Eitan Grossman

# Transitivity, diachrony, and language contact

**Abstract:** Transitivity is often analyzed from the point of view of the formal and functional factors that shape morphosyntax. The contribution of language contact is not often highlighted. This article surveys some evidence for considering language contact in shaping the morphosyntax of transitivity-related phenomena, and proposes that the source of broad areal patterns should be sought in low-level processes of contact-induced change, such as pattern replication, contact-induced grammaticalization, and matter replication of constructional elements of transitivity encoding. Such patterns may call into question the search for purely functional explanations of transitivity encoding.

**Keywords:** language contact, transitivity, valency

## 1 Introduction

In contrast to a traditional view of transitivity as the property of having a direct object, studies of transitivity since Hopper and Thompson (1980), Tsunoda (1981, 1985), and Givón (1985) have characterized transitivity as semantic in nature, multifactorial (involving multiple parameters, such as agentivity and affectedness), and gradient (i.e. a clause can be said to be more or less transitive). The core observation in this research tradition is that the higher the semantic transitivity of an event, the more likely it is that it will be expressed or coded with the morphosyntactic properties associated with transitivity, or what Haspelmath calls transitivity encoding (Haspelmath 2015).[1] These morphosyntactic properties are typically related to valence, i.e. case-marking (or 'flagging'), but others, such as argument indexation, valency- and transitivity-changing constructions, and more, have been discussed as well. Moreover, the set of factors that is known

**1** Interestingly, Haspelmath (2015) makes it clear that his conception of transitivity is not semantic in nature, but rather morphosyntactic, and suggests that this is the case for earlier studies such as Tsunoda (1985) as well.

**Eitan Grossman,** Hebrew University of Jerusalem, e-mail: eitan.grossman@mail.huji.ac.il


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to determine the morphosyntactic properties associated with transitivity has expanded. For example, a recent overview of Differential Argument Marking (Witzlack-Makarevich and Seržant 2018) lists numerous properties as relevant for morphosyntax, whether inherent properties of arguments, such as person, animacy, uniqueness, discreteness, and number; or non-inherent properties of arguments, such as definiteness and specificity or information structure status; or event-related semantic properties of arguments, such as agentivity, affectedness, and resultativity; or properties of clauses, such as TAM values, clause type, or polarity.

These properties have often been arranged in hierarchies that are intended to capture facts about transitivity in and across languages, such as the potentiality of agency hierarchy (Dixon 1979), the empathy hierarchy (DeLancey 1981), and the prominence hierarchy (Aissen 1999), just to name a few. A particularly well-known one is Tsunoda's (1981, 1985) implicational transitivity hierarchy, reassessed in Malchukov (2005, 2015), Wichmann (2016) and Aldai and Wichmann (2018), which on the basis of inherent verbal semantics predicts the likelihood that a verbal predicate will occur in a language's transitive construction or to have transitivity encoding. For example, verbs that describe an event involving a direct effect on a patient (e.g. translation equivalents of 'hit' or 'shoot') are predicted to be more likely to occur in a transitive construction than verbs describing a perception event (e.g. translation equivalents of 'see' or 'hear').

Importantly, these synchronic hierarchies – and the properties that govern them – have commonly been thought to influence the diachronic pathways through which morphosyntactic coding means change. For example, some synchronic accounts of transitivity focus on information structure: topical P arguments ('direct objects') trigger extra marking to distinguish them from A arguments ('subjects') or to index their salient information-structural properties; another scenario claims that P arguments may be marked in contexts of topic-shift (Dalrymple and Nikolaeva 2011; Iemmolo 2010). The same properties have been invoked in diachronic accounts of the development of Differential Object Marking in unrelated languages, such as Chichewa (Downing 2018), Spanish (Melis 2018), and Khoe languages (McGregor 2018). Similarly, synchronic animacy or definiteness hierarchies have been invoked to explain diachronic change in various languages, e.g. Hindi (Montaut 2018). All of these studies share the assumption that synchronic hierarchies reflect the diachronic motivations and mechanisms that created them, conceivably because both the synchronic hierarchies and the diachronic processes reflect the same cognitive and communicative biases that constrain language use and thereby shape language change.

