RESTRUCTURING IN TURKIC AUXILIARY CONSTRUCTIONS

PAVEL GRASHCHENKOV
Institute for Oriental Studies & Moscow State University

1 Introduction

This paper studies the distribution and interpretation of grammatical marking in Turkic auxiliary or serial verb constructions (SVC hereafter).[1] SVCs are formed by a dozen of verbs providing aspectual, modal and applicative semantics. For a detailed discussion on these verbs, see Johanson (1995), Anderson (2004), Marcel (2004), Rentzsch (2006) a.o.

SVCs are created as a sequence of two or more verbs. A lexical verb (LV) stands first is followed by a SV. These verb chains can not be split and they have the common phrasal stress. The propositional meaning is defined by the LV. Only a limited group of verbs functions as SVs.

(1) Qar er-ip ket-ti
Snow melt-Conv quit-Pst
The snow has melt away. Kazakh

The verb 'quit' in (1) loses its lexical meaning and functions as a completive aspect marker.

The SVs bear all finite morphology and may be marked for tense, mood, person, number etc. At the same time, morphological abilities of LV are restricted: they can only bear negation and derivational markers. Derivational marking includes causative, passive, reflexive, and reciprocal morphemes. Auxiliaries can bear negation and derivational markers as well.

[1] Most data was collected from the Tatar, Kyrgyz, Kazakh and Uzbek languages, we also considered examples from Balkar, Chuvash, Tuba and other Turkic, but not as carefully as from these four Turkic.

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2 Morphological Marking of SVC

Ad hoc, either a lexical or an auxiliary part of construction can bear negative, causative or passive suffixes. In case of negation and causativization, distribution is defined by two factors: (i) interpretation, (ii) type of auxiliary. The passive suffixes are less sensitive to the choice of auxiliary and typically passive marking is found either on the LV or both on the LV and SV.

2.1 Negation

The shapes of negative suffixes used with converbs in different Turkic differ, but their properties are similar. As for the finite (in our case – auxiliary) verb, it is usually negated with the *-ma* marker or its allomorphs.

We first consider the case when both the LV and auxiliary are marked negative and then the cases when a speaker should choose which particular item has to be marked.

2.1.1 Negation Doubling

With no exception, the double marked negative SVCs acquire affirmative meaning:

(2) Al kel-bej koj-boj-t
he arrive-Neg.Conv set-Neg-Pst
He will (definitely) come. Kyrgyz

(3) Malaj siker-mičä tyr-ma-dy
child jump-Neg.Conv stay-Neg-Pst
A child (always) jumped / used to jump. Tatar

Examples like these differ significantly from cases where the second verb is not used as an auxiliary. If the complex of two verbs does not form an SVC but a regular clause chaining construction, then negative interpretation is in place:

(4) Konok kon-boj ket-pej-t
guest rest-Neg.Conv go-Neg-Prs.3
A guest does not leave without staying for a night. Kyrgyz

(5) Malaj siker-mičä jez-mä-de
child jump-Neg.Conv swim-Neg-Pst
A child didn't jump and didn't swim. Tatar

This contrast clearly shows that the SVCs are monoclausal and have two positions for negation. When both negative markers are present, their interaction turns a clause into affirmative. This is not the case with clause chaining, where every predicate becomes negated.

2.1.2 Negation on LV or Auxiliary

The negative marker can be placed either on LV or on SV:

(6) Al takyr til-ge kel-bej koj-du
he any language-Dat arrive-Neg.Conv set-Pst
He didn't agree (=arrive to a language). Kyrgyz

(7) Malaj siker-ep tyr-ma-dy
child jump-Conv stay-Neg-Pst
A child didn't jump. Tatar

However, depending on the position of negation, examples acquire different interpretation. When negation is on the lexical verb, it has a narrow scope. Negation on the auxiliary scopes over it:

(8) Kyčyk siker-mičä bak-ty
dog jump-Neg.Conv look-Pst
[ok]A dog tried not to jump. Tatar
*A dog didn't try to jump.

