of the different lexicalisation and grammaticalisation patterns for different communication contexts (e.g. acquisition, translation, legal issues) that ensue as a result of the typological differences.

The relevance of these typological contrasts in practice has already been shown, for instance, in a study by Csató (2009).⁵ In her study Turkish

⁵ We are grateful to one of our anonymous reviewers for pointing out this study to us.

grammatical strategies for the expression of evidential meanings were compared to the less grammaticalised or lexical strategies employed in Swedish. While it is possible to render the evidential information from Turkish in Swedish, the means used for this purpose in Swedish do not express the same degree of ambiguity or vagueness as the Turkish forms. Csató (2009: 77) confirms that “no Swedish device can render the threefold ambiguity of the Turkish indirectives” because the inherent vagueness in the semantics of Turkish indirectives will generally be translated by Swedish forms with explicit meaning.

In another study of second language acquisition (Rhoades-Ko, 2013) it has been shown that Japanese and English learners of Korean demonstrated different linguistic behaviour with regard to the evidentiality of Korean psychological state of mind expressions. In Korean, an evidential expression is needed in order to indicate the source of information for someone else’s inner state of mind. Japanese L1 speakers whose native language has a similar evidentiality requirement to that of their Korean L2 significantly outperformed the English-speaking learners of Korean whose native language does not have such a requirement. This performance was not due to the level of competence in the L2 Korean but to the presence (Japanese) vs. absence (English) of the relevant semantic category comparable to that of the L2 Korean (see *Maximise Positive Transfer* principle in Filipović and Hawkins, 2013). Research of this kind can be taken one step further and this is what ALT encourages us to do: to probe for effects and consequences of these translation and acquisition contrasts. In the context of evidentials, the assumption is that contrasts in the grammatical means and lexicalisation patterns in languages that express evidentiality automatically versus those that do not will lead to differences and difficulties in how statements about events are understood, interpreted and potentially remembered. This is of particular relevance for the legal context, for example, where we have already detected important practical consequences of typological contrasts for the translation of witness interviews and for witness memory (see section 5). Further empirical research in this vein, including experimental work, involving evidentiality and other categories and domains, is precisely what the ALT framework promotes.

Therefore, it is important to note that applying typology means studying the effects of typological features in practice, going beyond the statement that various contrasts exist. It involves drawing conclusions with regard to what the contrasts mean, what impact they have on language use and what practically relevant information beyond the language description *per se* we can extract from the analysis.

4. Applying syntactic typology

Syntax has been one of the central levels of linguistic analysis for the purpose of typological research. Numerous typological insights have been offered based on the syntactic restrictions of different languages. For example, a number of *if/then* implicational universals were formulated, such as if a language has word order feature X then it also Y, as in if a language has SOV word order at the clause level it almost always has postpositions as well, as in [*go to the University*] in SVO English vs. the [*University-to go*] in SOV Japanese (see

Greenberg, 1963 and Hawkins, 2014 for the most recent and extensive discussion).

In terms of applied linguistic typology these findings have important predictive power when it comes to second language learning and teaching. It has been notoriously difficult to develop the best way to teach a foreign language, and to understand whether typological proximity facilitates or renders more difficult the acquisition of an L2 (see Hawkins and Filipović, 2012 for an overview). This is due to the fact that there has not been sufficient understanding of the reasons for the transfer of L1 properties into an L2 and for why such transfers are sometimes avoided (see Filipović and Hawkins, 2013 for details). In particular, some aspects of an L2 may be specific to that language and difficult to acquire regardless of which L1 a student speaks. However, other aspects of an L2 may be more challenging for learners of some L1s rather than others. There is an important role for syntactic typology here and the insights it provides can be fed into practice, and this is what Hawkins and Filipović (2012) and Filipović and Hawkins (2013) have demonstrated.