All of the above are what Bickel (2015, 2017) has called 'functional' factors or triggers. Functional triggers are biases that affect the probability that a lin-

guistic property will evolve in a particular way. These can be cognitive biases, such as processing preferences, or communicative biases of the sort that lead to frequency effects. Theories based on such functional triggers are called functional theories (Bickel 2015).

But is that all there is to it? On the contrary: there is much – and diverse – evidence that 'event-based' factors or triggers contribute to shaping the mapping of transitivity, seen in semantic terms, to morphosyntactic properties[2] of clauses, in and across languages. Event-based triggers are the historically contingent facts of human history that bring speakers of different languages into new linguistic, social, and geographical environments, and are prominently implicated in many accounts of language contact (Bickel 2017). In other words, it seems that language contact may play a substantial role in determining the cross-linguistic distributions of the morphosyntactic properties associated with transitivity.

Functional theories and event-based theories have often been seen as competing explanations. For example, Bickel (2015) notes that it has been observed that overt case marking that distinguishes A from P in transitive clauses correlates with V-final order. This has been explained with reference to processing, a functional theory. On the other hand, it has been proposed that the frequency of case marking in Eurasia is the result of contact-based diffusion, an event-based theory. In other words, there are two competing theories, both of which are consistent with the data.

Using the Family Bias method (Bickel 2013), which investigates diachronic trends within and across language families, Bickel (2015) found there is indeed a bias in families towards case marking if word order is V-final, which may support a processing explanation. But there is also a bias in families towards case marking if the family is in Eurasia, which may support an event-based theory. These effects are statistically independent, which points to the conclusion that language contact plausibly enhanced an existing functional bias. In other words, functional and event-based accounts need not be mutually exclusive. Moreover, and importantly in the present context, functional accounts without event-based accounts – without language contact – do not capture the whole picture.

Even more suggestive of the importance of event-based triggers is the insight that the very functional factors that might bias language change might play out differently across areas and genealogical units. For example, consider Sin-

**2** For a variety of reasons, this assumption has come under fire. In particular, it has been argued that functional factors may not easily be read directly off of typological distributions, a point made by Greenberg (1978), Dryer (1989), Maslova (2000) Harris (2008), Bickel, Witzlack-Makarevich and Zakharko (2015), Cristofaro (2013, 2014, 2019), Grossman (2016), Grossman, Jacques and Antonov (2018) and Grossman and Polis (2018), among others.

nemäki's (2014) typological study of Differential Object Marking. Languages with Differential Object Marking – or split-P systems – are found in many parts of the world. However, the areal patterning of the systems reveals an interesting insight: while animacy effects are found all over the globe, definiteness- or specificity-based systems are concentrated in the Old World, particularly in Africa.

In other words, the very semantic and discourse-related properties that splits are allegedly based on may themselves show areal patterning, which means that even if there are universal factors that bias language change, their effects may show up differentially in ways that can be retrieved. Another reading of this situation is that some cross-linguistically prominent patterns might not have strong functional motivations at all, but may have diffused throughout languages due to the largely contingent historical events that brought populations into and out of contact and to the sociolinguistic features of these contact situations that facilitated or inhibited the diffusion of particular properties. This has been shown convincingly for differential argument marking (in particular split-A and split-P systems) by Bickel, Witzlack-Makarevich and Zakharko (2015), who provide evidence against the universality of referential scales, arguing instead that the empirical frequency of differential argument marking is largely the result of historical diffusion events. Another possibility is that at least some of the morphosyntactic properties commonly associated with transitivity are diachronically stable, in which case one would expect to find genealogical signals such that family- or genus-level preferences are visible.