(9) Kyčyk siker-ep bak-ma-dy
dog jump-Conv look-Neg-Pst
*A dog tried not to jump. Tatar
[ok]A dog didn't try to jump.

As we see, the negative marker takes scope in situ. If it is attached to the lexical verb, it is interpreted below the auxiliary, whereas being on the auxiliary, negative suffix scopes above it.

Scope differences can be clearly seen on just a couple of modal auxiliaries. The major part of auxiliaries expresses different flavors of aspectuality, see Johanson (1995), Anderson (2004), Rentzsch (2006) and references therein for a detailed discussion on aspectual functions of Turkic SVC.

When dealing with punctive, progressive, completive etc., the interpretative distinctions of negation are not so clear-cut and in general negation is propositional. The question then is what rules the placement of negative suffixes.

The distribution of negative morphology among different auxiliaries looks like the following. Some auxiliaries are regularly used with negation on the lexical verbs. The SVs *tyr-*, *koj-* and *kal-* are the best examples here. Other serial verbs, such as *čyk-* and *ber-*, much more often bear negative suffixes themselves.

This shows that the propositional content of a clause can be negated by means of any of the two positions for the negation suffixes. This fact argues in favor of monoclausality of SVC as well.

2.2 Causative

Causativization is very similar to negative derivation with respect to distribution and semantic composition. We will also consider two major cases of causative formation, but in the opposite order. First, we will describe the SVCs with one causative marker placed either on LV or on SV and then we will see what happens if we use the causative suffix on either verb.

2.2.1 Single Causative Marker on the Lexical or Auxiliary

There are two groups of auxiliaries. Auxiliaries from the first group usually adjoin to the lexical verbs marked causative:

(10) a.	Azamat	üy	sal-dyr-yp	qoj-di	
	Azamat	house	put-Caus-Conv	set-Pst	
	Azamat made somebody to build him a house.				Kazakh
(10) b.	Azamat	uy	qur-tir-ib	qol-di	
	Azamat	house	build-Caus-Conv	remain-Pst	
	Azamat made somebody to build him a house.				Uzbek

Here again verbs *tyr-*, *koj-* and *kal-* are regularly used after converbs with the causative suffix. At the same time, these very verbs are not grammatical with the causative suffixes on them:

(11) a.	*Azamat	üy	sal-yp	qoj-dyr-di	
	Azamat	house	put-Conv	set-Caus-Pst	
	Azamat made somebody to build him a house.				Kazakh
(11) b.	??Azamat	uy	sol-ib	qol-dir-di	
	Azamat	house	put-Conv	remain-Caus-Pst	
	Azamat made somebody to build him a house.				Uzbek

Auxiliaries from the second group, on the contrary, bear a causative marker on them and are not correct after a lexical verb with the causative suffix. Again, the auxiliary *čyk-* is regularly marked causative itself:

(12) a.	Rustam	Marat-tan	bez-ne	jaš-yp	čyg-yr-dy	
	Rustam	Marat-Abl	we-Acc	call-Conv	go.out-Caus-Pst	
	Rustam asked Marat to call us.					Tatar
(12) b.	??Rustam	Marat-tan	bez-ne	jaš-tyr-yp	čyk-ty	
	Rustam	Marat-Abl	we-Acc	call-Caus-Conv	go.out-Pst	
	Rustam asked Marat to call us.					Tatar

Let's look at the differences in the interpretation of examples with the modal auxiliaries. In some cases modals like *bak-* allow both low (lexical) and high (serial) attachment site. If the causative marker is on a lexical verb, it takes narrow scope with respect to an auxiliary:

(13) Roza ul-y-nnan jykla-t-yp bak-ty
Roza son-3-Abl sleep-Caus-Conv look-Pst
[ok]Roza tried to make her son to sleep. Tatar
*Roza asked her son to try to sleep.

