Universal Annotation of Slavic Verb Forms

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Abstract

This article proposes application of a subset of the Universal Dependencies (UD) standard to the group of Slavic languages. The subset in question comprises morphosyntactic features of various verb forms. We systematically document the inventory of features observable with Slavic verbs, giving numerous examples from 10 languages. We demonstrate that terminology in literature may differ, yet the substance remains the same. Our goal is practical. We definitely do not intend to overturn the many decades of research in Slavic comparative linguistics. Instead, we want to put the properties of Slavic verbs in the context of UD, and to propose a unified (Slavic-wide) application of UD features and values to them. We believe that our proposal is a compromise that could be accepted by corpus linguists working on all Slavic languages.

1. Introduction and related work

Universal Dependencies (Nivre et al., 2016)¹ is a project that seeks to design cross-linguistically consistent treebank annotation for as many languages as possible. Besides dependency relations, UD also defines universally applicable tags for parts of speech (*universal POS tags*) and common morphosyntactic features (*universal features*). The features are taken from a previous project called Intersect (Zeman, 2008).

Being suitable for a variety of unrelated languages means that the core concepts of UD must be sufficiently general; at the same time, their definitions must be descriptive enough to signal that two phenomena in two different languages are (or are not) the same thing, despite conflicts in traditional terminologies.

There is always the danger that researchers working on different languages will apply the UD concepts differently. As UD gains on popularity and new datasets are

¹<http://universaldependencies.org/>

converted to its annotation scheme, enforcing consistency is an increasingly important issue. It seems natural to start with looking at closely related languages and first make sure that they annotate the same things same way; then widen the view to larger language groups and so on.

The first work on Slavic-specific issues in UD was Zeman (2015). The present article focuses on part-of-speech tags and features of individual words, not on inter-word dependency relations. Some verb forms are analytical (periphrastic), made of two or more individual words. We occasionally use the periphrastic constructions for illustrative purposes but bear in mind that tags and features must be assigned to individual words only. Also note that UD postulates the concept of syntactic word, something that is not necessarily identical to the space-delimited orthographic word. An orthographic word may be understood as a fusion of two or more syntactically autonomous units; the annotation treats each of them separately.

Some work has been published that pre-dates UD and is related to our current effort. Besides InterSet (Zeman, 2015), the outcomes of the MULTEXT-East project are highly relevant (Erjavec, 2012). Quite a few Slavic languages have morpho-syntactic tagsets stemming from MULTEXT-East. These tagsets are similar to each other and they were indeed intended to encode the same phenomena identically across languages. Unfortunately they have not always reached this goal. Traditional views and legacy resources sometimes outweighed the desire for uniformity. UD faces the same danger and we should strive hard to avoid it.

In the following sections we discuss UD tags and features applicable to Slavic verbs (as well as some words on the border between verbs and other parts of speech). We give numerous examples and inflection tables together with the proposed annotation.² We list the native names of the verb forms in the beginning of each section.

We use ISO 639 language codes when referring to individual languages: **[be]** Belarusian, **[bg]** Bulgarian, **[cs]** Czech, **[cu]** Old Church Slavonic, **[dsb]** Lower Sorbian, **[hr]** Croatian, **[hsb]** Upper Sorbian, **[mk]** Macedonian, **[pl]** Polish, **[ru]** Russian, **[sk]** Slovak, **[sl]** Slovenian, **[sr]** Serbian, **[uk]** Ukrainian.

Six Slavic languages ([bg], [cs], [cu], [hr], [pl] and [sl]) already have datasets in the current release of UD (1.2) and other languages are expected to get covered in the near future. We briefly summarize the approaches taken in the current data in Section 18.

2. Universal Features

The following universal features are discussed in the article. See the on-line documentation of UD (<http://universaldependencies.org/>) for their detailed description with examples. Here we provide just a list for quick reference:

²The tables were compiled using on-line resources such as Wictionary, verb conjugators and language courses, as well as printed grammars and dictionaries. We do not cite these sources individually due to space considerations.

- Aspect: Imp (imperfective), Perf (perfective)
- VerbForm: Fin (finite verb), Inf (infinitive), Sup (supine), Part (participle), Trans (transgressive)
- Mood: Ind (indicative), Imp (imperative), Cnd (conditional)
- Tense: Past (past), Imp (imperfect), Pres (present), Fut (future)
- Voice: Act (active), Pass (passive)
- Number: Sing (singular), Dual (dual), Plur (plural)
- Person: 1, 2, 3
- Gender: Masc (masculine), Fem (feminine), Neut (neuter)
- Animacy: Anim (animate/human), Nhum (animate nonhuman), Inan (inanimate)
- Case: Nom (nominative), Gen (genitive), Dat (dative), Acc (accusative), Voc (vocative), Loc (locative), Ins (instrumental)
- Definite: Ind (indefinite), Def (definite)
- Negative: Pos (affirmative), Neg (negative)

3. Universal Part of Speech Tag and Lemma

We discuss various finite and non-finite forms of verbs in Slavic languages. We include some forms on the border of verbs and other parts of speech because we want to define the borderline between parts of speech uniformly for all Slavic languages.

We propose a simple (but approximate!) rule of thumb: if it inflects for Case, it is not a VERB. It is either an ADJ, or a NOUN. We treat such forms as adjectives or nouns derived from verbs. Nevertheless, they may have some features such as VerbForm and Tense that are normally used with verbs and that do not occur with other adjectives and nouns.

Verbal nouns have the neuter gender and they are rarely seen in plural.

Participles may, depending on language, have short and long forms. The long forms almost always inflect for Case and can be used attributively (as modifiers of nouns). We propose to classify them as adjectives. The short forms of some participle types receive the VERB tag: it signals that their inflection is limited³ and their usage is prevailingly predicative. In south Slavic languages even some short participles inflect for Case⁴ and get the ADJ tag; the short vs. long forms differ in the feature of Definite(ness) there.

Only a few Slavic verbs may function as auxiliaries and be tagged AUX. All of them may also be tagged VERB in other contexts. The main auxiliary verb is *to be* (*být*, *bývat*, *byť*, *być*, *быти*, *быть*, *biti*...). It may be used to form the future tense, past tense, conditional and passive. Serbo-Croatian languages use a different auxiliary verb, *htjeti*

³A rare example of short form inflection in Czech is the feminine accusative, e.g. *udělánu*.

⁴Actually only a few forms—masculine singular nominative and masculine inanimate singular accusative—distinguish “long” vs. “short” forms in [sl] and [hr]. In the other cases there is just one form and it does not make much sense to classify it as either long or short.

“will”, to form the future tense. We do not see any benefit in granting the auxiliary status to verbs that are not needed in periphrastic verb forms; in particular, modal verbs are tagged VERB, although UD for Germanic languages treats them as auxiliaries. In accord with the UD guidelines, the verb *to be* is tagged VERB if it functions as copula.

All words tagged VERB or AUX must have a non-empty value of the feature *VerbForm*.

The POS tag also determines what word form will be used as the lemma. For VERB and AUX, the lemma is the infinitive (Section 5),⁵ except for [bg] and [mk]: these languages do not have infinitives, and present indicative forms are used as lemmas there. However, if the word is tagged ADJ, the masculine singular nominative form of the adjective serves as the lemma. The annotation does not show the infinitive of the base verb (except for an optional reference in the MISC column). Similarly, the lemma of a verbal NOUN is its singular nominative form.

4. Aspect

Slavic languages distinguish two aspects: imperfective (Aspect=Imp) and perfective (Aspect=Perf). The feature is considered lexical, that is, all forms of one lemma (usually) belong to the same aspect. A few verbs (many of them loanwords from non-Slavic languages) work with both aspects. We omit the Aspect feature at these verbs. Most Slavic verbs are part of inflected aspect pairs where one verb is imperfective and the other is perfective. They have different lemmas and the morphological processes that create one from the other are considered derivational. Examples (Imp – Perf): [cs] *dělat* – *udělat* “to do”, *sedět* – *sednout* “to sit”, *kupovat* – *koupit* “to buy”, *brát* – *vzít* “to take”. Although the meaning of the two verbs is similar, in perfective verbs the action is completed and in imperfective verbs it is ongoing.

The equivalents of the verb *to be* are imperfective.

5. Infinitive and Supine

[cs] *infinitiv*, *neurčitek*; [sk] *infinitív*, *neurčitok*; [hsb] *infinitiw*; [pl] *bezokolicznik*; [uk] *інфінітив*; [ru] *инфинитив*; [sl] *nedoločnik* (Inf), *namenilnik* (Sup); [hr] *infinitiv*. Tables 1 and 2.

Most Slavic languages have a distinct infinitive form, which is used as argument of modal and other verbs (control, purpose), and sometimes in construction of the periphrastic future tense. The infinitive is also used as the citation form of verbs. It does not exist in Macedonian and Bulgarian.

Czech has two forms of infinitive, e.g. *dělat* and *dělati* “to do”. The longer form with the final *-i* is considered archaic, otherwise they are grammatically equivalent.

⁵We do not prescribe whether inherently reflexive verbs such as [cs] *smát se* “to laugh” should or should not have the reflexive pronoun incorporated in their lemma.

en	<i>to be</i>	<i>can</i>	<i>to go</i>	<i>to do</i>	<i>to accept</i>
cs	<i>být, býti</i>	<i>moci, moci</i>	<i>jít, jíti</i>	<i>dělat, dělati</i>	<i>akceptovat, akceptovati</i>
sk	<i>byť</i>	<i>môcť</i>	<i>ísť</i>	<i>robiť</i>	<i>akceptovať</i>
hsb	<i>być</i>	<i>móc</i>	<i>hić</i>	<i>dźěłać</i>	<i>akceptować</i>
pl	<i>być</i>	<i>móc</i>	<i>iść</i>	<i>robić</i>	<i>akceptować</i>
uk	<i>бути buty</i>	<i>могти mohty</i>	<i>йти jty</i>	<i>робити robyty</i>	<i>акцентувати akceptuvaty</i>
ru	<i>быть byt'</i>	<i>мочь moč'</i>	<i>идти idti</i>	<i>делать delat'</i>	<i>акцентовать akceptovat'</i>
sl	<i>biti</i>	<i>moči</i>	<i>iti</i>	<i>delati</i>	<i>akceptirati</i>
hr	<i>biti</i>	<i>moći</i>	<i>ići</i>	<i>delati, delat</i>	<i>akceptirati, akceptirat</i>
cu	<i>БЫТИ byti</i>	<i>МОЩИ mošti</i>	<i>ИТИ iti</i>	<i>ДѢЛАТИ dělati</i>	

Table 1. VerbForm=Inf

en	<i>to be</i>	<i>can</i>	<i>to go</i>	<i>to do</i>	<i>to accept</i>
sl	<i>bit</i>		<i>it</i>	<i>delat</i>	<i>akceptirat</i>
cu	<i>БЫТЬ bytъ</i>		<i>ИТЬ itъ</i>	<i>ДѢЛАТЬ dělātъ</i>	

Table 2. VerbForm=Sup

In contrast, Slovenian uses only the longer form (*delati*) as infinitive, while the shorter form is called supine and is used after motion verbs (meaning “to go somewhere to do something”).⁶ In Croatian both are considered infinitive but the short form is only used in future tense if the infinitive precedes the auxiliary verb: *Učit ću hrvatski*. “I will learn Croatian.” but *Hoću učiti hrvatski*.