The goal of the present article is to survey some evidence that event-based triggers – essentially, language contact – should be taken into account when considering the factors that shape the morphosyntax of transitivity-related phenomena in human languages. The structure of the article is as follows. In Section 2, I present evidence that transitivity-related phenomena show large-scale areal signals that point to the role of event-based triggers. In Section 3, I discuss some lower-level processes of language contact that may shape transitivity-related phenomena. Section 4 concludes this paper.

## 2 Areal signals and event-based triggers

Typological investigations of transitivity-related phenomena have consistently produced evidence for functional factors, but, importantly in this context, for event-based triggers as well. In this section, I focus on basic valence orientation or transitivity prominence, which is essentially the extent to which verbal predicates in a given language make use of transitive encoding (Haspelmath 2015). This

is often operationalized on the basis of lists of verb meanings as a basis for comparison, and individual verbs or verb pairs in particular languages are coded for a variety of morphosyntactic properties with respect to which languages can vary (Malchukov 2015). Prominent features that have been tested cross-linguistically include derivational relationships between causal/noncausal verb pairs involving meanings like 'break' or 'dry' (see Haspelmath 1993, 2011; Nichols, Peterson and Barnes 2004; Haspelmath et al. 2014) and valency frames, which itself include case-marking patterns or flags and argument indexing on verbs (Haspelmath 2015). Transitivity prominence intersects with proposed semantically-based hierarchies (Tsunoda 1985; Malchukov 2005), in that such hierarchies predict that transitivity encoding might vary across languages, in terms of the number of predicates that are coded as transitive, but the list of verbal predicates should occupy a contiguous space on the hierarchy.

Semantically-based hierarchies have fared well, broadly speaking, in these studies; unsurprisingly, translation equivalents of 'break,' 'hit,' and 'kill' generally receive transitive encoding across samples of languages, while equivalents of 'die' and 'be dry' never do. Predictably, there is more variance with respect to the translation equivalents of 'see,' 'meet,' and 'like,' which are often treated as transitive in particular languages, but are also often found in a construction other than the transitive. Another angle on this is provided in Haspelmath et al. (2014), who argue that purely semantic accounts of derivational relationships between causal/noncausal verb pairs are bettered by communication-based accounts involving frequency. Overall, functional theories of transitivity hierarchies generally make good cross-linguistic predictions.

In contrast, such theories have little to say about why a particular language might have a higher or lower transitivity prominence. This gap is filled, to some extent, by considerations of language contact, as witnessed by areal signals. A first example is Haspelmath (1993), whose sample was mostly Eurasian, and who finds a European preference for anticausatives or detransitivization. In other words, in a select list of verb pairs, there was a European areal preference for treating transitive verbs as basic and intransitives as derived. Evidence is found from a West-East split within geographically diffused families, mainly Indo-European.

Nichols, Peterson and Barnes (2004), again looking at transitivity prominence ('basic valence orientation') in a global sample, identify many areal signals. For just a few examples, lability is preferred in Europe and dispreferred in the Americas and in the Pacific Rim. Transitivization is generally preferred worldwide, and dispreferred only in Europe (replicating the findings of Haspelmath 1993). Detransitivization is strongly dispreferred in north Asia and is preferred in Central America. Equipollent marking is preferred in Central America and western North America, and is dispreferred in Africa.

Say (2014) is probably the most detailed study of transitivity prominence and related phenomena in a single area. On the basis of 130 bivalent predicates in a dense sample of 57 Northern Eurasian languages, Say investigated the extent to which phylogenetic distance and geographical distance predict the extent to which languages are similar or dissimilar in terms of transitivity. Say found that overall, structural distance measures correlate positively with geographical and genetic distances. In particular, transitivity prominence shows areal effects at a sub-continental degree of granularity, with a preference for transitivity peaking in Central Western Europe and in the Far East, and a preference for intransitivity peaking in the Caucasus and in Eastern Europe.