When the causative is on the auxiliary, it scopes over it:

(14) Roza ul-y-nnan jykla-p bak-tyr-dy
Roza son-3-Abl sleep-Conv look-Caus-Pst
*Roza tried to make her son sleep. Tatar
[ok]Roza asked her son try to sleep.

As it was demonstrated, the causative exhibits tendency to take scope in situ. But there is another strategy: the causative marker on LV takes a wide scope with respect to an auxiliary:

(15) Roza Lilija-dan tereze ač-tyr-yp bak-ty
Roza Lilija-Abl window open-Caus-Conv look-Pst
Roza asked Lilija to try to open the window. Tatar

In the example above the causative initiates the situation where a causee should try to open the window, i.e. the causative scopes over the auxiliary. Such a scope transparency also shows that the auxiliary and the causative marker remain in the same clause.

2.2.2 Double Causatives

Located both on a lexical and a serial verb, the double causatives often introduce two causation subevents, see Ramchand (2008). This happens regularly when the LV is intransitive:

(16) Marat Rinat-tan Alsu-ny kurky-t-yp kuj-dyr-dy
Marat Rinat-Abl Alsu-Acc fear-Caus-Conv put-Caus-Pst
Marat frightened Alsu with Rinat's help. Tatar

The source predication here is 'Alsu scared'. First step in causativization gives us a simple transitive clause, 'Rinat frightened Alsu' and the consequent causativization adds the second causer and derives 'Marat frightened Alsu with Rinat's help'.

This is what we find in clauses without auxiliaries. A single verb can also bear two causative suffixes and has the same meaning in such cases:

(17) Marat Rinat-tan Alsu-ny kurky-t-tyr-dy
Marat Rinat-Abl Alsu-Acc fear-Caus-Caus-Pst
Marat frightened Alsu with Rinat's help. Tatar

Another function of double marking is observed with the transitive LVs. The transitives do not allow two causers and two causing subevents. Instead, they display scope ambiguity:

(18)	Roza	Sanija-dan	külmek-ne	kij-der-ep	bak-tyr-dy
	Roza	S-Abl	dress-Acc	put.on-Caus-Conv	look-Caus-Pst
	[ok]Roza asked Sanija to try on the dress.				Tatar
	[ok]Roza tried to force Sanija to put on the dress.				

Sentence (18) has two interpretations depending where the causative marker is placed. The wide scope in the first reading corresponds to the causative marking of the auxiliary, while the narrow scope in the second reading is due to the attachment of the causative suffix to the LV.

As the examples above demonstrate, two causative positions are available in simple clauses and both parts of the SVC manage to occur inside of one clause.

2.3 Passive

The passive suffixes differ both from negation and causative in that they can be attached in either of three possible ways: on LV, on SV or on both verbs, without significant changes in the interpretation:

(19) a.	Tereze	ač-yl-yp	kit-te	
	window	open-Pass-Conv	quit-Pst	
	A window opened.			Tatar
(19) b.	Tereze	ač-yp	kit-el-de	
	window	open-Conv	quit-Pass-Pst	
	A window opened.			Tatar
(19) c.	Tereze	ač-yl-yp	kit-el-de	
	window	open-Pass-Conv	quit-Pass-Pst	
	A window opened.			Tatar

As we see, passive can be used in any position without causing changes in meaning. It is also important, that most cases of passive morphology on SV are accompanied by the LV passivization.

2.4 Summary: Negation and Derivational Morphology

We summarize distributional and semantic properties of the SVCs in the table (20) below.

