

Interaction of Verbal Categories in a Typological Perspective

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Abstract: The paper addresses the topic of syntagmatic interaction of verbal categories, following up on the pioneering work by V.S. Xrakovskij, as well as on my own earlier studies of resolution of infelicitous combinations of verbal categories (such as present perfectives). In this paper, I discuss conflicts between lexical and grammatical features of the verb, focusing on interaction of voice/valency and transitivity, on the one hand, and interaction of actionality and grammatical aspect, on the other hand. The paper demonstrates that the scenarios of resolution of conflicts are the same as those documented for cases of functional conflict between grammatical markers: a certain combination will be either excluded, or the respective category will be reinterpreted. The same tools used to constrain grammatical categories such as hierarchies of local markedness are shown to be able to capture interaction of lexical and grammatical features in the domain of valency and actionality.*

Key words: voice, valency, aspect, actionality, verbal categories, markedness hierarchies

1. Syntagmatic interaction of verbal categories: introducing the approach

The present paper deals with the typology of interaction of grammatical categories, couched in the tradition of Leningrad/St-Petersburg Typology Group. The research on syntagmatic interaction of verbal categories has been initiated by V.

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S. Xrakovskij in 1990s (see especially, Xrakovskij 1990, 1996) and has been followed up by my own work on resolution of infelicitous grammeme combinations (Malchukov 2009, 2011). Recently, it has been further pursued in the project on interaction of grammatical categories based at the Typology Department of Institute for Linguistic Research (see the position paper by Xrakovskij and Malchukov 2016 for details). The basic insight of V. S. Xrakovskij is that combination of grammatical categories (and their values- 'grammemes') is often constrained; certain combinations are prohibited or else reinterpreted. The former aspect when certain combinations are blocked (excluded) has been in fact studied in typology under the rubric of markedness¹ (Greenberg 1966; Croft 1990; Croft 2003). According to Croft, one of the markedness criteria is 'distributional markedness' to the effect that marked 'grammemes' (i.e. values of a particular grammatical category) impose more constraints on the use of cross-cutting categories as compared to unmarked grammemes. Yet, there is another way in which grammemes can interact; the latter scenario involves reinterpretation of one (or both) of the grammemes rather than blocking. This is where V.S. Xrakovskij's work is most innovative, as markedness studies generally do not address reinterpretation. In a series of papers V.S. Xrakovskij discussed functional interaction between verbal categories, where one category inducing reinterpretation is called dominant, and another grammeme undergoing shift is called recessive. His examples included, in particular, the imperative in interaction of other grammemes. He concluded that imperative is most often dominant with respect to other grammemes: thus, it can impose restrictions on the expressions of other categories (consider absence of certain person forms in imperative paradigm), or shift meaning of another grammeme (for example, aspectual forms may have different functions in the imperative as compared to the indicative).

In my earlier work focusing on functionally infelicitous combinations, I followed up on this work trying to combine the approach of Xrakovskij with markedness studies, in particular with the findings of Aikhenvald and Dixon 1998 on interaction of verbal categories. In particular, I proposed, following Croft (1990; 2003), that interaction of categories can be represented in forms of markedness hierarchies, capturing relations of local markedness between individual categories. On this view, an infelicitous combination (IC) represents the most marked (least natural) combination of the values (grammemes) of the respective categories,

¹ The term markedness is used here in a broad typological sense (as in Croft 2003) and relates to the cluster of properties comprising cross-linguistic frequencies of a particular construction, corpus frequencies in individual languages, formal complexity and semantic specificity. While the correlation between different instantiations of the concept of markedness may not be perfect (see Haspelmath 2006 for a critical discussion), existence of such (statistical) correlation is widely assumed in the literature, even though a large-scale empirical verification of this assumption is still outstanding. Of particular importance in the present context is the concept of local markedness (Tiersma 1982; Croft 1990, 2003) pertaining to (un)markedness (naturalness) of certain combinations of grammatical and/or lexical categories (e.g., voice and transitivity).

which needs to be resolved in one way or another. As already pointed out by V.S. Xrakovskij, infelicitous combinations may be either absent (blocked) or reinterpreted. A few illustrations will suffice here (see Malchukov 2011 for details).

The first way of resolution of ICs (blocking) can be illustrated through the interaction of modal categories in Korean, as described in Sohn (1994). In Korean, the categories of (epistemic) mood and illocutionary force, which cross-linguistically are most often expressed cumulatively, constitute independent categories. Yet, not all theoretically possible combinations of moods (indicative, retrospective, requestive and suppositive) and illocutionary force markers (declarative, interrogative, imperative and propositive) are found. While declaratives and interrogatives combine with indicative and “retrospective” (i.e. experiential) moods (see (1a–c)), imperatives and propositives (the latter expressing the ‘let’s do V’ meaning) share the requestive mood (see (1d, e)):

- (1) Korean (Sohn 1994: 338, 339, 342, 40, 45)
- a. *Ka-n-ta* / *Ka-te-la*.
go-IND-DC / go-RETR-DC
‘S/he goes/went (I noticed).’
 - b. *Mek-ess-n-unya*.
eat-PST-IND-INT.PLN
‘Did (s/he) eat?’
 - c. *W-ass-te-la*.
come-PST-RETR-DC
‘S/he came (I noticed).’
 - d. *Po-si-p-si-o!*
see-SH-AH-REQ-IMP.DEF
‘Please, look!’
 - e. *Wuli ilccik ttena-si-p-si-ta!*
we early leave-SH-AH-REQ-PROP
‘Let’s leave early!’

Notably, other theoretically conceivable combinations (declaratives and interrogatives with requestive mood, or imperatives and propositives with indicative and retrospective moods) are not found (Sohn 1994). See Malchukov (2011) and Malchukov and Xrakovskij (2016) for more discussion of infelicitous grammeme combinations in the modal domain.