Furthermore, it was found that genus-level genealogical units are relatively homogenous with respect to transitivity prominence, but there were no significant family-size effects, with lots of diversity in Uralic and Indo-European. In terms of the similarity between languages with respect to whether individual verbs – e.g. the translation equivalents of meanings like 'win' and 'see' – are transitive or intransitive, Say found significant genealogical signals at genus and family levels. In fact, verb hierarchies in Eurasia appear to be family-specific, e.g. experience predicates in Nakh-Daghestanian tend to be intransitive, as do contact predicates in Uralic. As Say points out, this genealogical signal is strange if verb hierarchies of transitivity prominence are universal.

Say concludes that valency patterns of individual verbs change relatively quickly and are easily transferable in language contact. However, languages are relatively stable in terms of those semantic features that are relevant for the assignment of the [+/–] transitivity values to individual verbs. Finally, transitivity hierarchies of verb meanings can be family-specific. Taken together, the results of these studies point to a certain amount of diachronic stability in transmission of some aspects of transitivity, as well as some likelihood to change due to chance, inherent functional biases, or language contact. Interestingly, in areas with relatively little phylogenetic diversity or in which long-term multilingualism has led to convergence in transitivity profiles, there is actually quite little opportunity for additional contact-induced change, unless new languages with different profiles enter the area. This may be the case for large swaths of Eurasia, to which some late-expanding and socio-politically dominant languages, like Russian, are relative latecomers: in such cases, there is a renewed opportunity for contact-induced change.

Summarizing this section, despite the predominance of functional theories related to transitivity phenomena, areal effects are, so to speak, all over the place. Moreover, there is some preliminary information about the relative diachronic stability of transitivity phenomena within families, at least for some areas. These facts should lead us to reconsider purely functional theories of what shapes transitivity phenomena.

# 3 From macro to micro: lower-level contact processes

How, then, do these areal patterns emerge? The answer will probably involve some combination of (i) functional factors, e.g. inherent semantics and usage biases; (ii) inheritance; (iii) language contact; (iv) by-roads (e.g. side effects of other changes); and (v) chance. This section focuses on low-level processes of contact-induced change that potentially scale up to areal and macro-areal patterns. In particular, this section discusses some mechanisms of contact-induced change that can shape morphosyntactic properties of constructions related to transitivity. There is still no comprehensive survey of the role of contact in shaping transitivity-related phenomena, although there is a lot of data to be gleaned from individual language descriptions and the literature on language contact.[3]

One type of contact-induced change involves changes in the number of and assignment principles for valency classes. In Kartvelian, for example, the case-marking of core arguments is generally determined by predicate class and the tense-aspect values of the clause (Haig 2015). In Laz, which has been heavily influenced by Turkish, the tense-aspect based valency split has been lost, while the predicate-based split has been retained. In the Ardeşen dialect of Laz, however, the marking of core arguments has been even more radically restructured on the basis of Turkish, such that core arguments are unmarked by case. Interestingly, this includes the R argument of ditransitive clauses. This is unlike Turkish, which uses the same case marker for both goals and R arguments. Haig (2015) points out that the Ardeşen Laz of Turkish-Laz bilinguals living in Ankara replicate the Turkish pattern, extending the Goal case marker *-ša* to R arguments of ditransitives. Such developments, which plausibly result from calquing, pattern replication (Matras and Sakel 2019), or metatypy (Ross 2015) naturally have consequences for the type of coding properties that are explored in language-specific and typological studies of transitivity. Another example of pattern replication is found in Lithuanian Romani, where erstwhile monovalent verbs may occur with a detransitivizing marker, copying the Slavic structure (Tenser 2005).

