**Valency and transitivity in contact: an overview**

**Eitan Grossman**

**Hebrew University of Jerusalem**

*eitan.grossman@mail.huji.ac.il*

**Alena Witzlack-Makarevich**

**Christian-Albrechts-Universität  zu Kiev**

*awitzlack@isfas.uni-kiel.de*

# 1. Introduction

Typological research points to the possibility that phenomena associated with valency and transitivity are prone to contact-induced change in a number of ways. One type of evidence is found in the areal patterning of such phenomena. For example, in the domain of argument marking splits, Bickel *et al.* (2015), a large-scale typological study, reveals strong areal effects on differential argument marking. Furthermore, numerous languages in Africa show a cross-linguistically unusual split such that case marking is neutralized in preverbal position. This ‘no case before the verb’ feature is almost entirely limited to the languages from northeastern Africa (König, 2008: 281). Haspelmath (1993) and Nichols *et al*. (2004) find that basic valence orientation – i.e. a language’s preference with respect to the direction of derivation in noncausal/causal verb pairs, such as *sit*/*seat*, tends to pattern areally. For example, Haspelmath (1993) observes that within Eurasia, anticausatives characterize the languages of Europe, while languages to the east prefer causative coding. Nichols *et al*. (2004) find that transitivizing languages, which prefer to derive causal verbs from corresponding noncausal ones, are prevalent in northern Asia and some parts of North America, but completely absent from the Pacific area. For a final example, in the domain of valency-changing constructions, passive constructions are common throughout Eurasia (with some geographical pockets of passive-less languages) and are conspicuously rare in Australia (Siewierska, 2013).

However, despite these multiple individual cases of areal signals for phenomena related to transitivity and valence, there is presently little research that directly targets valency and transitivity in the context of language contact scenarios. The aim of this special issue is to address this lacuna in an exploratory fashion, and, hopefully, to spur further research. The structure of this paper is as follows. Section 2 provides a brief discussion of the terms valency and transitivity. Section 3 surveys some phenomena associated with the effects of language contact on valency and transitivity patterns.

# 2. Basic terms and concepts

The section briefly introduces a number of terms used throughout the volume and points to the different ways these terms have been understood. We first present the notion of **valency** (or **valence**), and then turn to that of **transitivity**.

Valency is a term originally restricted to the number of arguments (in contrast to adjuncts) a verb and other lexical items occur with (“nombre d’actants” as defined by Tesnière, 1959: 670). In modern usage, it also refers more generally to the subcategorization requirements of any lexical item, i.e. to the number and nature of verbal arguments. Fundamentally, the notion of valency is a way of capturing the observation that despite differences in the meanings of individual verbs within a given language, many verbs show similar morpho-syntactic behavior by e.g. taking the same number of arguments and/or marking their arguments in the same fashion. When the specific coding of arguments is included, terms such as *valency pattern* or *valency frame* are typically used. On the basis of their valency frames, verbs of a language can often be grouped into a limited – though sometimes rather high – number of *valency classes* (cf. Comrie *et al.,* 2015a: 3). For example, Comrie *et al.* (2015b) identified 96 distinct valency frames in Bezhta. In one of the valency frames, the two arguments are marked, with the ergative case and the absolutive case respectively, while the verb indexes the absolutive argument, as in (1a). This frame includes the translational equivalents of verbs such as ‘X grinds Y,’ ‘X cooks Y,’ and many more. Bezhta has another valency frame in which the two arguments are marked, respectively, by the absolutive case and the possessive case, as in (1b). This frame includes verbs such as the translational equivalents of ‘X fears Y’ and ‘X looks at Y’.

(1) Bezhta (Nakh-Daghestanian; Russian Federation, Comrie *et al.,* 2015b: 542–543)

|  |  |  |  |
| --- | --- | --- | --- |
| a. | *öždi* | *bäbä* | *m-üq-iyo.* |
|  | boy(I).ERG | bread(III).ABS | III-eat-PST |
|  | ‘The boy ate bread.’ | | |

|  |  |  |  |
| --- | --- | --- | --- |
| b. | *Öžö* | *c’oy‐qa* | *hič’e‐š.* |
|  | boy | fire.OBL‐POSS | fear‐PRS |
|  | ‘The boy fears the fire.’ | | |

However, there are languages for which it is not simple to posit distinct valency frames. For example, Conners *et al.* (2015: 946) argue that Jakarta Indonesian content words all belong to a single valency class. On the other hand, there are languages for which the argument vs. adjunct distinction is not clear-cut,[[1]](#footnote-1) as Nordhoff (2015) argues for Sri Lankan Malay, or requires subtle diagnostics, as Bisang (2013) has proposed for Mandarin. In such languages, the distinction between arguments vs. adjuncts, which is entailed by most conceptions of valency frame, may be problematic. Interestingly, as Comrie e*t al.* (2015a: 19) point out, Jakarta Indonesian and Sri Lanka Malay are high-contact varieties, and their relative lack of differentiation of valency frames might be symptomatic of a general reduction in (coding) complexity observed in languages ‘exposed to intensive language contact’.

Despite these reservations about the universality of distinct valency classes in the world’s languages, it has been claimed that all languages have a particular bivalent (two-argument) valency frame that is sometimes called a transitive construction. Most recently, Lazard has argued that all languages have what he calls a Major Biactant Construction (MBC), a particular morphosyntactic construction that codes an M-action, defined as ‘a real, compact and complete action, volitionally performed by a human agent on a well-defined and well-individuated patient that is actually affected by it’ (Lazard, 2015: 115). Moreover, Lazard proposes that in every language, the MBC also allows predicates that refer to states of affairs other than M-actions. In other words, the transitive construction in each language, however it is defined, permits predicates other than those associated with prototypically transitive events (Hopper and Thompson, 1980). In addition, Bickel *et al.* (2014) also argue that among the languages they consider, it is always possible to identify a major (or what they call *default*) monovalent case frame. Its morphosyntactic properties can then be considered to be representative of intransitive verbs. On the other hand, trivalent predicates tend to be substantially less frequent in the lexicon than other predicates and the small sets one finds often have heterogeneous morphosyntactic properties (see Malchukov *et al.,* 2010). In such cases, no clear ‘most representative’ predicate class can be postulated. The term *ditransitive* is then occasionally used for those trivalent valency classes in which both non-agent arguments have some properties of transitive direct objects.

In fact, there are numerous distinct conceptions of the notion *transitivity*. In its traditional interpretation, transitivity refers to a property attributed to a verb or a whole clause, picking out one specific valency pattern involving a direct object in addition to the subject. For instance, in a very popular grammar of English, Huddleston and Pullum (2005) define transitivity in the following way:

The dimension that relates to the number of objects in the clause is called transitivity. An intransitive clause has no objects, a monotransitive clause has one object, and a ditransitive clause has two objects, indirect and direct. (Huddleston and Pullum, 2005: 78)

However, the above definition does not discuss how one can identify a (direct) object cross-linguistically to begin with. This point is explicitly addressed in a related approach, which Haspelmath (2011) has called the ‘Comrian’ approach (following Comrie, 1989: 111). According to this approach, transitive verbs are identified on the basis of a prototypical transitive event such as ‘kill’ or ‘break’ in a particular language (i.e. this event is determined semantically). The two arguments of this verb are A and O or P). And O corresponds roughly to the traditional notion of the direct object. Any verb in this language that shows morphosyntactic properties identical to those of the verb encoding the prototypical transitive event is considered to be transitive. Verbs that differ morphosyntactically from the transitive pattern defined in this way, e.g., in terms of person indexing, flagging, or linear order, are considered to belong to a valency pattern other than the transitive one. In this respect, the ‘Comrian’ approach is not particularly different from that proposed by Lazard (1998, 2015).