Infinitive and supine verbs lack most other verbal features, they only have non-empty values of Aspect, VerbForm and in some languages also of Negative.

6. Present and Future Indicative

[cs] *přítomný čas (přezens), budoucí čas (futurum)*; [sk] *přítomný čas, budúci čas*; [hsb] *prezens, futur*; [pl] *czas teraźniejszy, czas przyszy*; [uk] *менепішній час, майбутній час*;

⁶The supine is an old form, attested in Old Church Slavonic. Besides Slovenian, it has also survived in Lower Sorbian.

Number	Sing			Dual			Plur		
Person	1	2	3	1	2	3	1	2	3
cs	<i>jsem</i>	<i>jsi</i>	<i>je</i>				<i>jsme</i>	<i>jste</i>	<i>jsou</i>
sk	<i>som</i>	<i>si</i>	<i>je</i>				<i>sme</i>	<i>ste</i>	<i>sú</i>
hsb	<i>sym</i>	<i>sy</i>	<i>je</i>	<i>smój</i>	<i>staj</i>	<i>staj</i>	<i>smy</i>	<i>sće</i>	<i>su</i>
pl	<i>jestem</i>	<i>jesteś</i>	<i>jest</i>				<i>jesteśmy</i>	<i>jesteście</i>	<i>są</i>
uk	є <i>je</i>	єси, є <i>jesy, je</i>	є <i>je</i>				є <i>je</i>	є <i>je</i>	є <i>je</i>
ru			есть <i>est'</i>						есть <i>sut'</i>
sl	<i>sem</i>	<i>si</i>	<i>je</i>	<i>sva</i>	<i>sta</i>	<i>sta</i>	<i>smo</i>	<i>ste</i>	<i>so</i>
hr	<i>jesam</i> <i>sam</i>	<i>jesi</i> <i>si</i>	<i>jest</i> <i>je</i>				<i>jesmo</i> <i>smo</i>	<i>jeste</i> <i>ste</i>	<i>jesu</i> <i>su</i>
bg	съм <i>sām</i>	си <i>si</i>	е <i>e</i>				сме <i>sme</i>	сте <i>ste</i>	са <i>sa</i>
cu	ЕСМЪ <i>jesmъ</i>	ЕСИ <i>jesi</i>	ЕСТЪ <i>jestъ</i>	ЕСВЪ <i>jesvъ</i>	ЕСТА <i>jesta</i>	ЕСТЕ <i>jeste</i>	ЕСМЪ <i>jesmъ</i>	ЕСТЕ <i>jeste</i>	СЖТЪ <i>sъtъ</i>

Table 3. *To be*, VerbForm=Fin | Mood=Ind | Tense=Pres. Note that in Ukrainian and Russian the original non-3rd person forms of this verb have become archaic.

[ru] *настоящее время, будущее время*; [sl] *sedanjik, prihodnjik*; [hr] *sadašnje vrijeme, buduće vrijeme*; [bg] *сегашно време, бъдеще време*. Tables 3–15.

Present tense is a simple finite verb form that marks person and number of the subject. Present forms of perfective verbs have a future meaning; however, we prefer morphology (form) to semantics (function) and annotate them Tense=Pres, regardless the aspect and meaning.⁷

Future tense of imperfective verbs is usually formed periphrastically, using infinitive or participle of the content verb, and special forms of the auxiliary verb *to be*, e.g. [cs] *budu dělat* “I will do”. These special forms are different from the present forms and they are annotated Tense=Fut. The infinitive of the content verb does not have the tense feature.

In Croatian, the periphrastic future is formed using another auxiliary verb, *htjeti* “will / want”. This verb can also be used as a content (non-auxiliary) verb, and its auxiliary forms are not different from its normal present forms. Therefore they will be annotated Tense=Pres.

⁷Some tagsets prefer to call these forms *non-past verb*, cf. Przepiórkowski and Woliński (2003).

Nu	Sing			Dual			Plur		
Pe	1	2	3	1	2	3	1	2	3
cs	<i>budu</i>	<i>budeš</i>	<i>bude</i>				<i>budeme</i>	<i>budete</i>	<i>budou</i>
sk	<i>budem</i>	<i>budeš</i>	<i>bude</i>				<i>budeme</i>	<i>budete</i>	<i>budú</i>
hsb	<i>budu</i>	<i>budžeš</i>	<i>budže</i>	<i>budžemoj</i>	<i>budžetej</i>	<i>budžetej</i>	<i>budžemy</i>	<i>budžeće</i>	<i>budu</i>
pl	<i>będę</i>	<i>będziesz</i>	<i>będzie</i>				<i>będziemy</i>	<i>będziecie</i>	<i>będą</i>
uk	<i>бyдy</i> <i>budu</i>	<i>бyдеu</i> <i>budeš</i>	<i>бyде</i> <i>bude</i>				<i>бyдеmo</i> <i>budemo</i>	<i>бyдеme</i> <i>budete</i>	<i>бyдyмb</i> <i>budut'</i>
ru	<i>бyдy</i> <i>budu</i>	<i>бyдеuиb</i> <i>budeš'</i>	<i>бyдем</i> <i>budet</i>				<i>бyдем</i> <i>budem</i>	<i>бyдеme</i> <i>budete</i>	<i>бyдyм</i> <i>budut</i>
sl	<i>bom</i>	<i>boš</i>	<i>bo</i>	<i>bova</i>	<i>bosta</i>	<i>bosta</i>	<i>bomo</i>	<i>boste</i>	<i>bodo</i>
cu	<i>БЖДЖ</i> <i>bɔdɔ</i>	<i>БЖДЕПНН</i> <i>bɔdeši</i>	<i>БЖДЕТb</i> <i>bɔdetɔ</i>	<i>БЖДЕВb</i> <i>bɔdevɛ</i>	<i>БЖДЕТА</i> <i>bɔdeta</i>	<i>БЖДЕТЕ</i> <i>bɔdete</i>	<i>БЖДЕМb</i> <i>bɔdemɔ</i>	<i>БЖДЕТЕ</i> <i>bɔdete</i>	<i>БЖДЖТb</i> <i>bɔdɔtɔ</i>

Table 4. *To be, VerbForm=Fin | Mood=Ind | Tense=Fut.*

A handful of Czech, Slovak and Slovenian motion verbs also have simple future forms, created by the prefix *p[ooôu]*:- [cs] *půjde* “he will go”, *pojede* “he will ride”, *poletí* “he will fly” but also *pokvete* “it will bloom”. In these cases the prefix is not derivational because it does not create a new perfective lemma with a full paradigm. Thus we annotate these forms as future so they are distinguished from the present forms. In other languages the situation may be different. Russian *noĩmu* (*pojti*) is a full perfective counterpart of the imperfective *uĩmu* (*idti*) and its present forms are annotated Tense=Pres.

Ukrainian is special in that it has regular simple future forms of imperfective verbs (not restricted to motion verbs). The periphrastic future also exists.

Number	Sing			Dual		
Person	1	2	3	1	2	3
cs	<i>půjdu</i>	<i>půjdeš</i>	<i>půjde</i>			
sk	<i>pôjdem</i>	<i>pôjdeš</i>	<i>pôjde</i>			
hsb	<i>pónđu</i>	<i>pónďžeš</i>	<i>pónďže</i>	<i>pónďžemoj</i>	<i>pónďžetej</i>	<i>pónďžetej</i> ...
sl	<i>pojdem</i>	<i>pojdeš</i>	<i>pojde</i>	<i>pojdeva</i>	<i>pojdeteta</i>	<i>pojdeteta</i>
uk	<i>їтиму jtymu</i>	<i>їтимуєш jtymeš</i>	<i>їтиме jtyme</i>			

Number	Plur		
Person	1	2	3
cs	<i>půjdeme</i>	<i>půjdete</i>	<i>půjdou</i>
sk	<i>pôjdeme</i>	<i>pôjdete</i>	<i>pôjdu</i>
hsb	<i>pónďžemy</i>	<i>pónďžeće</i>	<i>pónđu</i>
sl	<i>pojdemo</i>	<i>pojdete</i>	<i>pojdejo</i>
uk	<i>їтимемо jtymemo</i>	<i>їтимете jtymete</i>	<i>їтимуть jtymut'</i>

Table 5. To go, VerbForm=Fin | Mood=Ind | Tense=Fut.