Another way that language contact can impact transitivity encoding is through substrate influence. This is particularly visible in creoles, where valency patterns consistently come from substrates rather than lexifiers (Michaelis 2019). This is illustrated by Haitian Creole, a French-lexifier creole (1), in which 'rain'

**3** Interestingly, the studies in Malchukov and Comrie (2015) have almost nothing to say about language contact. However, a special issue of the *Journal of Language Contact* (Grossman, Witzlack-Makarevich and Seržant 2019) was recently devoted to this topic.

predicates pattern like substrate languages, e.g. Fongbe (2), rather than like the lexifier.[4]

(1) Haitian Creole (French-lexifier creole, Caribbean; Fattier 2013)
*lapli* *a* *pral* *tonbe* *talè*
rain DEF FUT.go fall soon
'It will rain very soon.'

(2) Fongbe (Kwa, Benin; Lefebvre and Brousseau 2002: 245)
*jí* *jà*
rain fall
'It is raining.'

To the extent that this is the case, creole valency and transitivity patterns are thus not independent from those of their substrate languages, and thus do not provide independent evidence for functional theories.

Not all contact-induced changes in this domain are simply calquing. It is well known that language contact can play an indirect role in shaping transitivity-related phenomena via contact-induced grammaticalization (Heine and Kuteva 2005). In such cases, the particular developmental pathway of an inherited construction in one language is biased by the presence of a model from another language.

Examples of the grammaticalization of transitivity-related phenomena are fairly common, in particular in the domain of valency- and transitivity-changing constructions. A well-known case is the reshaping of the inherited Pennsylvania German passive construction in a number of ways, including the replacement of the agent-marking preposition *vun* by *bei*, as well as a change in linear order such that the *bei*-phrase is outside of the discontinuous verb (Burridge 2006). Other examples that have been proposed include Hup, a Nadahup language, which developed a passive construction similar to that found in East Tucanoan languages with which Hup has been in contact, but which is not found in other language from the family (Epps 2006). The Mapudungun reflexive construction may have developed an anticausative function due to contact with Spanish (Zúñiga 2015). Arkadiev (2020) describes a case in which Abaza copies an inverse construction from Kabardian. Norman (1982) and Chappell (2006) point out that Northern Sinitic varieties differ from southern varieties in having grammatical-

**4** Glossing conventions are according to the Leipzig Glossing Rules. Abbreviations not found in the Leipzig list are ADD – additive, DETR – detransitivizer, DIR – directional, ILL – illative, RUS – Russian loan word.

ized a causative construction from the verbs meaning 'make' and 'let', a difference which they attribute to Manchu superstrate influence.

Of course, as noted in Section 2, large-scale areal signals may point to contact-triggered spreads of constructions associated with transitivity. For example, Bickel, Witzlack-Makarevich and Zakharko (2015) show that split-A and split-P systems show strong areal patterning, with split systems especially prominent in some parts of Eurasia and in the Sahul macro-area. In fact, the authors argue convincingly that there is little evidence for the universal referential scales often assumed to bias language change, claiming instead that 'differential case marking on A and P is first and foremost a pattern prone to diffusion' (Bickel, Witzlack-Makarevich and Zakharko 2015: 40).

We now turn from pattern-replication and contact-induced grammaticalization to some types of contact-induced change related to matter replication (Matras and Sakel 2019). In some cases, the case-marking patterns of arguments in a language is changed due to the replication of an overt flag. For example, some Quechuan varieties, such as Ulcumayo Quechua and Lamas Kechwa, borrow the Spanish accusative marker *a*, often in the same conditions that trigger Spanish overt accusative marking, i.e. [+specificity] (Sanchez 2011). Interestingly, the Spanish-origin accusative marker co-occurs with the inherited Quechuan accusative suffix *-ta*, as in (3) and (4).

(3) Ulcumayo Quechua (Quechuan, Peru; Sanchez 2011)
*Algo* *gati-pu-n* *a* *un* *niñu-ta*
dog follow-DIR-3SG ACC a boy-ACC
'The dog follows a boy.'

(4) Lamas Kechwa (Quechuan, Peru; Sanchez 2011)
*kawa-yka-n* *a* *ese* *niñu-ta*
look-PROG-3SG ACC that boy-ACC
'(S/he) is looking at that boy.'