The ‘Comrian’ approach focuses only on prototypical events and does not have much to say about bivalent verbs that are not transitive in this sense, whereas other approaches also consider bivalent verbs with oblique objects. One way of accommodating them is to say that these verbs are just (extended) intransitives. For instance, Dixon and Aikhenvald (2000: 3) proposes that such verbs can be considered to be *extended intransitives* whose arguments are S and E (‘extension to core’) and not A and O (or P). By contrast, in the approach to argument roles proposed by Bickel (2011) and Witzlack-Makarevich (2011), any bivalent verb is considered to have an A and a P argument role, no matter how it is marked or what its syntactic properties are. The A and P arguments in this approach do not always correspond to the A and O (or P) arguments in other approaches. They capture both arguments of consensus transitive verbs, but also non-canonically marked arguments of bivalent monotransitive verbs (see Haspelmath, 2011 for an overview and comparison of the different approaches).

In addition to the conceptualization in which transitivity stands for syntactic transitivity, in the last four decades (following Hopper and Thompson, 1980), the term ‘transitivity’ has been used in a largely semantic sense to describe a complex property of an entire clause. This property is composed of numerous factors, such as the agency, affectedness and individuation of the arguments, and aspectual and discourse properties of the clause. In this view, a given clause (or construction) can be more or less transitive (see, e.g., Næss, 2007).

Despite the fact that transitive patterns are typically at the core of the grammar of many languages, and despite the fact that in many languages the transitive pattern is the most grammaticalized (in that it allows for different kinds of syntactic operations, is semantically highly abstract, and so on), we do find evidence that this pattern – as well as other valency patterns – may be influenced by to contact-induced change, which we now turn to in Section 3.

# **3. Valency and transitivity in contact**

In this section we briefly survey some ways that valency frames and transitivity may be impacted in language contact situations.

To begin with, since most languages show at least some degree of verb borrowing (Tadmor, 2009: 62, Wohlgemuth, 2009), loan verbs must be somehow integrated or accommodated into the target language and into its language-specific valency patterns. For example, the Modern Hebrew verb root *tʃ.t.t.* ‘chat’ from the English verb *chat* is integrated into the valency pattern associated with conversation predicates in Modern Hebrew. This pattern is characterized by marking the arguments with the nominative case and the comitative marker *im* ‘with’, as in (2). We call this outcome *direct valency integration*, because a loan verb is directly integrated into an existing valency pattern. It is reminiscent of *pivot matching[[2]](#footnote-2)* (Matras, 2009: 26), however, since the verb was integrated into a pre-existing valency pattern, it is not a case of pattern replication in the narrow sense.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| (2) | Modern Hebrew (http://megafon-news.co.il/asys/archives/16623) | | | | |
|  | *Netanyahu* | *tʃotet* | *im-700* | *mi-golʃei* | *fesbuk* |
|  | N.NOM | chat.3sgM.PST | with-700 | part-surfer.PL.ANTIGEN | Facebook |
|  | ‘Netanyahu chatted with 700 Facebook users.’ | | | | |

However, it is an open question – and one that is virtually unbroached in language-contact research – why a given loan verb is assigned to a particular valency frame. In one of the few studies that tackles this question (albeit for different purposes), Barðdal (2006) shows that in Icelandic, loan verbs are mostly assigned to the nominative-accusative (64%) or nominative-dative (36%) valency patterns, which closely reflects the statistical distribution of native verbs with respect to these patterns. No loan verbs are assigned to the nominative-genitive valency pattern (Barðdal 2006, 2008). Barðdal suggests that ‘[t]he extensibility of argument structure constructions is a function of their type frequency and semantic coherence, and an inverse correlation between the two’ (2006). However, it remains to see whether this hypothesis can be generalized across languages.

Beyond direct valency integration, valency frames themselves can also be copied from one part of a multilingual repertoire into another. For instance, Malchukov (2006: 127) reports that Yakut (Turkic) influence has led to changes in verbal valency patterns of some Tungusic languages: verbs describing speech events in the Tommot dialect of Evenki occur with dative-marked addressees due to calquing the pattern from Yakut. This is in contrast to the directive case-marking found in other varieties. Another example has been proposed by Tenser (2008), who following Sergievskij and Barannikov (1938: 160) argues that Lithuanian Romani, illustrated in (3), has copied the Russian valency pattern of the verb ‘become’, as in (4). In both Russian and Lithuanian Romani, the complement of the verb ‘become’ is marked by instrumental case, while in other varieties of Romani, presumably representing an earlier state of affairs, the complement of the verb ‘become’ occurs in the nominative case. The instrumental case in Lithuanian Romani is otherwise primarily used to encode adjunct, so the nominative-instrumental case frame was copied from Russian.

|  |  |  |
| --- | --- | --- |
| (3) Lithuanian Romani (Tenser 2005:45) | | |
| *me* | *jačjow* | *direktoro-sa* |
| I | become.1SG | director-INSTR |
| ‘I become director.’ | | |

|  |  |  |
| --- | --- | --- |
| (4) Russian | | |
| *ja* | *stanovljusj* | *director-om* |
| I | become.1SG | director-INSTR |
| ‘I become director.’ | | |

In the above cases, native verbs were re-assigned to a new, borrowed valency frame. When a specific valency frame is already present in the target language, the main effect of the language contact is the change in its type frequency – and possibly, semantics. A type of pattern replication (Matras and Sakel, 2007), this particular outcome can be called *valency-copying*. Even within one and the same contact situation, multiple outcomes are possible, e.g. direct integration and valency-copying. For example, according to Trips and Stein’s account of Old French borrowings into Middle English (this issue), valency-copying preceded direct valency integration. Specifically, the valency pattern of inherited verbs like *quemen* ‘please’ was first influenced by the argument structure of semantically-similar verbs borrowed from French so that both the native and the French coding frames were found with this verb. The loan verb *plesen* (< French *plaire*) initially dragged its valency pattern along with it, with the experiencer realized as either a prepositional phrase or in the unmarked form, later occurring only in the valency pattern characteristic of semantically close native verbs, in which the experiencer is realized as an unmarked NP (see also Allen, 1995: 300).

Another aspect of valency-copying is related to valency patterns in creole languages. As Michaelis (this volume) shows, valency patterns in creoles consistently stem from substrate languages rather than lexifiers. Based on the *World Atlas of Pidgin and Creole Structures* (Michaelis *et al*., 2013), Michaelis argues that the strong areal patterning of the valency frames of the predicate or construction with the meaning *to rain* and other predicate types with non-canonical argument marking provides evidence for substrate languages as the source of valency frames. For example, it is proposed that the prevalence of the frame ‘rain falls’ in Atlantic creoles matches the pattern of known and putative substrates. As illustration, consider the French-lexifier Haitian Creole (5) and and Fongbe (6), the latter which is known to have been an important substrate language

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| (5) | Haitian Creole (French-based, Caribbean; Fattier, 2013) | | | | |
|  | lapli | a | pral | tonbe | talè |
|  | rain | def | fut.go | fall | soon |
|  | ‘It will rain very soon.’ | | | | |

|  |  |  |
| --- | --- | --- |
| (6) | Fongbe (Kwa; Lefebvre and Brousseau, 2002:245) | |
|  | Jí | jà |
|  | rain | fall |
|  | ‘It is raining.’ (lit. ‘Rain is falling.’) | |

Michaelis shows similar processes for a range of valency patterns, including those associated with ditransitives, experience predicates, and motion predicates.