The second scenario of resolution of ICs, where one grammeme (the recessive one) undergoes a semantic shift when combined with another grammeme (the dominant grammeme), is illustrated here with the case of perfective present combination, which I discussed extensively in my previous work (Malchukov 2009, 2011; see also de Wit 2017 for a recent monograph-long study of the ‘present perfective paradox’). As repeatedly noted in the literature (Comrie 1976; Bybee et al. 1994: 83; Bache 1995), this grammeme combination is systematically avoided due to the semantic incompatibility of the perfective aspect, which imposes a bounded, ‘closed’ view of the situation, and the (central) meaning of the present tense, locat-

The currently ongoing project on interaction of grammatical categories led by V. S. Xrakovskij (outlined in Xrakovskij and Malchukov 2016), is mostly concerned with interaction of grammatical categories of the verb, as also illustrated above. Yet, in this article, I would like to address interaction of lexical and grammatical categories pertaining to the same semantic domain. On the one hand, I discuss transitivity and voice, which both pertain to the domain of argument structure and therefore are expected to reveal non-trivial interaction. On the other hand, I address interaction of actionality and aspect, frequently contrasted as lexical vs. grammatical (or viewpoint) aspect. It will be shown that the approach developed for interaction of grammatical categories can profitably be extended to these cases. This is perhaps to be expected, since the border of lexical vs. grammatical expression of a certain category (valency or actionality), may be fuzzy to begin with, both cross-linguistically and with regard to particular languages. This is well-known in Russian studies where there is a long-lived controversy about the status of Russian aspect. This also holds for voice phenomena, since linguists disagree where to draw a line between (grammatical) voice and valency-changing derivation (see Plungian 2011 for discussion). Also theoretically these distinctions are not universally accepted. With respect to valency certain models of grammar in the generative tradition assume representation of transitivity features through functional heads (such as vP, originally, a “voice phrase”). With respect to actionality, apart from ‘two-component theories’ distinguishing between actionality and grammatical aspect, there are ‘one-component theories’ which operate with just two basic values ‘state’ and ‘event’, and where telicity is defined in the same way as perfectivity (see Sasse 2002 for discussion).

2. Interaction of transitivity and voice

2.1. Passives of intransitives

It is well-known that voice and valency-changing categories are lexically sensitive, that is, they display polysemies depending on the lexical context (in particular, on the verb’s transitivity). Thus, it has long been noted in typological literature (Xrakovskij 1974, Siewierska 1984, Shibatani 1985, Keenan 1985) that a passive if available applies primarily to transitives. In some languages the passive can be also extended to intransitives resulting in impersonal passives (like in German), but in other languages it is restricted to transitive verbs. On the whole, the following implicational relation holds: if a passive can apply to intransitives it can apply to transitives as well, while the opposite needs not to be true (Keenan 1985: 249). One could interpret this generalization in terms of (local) markedness: the unmarked (more natural) combination would be passives of transitives, while application of passives to intransitives is more marked (less natural). There could be different interpretations of this preference depending on whether one assumes

(imperfective) events, application to a bounded (perfective) event will therefore coerce the habitual operator. As Michaelis (Michaelis 2004: 60) puts it: “present constructions are intrinsically state selectors”.

object promotion or subject demotion or both to be the characteristic feature of canonical passives, but overall the conclusion that the application of passives to intransitives is a marked case is uncontroversial.

As in other cases of infelicitous category interaction (Malchukov 2011; cf. Moravcsik 2010), this infelicitous combination can be resolved in a different way: as noted above, in some languages a passive can apply to intransitives, resulting in an impersonal passive, but in other languages its application will be blocked. Of most interest for us are situations where a passive, when applied to intransitives, shifts in meaning. This can be illustrated for Russian, where the reflexive passive when applied to intransitives is modalized (see Geniušienė 1987 for discussion of ‘modal-deagentive’ constructions). A standard example of the ‘modal deagentive’ construction from Russian involving the use of the reflexive-passive form is seen in (4):

- (4) Russian
 Mne ne spit-sja.
 me.DAT not sleep.PRS.SG-PASS
 ‘I cannot sleep.’

Modal use of impersonal passives is widely attested in European languages (Geniušienė 1987), but is also found elsewhere. For example, in (Gulf) Arabic those intransitives that may be passivized usually carry modal meaning (Holes 1990). This phenomenon is also widely attested in Altaic languages, including Turkic (Ščerbak 1981) and Tungusic (Nedjalkov 1992). In particular, in East Tungusic languages like Nanai the impersonal passive developed into a modal marker with the meaning of obligation (Avrorin 1962). In Japanese passives of intransitives develop specific uses, such as potential and honorific, which are less characteristic of passives of transitives (Shibatani 1985: 822–823):

- (5) Japanese (Shibatani 1985: 822–823)
 Boku wa nemur-are-nakat-ta.⁴
 I TOP sleep-PASS-NEG-PST
 ‘I cannot sleep.’

The Japanese example is different insofar as the passive form in (5) is not

⁴ As pointed out to me by an anonymous reviewer, the verbal form with *-(r)are-* allomorph (instead of *-(r)e-*) as in *Nemur-are-nakat-ta* is awkward for many speakers of Japanese (who preferentially use of *-(r)e-* instead of *-(r)are-* for verbs whose stem ends in consonant). Still the generalization concerning the closer association of passive forms of intransitives with modal rather than diathetic function holds for both allomorphs. Thus, the same point made in (6)–(7) below for ‘potential’ (*-re-*) forms can be reproduced with examples with the ‘passive’ forms (in *-rare-*). See the *ga/ni* alternation of the type observed in (7) in the following example (kindly provided by T. Sadanobu):

- (i) *Boku ni-wa sono (zankokuna) terebi bangumi-ga mi-rare-nakat-ta.*
 I DAT-TOP that (cruel) TV program-NOM watch-PASS-NEG-PST
 ‘I could not watch the (cruel) TV program.’