(20)

	LV marked	**SV marked**	**LV & SV marked**
Negation	narrow (wide) scope; preferred with *koj-*, etc.	wide (narrow) scope; preferred with *čyk-*, etc.	double negation
Causative	narrow (wide) scope; correct with *koj-*, etc.	wide (narrow) scope; correct with *čyk*, etc.	double causation
Passive	passivization		

The most interesting questions that need to be answered are the following: (i) why there are two positions for negation, causative and passive inside a clause; (ii) what are reasons for scope ambiguity (in particular – for the upward scoping); (iii) what factors prescribe one group of auxiliaries to adjoin to appropriately marked lexical verbs (*koj-* etc.) and another group of auxiliaries carry the morphological marking themselves (*čyk-* etc.).

3 Analysis

3.1 Previous Studies

An account for long passive and other instances of high attachment of derivational morphology is necessary for any approach to restructuring. Wurmbrand (2001, 2004) accounts for a long passive in Germanic as a vP-internal phenomenon observed with the so-called lexical (subclass of) restructuring verbs. According to Wurmbrand's proposal, restructuring verbs that are not able to derive long passives are functional heads outside vP and are subject to Cinque's cartographical treatment of restructuring, see Cinque (1999, 2004).

Cinque argues that any verb taking non-finite complements and providing tense, aspect or modal semantics must be treated as a functional head. Cinque's analysis accounts for ordering of multiple restructuring items but it faces some troubles concerning interaction of morphology and syntax. If we adopt the cartographical approach for Turkic, we would expect perfective morphology to be ungrammatical on auxiliaries with habitual semantics in accordance with the universal hierarchy (Cinque 1999:106). But this is contrary to the fact:

(21) Satar ukta-p žat-kan
Satar sleep-Conv lay-Pfct
Satar used to sleep. Kyrgyz

Ko & Sohn (2011) propose to divide SVs onto the high and low items to explain causative and passive SVC derivation in Korean. A by-product of their analysis is a typology and hierarchy of little v heads (v_{caus}, v_{pass}, v_{caus} , v_{do}, v_{inch}). Different types of SVs and little v heads enter the derivation at different stages, allowing derivational morphology to be merged before or after serial verbs.

If we adopt Ko & Sohn's analysis for Turkic, it would correctly explain the high and low attachment of derivational suffixes. At the same time, multiple (LV, SV) positions for derivational and negative morphology would be hard to capture. Another problem arises with upward scoping. If a serial is merged after a causative, how can the causative marker scope over

the serial, see (15). This effect is even more undesirable if we take into account that the auxiliary in (15) is modal and thus we expect it to be outside of the vP phase.

Another problem with modals and other high auxiliaries is that in Turkic (as opposed to Germanic) they easily allow for attachment of the derivational morphology, see examples (14) and (18). Moreover, some auxiliaries are equally grammatical with the causative marker on the lexical or serial verb:

(22) a.	Čač-yn	kyrk-tyr-yp	al-gan	eken	
	hair-3-Acc	cut-Caus-Conv	take-Pfct	Aux	
	S/he cuts his/her hair.				Kyrgyz

(22) b.	Men	Moskva-nyn	doctur-lar-y-na	bar-yp	al-dyr-dy-m.
	I	Moscow-Gen	doctor-Pl-3-Dat	move-Conv	take-Caus-Pst
	I visited the Moscow doctors.				Kyrgyz

Alternations like (22) are explained by Cinque (2004) as obligatorily restructuring (b) vs. obligatorily non-restructuring (a). But in such cases we observe no differences in the interpretation, modulo scope that also can be ambiguous. Moreover, non-restructuring cases like (a) that must be biclausal according to Cinque, can place negation on the auxiliary that clearly results in propositional (putative embedded clause) negation:

(23)	Čač-yn	kyrk-tyr-yp	al-ba-gan	eken
	hair-3-Acc	cut-Caus-Conv	take-Neg-Pfct	Aux
	S/he is not cutting his/her hair.			Kyrgyz

Cases like (22) become even more crucial problem for Cinque's approach if we take into account that verbs like *al-* can either bear negation, causative and passive morphology themselves or let it be attached to a lexical verb. No cartography can be driven if a bundle of functional heads can arbitrary located in two different parts of a structure.