Further evidence for valency-copying is offered by Green and Ozon (this issue), who provide a detailed study of valency patterns in Cameroon Pidgin English. Cameroon Pidgin English verbs allow a large number of valency patterns. Also, many verbs of English origin occur in valency frames different and more numerous from the ones observed in the lexifier language. They hypothesize that the attested valency patterns of CPE can be attributed to substrate/adstrate languages.

A particularly complex situation is found in Gurindji Kriol, a mixed language spoken in the Northern Territory of Australia. Meakins (2011) shows that Gurindji has differential goal marking, such that animate goals can be marked with a dative case suffix (8a), while inanimate goals can be marked with the allative case suffix (8b). Some speakers of Gurindji Kriol – the mixed language in question – use the Gurindji-origin locative suffix to mark inanimate goals, and the Kriol-derived dative preposition *bo* to mark animate goals.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| (7) | Gurindji (Pama-Nyungan; Australia; Meakins, 2011: 249) | | | | |
| (a) | *ya-na-na* | *ngumpin-ku* | (b) | *ya-na-na* | *pinka-kurra* |
|  | go-IMP-PRS | man-DAT |  | go-IMP-PRS | river-ALL |
|  | ‘go to the man’ | |  | ‘go to the river’ | |

Kriol, another language spoken by Gurindji speakers, does not show differential goal marking, using the same locative preposition (*langa*) for both (8).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (8) | Gurindji Kriol (mixed language; Australia; Meakins, 2011: 249) | | | | | | | |
| (a) | *gon* | *langa* | *jat* | *man* | (b) | *gon* | *langa* | *riba* |
|  | go | LOC | the | man |  | go | LOC | river |
|  | ‘go to the man’ | | | |  | ‘go to the river’ | | |

In other words, the mixed language shows valency-copying from Gurindji, using replicated matter from the English-lexifier Kriol.

Other than directly affecting the valency frames of a language, language contact may also lead to the spread of argument-marking related patterns, such as differential object marking. For example, standard Kurmanji does not regularly flag P arguments. However, in spontaneous speech of Kurmanji speakers from Diyarbakır (Turkey), Dorleijn (2006: 91) found a strong tendency to flag definite direct objects and leave indefinite direct objects unmarked; this tendency is much stronger than that found in other (non-Diyarbakır) speakers of Kurmanji. Presumably, as Dorleijn observes, this is the consequence of the heavy influence of Turkish – a language with specificity-driven differential object marking – on this particular variety of Kurmanji. Interestingly, Diyarbakır Kurmanji speakers also show a tendency to place indefinite objects in preverbal position, which is obligatory in Turkish.

Patterns of differential marking can be adopted via the borrowing of the relevant grammatical items. For example, in Ulcumayo Quechua and in Lamas Kechwa (Sanchez, 2011), the Spanish accusative marker *a* is replicated, typically in the same conditions that trigger Spanish overt accusative marking, i.e., [+specificity]. It is worth noting that the Spanish-origin accusative marker co-occurs in both varieties with the inherited Quechuan accusative suffix -*ta*, as in (9) and (10).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| (9) | Ulcumayo Quechua (Quechuan, Peru; Sánchez, 2011: 521) | | | | |
|  | *Algo* | *gati-pu-n* | *a* | *un* | *niñu-ta.* |
|  | dog | follow-DIR-3SG | ACC | a | boy-ACC |
|  | ‘The dog follows a boy’ | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| (10) | Lamas Kechwa (Quechuan, Peru; Sánchez, 2011: 523) | | | |
|  | *Kawa-yka-n* | *a* | *ese* | *niñitu-ta.* |
|  | look-PROG-3SG | to | that | boy-ACC |
|  | ‘(S/he) is looking at that boy’ | | | |

Other types of differential argument marking show areal patterning and are therefore candidates for being the result of contact-induced change. For example, numerous languages in Africa show a cross-linguistically unusual split such that case marking is neutralized in preverbal position. This ‘no case before the verb’ feature is almost entirely limited to the languages from northeastern Africa (König, 2008: 281). See also Bickel *et al.* (2015) for a large-scale typological study that reveals strong areal effects of differential argument marking.

Not only valency frames are subject to contact-induced change, but also valency- and transitivity-changing constructions. For example, Burridge (2006: 185) proposes that the Pennsylvania German passive has been influenced by English in a number of ways, including the replacement of the agent-marking preposition (*bei* ‘by’ rather than the inherited preposition *vun* ‘of’), and the positioning of the *be*-phrase outside of the discontinuous verb, as in (11):

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| (11) | Pennsylvania German (Burridge, 2006: 185) | | | | | | |
|  | *De* | *Schtrump* | *waar* | *geschtoppt* | *bei* | *der* | *Maem.* |
|  | the | stocking | was | darned | by | the | mother |
|  | ‘The stocking was darned by mother.’ | | | | | | |

Arkhangelskiy and Usacheva (2017) show that Russian verbs can be borrowed into Udmurt (Uralic) with dertransivizing morphology, i.e., the suffix *-s’a*, even though Udmurt has a comparable construction involving the suffix *-isk*. Russian loan verbs are usually integrated into the Beserman dialect of Udmurt via a light verb strategy (Wichmann and Wohlgemuth, 2008; Wohlgemuth, 2009). Interestingly, there is some variation within Udmurt as to whether the light verb itself bears detransitivizing morphology in such cases. Compare, for example, (12) and (13), which show the presence vs. the omission of the detransitivizer.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| (12) | Udmurt (Arkhangelskiy and Usacheva, 2017) | | | |
|  | *fotografirovatʼ****sʼa*** | *kar-****iśk****-i-z=no* | *korka* | *pi̮r-i-z* |
|  | take.pictures:refl:rus | do-detr-pst-3sg=add | house:ill | enter-pst-3sg |
|  | ‘[The guy] took picture of himself and went into the house.’ | | | |

|  |  |  |
| --- | --- | --- |
| (13) | Udmurt (Arkhangelskiy and Usacheva, 2017) | |
|  | *fotografirovatʼ****sʼa*** | *kar-o* |
|  | take.pictures:refl:rus | do-prs.3pl |
|  | ‘They are taking pictures of themselves.’ | |

Arkhangelskiy and Usacheva show that the presence or absence of the detransitivizer -*iśk*does not depend on the choice of lexical verb, the grammatical properties of the light verb, or the particular function of the detransitivizer in a given context. Rather, this feature shows areal patterning, such that the omission of the detransitivizer characterizes the areas in which Udmurt is especially influenced by the Turkic languages Bashkir and (possibly) Tatar. These languages, which also use the light verb strategy to integrate Russian loan verbs, consistently show omission of detransitivizers in comparable contexts.