impersonal (i.e. lacking a referential subject). That is, unlike the Russian example in (4) or similar examples in other European languages, the Japanese passive is valency-preserving when applied to intransitives. In fact, this form is conventionally interpreted in Japanese studies as a distinct category of ‘potential’ (largely) homophonous with the passive form.⁵ Yet, importantly in the present context, when used with transitives, the potential may either preserve or change the valency. In the latter case it yields a structure similar to passive (with the base A in the dative, and the base O in the nominative) even though there remain some syntactic differences between the two constructions (Kishimoto et al. 2015). Example (6), built on an intransitive verb, shows that the potential does not affect valency with intransitive verbs: the subject remains nominative. Example (7), by contrast, illustrates that with transitives the potential form is either valency-preserving (as in (7a)), or valency-decreasing (as in (7b)):

- (6) Japanese (Kishimoto et al. 2015: 777)
 Kono uma-*{ga/*ni}* hasir-e-ru.
 this horse-*{NOM/*DAT}* run-POT-PRS
 ‘This horse can run.’
- (7) Japanese (Kishimoto et al. 2015: 777)
 a. Ken-ga kotae-o kak-e-ru.
 Ken-NOM answer-ACC write-POT-PRS
 ‘Ken can write the answer.’
 b. Ken-*{ni/ga}* kotae-ga kak-e-ru.
 Ken-*{DAT/NOM}* answer-NOM write-POT-PRS
 ‘Ken can write the answer.’

Shibatani (1976 and p.c.) attributes the fact that the potential is valency preserving with intransitives to the general ‘obligatory nominative’ requirement to the effect that there should be at least one *ga* marker in a clause. On my interpretation, this contrast shows that also in Japanese reanalysis of a passive marker into a modal (mood) marker is more strongly pronounced in the context of intransitives, while with transitives it may still qualify as a voice marker. As pointed out to me in this connection by T. Sadanobu (p.c.) and as repeatedly noted in the literature (see, e.g., Shibatani 1990: 319), the same holds for the adversative uses of passives where the adversative reading is typically indispensable in the context of intransitive and impersonal verbs (as in (14) below).

As a final illustration consider the case of Balkar (a Turkic language). In Balkar, application of the passive to intransitive may yield two distinct interpretations. First, it can result in an impersonal passive with modal function (of the type illustrated for Russian in (4) above):

- (8) Balkar (Ljutikova and Bonch-Osmolovskaja 2006: 400)

⁵ In contrast to the polysemous *-(ra)re-* allomorph (in (5)), the *-(r)e-* marker, as in (6)–(7) is exclusively associated with the potential uses (Wesley Jacobsen, p.c.).

Zas-ta igi cab-il-a-di.
 summer-LOC good run-PASS-PRS-3
 ‘In the summer, it is good to run.’

More interesting is another use of the passive of the intransitive, one that is dubbed “causal passive” by Ljutikova and Bonch-Osmolovskaja (2006):

- (9) Balkar (Ljutikova and Bonch-Osmolovskaja 2006: 405)
 Alim ü-de qal-in-di.
 Alim house-LOC stay-PASS-PST
 ‘Alim had to stay at home.’

Note that the latter construction is not impersonal; in fact, application of the passive here does not affect the verbal diathesis at all. Ljutikova and Bonch-Osmolovskaja qualify this function as a “causal passive”, since it implies presence of an external cause. Note that the presence of an external cause is inherent in the semantics of passives of transitives, which imply existence of an agent/causer at the semantic level (even if suppressed in the syntax), but is unexpected for the passive form of intransitives. I interpret the last example as an indication that the meaning of the verb has undergone a shift to a causative/transitive meaning in the presence of the passive morphology.⁶ Thus, (9) could be more adequately translated as ‘Alim was made to stay at home’, which is semantically equivalent to ‘Alim had to stay at home’. On this account, the base verb acquires a transitive/causative meaning in the context of passive, even though the verb cannot be used transitively outside of this construction. Such a situation illustrates another scenario of resolution of this infelicitous combination (cf. Malchukov 2011 for discussion): either a passive shifts its meaning (to modal) in the context of intransitive verb, or an intransitive verb shifts to transitive in the context of passive. In terms of Xrakovskij (1996) and Malchukov (2011), in the former case the passive is a recessive category, in the latter case it is a dominant category.

2.2. Causatives of transitives

It is well-known (at least since Nedjalkov and Sil’nitskij 1969) that some languages that allow causatives to apply to intransitives may not allow them to apply to transitives. The functional motivation behind this constraint may be less clear than in the case of passivization of intransitives, yet this combination may be also seen as functionally infelicitous if we include the feature ‘transitivization’ into the causative prototype (cf. Dixon 2000: 13). Since causatives are used for valency increase, they routinely apply to intransitives, yet at least in some languages their application to transitives is restricted. Admittedly, some languages do not show such restrictions: the causative of transitives is regularly used to derive ditransitives from transitives (in some languages all derived ditransitives are causatives). Other languages (such

⁶ A similar analysis assuming coercion of an intransitive verb into a transitive interpretation in the context of passive has been independently proposed for Balkar by Ljutikova and Tatvosov (2015), who also provide a detailed semantic reconstruction of this process.

as Ket, or Yucatec Maya; see (12) below) do not allow causatives of transitives at all. Still other languages may use a causative marker with transitives, but its meaning is different (see my discussion of the causative-passive and causative-applicative polysemy below). Arguably, the most interesting case of interaction is found in languages where a restriction on combining the causative with transitives leads to a situation where a transitive verb must first be detransitivized in order for a causative to be applied to it.⁷ This can be exemplified for Mandinka (Creissels 2015). In Mandinka there are two causative markers: “Causative 1” in *-ndi*, which applies to intransitive verbs and “Causative 2” in *-ri-ndi*, which applies to transitives. The second causative is illustrated below:

- (10) Mandinka (Creissels 2015: 243)
 Kew-ó ye dínđíŋ-o dómó-rí-ndi (mbuur-óo la).
 man-DEF PF.POS child-DEF eat-ANTIP-CAUS bread.DEF OBL
 ‘The man made the child eat (bread).’