Number	Person	be	can	go	do	accept
Sing	1	<i>jsem</i>	<i>můžu, mohu</i>	<i>jdu</i>	<i>dělám</i>	<i>akceptuji</i>
Sing	2	<i>jsi</i>	<i>můžeš</i>	<i>jdeš</i>	<i>děláš</i>	<i>akceptuješ</i>
Sing	3	<i>je</i>	<i>může</i>	<i>jde</i>	<i>dělá</i>	<i>akceptuje</i>
Plur	1	<i>jsme</i>	<i>můžeme</i>	<i>jdeme</i>	<i>děláme</i>	<i>akceptujeme</i>
Plur	2	<i>jste</i>	<i>můžete</i>	<i>jdete</i>	<i>děláte</i>	<i>akceptujete</i>
Plur	3	<i>jsou</i>	<i>můžou, mohou</i>	<i>jdou</i>	<i>dělají</i>	<i>akceptují</i>

Table 6. [cs] VerbForm=Fin | Mood=Ind | Tense=Pres

Number	Person	be	can	go	do	accept
Sing	1	<i>som</i>	<i>môžem</i>	<i>idu</i>	<i>robím</i>	<i>akceptujem</i>
Sing	2	<i>si</i>	<i>môžeš</i>	<i>ideš</i>	<i>robiš</i>	<i>akceptuješ</i>
Sing	3	<i>je</i>	<i>môže</i>	<i>ide</i>	<i>robí</i>	<i>akceptuje</i>
Plur	1	<i>sme</i>	<i>môžeme</i>	<i>ideme</i>	<i>robíme</i>	<i>akceptujeme</i>
Plur	2	<i>ste</i>	<i>môžete</i>	<i>idete</i>	<i>robíte</i>	<i>akceptujete</i>
Plur	3	<i>sú</i>	<i>môžu</i>	<i>idú</i>	<i>robia</i>	<i>akceptujú</i>

Table 7. [sk] VerbForm=Fin | Mood=Ind | Tense=Pres

Number	Person	be	can	go	do	accept
Sing	1	<i>sym</i>	<i>môžu</i>	<i>du</i>	<i>džělam</i>	<i>akceptuju</i>
Sing	2	<i>sy</i>	<i>môžeš</i>	<i>džeš</i>	<i>džělaš</i>	<i>akceptuješ</i>
Sing	3	<i>je</i>	<i>môže</i>	<i>dže</i>	<i>džěla</i>	<i>akceptuje</i>
Dual	1	<i>smój</i>	<i>móžemoj</i>	<i>džemoj</i>	<i>džělamoj</i>	<i>akceptujemoj</i>
Dual	2	<i>staj</i>	<i>móžetej</i>	<i>džetej</i>	<i>džělatej</i>	<i>akceptujetej</i>
Dual	3	<i>staj</i>	<i>móžetej</i>	<i>džetej</i>	<i>džělatej</i>	<i>akceptujetej</i>
Plur	1	<i>smy</i>	<i>móžemy</i>	<i>džemy</i>	<i>džělamy</i>	<i>akceptujemy</i>
Plur	2	<i>sće</i>	<i>móžeće</i>	<i>džeće</i>	<i>džělaće</i>	<i>akceptujeće</i>
Plur	3	<i>su</i>	<i>móža, móžeja</i>	<i>du, džeja</i>	<i>džělaja</i>	<i>akceptuja</i>

Table 8. [hsb] VerbForm=Fin | Mood=Ind | Tense=Pres

Number	Person	be	can	go	do	accept
Sing	1	<i>jestem</i>	<i>mogę</i>	<i>idę</i>	<i>robię</i>	<i>akceptuję</i>
Sing	2	<i>jesteś</i>	<i>możesz</i>	<i>idziesz</i>	<i>robisz</i>	<i>akceptujesz</i>
Sing	3	<i>jest</i>	<i>może</i>	<i>idzie</i>	<i>robi</i>	<i>akceptuje</i>
Plur	1	<i>jestemy</i>	<i>możemy</i>	<i>idziemy</i>	<i>robimy</i>	<i>akceptujemy</i>
Plur	2	<i>jesteście</i>	<i>możecie</i>	<i>idziecie</i>	<i>robicie</i>	<i>akceptujecie</i>
Plur	3	<i>są</i>	<i>mogą</i>	<i>idą</i>	<i>robią</i>	<i>akceptują</i>

Table 9. [pl] VerbForm=Fin | Mood=Ind | Tense=Pres

Number	Person	be	can	go	do	accept
Sing	1	є je	можу možu	їду jdu	роблю roblju	акценнтую akceptuju
Sing	2	єси, є jesy, je	можеш možeš	їдеши jdeš	робиши robyš	акценнтуюєши akceptujuješ
Sing	3	є je	може može	їде jde	робить robyt'	акценнтуює akceptuje
Plur	1	є je	можемо možemo	їдемо, їдем jdemo, jdem	робимо, робим robymo, robym	акценнтуюємо akceptujemo
Plur	2	є je	можете možete	їдете jdete	робите robyte	акценнтуюєте akceptujete
Plur	3	є je	можуть možut'	їдуть jdut'	роблять robljat'	акценнтуюють akceptujut'

Table 10. [uk] VerbForm=Fin | Mood=Ind | Tense=Pres

Number	Person	be	can	go	do	accept
Sing	1		могу mogu	їду idu	делаю delaju	акценнтую akceptuju
Sing	2		можешь možeš'	їдешь iděš'	делаешь delaeš'	акценнтуюешь akceptueš'
Sing	3	єсть est'	может možet	їдѣт idět	делает delaet	акценнтуют akceptuet
Plur	1		можем možem	їдѣм idēm	делаем delaem	акценнтуюем akceptuem
Plur	2		можете možete	їдѣте iděte	делаєте delaete	акценнтуюєте akceptujete
Plur	3	суть sut'	могут mogut	їдуть idut	делают delajut	акценнтуют akceptujut

Table 11. [ru] VerbForm=Fin | Mood=Ind | Tense=Pres

Number	Person	be	can	go	do	accept
Sing	1	<i>sem</i>	<i>morem</i>	<i>grem</i>	<i>delam</i>	<i>akceptiram</i>
Sing	2	<i>si</i>	<i>moreš</i>	<i>greš</i>	<i>delaš</i>	<i>akceptiraš</i>
Sing	3	<i>je</i>	<i>more</i>	<i>gre</i>	<i>dela</i>	<i>akceptira</i>
Dual	1	<i>sva</i>	<i>moreva</i>	<i>greva</i>	<i>delava</i>	<i>akceptirava</i>
Dual	2	<i>sta</i>	<i>moreta</i>	<i>gresta</i>	<i>delata</i>	<i>akceptirata</i>
Dual	3	<i>sta</i>	<i>moreta</i>	<i>gresta</i>	<i>delata</i>	<i>akceptirata</i>
Plur	1	<i>smo</i>	<i>moremo</i>	<i>gremo</i>	<i>delamo</i>	<i>akceptiramo</i>
Plur	2	<i>ste</i>	<i>morete</i>	<i>greste</i>	<i>delate</i>	<i>akceptirate</i>
Plur	3	<i>so</i>	<i>morejo</i>	<i>gredo, grejo</i>	<i>delajo</i>	<i>akceptirajo</i>

Table 12. [sl] VerbForm=Fin | Mood=Ind | Tense=Pres

Number	Person	be	can	go	do	accept
Sing	1	<i>сѣм</i> <i>sām</i>	<i>мога</i> <i>moga</i>	<i>отивам</i> <i>otivam</i>	<i>правя</i> <i>pravja</i>	<i>акѣнмупам</i> <i>akceptiram</i>
Sing	2	<i>си</i> <i>si</i>	<i>можеи</i> <i>možeš</i>	<i>отиваи</i> <i>otivaš</i>	<i>правии</i> <i>praviš</i>	<i>акѣнмупаи</i> <i>akceptiraš</i>
Sing	3	<i>е</i> <i>e</i>	<i>може</i> <i>može</i>	<i>отива</i> <i>otiva</i>	<i>прави</i> <i>pravi</i>	<i>акѣнмупа</i> <i>akceptira</i>
Plur	1	<i>сѣме</i> <i>sme</i>	<i>можем</i> <i>možem</i>	<i>отиваме</i> <i>otivame</i>	<i>правим</i> <i>pravim</i>	<i>акѣнмупаме</i> <i>akceptirame</i>
Plur	2	<i>сѣсте</i> <i>ste</i>	<i>можете</i> <i>možete</i>	<i>отивате</i> <i>otivate</i>	<i>правите</i> <i>pravite</i>	<i>акѣнмупаме</i> <i>akceptirate</i>
Plur	3	<i>са</i> <i>sa</i>	<i>могат</i> <i>mogat</i>	<i>отиват</i> <i>otivat</i>	<i>правят</i> <i>pravjat</i>	<i>акѣнмупам</i> <i>akceptirat</i>

Table 13. [bg] VerbForm=Fin | Mood=Ind | Tense=Pres

Number	Person	be	can	go	do	accept
Sing	1	<i>jesam, sam</i>	<i>moгу</i>	<i>idem</i>	<i>delam</i>	<i>akceptiram</i>
Sing	2	<i>jesi, si</i>	<i>možeš</i>	<i>ideš</i>	<i>delaš</i>	<i>akceptiraš</i>
Sing	3	<i>jest, je</i>	<i>može</i>	<i>ide</i>	<i>dela</i>	<i>akceptira</i>
Plur	1	<i>jesmo, smo</i>	<i>možemo</i>	<i>idemo</i>	<i>delamo</i>	<i>akceptiramo</i>
Plur	2	<i>jeste, ste</i>	<i>možete</i>	<i>idete</i>	<i>delate</i>	<i>akceptirate</i>
Plur	3	<i>jesu, su</i>	<i>moгу</i>	<i>idu</i>	<i>delaju</i>	<i>akceptiraju</i>

Table 14. [hr] VerbForm=Fin | Mood=Ind | Tense=Pres

Number	Person	be	can	go	do
Sing	1	ЕСМЪ <i>jesmъ</i>	МОГЖ <i>mogъ</i>	ИДЖ, ИДЖ <i>idъ</i>	ДѢЛАИЖ <i>dělajъ</i>
Sing	2	ЕСИ <i>jesi</i>	МОЖЕШИ <i>možeši</i>	ИДЕШИ, ИДЕШИ <i>ideši</i>	ДѢЛАЕШИ <i>dělaješi</i>
Sing	3	ЕСТЪ <i>jestъ</i>	МОЖЕТЪ <i>možetъ</i>	ИДЕТЪ, ИДЕТЪ <i>idetъ</i>	ДѢЛААТЪ <i>dělaatъ</i>
Dual	1	ЕСВѢ <i>jesvѣ</i>	МОЖЕВѢ <i>moževѣ</i>	ИДЕВѢ, ИДЕВѢ <i>idevѣ</i>	ДѢЛАЕВѢ <i>dělajevѣ</i>
Dual	2	ЕСТА <i>jesta</i>	МОЖЕТА <i>možeta</i>	ИДЕТА, ИДЕТА <i>ideta</i>	ДѢЛАЕТА <i>dělajeta</i>
Dual	3	ЕСТЕ <i>jeste</i>	МОЖЕТЕ <i>možete</i>	ИДЕТЕ, ИДЕТЕ <i>idete</i>	ДѢЛАЕТЕ <i>dělajete</i>
Plur	1	ЕСМЪ <i>jesmъ</i>	МОЖЕМЪ <i>možemъ</i>	ИДЕМЪ, ИДЕМЪ <i>idemъ</i>	ДѢЛАЕМЪ <i>dělajemъ</i>
Plur	2	ЕСТЕ <i>jeste</i>	МОЖЕТЕ <i>možete</i>	ИДЕТЕ, ИДЕТЕ <i>idete</i>	ДѢЛАЕТЕ <i>dělajete</i>
Plur	3	СЖТЪ <i>sъtъ</i>	МОГЖТЪ <i>mogotъ</i>	ИДЖТЪ, ИДЖТЪ <i>idotъ</i>	ДѢЛАИЖТЪ <i>dělajotъ</i>