For instance, based on extensive research carried out using the *The Cambridge Learner Corpus* (CLC) Filipović and Hawkins (2013) have found out that there are broad contrasts driven by typological differences in word order that can be used for pedagogical purposes. Consider the basic word orders of English and Japanese. These languages have mirror-image word order patterns, head-initial versus head-final, that are equally simple and productive: [went [to [the cinema]]] versus [[[the cinema] to] went] (see Greenberg, 1966; Dryer, 1992; Hawkins, 1983, 2004). Head-final orders are not transferred into L2 English by Japanese learners because, as Filipović and Hawkins (2013) argue, this would result in extreme communicative inefficiency: speakers using Japanese word orders in English L2 would simply not be understood! The typological distance is just too big for (negative) transfer in this case and this is why it is blocked from the very start of the acquisition process. By contrast, head-initial word order variants of Spanish that lack precise counterparts in English (e.g., *I read yesterday the book*) can often be negatively transferred into L2 English, since they do not impact efficient communication. Filipović and Hawkins (2013) predict that because Japanese is a head-final language, the contrast with the mirror-image word order patterns of English is considerable and transferring head-final patterns into a head-initial language like English, and vice versa, would significantly impair communication. This is why it is imperative for Japanese learners of English, and for English learners of Japanese, to acquire correct basic word orders in their L2s early. On the other hand, speakers of L1 languages with flexible SVO word order like Spanish and with enough typological proximity to English do not have the same incentive, because even when they transfer incorrect orders from their L1s into a fundamentally similar head-initial English L2 (which they do; see Filipović and Hawkins, 2013), communication is not significantly impaired. Empirical corpus-based research confirms these predictions. Hawkins and Filipović (2012) found extensive examples of syntactic transfer in L2 English by Spanish L1 learners (e.g. *I like very much sweets*), persisting well into the intermediate levels of the CEFR (Common European Framework of Reference), while basic word order errors are not there in Japanese L1 scripts even at the beginner levels (see Hawkins and Filipović, 2012). Further examples of negative transfer in syntax that does not impede communication and thus pervades early L2 English

acquisition are found in relation to the pro-drop feature. Hawkins and Filipović (2012) found that Spanish learners transfer their L1 structures such as **is a beautiful country* into L2 English. By contrast, Chinese learners of L2 English do not transfer their prenominal relative clauses into equivalent structures such as **the woman loves whom the man*. Unlike the Spanish pro-drop structure, prenominal relatives like these transferred from Chinese L1 into L2 English would cause a significant impediment to communication. In this context, a practical recommendation would be to ensure that more time is spent in the early instruction of Spanish L1 learners of English with teaching basic word order differences (see further section 6).

Another example of how empirical insights can be applied for the purpose of efficient language acquisition and targeted language pedagogy comes from our study of determiners. We noticed a significant advantage in the acquisition of definite and indefinite articles in English, among those learners who speak L1s that also have articles in their noun phrases, e.g. French, Spanish, Italian and German. By contrast, those learners of English speaking L1s without articles, such as Mandarin, Korean, Russian or Turkish, have significantly higher error rates in this area. In some cases speakers of languages with articles are better at the beginner levels of proficiency in L2 English than speakers of article-less L1s are at highly advanced levels (see Hawkins and Filipović, 2012 for details). This is one of the more persistent L1-driven difficulties in the acquisition of L2 English. In order to address it properly more time should be dedicated to it in L1 classrooms of speakers of languages without articles, while speakers of languages with articles would be better off spending more time on other aspects of English grammar that pose difficulty for them. These kinds of empirical findings support our proposal that at least part of the teaching and learning plan for a given L2 should incorporate L1-specific issues for learners in relation to that L2 (see Hawkins and Filipović, 2012; Filipović and Hawkins, 2013 for further discussion and exemplification).

So why is it that some negative transfers (e.g. Japanese word order) are blocked from the outset of the L2 acquisition process whereas others are permitted (e.g. determiner errors by speakers of languages without articles)? We argue that this is due to principles of SLA that we have identified within our CASP model as *Communicative Blocking of Negative Transfer* and *Permit Negative Transfer* respectively (Filipović and Hawkins, 2013). The former operates when the cost of transfer and risk of communication impediment is too high, while the latter is active when this cost and risk are low. These and other CASP principles operate collectively to predict when and where negative transfer is blocked or permitted, and they provide an explanation for transfer phenomena in general and an answer to the question: why do we see transfers between some L1s and not others into L2, and for some structures and not others? Applied Language Typology, in conjunction with the SLA principles of the CASP, goes a long way towards answering this question and it informs the practical tasks of teaching and learning in the process.