Matter replication of case markers is documented in several Kiranti languages, which have a dative marker *-lai*, e.g. Bantawa (Doornebal 2009), Puma (Bickel et al. 2019); Camling, Athpare and Thulung (Ebert 1994), generally agreed to be borrowed from Nepali. In some languages, it participates in a Differential Object Marking system, marking P arguments.

However, the borrowing of case markers is far less common than the borrowing of verbs (Wichmann and Wohlgemuth 2008), which can itself lead to considerable contact-induced change in the domain of transitivity. This is because verbs in different languages 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.

In some cases, this does not present any special complications. For example, Jacques (2019) shows that 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.

In contrast, borrowed verbs may have to be assigned to a valency class or transitivity pattern in the borrowing language. Even when languages are similar in terms of the morphosyntactic properties associated with their transitivity systems, there are often subtle but important differences. For example, Jacques (2019) shows that Japhug and Tibetan both have ergative-absolutive alignment in their transitive constructions, and loan verbs are often easily copied from one transitive construction to another. However, Tibetan has a richer case system than Japhug, and its core arguments are often marked by the dative case. Tibetan-origin verbs that have a dative-marked core argument in the donor language are integrated into Japhug valency patterns in a variety of ways, often depending on the semantic role of the argument in question. In other cases, Tibetan bivalent intransitive verbs are sometimes copied into the Japhug transitive construction.

In Michif, a mixed language whose verbal system derives from Plains Cree (Algonquian), there are numerous French- and English-origin verbs, while its nominal system derives from French. Michif verbs belong to one of four morphological classes, depending on the transitivity or intransitivity of the verb and the animacy of its S or P argument. This property of the transitivity system of Michif is completely different from the transitivity systems of the donor languages. Antonov (2019) 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.

Arkhangelskij and Usacheva (2017) show that Russian verbs can be borrowed into Udmurt (Uralic) with detransitivizing morphology, i.e. the sux *–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 detransitivitizing morphology in such cases, as seen in (5) and (6).

(5) Udmurt (Uralic; Arkhangelskij and Usacheva 2017)
*fotograrovat's'a* *kar-isk-i-z=no* *korka*
take.pictures.REFL:RUS do-DETR-PST-3SG=ADD house.ILL
*pir-i-z*
enter-PST-3SG
'[The guy] took picture of himself and went into the house.'

(6) Udmurt (Uralic Arkhangelskij and Usacheva 2017)
*fotograrovat's'a* *kar-o*
take.pictures.REFL:RUS do-PRS.3PL
'They are taking pictures of themselves.'

Arkhangelskiy and Usacheva (2017) show that the presence or absence of the detransitivizer 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.

Incorporation, which is often associated with detransitivization, is also interesting in light of loan verb integration. For example, loan verbs cannot incorporate nominals in Coptic (Grossman 2019), but loan nominals can be incorporated in native verb stems. Due to the massive influx of Greek loan verbs in Coptic, this means that the relative number of verbs that can incorporate nominals has drastically shrunk. In Japhug (Jacques 2019), on the other hand, 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, which is precisely the situation allowed in Coptic.

The effects of loan verbs on transitivity encoding in the borrowing language can be substantial. For example, as noted above, Coptic borrowed hundreds of verbs from Greek. While the number of arguments for each verb in Greek was generally carried over into Coptic, Greek-origin verbs could not be fully integrated

into the native transitivity patterns of Coptic (Grossman 2019); beyond being unable to incorporate nominals, they did not allow P indexing. On the other hand, Greek-origin verbs did occur with native valency patterns, including the transitive case frame. The result of this mass borrowing, therefore, was to substantially increase the class of bivalent verbs that did not allow the incorporation or indexing of P arguments. Seen from another perspective, contact-induced changed greatly expanded a grammatical transitivity split, based on the source language of verbs.