Table 15. [cu] VerbForm=Fin | Mood=Ind | Tense=Pres

7. Imperative

[cs] *rozkazovací způsob (imperativ)*; [sk] *imperatív (rozkazovací spôsob)*; [hsb] *imperatiw*; [pl] *tryb rozkazujący*; [uk] *наказовий спосіб*; [ru] *повелительное наклонение*; [sl] *velelnik, velelni naklon*; [hr] *imperativ*; [bg] *повелително наклонение (императив)*. Tables 16–25.

Imperative is a simple finite verb form that marks person and number but it does not mark tense (we leave the Tense feature empty). Imperative forms are not available in the 3rd person (appeals to third persons may be formed periphrastically, using particles and present indicative forms; these are not annotated as imperatives). Imperative also does not exist in the 1st person singular. Modal verbs usually do not have imperatives.

Number	Person	be	go	do	accept
Sing	2	<i>bud'</i>	<i>jdi, pojd'</i>	<i>dělej</i>	<i>akceptuj</i>
Plur	1	<i>bud'me</i>	<i>jděme, pojd'me</i>	<i>dělejme</i>	<i>akceptujme</i>
Plur	2	<i>bud'te</i>	<i>jděte, pojd'te</i>	<i>dělejte</i>	<i>akceptujte</i>

Table 16. [cs] VerbForm=Fin | Mood=Imp

Number	Person	be	go	do	accept
Sing	2	<i>bud'</i>	<i>chod'</i>	<i>rob</i>	<i>akceptuj</i>
Plur	1	<i>bud'me</i>	<i>chod'me</i>	<i>robme</i>	<i>akceptujme</i>
Plur	2	<i>bud'te</i>	<i>chod'te</i>	<i>robte</i>	<i>akceptujte</i>

Table 17. [sk] VerbForm=Fin | Mood=Imp

Number	Person	be	go	do	accept
Sing	2	<i>budź</i>	<i>dźi, pónďź</i>	<i>dźěłaj</i>	<i>akceptuj</i>
Dual	1	<i>budźmoj</i>	<i>dźemoj, pónďźmoj</i>	<i>dźěłajmoj</i>	<i>akceptujmoj</i>
Dual	2	<i>budźtej</i>	<i>dźetej, pónďźtej</i>	<i>dźěłajtej</i>	<i>akceptujtej</i>
Plur	1	<i>budźmy</i>	<i>dźemy, pónďźmy</i>	<i>dźěłajmy</i>	<i>akceptujmy</i>
Plur	2	<i>budźće</i>	<i>dźeće, pónďźće</i>	<i>dźěłajće</i>	<i>akceptujće</i>

Table 18. [hsb] VerbForm=Fin | Mood=Imp

Number	Person	be	go	do	accept
Sing	2	<i>bąǳ</i>	<i>idź</i>	<i>rób</i>	<i>akceptuj</i>
Plur	1	<i>bąǳmy</i>	<i>idźmy</i>	<i>róbmy</i>	<i>akceptujmy</i>
Plur	2	<i>bąǳcie</i>	<i>idźcie</i>	<i>róbcie</i>	<i>akceptujcie</i>

Table 19. [pl] VerbForm=Fin | Mood=Imp

Number	Person	be	go	do	accept
Sing	2	<i>будь</i> <i>bud'</i>	<i>йди</i> <i>jdy</i>	<i>роби</i> <i>robj</i>	<i>акценлуй</i> <i>akceptuj</i>
Plur	1	<i>будьмо</i> <i>bud'mo</i>	<i>йдімо, йдім</i> <i>jdimo, jdim</i>	<i>робімо, робім</i> <i>robimo, robim</i>	<i>акценлуймо</i> <i>akceptujmo</i>
Plur	2	<i>будьте</i> <i>bud'te</i>	<i>йдіть</i> <i>jdit'</i>	<i>робіть</i> <i>robit'</i>	<i>акценлуйте</i> <i>akceptujte</i>

Table 20. [uk] VerbForm=Fin | Mood=Imp

Number	Person	be	go	do	accept
Sing	2	<i>будь</i> <i>bud'</i>	<i>иди</i> <i>idi</i>	<i>делай</i> <i>delaj</i>	<i>акценлуй</i> <i>akceptuj</i>
Plur	1	<i>будемте</i> <i>budemte</i>	<i>идёмте</i> <i>iděmte</i>	<i>делаемте</i> <i>delaemte</i>	<i>акцентуемте</i> <i>akceptuemte</i>
Plur	2	<i>будьте</i> <i>bud'te</i>	<i>идите</i> <i>idite</i>	<i>делайте</i> <i>delajte</i>	<i>акценлуйте</i> <i>akceptujte</i>

Table 21. [ru] VerbForm=Fin | Mood=Imp

Number	Person	be	go	do	accept
Sing	2	<i>bodi</i>	<i>pojdi</i>	<i>delaj</i>	<i>akceptiraj</i>
Dual	1	<i>bodiva</i>	<i>pojdiva</i>	<i>delajva</i>	<i>akceptirajva</i>
Dual	2	<i>bodita</i>	<i>pojdiva</i>	<i>delajta</i>	<i>akceptirajta</i>
Plur	1	<i>bodimo</i>	<i>pojdimi</i>	<i>delajmo</i>	<i>akceptirajmo</i>
Plur	2	<i>bodite</i>	<i>pojdiva</i>	<i>delajte</i>	<i>akceptirajte</i>

Table 22. [sl] VerbForm=Fin | Mood=Imp

Number	Person	be	go	do	accept
Sing	2	<i>budi</i>	<i>idi</i>	<i>delaj</i>	<i>akceptiraj</i>
Plur	1	<i>budimo</i>	<i>idimo</i>	<i>delajmo</i>	<i>akceptirajmo</i>
Plur	2	<i>budite</i>	<i>idite</i>	<i>delajte</i>	<i>akceptirajte</i>

Table 23. [hr] VerbForm=Fin | Mood=Imp

Number	Person	be	go	do	accept
Sing	2	<i>бѹди</i> <i>bādi</i>	<i>отивај</i> <i>otivaj</i>	<i>прави</i> <i>pravi</i>	<i>акѹенмупај</i> <i>akceptiraj</i>
Plur	2	<i>бѹдѹме</i> <i>bādete</i>	<i>отивајѹме</i> <i>otivajte</i>	<i>правѹме</i> <i>pravete</i>	<i>акѹенмупајѹме</i> <i>akceptirajte</i>

Table 24. [bg] VerbForm=Fin | Mood=Imp

Number	Person	be	go	do
Sing	2	БЖДН <i>bḡdi</i>	НДН, ІДН <i>idi</i>	ДѢЛДН <i>dělai</i>
Dual	2	БЖДѢТА <i>bḡdĕta</i>	НДѢТА, ІДѢТА <i>idĕta</i>	ДѢЛДНТА <i>dĕlaita</i>
Plur	2	БЖДѢТЕ <i>bḡdĕte</i>	НДѢТЕ, ІДѢТЕ <i>idĕte</i>	ДѢЛДНТЕ <i>dĕlaite</i>

Table 25. [cu] VerbForm=Fin | Mood=Imp

8. Aorist Indicative

[cs] *aorist*; [hsb] *preteritum*; [hr] *aorist* (*pređašnje svršeno vreme*); [bg] *минало свършено време*. Tables 26, 32, 28 and 30.

Aorist is the old Slavic simple past tense. It is a finite form that marks person and number of the subject. It existed in the Old Church Slavonic language and it has survived in several languages until today; however, many languages have replaced it by the I-participle. For example, aorist is attested in Old Czech but it vanished during the 15th century.

Aorist is regularly used (together with imperfect, see Section 9) in Bulgarian and Macedonian. It is still understood in Serbian and Croatian, albeit its usage is limited. Aorist has also survived in the Sorbian languages, where it has effectively merged with imperfect into one simple past called preterite. Unlike in Bulgarian, in Sorbian the forms stemming from aorist are only found with perfective verbs, and the historical forms of imperfect only with imperfective verbs⁸ (Breu, 2000). Hence we have just two inflection patterns, instead of two different tenses.

We can use the simple Tense=Past feature to annotate aorist in Slavic languages as it does not collide with the other past forms. This has been the original intention in InterSet and in Universal Dependencies and it is used currently both in the Old Church Slavonic and the Bulgarian data. On the other hand, UD Ancient Greek uses a language-specific value Tense=Aor; if the future versions of the *universal* guidelines adopt this value, it might be more appropriate to use it.

The Sorbian preterite will be also tagged Tense=Past, regardless whether the verb is perfective or imperfective.

9. Imperfect Indicative

[cs] *imperfektum*; [hr] *imperfekat* (*pređašnje nesvršeno vreme*); [bg] *минало несвършено време*. Tables 27, 29 and 31.

Imperfect is another simple past tense that only survived in a few languages. It does not have any equivalent in English, but there are imperfect tenses in Romance languages.

For the merged aorist-imperfect (preterite) in Sorbian languages, see Section 8.

Verbs in imperfect describe states or actions that were happening during some past moment. They may or may not continue at and after the moment of speaking. Important is the past context and the relation of the action (state) to some other action (state) happening in the past.