Note that “Causative 2” differs from “Causative 1” in having an additional marker *-r(i)-*.

Remarkably, the same marker functions elsewhere as an antipassive:

- (11) Mandinka (Creissels 2015: 240)
 Mus-óo be uu-r-óo la.
 woman-DEF cop ound-ANTIP-DEF OBL
 ‘The woman is at the pounding’ → ‘The woman is pounding.’

In other words, in order to apply the causative to a transitive verb, this verb needs first to be antipassivized. This is somewhat similar to the situation in Balkar, where the use of the passive shifts an intransitive verb into a transitive one. One could also characterize this as a case of coercion: the application of the voice morphology conditions a category shift. The difference in the Mandinka pattern is that coercion in this case is overtly signaled (by the voice morphology) while in case of Balkar we are rather dealing with an implicit coercion.

A similar case of construction coercion is found in Yucatec Maya (Lehmann 2015). Also this language has a restriction to the effect that causatives can apply only to intransitives; therefore in order to causativize a transitive verb, the verb must first be passivized. This option is available for some transitive verbs such as *ka’ns* ‘teach,’ whose stem is ultimately based on the transitive root *kan* ‘learn’. This verb is first passivized, yielding *ka’n* ‘be learnt’, and in the second step it is causativized yielding *ka’ns* ‘cause to be learnt’.

- (12) Yucatec Maya (Lehmann 2015: 1465)
 T-in ka’ns-ah xokp’éelil-o’b t-in paal.
 PRFV-SBJ.1.SG teach-CMPL number-PL LOC-POSS.1.SG child

⁷ Song (1996: 179–181) cites a number of similar languages (Blackfoot, Halkomelem, Southern Tiwa, Bandjalang) and attributes the constraint against causativization of transitives to the (restricted) number of core object slots available in these languages.

'I taught my child numbers.'

Yucatec Maya is also representative in another respect. It imposes a more strict restriction on the formation of causatives, which can apply only to stative intransitives, but neither to active intransitives or transitives. Shibatani and Pardeshi 2002 report further languages that show a similar restriction. Thus, the preferences of causatives and passives are actually converses of each other, and can be represented on the following (markedness) scale (see Malchukov 2015, Malchukov 2016):

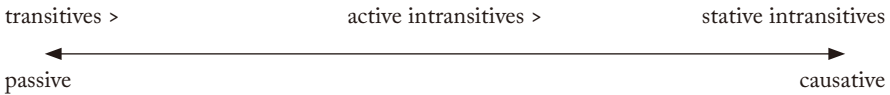


Figure 1. Markedness scale for causative and passive formation

Thus, the passive readily applies to transitives (highest on the hierarchy); it is less applicable to active intransitives, and is least applicable to inactive intransitives. In early work in Relational Grammar (Perlmutter 1978), it has been suggested that passives can't be applied to unaccusatives at all. Yet this generalization is better viewed as an implicational rather than an absolute universal: if a passive applies to unaccusatives (as, e.g., in Turkish), it would apply to higher categories as well. For causatives, the markedness relation is reversed: they are most felicitous with stative intransitives (unaccusatives), less so with active intransitives, and least felicitous with transitive verbs.

2.3. Passive-causative polysemy

Typologists have been aware of the pervasiveness of passive-causative polysemy at least since Nedjalkov's (1964) seminal publication. One common pattern is that basically a causative marker is interpreted as a passive marker: an intermediate stage of reflexive causative is usually assumed here (Nedjalkov and Sil'nitskij 1969; Keenan 1985; Haspelmath 1990). Such extended uses of causatives in a passive function are frequent in Altaic languages, and illustrated below for Khakas (a Siberian Turkic language):

(13) Khakas (Letuchiy 2006: 433)

Paba-m xyr-tyr-š'a parikmaxer-γa.
 father-1SG shave-CAUS-PRS hairdresser-DAT
 'My father is shaved by the hairdresser.'

An opposite case where a marker with a basic passive function is used as a causative marker also exists, and is frequently characterized as an 'adversative (passive)'. This pattern is familiar from Japanese, where the adversative/passive marker is assumed to have derived from a 'spontaneous' marker (Shibatani 2006: 223). The use of the adversative passive in a valency increasing function with intransitive (impersonal) verbs is illustrated below:

(14) Japanese (Kishimoto et al. 2015: 776)

Ken-ga ame-ni hur-are-ta.
 Ken-NOM rain-DAT fall-PASS-PST
 ‘Ken got rained on.’

Of relevance here is the observation that the same marker can be used as a regular passive (a “direct passive”) when applied to transitives, but is used in a causative (more specifically, ‘involitive-permissive’ function, in terms of V.P. Nedjalkov), when applied to intransitives. The same is true for Even (North-Tungusic), which also features adversative passives (Malchukov 1993). In Even as well, when a passive applies to a transitive verb, the usual outcome is a “direct passive”, with O promoted to S and A demoted to a dative agentive phrase. Thus, it looks like a canonical passive, except for the fact that normally an adversative effect is implied.

(15) Even (Malchukov 1995: 23)

- a. Nugde etike-m maa-n.
 bear.NOM old man-ACC kill-NONFUT:3SG
 ‘The bear killed the old man.’
- b. Etiken nugde-du maa-v-ra-n.
 old man.NOM bear-DAT kill-ADVPAS-NONFUT-3SG
 ‘The old man was killed by the bear.’

When applied to intransitive verbs the passive marker signals valency increase instead, in a way similar to the ‘involitive-permissive’ causative in terms of V.P. Nedjalkov (‘X lets V happen involuntarily’):

(16) Even (Malchukov 1995: 22)

- a. Huličan böödele-n ene-l-re-n.
 fox(GEN) feet.NOM-3SG hurt-INCH-NONFUT-3SG
 ‘The fox’s paws began to hurt.’
- b. Huličan böödel-i ene-le-v-re-n.
 fox.NOM feet-REF POS SG hurt-INCH-ADVPAS-NONFUT-3SG
 ‘The fox’s paws began to hurt; it/the fox was negatively affected.’