Not only can loan verbs be integrated in complex ways into native valency patterns, they can carry donor-language valency patterns over into the target language. This is the case in Middle English, which copied Old French verbs (e.g. *plaire* > *plesen* 'to please') together with their valency patterns, notably the dative-marking of the experiencer argument (in contrast to the native pattern). Interestingly, this valency pattern spread to native verbs with similar lexical meanings, such as *quemen* and *liken* (Trips and Stein 2019).

However, beyond the basic morphosyntactic means by which loan verbs are integrated into a native morphosyntax (Wichmann and Wohlgemuth 2008; Wohlgemuth 2009), we still know extremely little about the integration of loan verbs with respect to most phenomena associated with transitivity. That means, beyond the inherent interest for language contact research, that verb borrowing itself might play a hitherto unacknowledged role in the transitivity hierarchies discussed in Section 1. In particular, they might contribute to the dependence of such hierarchies not only on genealogical stability (e.g. the family-specific hierarchies found by Say 2014) or on areal convergence due to pattern-replication (e.g. the area-specific hierarchies found by Bickel, Witzlack-Makarevich and Zakharko 2015), but also to extensive matter replication.

## 4 Conclusions

In this survey, I have suggested that the functional factors that govern synchronic distributions of transitivity encoding, and by assumption the diachronic evolution of transitivity encoding, are likely to be unable to tell the whole story. Rather, at least some aspects of transitivity encoding are apparently diachronically stable at varying phylogenetic depths. Moreover, and at the heart of this paper, 'event-based' factors that lead to language contact, seem to play a large role in diverse domains related to transitivity. This is most clearly visible in large-scale areal effects visible in typological studies, on the one hand, and individual case-studies of particular contact situations, on the other.

The central proposal made here is that lower-level processes of contact-induced change may scale up to visible areal effects. These processes may include pattern replication (from substrate, adstrate and superstrate languages), contact-induced grammaticalization, matter replication of constructional elements related to transitivity, and loan verbs and their integration into native transitivity patterns. Contact-related changes are likely to interact with functional factors in a wide variety of ways, whether by enhancing or reducing existing biases, by leading to the diffusion of otherwise rare or dispreferred structures (as has been suggested for Differential Object Marking), and more.

Due to the extreme paucity of empirically-based generalizations about the effects of language contact on transitivity encoding, it is difficult to sketch a broader picture than that presented here. However, some avenues of research may be particularly promising. One such avenue is suggested by Nichols (2018), who has proposed a theory according to which a preference for causativization – i.e. a situation in which a language has a preference for intransitive base verbs and derived transitives – is an attractor state ("any state that is more easily or more often entered or acquired than departed or lost"). The situation in which this possibility and its diffusion is favored by a particular sociolinguistic context she calls 'symbiosis' ("where languages mingle in speech"). Symbiosis, in turn, is favored by certain demographic, sociocultural, and environmental factors she calls frontier conditions, with evidence from northern Eurasia, the Caucasus, North and Central America, and the Pacific. This amounts to a testable hypothesis about the interaction of functional and event-based triggers in the domain of transitivity phenomena. It is hypotheses of this sort that might bridge the gap between broad areal patterns observed in typological research, individual case-studies of language contact, and the sociolinguistic and demographic factors that are generally considered crucial for explaining the results of language contact.

In conclusion, this survey is intended to provide an alternative view on phenomena traditionally attributed to functional factors, and to suggest that synchronic distributions are not necessarily evidence for the diachronic processes that led to them. In a sense, this is similar to proposals made by Cristofaro (2013, 2014, 2019), who argues that synchronic distributions can be the result of multiple and diverse developmental pathways, which need not be motivated by a single overarching functional factor. In contrast to Cristofaro's perspective, however, I suggest that genealogical and areal signals in the patterning of transitivity encoding do not only call into question the need for overarching functional explanations, but rather point to the plausibility of an important – and still poorly understood – role played by genealogical stability, on the one hand, and contact-induced change, on the other.

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