There are additional examples. Epps (2006) reports that Hup (Nadahup) has a passive construction that is structurally similar to the East Tucanoan languages with which Hup has been in contact, but which is not found in other Nadahup languages. Zúñiga (2015: 1534) suggests that the extension of the reflexive construction to anticausative in Mapudungun may be due to the influence of Spanish. In Lithuanian Romani, originally monovalent verbs occur (14) may optionally occur with a detransitivizing (‘reflexive’) marker (15), thereby copying the Slavic structure, exemplified by Russian in (16).

|  |  |  |  |
| --- | --- | --- | --- |
| (14) Lithuanian Romani (Tenser, 2005: 34) | | | |
| tume | san |  |  |
| 2pl | laugh.2pl |  |  |
| ‘You laugh.’ |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| (15) Lithuanian Romani (Tenser, 2005: 34) | | | |
| tume | san | pe |  |
| 2pl | laugh.2pl | rflx |  |
| ‘You laugh.’ |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| (16) Russian (Tenser, 2005: 34) | | | |
| vy | smejote | sj |  |
| 2pl | laugh.2pl | rflx |  |
| ‘You laugh.’ |  |  |  |

There also may be observable macro-changes in the domain of valency and transitivity. One type is that proposed by Comrie *et al.* (2015a), namely, that ‘high-intensity’ contact may lead to the simplification of coding associated with valency frames. However, even in languages with distinct valency classes, it may be the case that language contact can lead to a change in general valence orientation (Nichols *et al.*,2004). For example, Luchina-Sadan (2017) has suggested that Soviet Yiddish, under the influence of Russian (and other Slavic languages), has developed more overt coding of causal and noncausal verbs, while North American Yiddish, under the influence of English, has acquired a preference for labile verbs. Similarly, Pennsylvania German, whose main contact language is English, has seen a rise in labile coding (Goldblatt, 2017). It may be the case that such changes proceed on a verb-by-verb basis, as seems to be the case in Lithuanian Romani as described above; however, it is not clear whether this is always the case. In a way, this is reminiscent of the question as to whether borrowed sounds derive from lexical borrowings, on the one hand, or by contact languages increasing the probability of incipient sound changes within the target language; see Blevins (2017) for arguments in favor of the latter position.

# 4. Towards identifying variables for the study of valency and transitivity in contact

After providing some examples in Section 3as to some ways that language contact can affect valency frames and transitivity-related patterns of a language, in this section we will provide an overview of some variables whose values might determine the outcomes of a language contact situation and are indicative of type and degree of integration.

## 4.1 Variables determining morphosyntactic integration

Even based on the small sample of languages dealt with in this special issue, language-specific morphosyntactic profiles of both the donor and the target languages turns out to be an important parameter. A major issue that turns up is the possibility of ‘clashes’ or ‘mismatches’ between languages whose systems of argument marking are organized differently. Previous comparative studies of valency and transitivity have focused on three clearly identifiable morphosyntactic properties – person indexing, argument flagging, and linear order – and for the present discussion, we will do the same.

Verbs of every language have a range of morphosyntactic properties. These properties are language-specific and may vary between the donor language and the target language. In a situation of borrowing it is possible that a borrowed verb will acquire only some of these properties but not the others. To describe the results of verbal borrowing, it is useful to consider the following:

(i) The valency frame of the source language;

(ii) The target-language valency frame in which translation-equivalents of a particular verb occur;

(iii) The target-language valency frame in which a given loan verb occurs.

As discussed in Section 1, each of the valency frames are described in terms of their morphosyntactic properties, in order to tease apart the actual ways in which a given verb is integrated into the target language. We exemplify this general approach using Coptic and Greek. Coptic (Afroasiatic) has borrowed thousands of verbs from Greek (Indo-European). An inherited Coptic transitive verb allows the indexing of A and/or P, as in (17), as well as overt flagging of A and P, as in (18) but only postverbally. Moreover, both A and P can be incorporated (20–21), in which case the core argument is not indexed on the verb.

|  |  |
| --- | --- |
| (17) | Coptic, Sahidic dialect (Afro-Asiatic; Mark, 12: 12) |
|  | *a-u-kaa-f* |
|  | pst-3pl-let-3sgm |
|  | ‘They left him.’ |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| (18) | Coptic, Sahidic dialect (Afro-Asiatic; Matthew, 21: 1) | | | |
|  | *a-f-čoou* | *nci-i<êsou>s* | *m-mathêtês* | *snau* |
|  | pst-3sgm-send | nom-J<esu>s | acc-disciple | two |
|  | ‘Jesus sent two disciples.’ | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| (19) | Coptic, Sahidic dialect (Afro-Asiatic; 1 Corinthians, 12: 28) | | |
|  | *a-pnoute* | *-kaa-u* | *hn-t-ekklêsia* |
|  | pst-God | -let-3pl | in-the-church |
|  | ‘God left them in the church.’ | | |

|  |  |  |
| --- | --- | --- |
| (20) | Coptic, Sahidic dialect (Afro-Asiatic; John, 10: 31) | |
|  | *a-u-fi-ône=ce* | *nci-ni-ioudai* |
|  | pst-3pl-raise-stone=ptcl | nom-def.pl-Jew |
|  | ‘Then the Jews picked up stones.’ | |

A major Greek valency frame – the transitive construction – differs in several important respects. It obligatorily indexes only the A argument on the verb, as in (21). If core arguments are expressed as noun phrases, they are flagged by the nominative case (for A) and the accusative case (for P), regardless of the linear order. Moreover, while Classical Greek verbs may incorporate lexical A or P arguments (Lavidas 2009), incorporation seems to be rare and possibly unproductive.

(21) Classical Greek (Lavidas, 2009: 68)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| epleusan | epi | pontia | kymata | naion | okhe:ma |
| sail.ACT.AOR.3PL | over | sea | waves | ship.ACC | vehicle.ACC |
| ‘they sailed the ships over the waves of the sea’ (Euripides, Iphigenia in Tauris, 409; 5 BC) | | | | | |

Similarly to inherited verbs, Greek loan verbs in Coptic can index A arguments, but unlike inherited verbs, they cannot index P arguments. Unlike their behavior in Greek, but identically to native verbs, loan verbs in Coptic allow case-marked lexical arguments only in postverbal position. Finally, Greek loan verbs do not allow P incorporation, and only marginally allow A incorporation.

To summarize, when comparing the Coptic and Greek transitive constructions, we find the following: Transitive Greek loan verbs in Coptic are like transitive Greek verbs in Greek in that they do not show P indexing. On the other hand, they are similar to the inherited Coptic transitive verbs in that the nominative and accusative case marking occurs only on postverbal noun phrases. In other words, Greek loan verbs are only partially integrated into the transitivity patterns of Coptic.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Greek verbs in Greek** | **Inherited Coptic verbs in Coptic** | **Greek loan verbs in Coptic** |
| Indexing | A indexing obligatory | A and/or P indexing, neither obligatory | Only A can be indexed, P cannot be |
| Flagging and linear order | Nom-Acc, regardless of linear order | Nom-Acc, postverbally only | Nom-Acc, postverbally only |
| Incorporation | Rare | Yes, both A and P | No P incorporation, A incorporation is rare |

Table 1: A comparison of Greek and Coptic transitive constructions

In the following sections, we address some properties of valency frames in contract in turn: argument indexing in Section 4.2, argument flagging in Section 4.3, and some other properties, such as word order, incorporation, and inflectional classes in Section 4.4. The choice of this phenomena is largely conditioned by the small sample of case studies collected in the present volume, and it is very likely that additional properties would surface in a larger sample.