It is also important to address the common belief that similarities between L1 and L2 automatically mean an advantage in L2 learning (see also Gilquin, 2008). This may not be the case because even when L1 structures can be used as a basis for typologically similar L2 structures, since the acquisition of the L2 pattern can be hindered when constructions differ in detail (see Filipović, 1999, 2007a, 2013a; Cadierno, 2008; and Odlin, 1989; see also Filipović and

Ibarretxe-Antuñano, 2015 in particular for examples of intratypological variants). The very proximity of L1 to L2 can also make learners reluctant to make the positive transfer (see Kellerman, 1983 on psychotypology). Word-order similarity can in general be an advantage, but it can also cause negative transfer, as we have seen in the case of Spanish L1 and English L2. It was this and similar observations based on the L2 English acquisition data that led Filipović and Hawkins (2013) to develop their CASP model for SLA, which is a platform for further research into the pedagogical benefits of applied typology (for further discussion and evidence supporting this kind of CASP model and its predictions see e.g. Crosthwaite, 2014; O'Grady, 2015; Hulstijn, 2015)

In sum, typological findings from both morphology (discussed in the previous section) and syntax (this section) can play a key role in interdisciplinary research, informing numerous strands of linguistic, psycholinguistic and sociolinguistic research (Hawkins, 1994, 2004, 2014 for syntax and language processing; and also Trudgill, 2011 on morphology and sociolinguistic typology). Such developments enable us to better understand the effects and consequences of morphological and syntactic contrasts in applied contexts. This also makes it possible to draw the attention of, for example, translators, teachers and learners to the learning and teaching patterns that produce more efficient and accurate linguistic exchange and more successful overall language acquisition and use in a multilingual professional situation or classroom. Nevertheless, in our opinion, the key level of application for ALT research is semantics, to which we now turn. It is crucial to point out at the outset, however, that the semantic level must be defined holistically to comprise all levels at which meaning is conveyed, including syntax and morphosyntax as well as lexical meanings and relations; see Matthews (1995). Ultimately, the main goal of any act of communication in any language is to convey meaning and therefore the level of a holistic semantic analysis can be expected to provide the most informative results.

5. Semantic typology applied

It is no coincidence that much recent work in linguistic typology is semantic in nature (Talmy, 1985, 2000). Talmy's semantic typology has a different starting point than the other linguistic typologies that came before it. That is, instead of comparing at individual lexical or semantic features in isolation or at a single level (e.g. morphology or syntax) across languages, Talmy's typology starts from a common conceptual domain, something that all speakers are likely to talk about, such as motion events. By initially focusing on universal experiential domains we have a less biased starting point for cross-linguistic comparison that does not originate from a specific single language (e.g. a grammatical category present in some languages but not in others). This approach does not impose language-specific lexical and grammatical categories, terminologies and relations onto languages that do not necessarily have them.

Talmy has shown that all languages express certain event components, but they do so in different ways. He notes, however, that the variation is not limitless: languages lexicalise the defining component of an event either in the main verb (e.g. in Spanish) or outside the verb (e.g. in a particle or a preposition; e.g. in English). This now well-known typological contrast is illustrated in (3):

- (3) a. Lola entró en la casa brincando.
Lola enter-PST.SG in the house skipping-G
“Lola entered the house skipping.”
b. Lola skipped into the house.

Because manner is expressed in a non-obligatory structural element in a sentence in Spanish (e.g. in an adverb, adverbial phrase or adverbial clause), it is often likely not to feature in the translation of English texts into Spanish. English literary texts that have been studied (e.g. by Slobin, 1996) abound in manner information through the extensive use of manner verbs, supported by the English lexicalisation pattern. Manner can be expressed in Spanish but because this would often require complex paraphrases, the narrative flow and rhetorical style in Spanish would be severely disrupted and translators from English into Spanish have been shown to simply omit manner information in more than 50% of cases in Slobin’s (1996) substantial corpus-driven study. These typological insights have been applied extensively in the study of first and second language acquisition (e.g. Vidaković, 2006; Cadierno, 2008; Soroli *et al.* 2012; Hijazo-Gascón, 2015; see also Filipović and Ibarretxe-Antuñano, 2015 for a recent overview and discussion as well as reference to numerous studies in this area).