Wurmbrand (2004) argues that the lexical restructuring verbs display both restructuring and non-restructuring properties. Even if we find reliable diagnostics differentiating restructuring and non-restructuring auxiliaries in Turkic, there is still a problem with scope. Namely, it is not clear why in non-restructuring examples like (22.a) morphology located in the embedded vP can scope over the matrix vP.

3.2 Proposal

One more fact concerning the Turkic auxiliaries should be accounted for. It is evident that the Turkic serial verbs are indeed in process of grammaticalization from hypotactic constructions to grammatical markers, see Johanson (1995) a.o. If we track grammatical changes registered in one and the same serial verb across Turkic, we can find different studies of grammaticalization. For instance, the serial *jat-* is used as a habitual in Tatar, as a progressive / habitual in Kazakh, grammaticalized into an affix in Khakas: *külimzire-pče-*, smile-Pres- (Anderson 2004:12), and does not have any grammatical function in Balkar.

This shows that the Turkic serials differ from auxiliaries in European languages in lack of the fixed position in the clause. Indeed, we will argue that due to their partial grammaticalization, they do not occupy a specific head position but soon are merged as a block of structure with a chunk of functional heads.

The examples below show initial and final steps in grammaticalization. The process started from the complex clause where a finite verb projected a full-fledged clause, (24.a). The final stage of grammaticalization would be the situation when a serial turns into morpheme, occasionally observed in Kyrgyz, (24.b).

(24) a.	Roza	köl-dün	žeeg-in-de	[suu-ga	kara-p]	tur-at.
	Roza	lake-Gen	bank-3-Loc	water-Dat	look-Conv	stay-Prs.3
	Roza stays at the bank of the lake looking at the water.					Kyrgyz
	[$_{CP}$ Su		PP	[$_{CP}$	PP Verb]	Verb]

(24) b.	Roza	köl-dün	žeeg-in-de	suu-ga	kara-p-tur-at.
	Roza	lake-Gen	bank-3-Loc	water-Dat	look-Conv-Progr-Prs.3
	Roza is looking at the water at the bank of the lake.				Kyrgyz
	[$_{CP}$ Su	[$_{ProgP}$	PP	PP	Verb-Progr]-finite.morph]

On its way from a lexical item into a suffix, a verb enters into a stage where it does not have its own arguments or adjuncts, acquiring a serial verb shape, (24.c):

(24) c.	Roza	[köl-dün	žeeg-in-de	suu-ga	kara-p]	tur-at.
	Roza	lake-Gen	bank-3-Loc	water-Dat	look-Conv	stay-Prs.3
	Roza is looking at the water at the bank of the lake.					Kyrgyz
	[$_{CP}$ Su	[$_{FP}$	PP	PP	LV	SV]]

A serial stage differs both from the lexical and the bound morpheme stages. Compared to the lexical stage, a serial can no more syntactically select. At the same time, a serial verb does not loose the ability to project a functional structure in a narrow domain above it.[2]