## 4.2 Argument indexing

In at least three contact situations treated in this special issue (Greek > Coptic, French, English > Michif, and Tibetan > Japhug), loan verbs from languages whose valency frames have different specific flagging and only minimal indexing are integrated into languages whose verbal structures show more complex indexing patterns. For instance, in a situation of language contract discussed in Jacques’ contribution ‘Verb valency and Japhug / Tibetan language contact’, Japhug (Burmo-Qiangic) massively borrowed verbs from Tibetan (Bodic). Whereas Japhug can index up to two arguments on the verb and employs direct/inverse marking, Tibetan has no indexing whatsoever. Verbs borrowed from Tibetic languages in Japhug were borrowed mainly by ‘direct insertion’ in Wichmann and Wohlgemuth’s (2008) terms, i.e. they were immediately available for the Japhug grammar without any morphological or syntactic adaptation and receive the same kind of indexing as inherited Japhug verbs with comparable semantics. On the other hand, in the situation of language contract described in Grossman’s contribution ‘Language-specific transitivities in contact: the case of Coptic’, Greek verbs in Coptic allow only A indexing; P indexing is completely excluded. In this respect, Greek loan verbs in Coptic pattern identically to the donor language and differ from native verbs in terms of indexing.Yet a different situation is observed in Michif, a mixed language whose verbal system derives from Plains Cree (Algonquian). The lexicon of Michif has numerous French- and English-origin verbs, while its nominal system derives from French. Michif verbs fall into one of four morphological classes, depending on the transitivity or intransitivity of the verb and the animacy of its S or P argument. Antonov’s article on ‘Loan verb integration in Michif’ finds that the majority of loan verbs are assigned to the verb class regularly indexing the single animate argument (the so-called *Animate Intransitive* class). Though for the most part, this assignment is straightforwardly semantically based, there are exceptions: some source-language transitive verbs were integrated into the Animate Intransitive class, which regularly indexes the sole animate argument and not both arguments.

## 4.3 Argument flagging

Several papers in the present volume discuss how loan verbs are integrated in the case marking patterns of the target languages. The variables which determine the outcome of the integration are expectedly the systems of case marking in the two languages involved, as well as the richness and semantic specificity of the case marking frames available.

The article by Jacques ‘Verb valency and Japhug / Tibetan language contact’ discusses the situation where both the donor and the target language a characterized by ergative alignment of case marking. However, going beyond the ergative and absolutive cases, Tibetan has a richer system of cases than Japhug and also uses the dative case to mark core arguments. In the majority of cases, the integration of Tibetan in Japhug valency frames is straightforward: ergative-marked arguments remain in the ergative and the absolutive-marked arguments are in the absolutive. Dative-marked arguments, however, are integrated into the case-marking system in different ways, depending on whether the argument in question is the goal of a motion verb (which is marked with the dative or the absolutive case) or a recipient (which is in either the dative or genitive case).

Even when two languages have broadly comparable flagging systems, e.g. characterized by the ergative alignment of flagging with the majority of two-argument verbs, a loan verb can be integrated into a structurally dissimilar flagging pattern. For example, the verb *bjol* ‘turn away, give away’ in Tibetan is intransitive, occurring in a bivalent valency frame with one argument flagged as absolutive, and another flagged as dative or ablative. This verb was integrated into the Japhug transitive construction, with its A argument in the ergative case, its P argument in the absolutive case, and with both A and P indexing on the verb.

## 4.4 Other properties

While none of the papers in this issue deal explicitly with linear order in the context of integration of loan verbs, it is worth noting that loan verbs seem to always be integrated into the linear order patterns of the target language. We know of no languages that show word-order variation between native and borrowed verbs. Of course, linear order itself may be influenced by language contact, but this goes beyond the effects of individual verbs.

Some of the languages discusses in this volume have valency frames whose defining properties go beyond the usual trinity of flagging, indexation, and linear order. For example, Michif borrowed verbs from both French and English. Unlike either of these Indo-European languages, inherited verbs in Algonquian languages are assigned to an inflectional class according to the transitivity of the verb and the animacy of either the S or P argument. All loan verbs must be assigned to one of these classes. As Antonov’s contribution shows, French and English loan verbs – even the transitive ones, such as ‘to bless,’ ‘to mix,’ and ‘to whitewash’, – are almost always assigned to the inflectional class of intransitive verbs with an animate S, even when the semantics of the verb would predict otherwise and even when in terms of other properties, such as flagging, these verbs look like regular transitive verbs. Antonov proposes that this is due to the fact that the Animate Intransitive class is the most morpho-syntactically flexible inflectional class.

Incorporation often has consequences for valency and transitivity, since in many languages, incorporation strips a nominal of its argument status (Mithun, 1984, 1986; Mithun and Corbett, 1999). However, additional aspects of incorporation emerge in the context of language contact. For example, can loan nominals be incorporated into native verb stems, or vice versa? It turns out that two of the languages in the small sample represented here show different outcomes. In Japhug, both the verbal and the nominal parts of the incorporation construction can be of Tibetan origin. Furthermore, a native nominal can be incorporated into a Tibetan-origin verb. However, there are no documented cases of a native verb incorporating a Tibetan-origin nominal. In Coptic, on the other hand, it is only native verbs that can incorporate nominals, while an incorporated nominal can be either from the native lexical stock or of Greek origin.

Another question is the ways and the extent to which borrowed verb participate in various sorts of valency- and transitivity-changing constructions in language contact situations. In Japhug, for example, the majority of such constructions (e.g. causative, passive, reciprocal, etc.) apply productively to both inherited and borrowed verbs. However, the anticausative in Japhug is no longer productive and is limited to a closed set of verbs. As Jacques points out, the very presence of a Tibetic loan verb in this set indicates that the anticausative derivation was still productive at the time when these verbs were borrowed. Another aspect to consider are the discrepancies between valency- and transitivity-changing constructions in the source and the target languages, with respect to individual verbs. For example, many verbs that are intransitive in the source language are labile verbs in Cameroon Pidgin English, i.e. they occur without any formal derivation in both transitive and intransitive constructions. In some cases, the meanings of the intransitive and transitive verbs differ. Furthermore, numerous creoles have either no passive construction, or passive constructions that differ from those of their lexifiers (Haspelmath and the APiCS Consortium, 2013).

These comparisons, together with other morphosyntactic coding properties left undiscussed here, provide a fine-grained description of the integration of loan verbs into the valency frames of the target language. It is this kind of data, assuming it can be collected for a broader range of languages than those discussed in the present volume, that would permit generalizations about valency frames across contact situations.

# 

# **5. Overview of individual articles**

Several articles in this special issue provide fine-grained comparisons of transitivity constructions in the respective languages in contact in order to examine the integration of loan verbs into the transitivity patterns of the target language. The first is ‘Loan verb integration in Michif’ by **Anton Antonov.** The lexicon of Michif, a mixed language whose verbal system derives from Plains Cree (Algonquian) and whose nominal system derives from French, has numerous French- and English-origin verbs. Verb stems in Plains Cree come in four shapes, which depends on both argument animacy and transitivity. Intransitives can have an animate or an inanimate argument and are labeled A[nimate] I[ntransitive] and I[nanimate] I[ntransitive] respectively, whereas transitives can have an animate or inanimate patient argument, being either T[ransitive] A[nimate] or T[ransitive] I[nanimate] (Zuniga, 2006: 72). These stems are essential for the verbal morphology and the way arguments are indexed. Also in Michif, one finds the same four classes of verb stems. For the most part, the assignment of French- and English-origin verbs to one of the four stem classes is straightforwardly semantically based, but several verbs that are transitive in the source language (e.g., ‘bless,’ ‘mix,’ and ‘whitewash’) are assigned to the animate intransitive class. In addition, most of the borrowings are added to the Michif lexicon by means of indirect insertion (Wichmann and Wohlgemuth, 2008): the respective verbal roots are combined by embedding them into the so-called *li-* … *-ee* outer shell, which historically derives from the combination of the French masculine definite article *le* and the infinitive suffix.