Despite the name, both imperfective and perfective verbs can be used in the imperfect tense! Perfective verbs in the imperfect tense denote actions that were repeated in

⁸It could be argued that the Sorbian usage is prototypical, while the imperfect tense of perfective verbs in Bulgarian is marked. Nevertheless, such change of perspective would have no impact on our proposed analysis.

Number	Person	be	can	go	do	accept
Sing	1	<i>bych</i>	<i>možech</i>	<i>jid</i>	<i>dělach</i>	<i>přijiech</i>
Sing	2	<i>by</i>	<i>može</i>	<i>jide</i>	<i>děla</i>	<i>přijie</i>
Sing	3	<i>by</i>	<i>može</i>	<i>jide</i>	<i>děla</i>	<i>přijie</i>
Dual	1	<i>bychově</i>	<i>možechově</i>	<i>jidově</i>	<i>dělachově</i>	<i>přijiechově</i>
Dual	2	<i>bysta</i>	<i>možesta</i>	<i>jideta</i>	<i>dělata</i>	<i>přijiesta</i>
Dual	3	<i>bysta</i>	<i>možesta</i>	<i>jideta</i>	<i>dělata</i>	<i>přijiesta</i>
Plur	1	<i>bychom</i>	<i>možechom</i>	<i>jidom</i>	<i>dělachom</i>	<i>přijiechom</i>
Plur	2	<i>byste</i>	<i>možeste</i>	<i>jidete</i>	<i>dělaste</i>	<i>přijieste</i>
Plur	3	<i>bychu</i>	<i>možechu</i>	<i>jidú</i>	<i>dělachu</i>	<i>přijiechu</i>

Table 26. Old [cs] VerbForm=Fin | Mood=Ind | Tense=Past

Number	Person	be	can	go	do	accept
Sing	1	<i>biech</i>	<i>možiech</i>	<i>jdiech</i>	<i>dělajiech</i>	<i>přijiech</i>
Sing	2	<i>bieše</i>	<i>možieše</i>	<i>jdieše</i>	<i>dělajieše</i>	<i>přijieše</i>
Sing	3	<i>bieše</i>	<i>možieše</i>	<i>jdieše</i>	<i>dělajieše</i>	<i>přijieše</i>
Dual	1	<i>biechově</i>	<i>možiechově</i>	<i>jdiechově</i>	<i>dělajiechově</i>	<i>přijiechově</i>
Dual	2	<i>biešta</i>	<i>možiešta</i>	<i>jdiešta</i>	<i>dělajiešta</i>	<i>přijiešta</i>
Dual	3	<i>biešta</i>	<i>možiešta</i>	<i>jdiešta</i>	<i>dělajiešta</i>	<i>přijiešta</i>
Plur	1	<i>biechom</i>	<i>možiechom</i>	<i>jdiechom</i>	<i>dělajiechom</i>	<i>přijiechom</i>
Plur	2	<i>biešte</i>	<i>možiešte</i>	<i>jdiešte</i>	<i>dělajiešte</i>	<i>přijiešte</i>
Plur	3	<i>biechu</i>	<i>možiechu</i>	<i>jdiechu</i>	<i>dělajiechu</i>	<i>přijiechu</i>

Table 27. Old [cs] VerbForm=Fin | Mood=Ind | Tense=Imp

the past. Hence the Aspect feature should *not* be used to mark this tense. As discussed in Section 4, that feature should be reserved to denote the lexical aspect of Slavic verbs, bound to their lemma. Instead, Universal Features provide a feature dedicated to the imperfect tense, Tense=Imp.

Examples [bg]:

- *Kogato se pribrah vĵăci, deĵata veĉe snĵaxa.* (Kogato se pribrah vĵăšti, decata veĉe spĵaha) “When I came home, the children were already asleep.”
- *Щом дойдеше, веднага запалваше цигара.* (Štom dojdeše, vednaga zapalvaše cigara.) “Every time he came, he always lit a cigarette.”

Number	Person	be	can	go	do	accept
Sing	1	бях bjah	можах možah	отивах otivah	правих pravih	акъенмупах akceptirah
Sing	2	беуе, бе beše, be	можа moža	отива otiva	прави pravi	акъенмупа akceptira
Sing	3	беуе, бе beše, be	можа moža	отива otiva	прави pravi	акъенмупа akceptira
Plur	1	бяхме bjahme	можахме možahme	отивахме otivahme	правихме pravihme	акъенмупахме akceptirahme
Plur	2	бяхме bjahte	можахме možahte	отивахме otivahte	правихме pravihte	акъенмупахме akceptirahte
Plur	3	бяха bjaha	можаха možaha	отиваха otivaha	правиха praviha	акъенмупаха akceptiraha

Table 28. [bg] VerbForm=Fin | Mood=Ind | Tense=Past

Number	Person	be	can	go	do	accept
Sing	1	бях bjah	можех možeh	отивах otivah	правех praveh	акъенмупах akceptirah
Sing	2	беуе, бе beše, be	можеуе možeše	отивауе otivaše	правеуе praveše	акъенмупауе akceptiraše
Sing	3	беуе, бе beše, be	можеуе možeše	отивауе otivaše	правеуе praveše	акъенмупауе akceptiraše
Plur	1	бяхме bjahme	можехме možehme	отивахме otivahme	правехме pravehme	акъенмупахме akceptirahme
Plur	2	бяхме bjahte	можехме možehte	отивахме otivahte	правехме pravehte	акъенмупахме akceptirahte
Plur	3	бяха bjaha	можеха možeha	отиваха otivaha	правеха praveha	акъенмупаха akceptiraha

Table 29. [bg] VerbForm=Fin | Mood=Ind | Tense=Imp

Number	Person	be	can	go	do
Sing	1	БЫХЪ <i>bychъ</i>	МОГЪ <i>mogъ</i>	ИДЪ, ІДЪ <i>idъ</i>	ДѢЛАХЪ <i>dělachъ</i>
Sing	2	БЫСТЪ <i>bystъ</i>	МОЖЕ <i>može</i>	ИДЕ, ІДЕ <i>ide</i>	ДѢЛАШЕ <i>dělaše</i>
Sing	3	БЫСТЪ, БЫ ^ѣ <i>bystъ, by</i>	МОЖЕ <i>može</i>	ИДЕ, ІДЕ <i>ide</i>	ДѢЛАШЕ <i>dělaše</i>
Dual	1	БЫХОВѢ <i>bychově</i>	МОГОВѢ <i>mogově</i>	ИДОВѢ, ІДОВѢ <i>idově</i>	ДѢЛАХОВѢ <i>dělachově</i>
Dual	2	БЫСТА <i>bysta</i>	МОЖЕТА <i>možeta</i>	ИДЕТА, ІДЕТА <i>ideta</i>	ДѢЛАСТА <i>dělata</i>
Dual	3	БЫСТЕ <i>byste</i>	МОЖЕТЕ <i>možete</i>	ИДЕТЕ, ІДЕТЕ <i>idete</i>	ДѢЛАСТЕ <i>dělaste</i>
Plur	1	БЫХОМЪ <i>bychomъ</i>	МОГОМЪ <i>mogomъ</i>	ИДОМЪ, ІДОМЪ <i>idomъ</i>	ДѢЛАХОМЪ <i>dělachomъ</i>
Plur	2	БЫСТЕ <i>byste</i>	МОЖЕТЕ <i>možete</i>	ИДЕТЕ, ІДЕТЕ <i>idete</i>	ДѢЛАСТЕ <i>dělaste</i>
Plur	3	БЫША <i>byše</i>	МОЖ <i>mogъ</i>	ИДЖ, ІДЖ <i>idъ</i>	ДѢЛАША <i>dělaše</i>

Table 30. [cu] VerbForm=Fin | Mood=Ind | Tense=Past

Numb	P	be	can	go	do
Sing	1	бѣхъ <i>běchъ</i>	можаахъ <i>možaachъ</i>	идѣахъ, идѣахъ <i>iděachъ</i>	дѣлаахъ <i>dělaachъ</i>
Sing	2	бѣ <i>bě</i>	можааше <i>možaaše</i>	идѣаше, идѣаше <i>iděaše</i>	дѣлааше <i>dělaaše</i>
Sing	3	бѣ, бѣаше <i>bě, bēaše</i>	можааше <i>možaaše</i>	идѣаше, идѣаше <i>iděaše</i>	дѣлааше <i>dělaaše</i>
Dual	1	бѣховѣ <i>běchově</i>	можааховѣ <i>možaachově</i>	идѣаховѣ, идѣаховѣ <i>iděachově</i>	дѣлааховѣ <i>dělaachově</i>
Dual	2	бѣста <i>běsta</i>	можаашета <i>možaašeta</i>	идѣашета, идѣашета <i>iděašeta</i>	дѣлаашета <i>dělaašeta</i>
Dual	3	бѣашете, бѣсте <i>bēašete, bēste</i>	можаашете <i>možaašete</i>	идѣашете, идѣашете <i>iděašete</i>	дѣлаашете <i>dělaašete</i>
Plur	1	бѣхомъ <i>běchomъ</i>	можаахомъ <i>možaachomъ</i>	идѣахомъ, идѣахомъ <i>iděachomъ</i>	дѣлаахомъ <i>dělaachomъ</i>
Plur	2	бѣсте <i>bēste</i>	можаашете <i>možaašete</i>	идѣашете, идѣашете <i>iděašete</i>	дѣлаашете <i>dělaašete</i>
Plur	3	бѣахъ, бѣша <i>bēachъ, bēše</i>	можаахъ <i>možaachъ</i>	идѣахъ, идѣахъ <i>iděachъ</i>	дѣлаахъ <i>dělaachъ</i>