Thus, also in the case of adversative passives, the regular passive structure is possible only when the verb is transitive. With intransitives and zero-valent (impersonal) verbs only the valency-increasing function obtains. This does not mean, however, that the valency increasing function is impossible for transitive constructions: in fact, in Even like in Japanese an A-adding adversative derivation is also possible with transitives. Some other Tungusic languages may show more restrictions in this respect. The pattern is clearer in Manchu, where the same marker *-v* (< *bu*) can be used both in the passive and causative function (Nedjalkov 1991).

(17) Manchu (Nedjalkov 1991: 5)

- a. Bata i-mbe va-ha.
 enemy he-ACC kill-PST
 ‘The enemy killed him.’

- b. Bata-be va-bu-ha.
 enemy-ACC kill-CAUS-PST
 ‘(He) made (somebody) kill the enemy.’
- c. Bata-de va-bu-ha.
 enemy-DAT kill-PASS-PST
 ‘(He) was killed by the enemy.’

As observed by Nedjalkov (1991; 1992), the passive use is found in Manchu almost exclusively with transitives, while the causative use is more common with intransitives – in compliance with the scale above. Thus, the general markedness pattern is clear: the same marker is used with a valency-increasing function when applied to intransitives and valency decreasing function when applied to transitives. This can also be conceived as recessive behavior of the voice grammeme, which shifts its function under the influence of lexical context.

To conclude: an infelicitous combination of a valency/voice marker may either result in blocking or reinterpretation. In the former case, passive forms will be unavailable for intransitives, and causative forms are excluded for transitives (as illustrated in §2.1 and 2.2). In the latter case, the voice marker may shift interpretation (e.g., causative is reinterpreted as passive in the context of transitives, as discussed in §2.3), or else can shift transitivity value of the base verb (recall the example from Balkar (9) analyzed in §2.1 as a case of coercion).

3. Interaction of actionality and aspect

Now let us consider interaction of actionality and aspect, which has a reputable research tradition in typology (see Sasse 2002, Smith 1997; Tatevosov 2002; Tatevosov 2016, for references and discussion). It is also well-known that actionality classes (Vendler’s major classes) have preferences for combinability with aspectual categories. For example, English progressive form typically does not apply to achievements (**is finding*), while in Russian perfective forms are constrained for states and activities. (In Russian stative verbs normally lack a perfective form, except for the aspectual pairs of the type *ponimatj* ‘understand (imfv)’ vs. *ponjatj* ‘realize (pfv)’; Padučeva 1996: 88–94, 118). Moreover, when such infelicitous combinations do occur the verb type is coerced into another interpretation. Breu (1994; cf. Malchukov 2011) illustrates these shifts for a language with derivational aspect (Russian) and for a language with inflectional aspect (Italian):

- a) Atelic verbs (states and activities), if occurring in perfective aspect, receive an inchoative (cf. Rus. *znat’/uznat’*, It. *sapeval/seppe* ‘know/learn’) or a delimitative interpretation (cf. Rus. *rabotat’/porabotat’*, It. *lavorava/lavorò* ‘work/work for a while’);
- b) Achievements (‘find’, etc.), if occurring in imperfective aspect, receive an iterative interpretation (Rus. *naxodit’/najti*, It. *trovava/travò* ‘find/find repeatedly’).

Subsequent studies (Malchukov 2009; 2011; Xrakovskij et al. 2008) attempted to generalize these patterns. In an exploratory study (Xrakovskij et al. 2008) discuss

these constraints for a limited number of lexemes (three lexemes: SIT, LOVE; BUILD) in five languages (Russian, English, Arabic, Even, Khmer). Following up on this work (as well as on Malchukov 2009 and Bohnemeier and Swift 2004), Xrakovskij and Malchukov (2016) propose to capture the relation of actionality to aspect in the form of the following hierarchy:



Figure 2. Actionality markedness scale for aspect

The hierarchy above may also be read as a semantic map, where neighboring categories share certain semantic features. In fact, it follows from conventional characterization of actional classes in terms of features in the tradition of Vendler (Vendler 1967, Dowty 1979, Smith 1991/1997, Bertinetto 1997; Van Valin and Lapolla 1997; Van Valin 2005). According to Van Valin (Van Valin and Lapolla 1997: 93), the verb types are characterized in terms of three binary features: [\pm static], [\pm telic], [\pm punctual], as illustrated in Figure 3.⁸ Overlap of features between individual actional classes is represented on the map below by boxes:

Achievements	— Accomplishments	— Activities	— States
[-static]	[-static]	[-static]	[+static]
[+telic]	[+telic]	[-telic]	[-telic]
[+punctual]	[-punctual]	[-punctual]	[-punctual]

Figure 3. Semantic map for actionality types

It is remarkable that the map for the basic actional type has not been explicitly proposed before in the vast literature on actionality and aspect, even though it resonates with the ideas of aspectologists like W. Breu (1994), H-J. Sasse (2002), L. Johanson (2000). Indeed, this map directly follows from the traditional feature decomposition of actionality types (in Figure 3 above), as well as from conventional conceptualization of the maps where neighboring (connected) categories are assumed to share semantic features (e.g., Zwarts 2010; Malchukov 2010; see Georgakopoulos and Polis 2018 for an up to date discussion of the semantic maps methodology). As such the semantic map constrains distribution of aspectual forms through imposing contiguity requirement; that is, if a certain aspect is shared by achievements and activities, it should be present with accomplishments as well. Yet, as a comparison of Figure 2 and Figure 3 shows, the Hierarchy in Figure 2 makes further predictions as it involves directionality predicting prefer-

⁸ Smith (1997) and Bertinetto (1997) use [-durative] instead of [+punctual].

ences (and dispreferences) of combination of certain aspectual categories with actionality types.