In this section we present some examples of the ways in which ALT research has already made use of these complementary contrasts (see ALT criterion c), section 2), which are widely documented in cross-linguistic motion event lexicalisation (path-in-the-verb vs. manner-in-the-verb). Other cognitive domains (causation) have also been explored in this vein and we include them in our discussion further below. Semantic typology has in effect been the most inspirational source of information in an applied context since it comprises both lexical and construction levels, which are of central importance for the expression of meaning (see Filipović, 2007a). We illustrate here the relevance of some semantic categories within a semantic typology, and of word and construction meanings for various applied contexts, such as witness memory and translation of police interviews, that have been supported using different empirical research methods (corpus and experimental).

Numerous studies of literary translation have documented the challenges that typological language contrasts pose (e.g. Slobin, 1996, 1997, 2003, 2006). For example, it has been shown that information about manner is often absent from the Spanish original, but present in the English translation and vice versa: i.e. present in the English original text but absent from its Spanish translation. A further study has applied these theoretical and practical typological insights to a different, socially-relevant context of use, namely communication in a legal context. An extensive corpus-driven study, carried out on bilingual transcripts of Spanish-English interviews (Filipović, 2007b) has revealed a number of issues that arise in translation-assisted police interviews. In the process of interpreting from Spanish into English, the information about the manner of motion can be, and often is, spontaneously added, just as in literary translation (Slobin, 1996). This happens because this is the most natural way to lexicalise manner of motion events in any context in English, as we see in the following example (from Filipović, 2007b):

- (4) Original: pero ... salió por la puerta detrás.
 but ... he exit-PST.SG via the door behind.
 “He exited via the back door.”
 Official translation: “but he ... ran out via the back door.”

The use of directional verbs of motion (such as *enter*, *exit*, *cross*) is a characteristic of the Spanish typological pattern, while the English pattern requires manner of motion verbs to be used instead and the use of non-manner verbs, while possible in English, is not characteristic of the speakers' speech habits and of the rhetorical style in that language (see Slobin, 1996, 1997). This is why spontaneous additions of manner information through the use of manner verbs in the English translation instead of directional verbs given in the Spanish original are systematic in all kinds of texts, both literary and non-literary.

This added piece of information in translation has a serious practical consequence: it can result in the suspect and his whereabouts not being properly identified since, as in example (4) above, the suspect may have walked in order to avoid suspicion, yet in the translation it is stated that he ran. The original Spanish witness statement does not contain information about the manner of motion but the police would be looking for a person that was running based on the English translation of the same statement. Information about the manner of motion can be crucial in situations like this, since it enables us to speculate about the suspect's physical state and location (e.g. if he was running all the time, he could be tired and hiding in the search area; he could have gone further from the crime scene if he had run than if he had limped; if he had run, it means he had not been wounded or hurt, etc.).⁶ The communicative consequence is that we draw different conclusions about a described event from the Spanish original and its English translation respectively. In the case of pattern-clashes such as this between English and Spanish, it may be useful to explicitly encourage speakers of languages like Spanish to provide information about the manner during interrogation (since their habitual pattern does not automatically prompt them to do so) and to alert interpreters to the consequence of this major difference in linguistic patterning during their training.

In addition to the use of verbs and their contribution to the mental imagery or construal of a described event (see Slobin, 2006) there are numerous constructional meanings whose subtle differences, if not properly rendered in translation, can cause serious misunderstandings in the communication of legally relevant information. One such construction is the caused motion construction that has been highlighted by Filipović (2007b, 2013b, 2013c) and that perhaps best illustrates the profound impact that this typological dimension can have on the outcome of a case.

English is typologically a language in which agents are clearly marked by their syntactic position in the subject slot. English expresses agents clearly, but it does not oblige its speakers to make explicit whether the agents performed the action voluntarily or non-voluntarily (e.g. *Mark dropped the parcel*). Spanish on the other hand has two distinct constructions (discussed below) that clearly

⁶ See also Filipović (2007a; in press) on the importance of the key typological contrasts in the lexicalisation of deixis for inferences about the relative spatial positioning of event participants and speakers.

indicate whether the action was performed with intention (voluntarily as in (5)) or without intention (non-voluntarily as illustrated in (6)).