Table 31. [cu] VerbForm=Fin | Mood=Ind | Tense=Imp

Number	Person	be	can	go	do	accept
Sing	1	<i>běch</i>	<i>mōžech</i>	<i>džěch</i>	<i>džělach</i>	<i>akceptowach</i>
Sing	2	<i>běše</i>	<i>mōžeše</i>	<i>džěše</i>	<i>džělaše</i>	<i>akceptowaše</i>
Sing	3	<i>běše</i>	<i>mōžeše</i>	<i>džěše</i>	<i>džělaše</i>	<i>akceptowaše</i>
Dual	1	<i>běchmoj</i>	<i>mōžechmoj</i>	<i>džěmoj</i>	<i>džělachmoj</i>	<i>akceptowachmoj</i>
Dual	2	<i>běštej</i>	<i>mōžeštej</i>	<i>džěštej</i>	<i>džělaštej</i>	<i>akceptowaštej</i>
Dual	3	<i>běštej</i>	<i>mōžeštej</i>	<i>džěštej</i>	<i>džělaštej</i>	<i>akceptowaštej</i>
Plur	1	<i>běchmy</i>	<i>mōžechmy</i>	<i>džěchmy</i>	<i>džělachmy</i>	<i>akceptowachmy</i>
Plur	2	<i>běšće</i>	<i>mōžešće</i>	<i>džěšće</i>	<i>džělašće</i>	<i>akceptowašće</i>
Plur	3	<i>běchu</i>	<i>mōžechu</i>	<i>džěchu</i>	<i>džělachu</i>	<i>akceptowachu</i>

Table 32. [hsb] VerbForm=Fin | Mood=Ind | Tense=Past

10. Active Participle and Past Tense

[cs] *příčestí činné, minulý čas*; [sk] *minulý čas*; [hsb] *l-forma, perfekt*; [pl] *czas przeszły*; [uk] *минулий час*; [ru] *прошедшее время*; [sl] *opisni deležnik na -l, preteklik*; [hr] *glagolski pridjev radni, prošlo vreme*; [bg] *минало деятелно свършено причастие, минало деятелно несвършено причастие*. Tables 33–42.

The typical formation of the past tense in most (but not all) modern Slavic languages is periphrastic, using a finite form of the auxiliary verb *to be* and the active participle (as opposed to the passive participle). The participle may also be called past participle because of its close ties to the past tense, and despite the fact that it is also used to form conditional or even the future tense. Sometimes the participle itself is called past tense (it makes sense because in some languages the auxiliary verb is omitted). Or it is simply called l-participle because its suffixes typically involve the consonant *-l*.

Early stages of Slavic languages (and those modern stages that retained the aorist) understand the constructions with the l-participle as perfect tenses that we know in English. Present perfect, past perfect and future perfect may be constructed, depending on the form of the auxiliary verb. Interestingly, the periphrastic past tense is also termed *präteritum* in Modern Czech (Academia, 1986), but the term *perfektum* prevails when Old Czech is described (Komárek et al., 1967) (cf. *Präteritum* = *Imperfekt* vs. *Perfekt* in German).

Like other Slavic participles, the l-participle marks gender and number. Typically it has only the short form that is used in predicates, it does not inflect for case and is tagged VERB or AUX. Occasional long forms exist but they are considered derived adjectives and tagged ADJ. The derivation is not productive. It applies mainly to intransitive perfective verbs, while the passive participle would be used with transitive verbs for the same purpose. Example [cs]: *spadlý* “the one who fell down”, *shnilý* “rotten”, *pokleslý* “dropped”. Annotating VerbForm of the derived adjective is purely optional. The short, predicative form should always have VerbForm=Part.

Voice=Act should also be always present so that the participle is distinguished from the passive participle.

Some Bulgarian verbs have two l-participles (past participles): perfect and imperfect. We cannot use the Aspect feature to distinguish them because the feature is bound to lemma, and an imperfective verb can have both perfect and imperfect participles. Nevertheless, the distinction is an analogy to the distinction between the two simple past tenses, and we will use the Tense feature to distinguish the participles. The default is Tense=Past (for past perfect participles). Past imperfect participles will get Tense=Imp.

It is less clear whether the l-participle should be annotated with Tense=Past in the other languages, in which it is not necessary to distinguish different types of l-participles. In many Slavic languages (especially the northern ones) this is the promi-

Number	Gender	Animacy	be	can	go	do	accept
Sing	Masc		<i>byl</i>	<i>mohl</i>	<i>šel</i>	<i>dělal</i>	<i>akceptoval</i>
Sing	Fem		<i>byla</i>	<i>mohla</i>	<i>šla</i>	<i>dělala</i>	<i>akceptovala</i>
Sing	Neut		<i>bylo</i>	<i>mohlo</i>	<i>šlo</i>	<i>dělalo</i>	<i>akceptovalo</i>
Plur	Masc	Anim	<i>byli</i>	<i>mohli</i>	<i>šli</i>	<i>dělali</i>	<i>akceptovali</i>
Plur	Masc	Inan	<i>byly</i>	<i>mohly</i>	<i>šly</i>	<i>dělaly</i>	<i>akceptovaly</i>
Plur	Fem						
Plur	Neut		<i>byla</i>	<i>mohla</i>	<i>šla</i>	<i>dělala</i>	<i>akceptovala</i>

Table 33. [cs] VERB,AUX | VerbForm=Part | Voice=Act | Tense=Past

Number	Gender	be	can	go	do	accept
Sing	Masc	<i>bol</i>	<i>mohol</i>	<i>išiel</i>	<i>robil</i>	<i>akceptoval</i>
Sing	Fem	<i>bola</i>	<i>mohla</i>	<i>išla</i>	<i>robila</i>	<i>akceptovala</i>
Sing	Neut	<i>bolo</i>	<i>mohlo</i>	<i>išlo</i>	<i>robilo</i>	<i>akceptovalo</i>
Plur		<i>boli</i>	<i>mohli</i>	<i>išli</i>	<i>robili</i>	<i>akceptovali</i>

Table 34. [sk] VERB,AUX | VerbForm=Part | Voice=Act | Tense=Past

nent and default function of the l-participle.⁹ Even in languages where it is used in periphrastic perfect tenses (which co-exist with simple past tenses), the perfect or resultative meaning implies that the action happened in the past, although the past is relative to a point in time that may be different from the moment of speaking. Therefore we recommend to include Tense=Past in the annotation.

See Section 18 for the annotation of l-participles used in the current UD datasets.

In Slovenian and Serbo-Croatian, the finite form of the auxiliary is used with all persons and numbers: *Je šel v šolo*. “He went to the school.” *Sem šel v šolo*. “I went to the school.” In Czech and Slovak, the finite form of the auxiliary is omitted in the 3rd person: *Šel do školy*. “He went to the school.” *Šel jsem do školy*. “I went to the school.” In Ukrainian and Russian, the auxiliary is omitted in all persons. That is why the subject cannot be dropped in Russian. The person could be understood from a finite verb but not from the participle, hence we need a personal pronoun: *Он пошел*

⁹As mentioned above, it is also used in conditional and in some languages even in the future tense. Still, we are looking for distinctive features of individual words rather than of the periphrastic expressions. In a Slavic-wide perspective, Past seems as close as we can get without defining a language-specific feature for l-participles.

Number	Gender	be	can	go	do	accept
Sing	Masc	<i>był</i>	<i>mógł</i>	<i>šoł</i>	<i>džěłał</i>	<i>akceptował</i>
Sing	Fem	<i>była</i>	<i>móhła</i>	<i>šla</i>	<i>džětała</i>	<i>akceptowała</i>
Sing	Neut	<i>było</i>	<i>móhło</i>	<i>šlo</i>	<i>džětało</i>	<i>akceptowało</i>
Dual		<i>byłoj</i>	<i>móhłoj</i>	<i>šłoj</i>	<i>džětałoj</i>	<i>akceptowałoj</i>
Plur		<i>byli</i>	<i>móhli</i>	<i>šli</i>	<i>džětali</i>	<i>akceptowali</i>

Table 35. [hsb] VERB,AUX | VerbForm=Part | Voice=Act | Tense=Past

Number	Gender	Animacy	be	can	go	do	accept
Sing	Masc		<i>był</i>	<i>mógł</i>	<i>szedł</i>	<i>robił</i>	<i>akceptował</i>
Sing	Fem		<i>była</i>	<i>mogła</i>	<i>szła</i>	<i>robiła</i>	<i>akceptowała</i>
Sing	Neut		<i>było</i>	<i>mogło</i>	<i>szło</i>	<i>robiło</i>	<i>akceptowało</i>
Plur	Masc	Anim	<i>byli</i>	<i>mogli</i>	<i>szli</i>	<i>robili</i>	<i>akceptowali</i>
Plur	Masc	Nhum	<i>były</i>	<i>mogły</i>	<i>szły</i>	<i>robiły</i>	<i>akceptowały</i>
Plur	Masc	Inan					
Plur	Fem						
Plur	Neut						

Table 36. [pl] VERB,AUX | VerbForm=Part | Voice=Act | Tense=Past

в школу. (*On pošel v školu.*) “He went to the school.” Я пошел в школу. (*Ja pošel v školu.*) “I went to the school.”

In Polish, the auxiliary and the participle have merged in one past-tense form. However, they can also attach to a preceding word: *Cieszę się, żeś zrozumiał.* “I am glad that you have understood.” (The auxiliary *-ś* is attached to a conjunction.) *Myśmy nie wiedzieli, że przyjadą.* “We did not know they were coming.” (Attached to a pronoun.) That is why the tokenization in the Polish treebank cuts off the finite morpheme as a separate syntactic word of a special type called “agglutination”. We keep this approach to tokenization, emphasizing the parallelism between the Polish data and the other Slavic languages: *Poszedł do szkoły.* “He went to the school.” *Poszedł-em do szkoły.* “I went to the school.” (The hyphen in the second example indicates tokenization but it does not appear in the surface text.)

Note that there are other types of participles that could be (and sometimes are) called active participles. See Section 13 for details.