Thus the hierarchy in Figure 2 predicts that the perfective aspect has achievements as a natural domain of application, while imperfective forms have states and activities as a natural domain of application (cf. Sasse 2002: 206–7). This hypothesis received partial confirmation in the literature. Thus, Croft (2012: ch. 4) reanalysed Dahl’s (1985) typological dataset of tense-aspect categories using multidimensional scaling technique. His analysis confirmed a correlation between achievements, favoring perfective contexts (constructions), and unbounded (atelic) predicates favoring imperfective contexts.⁹ Another recent cross-linguistic study by Becker (2017) reports on a result of a comparative corpus study of interaction of aspectual forms with actionality in Russian and Czech as compared to Hungarian and German. In the latter two languages aspectual distinctions are less grammaticalized, but prefixes may perform perfectivizing function. The author finds that irrespective of the degree of grammaticalization in individual languages, all languages show aspectual skewing¹⁰ with respect to actionality classes. The overall pattern is in accordance with the hierarchy insofar as the use of perfectivizing prefixal morphology is most frequent with achievements (“total-terminatives”), and least frequent with stative verbs, with activities and accomplishments (“gradual-terminatives”) falling in-between (see Becker 2017 for details¹¹).

Moreover, apart from preferences, the hierarchy above predicts that if an aspectual category is extended beyond its natural domain, the extension proceeds in accordance with the hierarchy. That is, availability of the imperfective aspect with achievements would imply that it is also found with all the other verb types; conversely, availability of the perfective aspect for states would predict that it is also found with other verb types. Furthermore, our approach predicts that if an aspectual category is extended to a less natural domain, either lexical or grammatical value may be reinterpreted in an infelicitous combination. For example, in Arabic, aspectual distinctions are inflectional and are extended to states like ‘love’ and ‘sit’ as well; yet, when a state is used in the perfective form it receives an inchoative interpretation (Xrakovskij et al. 2008): *yadǧlisu ziyād ‘alā l-kursiyyi* ‘Ziyad sits on the chair’ vs. *dǧalasa ziyād ‘alā l-kursiyyi* ‘Ziyad sat down on the chair’. In aspectual studies this is often construed as evidence for postulating a special class

⁹ It should be noted though that aspectual distribution **within** subclasses of telic (achievements, accomplishments) and atelic (activities, states) predicates and their relative preferences with respect to viewpoint aspect is less clear from Croft’s (2012) findings.

¹⁰ Cf. the discussion of “evidential-aspectual skewing” in Sadanobu and Malchukov (2011), which is also ultimately rooted in relation of local markedness.

¹¹ Thus, with respect to the Slavic languages, where aspect is more grammaticalized, Becker (2017: 195) reports: “In both Slavic languages, the perfective and imperfective forms occurred as expected: relative-stative verbs are almost exclusively imperfectives (the few perfective forms found were imperatives), also holding for activities as a weak tendency. Gradual-terminatives occurred more often as perfectives. As for total-terminatives, only a few instances of imperfectives are attested, almost all occurrences are perfectives.”

of “inchoative–stative verbs” (Johanson 2000; Tatevosov 2002; Tatevosov 2016). However, in the work of Xrakovskij et al. (2008) this pattern is interpreted in terms of reanalysis (coercion¹²) more in line with Brey’s (1994) approach, or, more generally, in line with ‘derivational approaches’ to aspectual construal in the sense of Croft (2012: ch. 3).

In fact, as shown by Tatevosov, there is still more variation in this domain. Consider the following example from Mari (Finno-Ugric), where the perfective past forms of statives are ambiguous, allowing for both stative (unbounded) or inchoative (bounded) interpretation:

- (18) Mari (Tatevosov 2002: 383)
 Jivan tide zadača-m uməl-ən.
 Ivan this task-ACC understand-PST
 1. ‘Ivan came to understand this task.’
 2. ‘Ivan understood this task (for some time).’

In Tatevosov (2002), this ambiguity is interpreted as evidence for postulating another actional subclass of “weak inceptive–stative” verbs, which unlike “strong inceptive–stative” verbs allow for a stative interpretation as an option in this context. On my interpretation, the difference between the two classes arises from a different way of resolution of the infelicitous “perfective stative” combination (one of the most marked combination on the markedness scale above). Either the dominant aspect shifts actionality (shift of statives into inchoatives), or actionality shifts aspectual meaning (with stative interpretation persisting).

In other languages, the marked (least natural) combination such as perfective states may be simply lacking. Thus, in Russian most stative verbs lack a perfective form, on a traditional interpretation of an aspectual pair. Similarly, imperfective achievement, another marked combination, may be either lacking in individual languages (cf. **is finding* in English), or reinterpreted; cf. Russian *naxodit* ‘finds repeatedly’, with an achievement coerced into iterative (serial) event in the context of (present) imperfective.

Thus, the hierarchy above predicts that felicitous combinations (imperfective aspects for states, perfective aspects for achievements) will always be available,¹³ while infelicitous combinations (e.g., imperfective aspect with achievements; perfective aspect with states) will be either blocked or reinterpreted. It further predicts that felicitous combinations would be less marked (involve structurally “lighter” markers), as compared to less natural combinations. Since less marked can also mean zero-marked, this prediction relates to the work by Bohnemeyer and Swift (2004) on *default aspect*. Similarly to our approach, Bohnemeyer and Swift (2004) highlight natural correlation between aspectual categories and actionality classes. On the one hand, they note a typological tendency for telic verbs to contrast

¹² See de Swart (1998) and Michaelis (2004) on aspectual coercion.