A study of this typological difference has numerous applications in practice, especially in the context of witness memory or judgments by juries, as has been shown in recent experimental psycholinguistic studies. Fausey and Boroditsky (2011) have demonstrated that English speakers remember agents better in both voluntary and involuntary causation events, and they have also confirmed (Fausey and Boroditsky, 2010) that explicit causative expressions (such as *X broke Y*) elicit more direct blame implication than the non-agentive expressions used to describe the same events (such as *Y broke*). Thus, language use can significantly affect our judgment about the events we see or hear about (see also Trujillo, 2003 and Ibarretxe-Antuñano and Filipović, 2013).

Furthermore, an experimental study of recall memory by Filipović (2013b) has shown that Spanish speakers remember better the difference between actions which were voluntary and those which were not, in line with the Spanish speakers' language-driven preference for distinguishing clearly between the two types of actions. Namely, when the action is performed on purpose (voluntarily) English and Spanish have similar options as seen below:

- (5) Pedro botó el vaso.
 Pedro-NOM.SG throw-PST.SG the glass-ACC.SG
 "Pedro threw the glass."

But when the action was performed *accidentally* (non-voluntarily), English and Spanish exhibit an important difference in their construction pattern. Spanish has a more precise construction for which English does not have an adequate translation equivalent:

- (6) Se le cayó el vaso (a Pedro).
 REFL he-DAT.SG fall-PST.3rd SG the glass-NOM.SG (to Pedro)
 "Pedro dropped the glass."

The consistency of using two very different constructions in order to distinguish between actions that were accidents versus those carried out on purpose was an aid to memory for Spanish speakers, who had better recall memory for causation events than their English peers (Filipović, 2013b). Thus, such language contrasts have an important impact on witness memory for causation events (for further examples of language effects on witness memory see Filipović, 2011).

These typological differences in the expression of causation between English and Spanish are also significant for the ALT approach to translation studies. The normal English translation for (6) is ambiguous with respect to agentivity (i.e. *dropped* can be interpreted as being both on purpose or accidentally). In fact, this translation can be quite misleading and the proper understanding of the Spanish expression in (6) would be along the lines of 'It so happened to Pedro that the glass he was holding fell accidentally'. This kind of expanded translation is never offered since it would involve a much longer and complex structure than the original one and it would also add a substantial amount of information by the interpreter, something that goes against the general instructions given to interpreters. Filipović (2007b, 2013b) has shown

that, in the case of authentic data from real-life police interviews, this ambiguous translation as in (6) can cause serious misinterpretation of a suspect's statement due to the lack of a proper constructional equivalent in English. The suspect using a construction like the one in (6) in Spanish is clearly saying that the person did not commit the act in question on purpose, while the English translation 'He dropped X' is easily taken to refer to an intentional act instead (see Filipović, 2007b, 2013b, 2013c). An imprecise translation that leads to the understanding that the suspect did something on purpose is potentially highly detrimental, not just to the translation but to the whole outcome of a legal case. This is not to say that the interpreter in question is necessarily doing a bad job. Rather, due to the typological difference between English and Spanish in this domain, it is possible to leave certain important information ambiguous in translation and susceptible to a wrong, and potentially harmful, interpretation. Moreover, in a recent experimental study of the second language acquisition of these causation structures Filipović (forthcoming) has found that proficient L2 learners of Spanish fail to make use of these structures and as a result have worse memory recall of accidental events than Spanish native speakers. Specifically, English L1 speakers who are highly proficient in Spanish L2 are not fully aware of the exact occasions when it is necessary to use structures like the one in (6), the use of which helps memory recall with regard to whether an action was performed on purpose or not. Spanish native speakers always express the accidental actions by using the *se*-constructions as illustrated in example (6). Explicit teaching of such important features of a language, in this case Spanish, can certainly improve awareness and focus as well as appropriate language use by those who learn it as an L2. It is impossible to achieve the relevant frequencies of exposure for implicit learning of all important features of an L2 and this is why at least some of them should be brought to the explicit attention of learners. The role of applied linguistic typology research is to highlight such instances, explain their causes and potential real-life consequences and incorporate such findings into the training of both interpreters and police interviewers (which is currently being done, for example, within the research and engagement project TACIT).⁷