The second article, by **Guillaume Jacques** ‘Verb valency and Japhug / Tibetan language contact’, deals with a contact situation between two Sino-Tibetan languages: Japhug (Burmo-Qiangic) massively borrowed verbs from Tibetan (Bodic) and at least five layers of borrowings can be identified. The systems of flagging of the two languages show ergative alignment, however, Tibetan has a richer system of cases than Japhug and also uses the dative case to mark arguments. Japhug can index up to two arguments on the verb and employs direct/inverse marking, Tibetan has no indexing whatsoever. In turn Tibetan verbs have up to four distinct stems marking TAM distinctions, of these four stems only the present and the past stems are widely attested in loanwords into Japhug. In the majority of cases the integration of Tibetan in Japhug valency frames is straightforward: ergative-marked arguments remain in the ergative and the absolutive-marked arguments are in the absolutive. The dative marked arguments receive distinct correspondences depending on whether the argument in question is the goal of a motion verb (then it is marked with the dative case) or a recipient (then it is in the ergative case). To summarize, verbs borrowed from Tibetic languages in Japhug are borrowed mainly by direct insertion in the terminology of Wichmann and Wohlgemuth (2008), i.e. they are immediately available for the Japhug grammar without any morphological or syntactic adaptation.

The third article is ‘Language-specific transitivities in contact: the case of Coptic’, by **Eitan Grossman**. The two languages in contact, Coptic (Afroasiatic) and Greek (Indo-European), have structurally dissimilar transitive constructions. The Coptic transitive construction involves a complex system of alternations involving A and P indexing, incorporation, and case-marking, while the Greek transitive construction is strictly characterized by A indexing and case-marking. Greek loan verbs in Coptic are only partially integrated into the target-language transitive construction, since they can regularly index A arguments, but – like bivalent intransitives – they cannot index or incorporate P arguments; moreover, while A incorporation is possible with Greek loan verbs in Coptic, it is rare in the corpus examined. On the other hand, Greek loan verbs can occur with nominative A arguments and accusative P arguments. As such, Greek loan verbs in Coptic pattern like bivalent intransitive verbs with respect to indexing, but like transitive verbs with respect to flagging. As a result of the massive verb borrowing – but partial morphosyntactic integration of loan verbs – language contact led to a major transitivity split within the lexicon of the target language.

Valency-copying is dealt with in several contributions to this special issue. The first, ‘Object omission in contact: Object clitics and definite articles in the West Thracian Greek (Evros) dialect’ by **Nikolaos Lavidas** and **Ianthi Maria Tsimpli,** describes a case of pattern borrowing, i.e. cases where patterns of one language are replicated in another language (Matras and Sakel, 2007). Modern West Thracian Greek, the local dialect of Evros, allows the omission of the direct object with specific reference. This pattern is ungrammatical in Modern Standard Greek and other Modern Greek dialects of Greece, which use object clitics in this case, but it is grammatical in Turkish. The authors compare a corpus of spontaneous speech data of the speakers of Modern West Thracian Greek with the data of L2 speakers and come to the conclusion that this case of syntactic borrowing follows the transfer with second language learners.

The second, **Susanne Michaelis**’ “World-wide comparative evidence for calquing of valency patterns in creoles,” investigates the hypothesis that creole languages consistently show argument flagging patterns that cannot be traced back to their lexifier languages, but derive from their substrate languages. To evaluate this hypothesis, four constructions are considered in areally diverse creoles with different substrates and different lexifiers. The data come from Michaelis *et al.*, 2013a, 2013b, 2013c, 2013d; and Dryer and Haspelmath, 2013). Finding recurrent matches between substrate and creole structures in the four construction types, Michaelis excludes the possibility of accidental matches and finds support for substrate influence being the only explanation. The four considered construction types are the ones particularly prone to varying valency patterns cross-linguistically and include ditransitive constructions exemplified with the verb ‘give’, weather constructions exemplified with the event of raining, experiencer constructions of the situation of headache and motion constructions. In ditransitive constructions with the verb 'give' creoles reflect their substrate/adstrate pattern of argument flagging (indirect object vs. double object construction) and thus are sometimes in contrast to the patterns found in their lexifiers. For the weather construction of raining the possible values include ‘Rain falls’, ‘Rain rains’, ‘It rains’, ‘Rains’, etc. This construction, too, supports the hypothesis that the valency patterns of creoles primarily go back to their substrates and adstrates, and not to their lexifiers. The same tendency is shown by the other two constructions.

The article by **Melanie Green** and **Gabriel Ozón** deals with valency and transitivity in Cameroon Pidgin English (CPE), an Atlantic expanded pidgin/creole spoken in Cameroon. The two topics the authors address are the comparison of valency and transitivity patterns in CPE and its lexifier language English and whether one can speak of simplification or complexification, as well as various strategies exist in CPE for valency increase, valency decrease and creation of verbal predicates. The article uses the data of two corpora of spoken CPE, as well as some elicited data. Various types of mismatches in the valency and transitivity of English verbs and their CPE counterparts are found: whereas some verbs involve increased transitivity with some meanings, other verbs can be used with decreased transitivity/reduced valency. Among the constructional phenomena for valency increase, the authors discuss serial verb construction and constructional means of verbalisation.

The paper by **Carola Trips** and **Achim Stein** studies the influence of Old French on the argument structure of Middle English verbs. Trips and Stein provide a complex and detailed study of valency-copying, in which Middle English copied Old French verbs (e.g., *plaire* > *plesen* ‘to please’) together with their valency patterns. This contact-induced change triggered further changes in the argument structure of native verbs, even those outside the semantic domain of the original loan verbs, such as *give*. These changes observed in the historical corpus of English appear with higher frequency in texts translated from French, which might suggest that they are artifacts of translation. However, some of these changed survived into present-day English, such as the use of a prepositionally-marked recipient with *give*.

# 

# **6. Conclusions**

As stated in Section 1, the aim of this special issue is first and foremost to point to valency and transitivity as domains influenced by contact-induced change. A second goal is to provide detailed case studies of contact-induced change in the valency and transitivity systems of target languages in a variety of contact situations from different parts of the world. Despite the small number of languages dealt with in this issue, they represent contact situations from both the western, eastern and southern areas of Eurasia, from northeast and western Africa, and from North America. In addition, they represent contact situations between both genealogically related and unrelated languages, pidgins and creoles, and a mixed language.