¹³ Unless blocked/preempted by a lighter marker; cf. impossibility of progressive (marked imperfective) with (permanent) states in English.

unmarked perfective with a marked imperfective, while for atelic verbs the pattern is reversed (an unmarked imperfective contrasts with a marked perfective). The authors illustrate the preferred pattern (“an ideal telicity dependent aspect system”) with the data from Yucatec Maya and a number of other languages. On the other hand, Bohnemeyer and Swift (2004) noted that the interpretation of the unmarked form itself can differ dependent on the actional class. Thus, they proposed a concept of ‘default aspect’, pertaining to (unmarked) aspectual form, whose aspectual value depends on the verb’s actional class. Their prime example was Inuktitut Eskimo, where the unmarked aspectual form has different interpretation for telic vs. atelic verbs; for atelic verbs it refers to present, for telic verbs it refers to recent past:

(19) Inuktitut (Bohnemeyer and Swift 2004: 267)

- a. Ani-juq
go.out-PART.3SG
‘He/she went out.’
- b. Pisu-ttuq
walk-PART.3SG
‘He/she is walking.’

Thus, according to Bohnemeyer and Swift (2004), interpretation of the default aspect in Inuktitut depends on telicity of the verb. Later research showed that this conclusion needs certain correction; Clark (2008) showed that in fact only achievements in Inuktitut receive a recent past interpretation, while accomplishments pattern in that respect rather with atelic verbs. Still the concept of default aspect is an important one, since many languages manifest aspectually ambiguous forms, whose interpretation depends on the verbs actionality (see Shluinsky 2012 for a recent overview of such forms, which he, following Welmers, calls ‘factative’). Below we will see some further examples from Tungusic. Moreover, the concept of default aspect finds independent support in acquisition studies. Thus, Shirai and Andersen (1995) propose an Aspect Hypothesis according to which learners first use past and perfective marking for achievements and accomplishments, and imperfective marking for activities and states.

It is interesting to consider Tungusic languages (Evenki and Even) from this perspective. Both Evenki and Even have a form traditionally called ‘aorist’, whose temporal interpretation depends on actionality. In modern grammars (Nedjalkov 1997; Robbek 1982), the aorist form in *-RA-* is commonly labelled non-future and contrasted with the future marker *-d’i-* as one of the two basic temporal forms of the verb. In Even, as shown by Robbek (1982: 38–42) and others, the temporal interpretation depends on actionality (telicity): atelic verbs (states and activities) refer to present (see (20c, d)), telic verbs (accomplishments and achievements) to the (recent) past (see (20a, b)).

(20) Even (fieldnotes)

- a. Hepken-e-m
catch-AOR-1SG
'I caught.'
- b. Hör-re-m
go-AOR-1SG
'I left.'
- c. Nuulge-re-m
nomadize-AOR-1SG
'I nomadize.'
- d. Haa-ra-m
know-AOR-1SG
'I know.'

Thus, telic verbs (achievements as in (20a) and accomplishments as in (20b)) refer to the recent past in Even, and need to be combined with the progressive marker *-d'* in order to refer to (actual) present (*hepken-did-de-m* 'I am trying to catch'; *höre-d-de-m* 'I am leaving'). The situation in Evenki is similar, except for the fact that all verbs except for states (such as *saa-* 'know', *bi-* 'be') are interpreted as referring to past (Nedjalkov 1997).¹⁴ This may be due to the fact that the progressive aspect is more grammaticalized in Evenki as compared to Even (Gorelova 1979; Nedjalkov 1997).

Now, while on conventional interpretation the temporal interpretation depends directly on actionality (telicity) of the verb (aorist/nonfuture receives a past interpretation with telic verbs, and a present tense interpretation with atelic verbs), there are good reasons to believe that this relation is mediated by aspect along the lines envisaged by Bohnemeyer and Swift (2004). Indeed, if telic verbs in the unmarked form are assigned perfective value by default, this explains why they cannot refer to the present (see Malchukov 2009 on perfective presents as an infelicitous combination). Moreover, this analysis is not that unorthodox for the field of Tungusic studies either. In fact, it is in line with the analysis of the Evenki aspectual system by Gorelova (1979: 82–83), who assumes a binary aspectual opposition for Evenki¹⁵ with the unmarked perfective opposed to the marked imperfective in *-d'e-*:

- (21) Evenki (cf. Gorelova 1979: 82–83)
- a. Eme-Ø-re-n
come-PFV-AOR-3SG

¹⁴ "Non-future tense forms in *-rA* ... have four meanings: (a) aoristic (a single perfective recent past action), with verbs of achievement, accomplishment and activity; (b) present of prolonged state, with verbs of state; (c) present habitual with verbs having the habitual aspect marker *-ngnA*; (d) past imperfective, with a few activity verbs." (Nedjalkov 1997: 237).

¹⁵ Numerous other aspectual forms in Evenki are treated by Gorelova (1979) as aspectual derivation (aktionsarten), since they are far less frequent as compared to the progressive marker.

- 'He came.'
- b. Eme-d'e-re-n
 come-IPFV-AOR-3SG
 'He is coming.'

I am basically in agreement with this analysis, except for the fact that I treat the zero aspect as a variety of a default aspect rather than a zero perfective, given its behavior with stative predicates.

The following chart shows distribution of the default aspect (more specifically the default perfective) in the three languages (Inuktitut Eskimo, Even, Evenki). As shown by the map, the interpretation of the default (zero-marked) aspect differs across languages, but still it is constrained by the hierarchy:

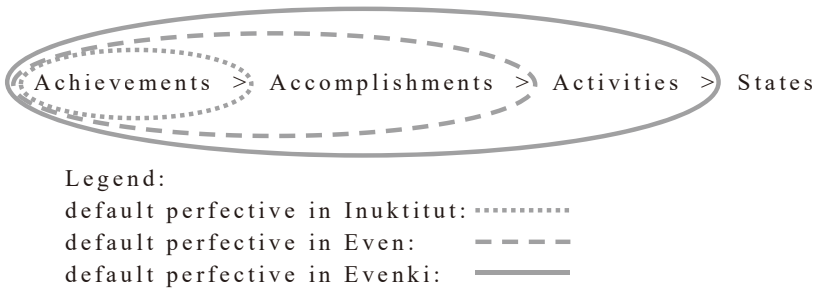


Figure 4. Default perfective and actionality classes in three languages

As noted above, the default perfective in Inuktitut is only found in the context of achievements (punctual verbs in Clark 2008); in Even, it is found with all telic verbs (both achievements and accomplishments), while in Evenki, it is further extended to activities (only states induce default imperfective in Evenki). As can be seen from Figure 4, this distribution is in accordance with the hierarchy, although there may be more lexical variation in this domain, which is not captured here (cf. Tatevosov's work on lexical variation; Tatevosov 2002).