Number	Gender	be	can	go	do	accept
Sing	Masc	був <i>buv</i>	міг <i>mih</i>	йшов <i>jšov</i>	робив <i>robyv</i>	акцентував <i>akceptuvav</i>
Sing	Fem	була <i>bula</i>	могла <i>mohla</i>	йшла <i>jšla</i>	робила <i>robyla</i>	акцентувала <i>akceptuvala</i>
Sing	Neut	було <i>bulo</i>	могло <i>mohlo</i>	йшло <i>jšlo</i>	робило <i>robylo</i>	акцентувало <i>akceptovalo</i>
Plur		були <i>buly</i>	могли <i>mohly</i>	йшли <i>jšly</i>	робили <i>robyly</i>	акцентували <i>akceptuvaly</i>

Table 37. [uk] VERB,AUX | VerbForm=Part | Voice=Act | Tense=Past

Number	Gender	be	can	go	do	accept
Sing	Masc	был <i>byl</i>	мог <i>mog</i>	шёл <i>šel</i>	делал <i>delal</i>	акцентовав <i>akceptoval</i>
Sing	Fem	была <i>byla</i>	могла <i>mogla</i>	шла <i>šla</i>	делала <i>delala</i>	акцентовала <i>akceptovala</i>
Sing	Neut	было <i>bylo</i>	могло <i>moglo</i>	шло <i>šlo</i>	делало <i>delalo</i>	акцентовало <i>akceptovalo</i>
Plur		были <i>byli</i>	могли <i>mogli</i>	шли <i>šli</i>	делали <i>delali</i>	акцентовали <i>akceptovali</i>

Table 38. [ru] VERB,AUX | VerbForm=Part | Voice=Act | Tense=Past

Number	Gender	be	can	go	do	accept
Sing	Masc	bio	mogao	šao	delao	akceptirao
Sing	Fem	bila	mogla	šla	delala	akceptirala
Sing	Neut	bilo	moglo	šlo	delalo	akceptiralo
Plur	Masc	bili	mogli	šli	delali	akceptirali
Plur	Fem	bile	mogle	šle	delale	akceptirale
Plur	Neut	bila	mogla	šla	delala	akceptirala

Table 39. [hr] VERB,AUX | VerbForm=Part | Voice=Act | Tense=Past

Number	Gender	be	can	go	do	accept
Sing	Masc	<i>bil</i>	<i>mogel</i>	<i>šel</i>	<i>delal</i>	<i>akceptiral</i>
Sing	Fem	<i>bila</i>	<i>mogla</i>	<i>šla</i>	<i>delala</i>	<i>akceptirala</i>
Sing	Neut	<i>bilo</i>	<i>moglo</i>	<i>šlo</i>	<i>delalo</i>	<i>akceptiralo</i>
Dual	Masc	<i>bila</i>	<i>mogla</i>	<i>šla</i>	<i>delala</i>	<i>akceptirala</i>
Dual	Fem	<i>bili</i>	<i>mogli</i>	<i>šli</i>	<i>delali</i>	<i>akceptirali</i>
Dual	Neut					
Plur	Masc	<i>bili</i>	<i>mogli</i>	<i>šli</i>	<i>delali</i>	<i>akceptirali</i>
Plur	Fem	<i>bile</i>	<i>mogle</i>	<i>šle</i>	<i>delale</i>	<i>akceptirale</i>
Plur	Neut	<i>bila</i>	<i>mogla</i>	<i>šla</i>	<i>delala</i>	<i>akceptirala</i>

Table 40. [sl] VERB,AUX | VerbForm=Part | Voice=Act | Tense=Past

Tense	Number	Gender	be	can	go	do	accept
Past	Sing	Masc	<i>бил</i> <i>bil</i>	<i>могъл</i> <i>mogāl</i>	<i>отивал</i> <i>otival</i>	<i>правил</i> <i>pravil</i>	<i>акценти́рал</i> <i>akceptiral</i>
Past	Sing	Fem	<i>била</i> <i>bila</i>	<i>могла</i> <i>mogla</i>	<i>отивала</i> <i>otivala</i>	<i>правила</i> <i>pravila</i>	<i>акценти́рала</i> <i>akceptirala</i>
Past	Sing	Neut	<i>било</i> <i>bilo</i>	<i>могло</i> <i>moglo</i>	<i>отивало</i> <i>otivalo</i>	<i>правило</i> <i>pravilo</i>	<i>акценти́рало</i> <i>akceptiralo</i>
Past	Plur		<i>били</i> <i>bili</i>	<i>могли</i> <i>mogli</i>	<i>отивали</i> <i>otivali</i>	<i>правили</i> <i>pravili</i>	<i>акценти́рали</i> <i>akceptirali</i>
Imp	Sing	Masc		<i>можел</i> <i>možel</i>		<i>правел</i> <i>pravel</i>	
Imp	Sing	Fem		<i>можела</i> <i>možela</i>		<i>правела</i> <i>pravela</i>	
Imp	Sing	Neut		<i>можело</i> <i>moželo</i>		<i>правело</i> <i>pravelo</i>	
Imp	Plur			<i>можели</i> <i>moželi</i>		<i>правели</i> <i>praveli</i>	

Table 41. [bg] VERB,AUX | VerbForm=Part | Voice=Act

Number	Gender	be	can	go	do
Sing	Masc	БЫЛЪ <i>bylʔ</i>	МОГЛЪ <i>moglʔ</i>	ШЕЛЪ <i>šelʔ</i>	ДѢЛАЛЪ <i>dělalʔ</i>
Sing	Fem	БЫЛА <i>byla</i>	МОГЛА <i>mogla</i>	ШЛА <i>šla</i>	ДѢЛАЛА <i>dělala</i>
Sing	Neut	БЫЛО <i>bylo</i>	МОГЛО <i>moglo</i>	ШЛО <i>šlo</i>	ДѢЛАЛО <i>dělalo</i>
Dual	Masc	БЫЛА <i>byla</i>	МОГЛА <i>mogla</i>	ШЛА <i>šla</i>	ДѢЛАЛА <i>dělala</i>
Dual	Fem	БЫЛѢ	МОГЛѢ	ШЛѢ	ДѢЛАЛѢ
	Neut	<i>bylě</i>	<i>moglě</i>	<i>šlě</i>	<i>dělalě</i>
Plur	Masc	БЫЛИ <i>byli</i>	МОГЛИ <i>mogli</i>	ШЛИ <i>šli</i>	ДѢЛАЛИ <i>dělali</i>
Plur	Fem	БЫЛЫ <i>byly</i>	МОГЛЫ <i>mogly</i>	ШЛЫ <i>šly</i>	ДѢЛАЛЫ <i>dělaly</i>
Plur	Neut	БЫЛА <i>byla</i>	МОГЛА <i>mogla</i>	ШЛА <i>šla</i>	ДѢЛАЛА <i>dělala</i>

Table 42. [cu] VERB, AUX | VerbForm=Part | Voice=Act | Tense=Past

Number	Sing			Dual			Plur		
Person	1	2	3	1	2	3	1	2	3
cs	<i>bych</i>	<i>bys</i>	<i>by</i>				<i>bychom</i>	<i>byste</i>	<i>by</i>
sk	<i>by</i>								
hsb	<i>bych</i>	<i>by</i>	<i>by</i>	<i>bychmoj</i>	<i>byštej</i>	<i>byštej</i>	<i>bychmy</i>	<i>byšće</i>	<i>bychu</i>
pl	<i>-bym</i>	<i>-byś</i>	<i>-by</i>				<i>-byśmy</i>	<i>-byście</i>	<i>-by</i>
uk	<i>б, бу b, by</i>								
ru	<i>бы, б by, b</i>								
sl	<i>bi</i>								
hr	<i>bih</i>	<i>bi</i>	<i>bi</i>				<i>bismo</i>	<i>biste</i>	<i>bi</i>
bg	<i>бux bih</i>	<i>бу bi</i>	<i>бу bi</i>				<i>бux.me bihme</i>	<i>бuxme bihte</i>	<i>бuxa biha</i>
cu	<i>БНМЪ bimʔ</i>	<i>БН bi</i>	<i>БН bi</i>	<i>БНВѢ bivě</i>	<i>БНСТА bista</i>	<i>БНСТЕ biste</i>	<i>БНМЪ bimʔ</i>	<i>БНСТЕ biste</i>	<i>БЖ, БНПА bʔ, bišę</i>

Table 43. To be, AUX | VerbForm=Fin | Mood=Cnd.

11. Conditional

[cs] *podmiňovací způsob*; [sk] *podmieňovací spôsob*; [hsb] *konjunktiv*; [pl] *tryb przypuszczający*; [uk] *умовний спосіб*; [ru] *условное наклонение, кондиционал*; [sl] *pogojnik*; [hr] *moćni način, potencijal* [bg] *условно наклонение*. Table 43.

The conditional mood (both present and past) is formed periphrastically using the active (I-) participle of the content verb and a special form of the auxiliary verb *to be*. The auxiliary form is annotated Mood=Cnd, the participle is not. The Tense feature of the auxiliary is empty. Some languages have present and past conditional but the difference is expressed analytically and the same auxiliary form is used in both.

The auxiliary form is finite and in some languages (e.g. Czech) it inflects for number and person. In other languages (e.g. Russian) it has been reduced to a single frozen form that is used in all persons and numbers. Some authors may prefer to tag the frozen auxiliary as particle (PART), but we suggest that it be tagged AUX, with the verb *to be* as its lemma, to keep the annotation parallel across Slavic languages.

In Slovak and Slovenian, the reduced particle-like conditional auxiliary *by* / *bi* is used and combined with the present indicative auxiliary exactly as for the past tense (all persons in Slovenian, only 1st and 2nd in Slovak). The present auxiliary is written separately. Similar analysis can be done in Polish where the present auxiliary takes the form of the agglutinating morpheme (cf. Section 10) but is treated as an independent syntactic word: *potrafili-by-śmy* “we would be able”.

Sometimes the conditional auxiliary merges with a subordinating conjunction as in Czech *aby* “so that”, *kdyby* “if”, Polish *żebyście* “so that you”, *gdybyśmy* “if we”, or Russian *чтобы* (*čtoby*) “so that”. According to the UD guidelines we should split such fusions back into syntactic words in the annotation (*что-бы*).

12. Adverbial Participle (Transgressive)

[cs] *přechodník přítomný, přechodník minulý*; [sk] *prechodník*; [hsb] *transgresiw*; [pl] *imiesłów przysłówkowy współczesny, imiesłów przysłówkowy uprzedni*; [uk] *дієприслівник теперішнього часу, дієприслівник минулого часу*; [ru] *деепричастие настоящего времени, деепричастие прошедшего времени*; [sl] *deležje*; [hr] *glagolski prilog sadašnji, glagolski prilog prošli*; [bg] *деепричастие*. Tables 44–52.