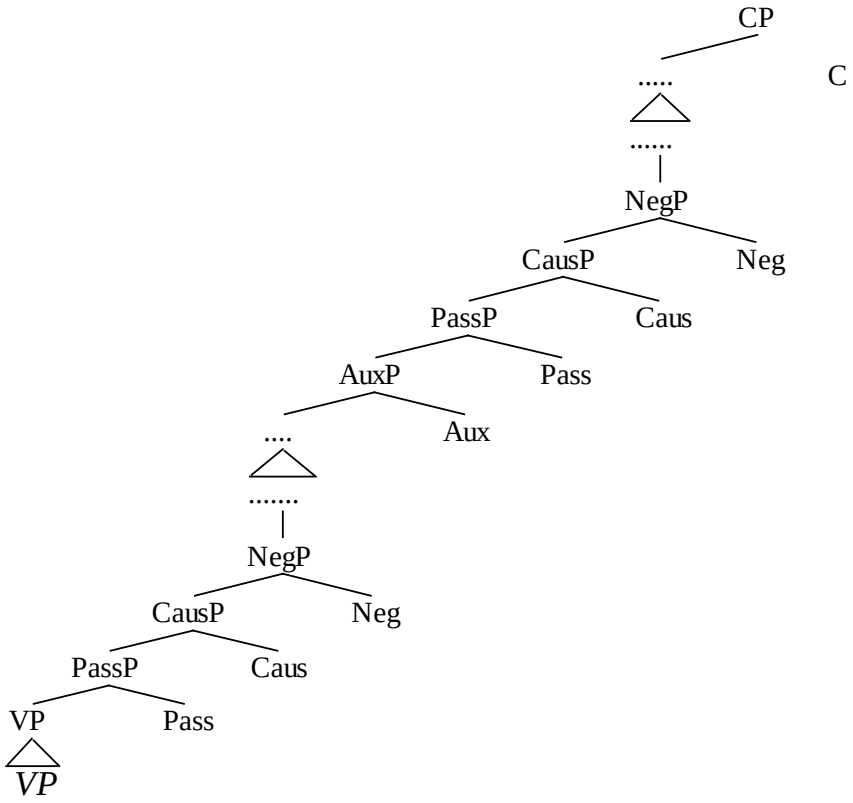
An auxiliary retains its ability to be merged with the Pass, Caus and Neg heads from the stage when it has been used as a lexical item. At the same time, when it semantically bleaches, it loses its lexical meaning and the subcategorization abilities, the main part of a regular functional structure disappears.

The exact mechanism that switches the subcategorization or adjunction pattern observed with lexical verbs in (24.a) to a pattern displayed by serials in (24.c), has to be discussed more and is not subject of current analysis. Here we just want to propose a "centaurian" approach to the auxiliary constructions in Turkic as an intermediate stage between a regular lexical verb in (24.a) and a bound morpheme in (24.b).

To function as a TAM marker, a serial should be placed to some specific position, i.e. occupy an appropriate level in a functional structure. Being merged there, an auxiliary keeps a bunch of surrounding functional heads: [3]

[2] We can refer to (Johanson 1995) for the more fine-grained description of grammaticalization patterns or (Lord 1993) for a wider typological perspective.

(25)



Our analysis of the Turkic SVC can be considered as a combined version of "lexical" treatment of restructuring by Wurmbrand (2001, 2004) and cartographical framework by Cinque (1999, 2004). We also adhere "split v" approach proposed in Ko & Sohn (2011). This view of clause structure is supported by Altaic, where derivational morphology exhibit a strict ordering.

3.2 Elaboration

Distributional properties of the derivational and negative morphology in the SVCs follow straightforwardly from (25).

Two positions for Pass, Caus and Neg are available inside the same clause and either one or both of them can be filled in and interpreted. In case of verbs like *bak-* or *al-* morphological marking can be found in any of the two available positions. This is what one finds in (8-9), (13-14) for *bak-* or in (22) for *al-*.

Concerning double marking, if we merge the negation markers in every Neg head, then each of them contributes at LF, that results in an affirmative reading. In the similar manner each of the two causative markers can introduce its own causer as in (16), or at least affect the scope, as

[3] It is worth noting that the causative suffix can override passive morphology whereas negation marking is ungrammatical with all derivational morphology. Here we propose just a very schematic view of the Turkic clause structure, leaving a detailed tree for further discussion.

shown in (18). Both negation and causative morphology can scope below an auxiliary if these suffixes are merged before it, or above the serial if they enter the derivation later.

Passivization is not sensitive to low, high or double attachment since the role of passive morphology is not to introduce an operator or argument, on the contrary, to remove an agent (and promote a theme). This is why a passive marker has the same function being used in the low, high or both positions.