It is clearly too soon to make any generalizations about the contact-induced change related to valency and transitivity, but it is possible to highlight the diversity of outcomes, which in turn, may be a starting point for further research. We would like to point to several major horizons for such research. The first is the possibility of large-scale typological research on contact-induced change in any of a number of domains, e.g. flagging, indexing, valency-changing constructions, and more, along the lines of Haspelmath and Tadmor (2009) and Seifart (2013). Another direction for further research, which depends on the first to a large extent, is the identification of the structural factors that may bias the probability of one type of outcome over another. For example, it is still unclear whether there are language-specific structural reasons for the differences observed between Japhug and Coptic in terms of incorporation of native or borrowed stems. A third is the attempt to understand whether there are language-external (e.g., sociolinguistic) factors that bias the probability of one type of outcome over another. For example, are there sociolinguistic features of contact situations that make direct integration or valency-copying more likely? Do different geographic areas have distinct preferences, as suggested by evidence that lexical borrowing – but not pattern replication – is avoided in some areas (e.g., Seifart 2015)? Hopefully, further detailed studies will provide the foundation for the answers to these questions.

# **References**

Allen, Cynthia. 1995. *Case marking and reanalysis: Grammatical relations from Old to Early Modern English*. Oxford: Oxford University Press.

Arkhangelskij, Timofey and Maria Usacheva. 2017. Spontaneous Russian verbal borrowings in Udmurt. Presentation at *Contact-Driven Multilingual Practices*, University of Helsinki, 1 June 2017.

Barðdal, Johanna. 2006. Predicting the productivity of Argument Structure constructions. *Berkeley Linguistics Society*, *32*: 467–478.

Barðdal, Johanna. 2008. *Productivity: Evidence from Case and Argument Structure in Icelandic.* Amsterdam: John Benjamins.

Bickel, Balthasar. 2011. Grammatical relations typology. In Jae Jung Song (ed.), *The Oxford handbook of language typology*, 399–444. Oxford: Oxford University Press.

Bickel, Balthasar, Taras Zakharko, Lennart Bierkandt, and Alena Witzlack-Makarevich. 2014. Semantic role clustering: an empirical assessment of semantic role types in non-default case assignment. *Studies in Language* 38: 485–511.

Bickel, Balthasar, Alena Witzlack-Makarevich and Taras Zakharko. 2015. Typological evidence against universal effects of referential scales on case alignment. In Ina Bornkessel-Schlesewsky, Andrej L. Malchukov and Marc Richards (eds.), *Scales and hierarchies: A cross-disciplinary perspective*, 7–43. Berlin: De Gruyter Mouton.

Bisang, Walter. 2013. Language contact between geographic and mental space. In Peter Auer, Martin Hilpert, Anja Stukenbrock and Benedikt Szmrecsanyi (eds.), *Space in language and linguistics: Geographical, interactional, and cognitive perspectives*, 61–100. Berlin: de Gruyter Mouton.

Blevins, Juliette. 2017. Areal sound patterns: From perceptual magnets to stone soup. In Raymond Hickey (ed.), The Cambridge handbook of areal linguistics, 55–87. Cambridge University Press.

Burridge, Kathryn. 2006. Language contact and convergence in Pennsylvania German. In Alexandra Y. Aikhenvald and Dixon, Robert M. W. (eds.), *Grammars in contact: A cross-linguistic typology*, 179–200. Oxford: Oxford University Press.

Comrie, Bernard. 1989. *Language universals and linguistic typology: Syntax and morphology*. 2nd edn. Oxford: Blackwell.

Comrie, Bernard, Iren Hartmann, Haspelmath Martin, Malchukov Andrej and Wichmann Søren. 2015a. Introduction. In Malchukov Andrej and Bernard Comrie (eds.), *Valency classes in the world’s languages*. *Vol. 1. Introducing the framework, and case studies from Africa and Eurasia*, 3–26. Berlin: De Gruyter Mouton.

Comrie, Bernard, Khalilov Madzhid and Khalilova Zaira. 2015b. Valency and valency classes in Bezhta. In Malchukov Andrej and Bernard Comrie (eds.), *Valency classes in the world’s languages*. *Vol. 1. Introducing the framework, and case studies from Africa and Eurasia*, 541–570. Berlin: De Gruyter Mouton.

Conners, Thomas, John Bowden and David Gil. 2015. Valency classes in Jakarta Indonesian. In Bernard Comrie and Andrej Malchukov (Eds.), *Valency classes in the world's languages. Vol. 2. Case studies from Austronesia, the Pacific, the Americas, and theoretical outlook*, 941–986. Berlin: Mouton de Gruyter.

Dixon, R. M. W. and Alexandra Aikhenvald. 2000. A typology of causatives: form, syntax and meaning. In R. M. W. Dixon and Alexandra Y. Aikhenvald (eds.), *Changing valency: case studies in transitivity*, 1-29. Cambridge: Cambridge University Press.

Dorleijn, Margreet. 2006. Turkish-Kurdish language contact. *Turcologica* *61*: 74-94.

Dryer, Matthew and Martin Haspelmath (eds.). 2013. The World Atlas of Language Structures Online. Leipzig: Max Planck Institute for Evolutionary Anthropology. http://wals.info (accessed September 21, 2015).

Epps, Patience. 2006. The Vaupés melting pot: Tukanoan influence on Hup. In R. M. W. Dixon and Alexandra Y. Aikhenvald (eds.), *Grammars in contact. A cross-linguistic typology*, 267–289. Oxford: Oxford University Press.

Fattier, Dominique. 2013. Haitian Creole. In Susanne Maria Michaelis, Philippe Maurer, Martin Haspelmath and Magnus Huber (eds.), *The survey of pidgin and creole languages. Vol. II: Portuguese-based, Spanish-based and French-based languages*, 195–204. Oxford: Oxford University Press.

Gilbert, Lazard. 2015. Two possible universals: The Major Biactant Construction; the twofold notion of subject. *Linguistic Typology* 19(1): 111–130.

Goldblatt, Noa. 2017. Coding of causal-noncausal verb pairs in German speech islands: a micro-typology. Poster presented at *3rd Usage-based Linguistics Conference*, Hebrew University of Jerusalem, 4 July 2017.

Haspelmath, Martin. 1993. More on the typology of inchoative/causative verb alternations. In Bernard Comrie and Maria Polinsky (eds.), *Causatives and transitivity*, 87–120. Amsterdam: John Benjamins.

Haspelmath, Martin. 2011. On S, A, P, T, and R as comparative concepts for alignment typology. *Linguistic Typology* 15: 535–567.

Haspelmath, Martin. 2014. Arguments and adjuncts as language-particular syntactic categories and as comparative concepts. *Linguistic Discovery* 12.

Haspelmath, Martin and Uri Tadmor. 2009. *Loanwords in the world’s languages: A Comparative Handbook*. Berlin: De Gruyter Mouton.

Haspelmath, Martin and the APiCS Consortium. 2013. Passive constructions. In Susanne Maria Michaelis, Philippe Maurer, Martin Haspelmath and Magnus Huber (eds.) *Atlas of pidgin and creole language structures online*. Leipzig: Max Planck Institute for Evolutionary Anthropology. (Available online at http://apics-online.info/parameters/90, Accessed on 2017-10-16.)

Hopper, Paul J. and Sandra A. Thompson. 1980. Transitivity in grammar and discourse. *Language* 56: 251–299.

Huddleston, Rodney and Geoffrey K. Pullum. 2005. *A student’s introduction to English grammar*. Cambridge: Cambridge University Press.

König, Christa. 2008. *Case in Africa*. Oxford: Oxford University Press.

Lavidas, Nikolaos. 2009. *Transitivity alternations in diachrony: changes in argument structure and voice morphology*. Cambridge: Cambridge Scholars.