Similar cases of interaction have been found elsewhere. Thus, de Wit (2017) discusses at length the case of Sranan (an Atlantic English-based creole spoken in Surinam), where states in a zero-marked form refer to the present (as in (22a)), while (dynamic) events usually refer to past (see (22b)), not unlike the Even pattern illustrated in (20) above:

- (22) Sranan (de Wit 2017: 113)
- a. Ala sma Ø¹⁶ sabi now pe den e kari Micromarkt.
 all person know now where 3PL IPFV call Micromarkt
 'All people now know the place they call Micromarkt.'

¹⁶ The zero form of the verb in Sranan (introduced by Ø) is contrasted with the preverbal marker *e* with imperfective value (de Wit 2017: 113 ff).

- b. Di a karta Ø fadon, dan mi Ø si en futu.
 when DEF.SG card fall then 1SG see POSS.3SG foot
 ‘When the card fell, then I saw his feet.’

Interestingly, de Wit (2017) also explains this interaction as a consequence of the “present perfective paradox” (see §1 above), but treats this term broader to include cases of conflicts between actionality and tense. As is clear from the above, in my opinion there is no direct interaction between actionality and tense here, but the interaction is mediated by the mechanism of default aspect. Indeed, there is no reason to view a combination of a dynamic event and present tense as infelicitous; accomplishments are regularly used in the present tense without restrictions, as is most clear for languages where aspect is lacking (e.g., German).

The discussion of default aspect has shown that the actional hierarchy above is not restricted to production, but also constrains interpretation of the unmarked form. In this regard the ambiguous ‘default aspect’ is similar to the phenomenon of ambivalent voice considered above, where interpretation of a voice/valency marker is dependent on the lexical features (transitivity) of the verb. In both cases, ambiguity of a recessive grammeme is resolved through lexical context. Of course, in other cases an aspectual grammeme can be dominant. One well-known case of such reinterpretation when a perfective gram reinterprets a state as an inchoative state has been qualified above as a case of coercion.

4. Conclusions

Above we discussed interaction of lexical and grammatical features, pertaining to the same domain, taking voice and transitivity, on the one hand, and actionality and aspect, on the other hand, as two case studies. It was shown that the approach advocated in Xrakovskij and Malchukov (2016) can be naturally extended to such cases. As in case of infelicitous grammeme combinations natural combinations are universally available while infelicitous combinations are either not attested or their combination is reinterpreted. Moreover, in case of reinterpretation either lexical features are affected; recessivity on the part of a lexical category has been interpreted above as coercion conditioned by a dominant category (aspect or voice). In some other cases, the grammatical category is recessive, adapting to the lexical context (cf. passive-causative ambiguity resolved by transitivity and default aspect disambiguated by an actional class). The latter outcome is more plausible for unmarked categories, as is most evident in case of default aspect. Finally, latter cases of disambiguation of a grammatical marker highlight the fact that interaction of verbal categories is constrained by markedness hierarchies both in production and in interpretation.

Of course, this study needs to be extended empirically to determine the exact form of the hierarchies, and the appropriate level of granularity (the range of meanings involved). There is recent work on transitivity scales in Leipzig Valency Project (e.g., Haspelmath 2015, and other contributions to Malchukov and Comrie eds. 2015) aiming to determine preferences of certain verb meanings for

transitivity and whether more fine grained scales can be established going beyond the basic distinctions on the transitivity scale (unaccusative vs. unergative vs. transitive). Similarly, there is a questionnaire-based project on actionality by Tatevosov and his followers (e.g., Tatevosov 2002, 2016), which already uncovered more lexical variation in this domain, going beyond Vendler's classification. The optimal level of granularity is a matter of further study, but it is clear that the proposed tools (markedness hierarchies) can be naturally used to uncover and constrain typological variation in this domain.

Abbreviations

Abbreviations in the glosses follow the "Leipzig Glossing Rules. (<https://www.eva.mpg.de/lingua/resources/glossing-rules.php>)

Other abbreviations:

AH: addressee honorific, ADV: adversative (voice), ADVPAS: adversative passive, AOR: aorist, DC: declarative, INCH: inchoative, NONFUT: nonfuture, POT: potential, PART: participle, PROP: propositive; RETR: retrospective (mood), REQ: requestive mood, SH: subject honorific.

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【要旨】

言語類型論の観点から見た動詞範疇の相互作用

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この研究は、V.S. Xrakovskij の先駆的研究、ならびに筆者自身がおこなってきた、現在と完了のような動詞範疇どうしのあまりしっくりこない組み合わせに関する研究に続く形で、動詞範疇どうしのシンタグマティックな統語的組み合わせというテーマに取り組んだものである。この論文では、動詞の語彙的特徴と文法的特徴の間のしっくりこない組み合わせについて、特に、ヴォイス・結合価と他動性の組み合わせ、ならびに動作性と文法的アスペクトの組み合わせの2つに焦点をあてて論じる。具体的には、しっくりこない組み合わせを解決するシナリオが、文法標識どうしが機能的にしっくりこない場合のシナリオとして論証されているもの——ある場合は組み合わせが排除され、またある場合はそれぞれの範疇が再解釈される——と同じものであることを示すと同時に、局所的な有標性の階層のような、文法範疇の制約に用いられるのと同じ手段が、結合価と動作性の領域において、語彙的特徴と文法的特徴の組み合わせの制約にも用いられることを示す。