To sum up, the situation when functional heads of the same type are merged inside a clause more than once is not unusual for natural languages, see, for instance, Fukuda (2012) on the English aspectuals. The same phenomenon is observed on negative and derivational markering of the Turkic auxiliaries.

Then, as we saw in the second section, negative and causative morphology most naturally scopes in situ. We also found cases of scope alternation: being placed low, a marker can take scope over an auxiliary, see (15), and vice versa.

We can mention at least two mechanisms that derive down or upward scoping under the structure in (25). First, we can suppose a kind of agreement between the low functional head and its high counterpart. Negative operator can raise for feature checking into the higher Spec, NegP or otherwise, the higher Neg head can probe downwards.

Second, ability to scope "through" vP phase can be due to a fact that at least Pass and Caus heads are parts of the split little v and thus are at the left periphery that should be available from the CP phase, i.e., from the high Pass, Caus and Neg heads. Neg heads that we expect to be higher than Pass and Caus are thus either a part of periphery or outside vP and anyway are available from above.

Interaction of grammatical meaning provided by morphology and auxiliaries that is sometimes a problem for cartographical analysis, see 3.1, example (21), can be captured as well. If we admit that SVs bring a part of functional environment with them, we can argue that discrepancies in functional elements orderings result from the intermediate (=not strictly functional) status of serial items. Supplying a clause with aspectual or other grammatical meaning, SVs can not fit into the functional head hierarchy and keep ordering of grammatical elements from the stage where they were lexical verbs.

Finally, we observed that some serials prefer to be used after verbs with the negative or derivational morphology, whereas others tend to be marked themselves. There are two facts to be explained here: availability of different positions and preference for one of them. The first fact follows from (25) straightforwardly.

The fact that verbs like *tyr-*, *koj-* and *kal-* do not receive negative and derivational morphology can be accounted for as follows. First, these serials introduce progressive, habitual and perfective semantics that is usually associated with the highest instances of Asp bunch of functional heads, see (Cinque 1999). Second, some of these verbs, *tyr-* is the best example here, are extremely productive as an auxiliary and often got grammaticalized into morphemes across Turkic.

Their frequency might led these auxiliaries quite far in the grammaticalization process and force them to "slough" their functional environment. On a pair with English auxiliaries or modals, they can be treated as items occupying specific functional head position in the clause structure. Cases when negative and derivational morphology is marginally acceptable on such high auxiliaries can be due to their undergrammaticalization. In the latter case (25) should be called for explanation.

Auxiliaries that bear negation and causative marking themselves can be treated similarly. If we take the verb *čyk-*, which is the best example of low auxiliary, we notice that it expresses completive aspect and as such is low enough on Cinque's hierarchy of aspectuals. At the same time, it is also very frequent as an auxiliary both in every particular language[4] and across Turkic. We can also argue that its regular use as an auxiliary led it to surface as a single head. The only difference is that in this case negative and derivational morphology has been fixed higher than the auxiliary due to its low position on the universal functional hierarchy.

4 Conclusion

We showed that serial verb constructions in Turkic display restructuring phenomenon. Namely, part of morphology that affects argument structure can be hosted by auxiliary verbs. On the contrary, morphology that is attached to the lexical verb, can scope over auxiliaries. Finally, sometimes the two positions for marking are attested that results in the affirmative reading of negation or scope ambiguity of derivational morphology.

We proposed an account in terms of "centaurian" structure. In such structures auxiliaries are not yet fully grammaticalized and are just on their way from a subcategorized vP or adjoined clause to a functional head. As lexical items, they are still able to project functional structure. As functional heads, they have grammatical semantics and do not take complements or adjuncts.

It is worth noting that such partial or "vague" stage in grammaticalization can be described in terms of syntactic structure. Another important conclusion is that the notion "restructuring" applied to Turkic auxiliaries has a purely diachronic flavor.

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[4] We can mention at least Kyrgyz, Kazakh, Tatar, Uzbek and Tuba where this serial is very productive.