Lazard, Gilbert. 1998. Définition des actants dans les langues européennes. In Jacques Feuillet (ed.), *Actance et valence dans les langues de l’Europe*, 11–146. Berlin: Mouton de Gruyter.

Lazard, Gilbert. 2015. Two possible universals: The Major Biactant Construction; the twofold notion of subject. *Linguistic Typology*, 19(1). 111–130.

Lefebvre, Claire and Anne-Marie Brousseau. 2002. *A grammar of Fongbe*. Berlin: Mouton de Gruyter.

Luchina-Sadan, Elena. 2017. Causal–noncausal verb alternations in Yiddish in comparison with Russian and German. Poster presented at *3rd Usage-based Linguistics Conference*, Hebrew University of Jerusalem, 4 July 2017.

Matras, Y. 2009. *Language contact* Cambridge Textbooks in Linguistics. Cambridge University Press.

Malchukov, Andrej. 2006. Yakut interference in North-Tungusic languages. In Hendrik E. Boeschoten and Lars Johanson (eds.), *Turkic languages in contact*, 122–139. Wiesbaden: Harrassowitz.

Malchukov, Andrej, Martin Haspelmath, and Bernard Comrie. 2010. Ditransitive constructions: A typological overview. In Andrej Malchukov, Martin Haspelmath and Bernard Comrie (eds.), *Studies in ditransitive constructions: A comparative handbook*, 1–35. Berlin: De Gruyter Mouton.

Matras, Yaron 2009. *Language contact.* Cambridge: Cambridge University Press.

Matras, Yaron and Jeanette Sakel. 2007. Investigating the mechanisms of pattern replication in language convergence. *Studies in Language* 31(4), 829–865.

Meakins, Felicity. 2011. *Case-Marking in Contact: The development and function of case morphology in Gurindji Kriol*. Amsterdam: John Benjamins.

Michaelis, Susanne Maria and the APiCS Consortium. 2013a. Raining constructions. In Susanne Maria Michaelis, Philippe Maurer, Martin Haspelmath, and Magnus Huber (eds.). *The atlas of pidgin and creole language structures*, 256–259. Oxford: Oxford University Press.

Michaelis, Susanne Maria and the APiCS Consortium. 2013b. Experiencer constructions with ‘headache’. In Susanne Maria Michaelis, Philippe Maurer, Martin Haspelmath, and Magnus Huber (eds.). *The atlas of pidgin and creole language structures*, 260–263. Oxford: Oxford University Press.

Michaelis, Susanne Maria and the APiCS Consortium 2013c. Experiencer constructions with ‘like’. In Susanne Maria Michaelis, Philippe Maurer, Martin Haspelmath, and Magnus Huber (eds.). *The atlas of pidgin and creole language structures*, 264–267. Oxford: Oxford University Press.

Michaelis, Susanne Maria and the APiCS Consortium 2013d. Experiencer constructions with ‘fear. In Susanne Maria Michaelis, Philippe Maurer, Martin Haspelmath, and Magnus Huber (eds.). *The atlas of pidgin and creole language structures*, 268–271. Oxford: Oxford University Press.

Michaelis, Susanne, Philippe Maurer, Martin Haspelmath and Magnus Huber. 2013. *The atlas of pidgin and creole language structures.* Oxford: Oxford University Press.

Mithun, Marianne. 1984. The evolution of noun incorporation. *Language* 60(4): 847–894.

Mithun, Marianne. 1986. On the nature of noun incorporation. *Language* 62(1): 32–37.

Mithun, Marianne and Greville G. Corbett. 1999. The effect of noun incorporation on argument structure. In Lunella Mereu (ed.), *Boundaries of morphology and syntax*, 49–71. Amsterdam: John Benjamins.

Nichols, Johanna, David A. Peterson and Jonathan Barnes. 2004. Transitivizing and detransitivizing languages. *Linguistic Typology* 8: 149–211.

Næss, Åshild. 2007. *Prototypical transitivity*. Amsterdam: John Benjamins.

Nichols, Johanna, David A. Peterson, and Jonathan Barnes. 2004. Transitivizing and detransitivizing languages. *Linguistic Typology* 8(2): 149–211.

Nordhoff, Sebastian. 2015. Case frames in Sri Lanka Malay. In Malchukov, Andrej and Bernard Comrie (eds.), *Valency classes in the world’s languages*, vol. Vol. 2: Case Studies from Austronesia, the Pacific, the Americas, and Theoretical Outlook, 987–1014. Berlin: De Gruyter Mouton.

Sánchez, Liliana. 2012. Convergence in syntax/morphology mapping strategies: Evidence from Quechua–Spanish code mixing. *Lingua* 122: 511–528.

Seifart, Frank. 2013. AfBo: A world-wide survey of affix borrowing. Leipzig: Max Planck Institute for Evolutionary Anthropology. (Available online at http://afbo.info, Accessed on 2017-10-16.)

Seifart, Frank. 2015. Direct and indirect affix borrowing. *Language* 91(3): 511-531.

Sergievskij, Maksim V. and A. P. Barannikov. 1938. *Cygansko-russkij slovarj*. Moscow: Gosudarstvennoe lzdateljstvo Inostrannyx I Nacionaljnyx Slovarej.

Siewierska, Anna. 2013. Passive Constructions. In Matthew S. Dryer and Martin Haspelmath (eds.), *The world atlas of language structures online*. Leipzig: Max Planck Institute for Evolutionary Anthropology. (Available online at http://wals.info/chapter/107, Accessed on 2017-10-16.)

Tadmor, Uri. 2009. Loanwords in the world’s languages: Findings and results. In *Loanwords in the world’s languages: A Comparative handbook,* 55–75. Berlin: De Gruyter Mouton.

Tenser, Anton. 2005. *Lithuanian Romani*. Munich: Lincom.

Tenser, Anton. 2008. *Northeastern group of Romani dialects*. Manchester: University of Manchester dissertation.

Tesnière, Lucien. 1959. *Éléments de syntaxe structurale*. Paris: Klincksieck.

Wichmann, Søren and Jan Wohlgemuth. 2008. Loan verbs in a typological perspective. In Thomas Stolz, Dik Bakker, and Rosa Salas Palomo (eds.), *Aspects of language contact: New theoretical, methodological and empirical findings with special focus on Romancisation processes*, 89–122. Berlin: Mouton de Gruyter.

Witzlack-Makarevich, Alena. 2011. *Typological variation in grammatical relations*. Leipzig: University of Leipzig doctoral dissertation.

Wohlgemuth, Jan. 2009. *A typology of verbal borrowings*. Berlin: Mouton de Gruyter.

Zúñiga, Fernando. 2015. Valency classes in Mapudungun. In Andrej Malchukov and Bernard Comrie (eds.), *Valency classes in the world’s languages*, *Vol. 2: Case studies from Austronesia, the Pacific, the Americas, and theoretical outlook*, 541–570. Berlin: De Gruyter Mouton.

1. See Haspelmath (2014) for a recent overview of the argument vs. adjunct distinction for typological purposes. [↑](#footnote-ref-1)
2. In Matras and Sakel’s framework, pivot-matching is the mechanism of language processing involving ‘identifying a structure that plays a pivotal role in the model construction, and matching it with a structure in the replica language, to which a similar, pivotal role is assigned in a new, replica construction’ (Matras and Sakel, 2007: 830). [↑](#footnote-ref-2)