6. Conclusion

In this paper we have illustrated how different insights from linguistic typology can be applied at a number of levels of linguistic analysis (morphology, syntax, semantics) in order to detect exact points of conflict that are the result of language contrasts, all of which can have important practical applications in legal communication and translation as well as in areas of second language learning and teaching. For instance, two languages that differ significantly on the morphological level (English and Serbian) need to be studied in light of these relevant differences, since learning and teaching will gain in efficiency when both learners and teachers become explicitly aware of where frequent problems arise and of their causes. Similarly, in syntax, more time could be spent on those aspects that are empirically proven to be more difficult to

⁷ See <http://whatworks.college.police.uk/Research/Research-Map/Pages/ResearchProject.aspx?projectid=326>.

acquire, even when the two languages show a large degree of similarity (e.g. Spanish vs. English word order). On the other hand, differences do not necessarily always lead to later or more difficult acquisition, as we saw with the acquisition of a typologically very different word order by Japanese learners of English. This fact also needs to be brought to the attention of teachers and the authors of learning materials. Finally, a semantic typology like that of Talmy's (and the subsequent developments it has inspired; see Filipović and Ibarretxe-Antuñano, 2015 for details) can substantially inform the integration of word meaning into constructions and explain their role in creating cross-linguistic contrasts of relevance to translating, interpreting and memory for events. Crucially, contrasting languages at a descriptive level, without seeing how those contrasts are manifested in practice, is only partially informative. That is why the practical usefulness of language typology increases in value when the effects of these contrasts are tested and assessed in their respective practical domains.

Empirically-driven applied typology studies are extremely useful in second language pedagogy (see Hawkins and Filipović 2012: Chapter 9 for further details regarding both their theoretical and their pedagogical value, with suggestions and applications for further research). We believe that the efficiency of SLA can be enhanced through the inclusion of typological insights as exemplified here. This belief is ultimately grounded in the substantial amount of previous research in SLA and language instruction (Hawkins and Filipović op. cit.). It has been shown through experimental teaching that raising awareness of L1-L2 contrasts facilitates the learning of difficult L2 structures (Kupferberg and Olshtain, 1996; see also Eric Hawkins' (1984) extensive work on language awareness). We are aware that the debate concerning implicit vs. explicit learning and the best methods of instruction for second language is far from over. We trust that some explicit focus on Spanish non-intentional *se*-constructions could have improved both verbalisation and memory performance in Spanish L2 by English L1 speakers (Filipović, forthcoming). We do not intend to enter this debate here but we do clearly advocate raising explicit awareness about the typological contrasts that clearly affect second language learning and use. While the evidence to support usefulness of presenting metalinguistic knowledge for improvement of acquisition is not definitive, the issues are more complex than a simple *for vs. against* explicit teaching approach (see Roehr and Gánem-Gutiérrez, 2013 for a recent and detailed discussion). In any case, at the very least, producers of learning materials and language teachers should make use of research findings such as those exemplified here and teach them implicitly or explicitly, depending on their persuasions.

More generally, packaging information in a language-specific way is so deeply rooted in our everyday experience and interaction with the world around us that we are often unaware of the fact that we are doing it, namely organizing information according to a certain entrenched underlying system of words and rules. Specialist training targeting specific points of serious conflict between two languages can target this problem and prevent it from occurring in the future. Moreover, if we are carrying out the extremely stressful job of interviewing or interpreting we are naturally inclined to revert to the comfort of our typical and familiar linguistic frames. By this we mean that, when under pressure (e.g. in police interrogation), people in general rely on entrenched stereotypes, including linguistic ones (see Mendoza-Denton 2010).

These and similar findings could be incorporated into interview training techniques for police officers and other professionals of the court as well as for social services staff (in medical or social work), since most public-oriented professionals find themselves in multilingual communicative situations nowadays. It is important to become aware of the fact that some information may be easier to express in some languages than in others and thus it is habitually given by the speakers of these languages (e.g. manner of motion information in English verbs, intentionality information in Spanish caused motion constructions). Then again, there are some aspects of events that tend not to be lexicalised in much detail (intentionality in English constructions) or are often not expressed at all (omission of manner information in Spanish). These and similar typological contrasts and their practical consequences need to be researched further, and for other pairs and groups of languages than those considered here, in order to fulfil the Applied Language Typology mission of informing and improving professional practice in multilingual communication across different public domains.

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