Adverbial participles, also called transgressives, verbal adverbs, converbs (Nedjalkov and Nedjalkov, 1987) or even gerunds (Comrie and Corbett, 2001),¹⁰ are non-finite forms of verbs that can be used as adverbial modifiers in a clause. The circumstance they specify is that the action of the main verb happens *while* the action of the

¹⁰The term *gerund* may cause confusion: in English it is close to verbal nouns (cf. Section 16), in Romance languages the term denotes present participles. The term *transgressive* is unique but it is not widely known. We can encounter it in descriptions of Czech and the Sorbian languages; more generally, its usage is limited to the German-Slavic linguistic tradition. We use the term here because it is part of the UD guidelines v1, encoded as the feature VerbForm=Trans.

Tense	Number	Gender	be	can	go/come	do	accept
Pres	Sing	Masc	<i>jsa</i>	<i>moha</i>	<i>jda</i>	<i>dělaje</i>	<i>akceptuje</i>
Pres	Sing	Fem, Neut	<i>jsouc</i>	<i>mohouc</i>	<i>jdouc</i>	<i>dělajíc</i>	<i>akceptujíc</i>
Pres	Plur		<i>jsouce</i>	<i>mohouce</i>	<i>jdouce</i>	<i>dělajíce</i>	<i>akceptujíce</i>
Past	Sing	Masc	<i>byv</i>		<i>přišed</i>	<i>udělav</i>	<i>akceptovav</i>
Past	Sing	Fem, Neut	<i>byvoši</i>		<i>přišedši</i>	<i>udělavši</i>	<i>akceptovavši</i>
Past	Plur		<i>byvoše</i>		<i>přišedše</i>	<i>udělavše</i>	<i>akceptovavše</i>

Table 44. [cs] VERB, AUX | VerbForm=Trans. Plural forms do not distinguish gender. The present and past transgressives in the “go/come” and “do” columns are forms of different lemmas (imperfective vs. perfective).

be	can	go	do	accept
<i>súc</i>	<i>môžúc</i>	<i>idúc</i>	<i>robiac</i>	<i>akceptujúc</i>

Table 45. [sk] VERB, AUX | VerbForm=Trans | Tense=Pres. Modern Slovak has only the present transgressive.

Tense	be	can	go/come	do	accept
Pres		<i>môžo</i>	<i>džejo</i>	<i>džělajo, džělajcy</i>	<i>akceptujo, akceptujcy</i>
Past	<i>bywši</i>		<i>póšowši, póšedši</i>	<i>nadžělawši</i>	<i>akceptowawši</i>

Table 46. [hsb] VERB, AUX | VerbForm=Trans. The present and past transgressives in the “do” column are forms of different lemmas (imperfective vs. perfective).

transgressive is happening (present transgressive), or that it happens *after* the action of the transgressive has happened (past transgressive). The subject of the clause and of the transgressive is identical.

Present transgressives tend to be created from imperfective verbs and past transgressives from perfective verbs, but exceptions exist (Academia, 1986, p. 154). Again, Aspect should be fixed to lemma and not used to distinguish the two transgressives. The Tense feature should be used instead.

Transgressives are tagged VERB or AUX but not ADV, and their features include Verb-Form=Trans. In some languages they mark gender and number of the subject. In others they don't.

Tense	be	can	go/come	do	accept
Pres	<i>będąc</i>	<i>mogąc</i>	<i>idąc</i>	<i>robiąc</i>	<i>akceptując</i>
Past	<i>bywszy</i>		<i>poszedłszy</i>	<i>zrobiwszy</i>	<i>akceptowawszy</i>

Table 47. [pl] VERB, AUX | VerbForm=Trans. The present and past transgressives in the “go” and “do” columns are forms of different lemmas (imperfective vs. perfective).

Tense	be	can	go/come	do	accept
Pres	<i>будучи</i> <i>budučy</i>	<i>можучи</i> <i>možučy</i>	<i>йду́чи</i> <i>jdučy</i>	<i>робля́чи</i> <i>robljačy</i>	<i>акцен́туючи</i> <i>akceptujučy</i>
Past	<i>бу́вши</i> <i>buvšy</i>	<i>мо́гли</i> <i>mohšy</i>	<i>при́йшовши</i> <i>pryjšovšy</i>	<i>зробивши</i> <i>zrobuvšy</i>	<i>акцен́тувавши</i> <i>akceptuvavšy</i>

Table 48. [uk] VERB, AUX | VerbForm=Trans. The present and past transgressives in the “go/come” and “do” columns are forms of different lemmas (imperfective vs. perfective).

Tense	be	can	go/come	do	accept
Pres	<i>будучи</i> <i>buduči</i>		<i>идя́</i> <i>idja</i>	<i>дела́я</i> <i>delaja</i>	<i>акце́нтую́</i> <i>akceptuja</i>
Past	<i>бу́в, бувши</i> <i>buv, бувši</i>	<i>мо́гли</i> <i>mogši</i>	<i>ше́диши</i> <i>šedši</i>	<i>дела́в, делавши</i> <i>delav, delavši</i>	<i>акце́нто́вавши</i> <i>akceptovavši</i>

Table 49. [ru] VERB, AUX | VerbForm=Trans.

Tense	be	can	go/come	do	accept
Pres	<i>bodoč</i>		<i>idoč</i>	<i>delaje</i>	<i>akceptiraje</i>
Past	<i>bivši</i>		<i>prišedši</i>	<i>dodelavši</i>	<i>akceptiravši</i>

Table 50. [sl] VERB, AUX | VerbForm=Trans. The present and past transgressives in the “go/come” and “do” columns are forms of different lemmas (imperfective vs. perfective).

Tense	be	can	go/come	do	accept
Pres	<i>budući</i>	<i>moгуći</i>	<i>idući</i>	<i>delajući</i>	<i>akceptirajući</i>
Past	<i>bivši</i>		<i>došavši</i>	<i>dodelavši</i>	<i>akceptiravši</i>

Table 51. [hr] VERB, AUX | VerbForm=Trans. The present and past transgressives in the “go/come” and “do” columns are forms of different lemmas (imperfective vs. perfective).

be	can	go	do	accept
<i>бъдейки, бидејки</i> <i>bădejki, bidejki</i>	<i>можејки</i> <i>možejki</i>	<i>отивайки</i> <i>otivajki</i>	<i>правејки</i> <i>pravejki</i>	<i>акцентирајки</i> <i>akceptirajki</i>

Table 52. [bg] VERB, AUX | VerbForm=Trans.

13. Verbal Adjective or Active Participle

[cs] *přídavné jméno slovesné činné (zpřídavnělý přechodník)*; [sk] *činné prídastie*; [hsb] *prezensowy particip*; [pl] *imiesłów przymiotnikowy czynny*; [uk] *активний дієприкметник*; [ru] *действительное причастие*; [sl] *deležnik na -č, -ši*; [hr] *particip, glagolski pridjev*; [bg] *сегашно деятелно причастие*. Tables 53–61.

Active verbal adjectives (or participles) correspond to transgressives (see Section 12) and are different from the active l-participle (see Section 10). They are used attributively (not predicatively) and inflect for Case, except for Bulgarian that has neither long participles nor cases.

They should be tagged ADJ, not VERB or AUX, although their derivation from verbs is quite productive. Their lemma is the nominative singular form of the adjective, not the infinitive of the verb.

Optionally their relation to verbs may be documented using the features of Verb-Form=Part, Voice=Act, Aspect (same as the aspect of the base verb) and Tense (whether they correspond to present or past transgressive). The meaning directly follows from the transgressive: [cs] *dělající* “one who is doing” (present verbal adjective); *udělavší* “one who has done” (past verbal adjective).

In standard Ukrainian, active verbal adjectives are considered ungrammatical, being a consequence of russification.¹¹

¹¹http://nl.ijs.si/ME/V4/msd/html/msd.A-uk.html#msd-body.1_div.3_div.11_div.5_div.1

Number	Sing				Plur
Gender	Masc		Neut	Fem	
Animacy	Anim	Inan			
Nom	dělaljící			dělaljící	dělaljící
Gen	dělaljícího				dělaljících
Dat	dělaljícímu				dělaljícím
Acc	dělaljícího	dělaljící			dělaljící
Voc	dělaljící				dělaljící
Loc	dělaljícím				dělaljících
Ins	dělaljícím				dělaljícími

Table 53. [cs] ADJ | Aspect=Imp | VerbForm=Part | Voice=Act | Tense=Pres.
The adjective *dělající* means “doing” and is derived from the imperfective verb *dělat* “to do”. The corresponding past adjective is *udělavší*, it is derived from the perfective verb *udělat* and uses the same suffixes.

Number	Sing			Plur		
Gender	Masc		Neut	Masc		Fem, Neut
Animacy	Anim	Inan		Anim	Inan	
Nom	<i>robiaci</i>		<i>robiace</i>	<i>robiaca</i>	<i>robiaci</i>	<i>robiace</i>
Gen	<i>robiaceho</i>			<i>robiacej</i>	<i>robiacich</i>	
Dat	<i>robiacemu</i>			<i>robiacej</i>	<i>robiacim</i>	
Acc	<i>robiaceho</i>	<i>robiaci</i>	<i>robiace</i>	<i>robiacu</i>	<i>robiacich</i>	<i>robiace</i>
Loc	<i>robiacom</i>			<i>robiacej</i>	<i>robiacich</i>	
Ins	<i>robiacim</i>			<i>robiacou</i>	<i>robiacimi</i>	

Table 54. [sk] ADJ | Aspect=Imp | VerbForm=Part | Voice=Act | Tense=Pres.
The adjective *robiaci* means “doing” and is derived from the imperfective verb *robiť* “to do”. The corresponding past adjective is *robivší* with similar suffixes.

Nu	Sing				Dual			Plur		
Ge	Masc		Neut	Fem	Masc		F. , N.	Masc		F. , N.
An	An.	In.			An.	In.		An.	In.	
Nom	dźělacy		dźělace	dźělaca	dźělacaj	dźělacej		dźělaci	dźělace	
Gen	dźělaceho			dźělaceje	dźělaceju			dźělacych		
Dat	dźělacemu			dźělacej	dźělacymaj			dźělacym		
Acc	dźělaceho	dźělacy	dźělace	dźělacu	dźělaceju	dźělacej		dźělacych	dźělace	
Loc	dźělacym			dźělacej	dźělacymaj			dźělacych		
Ins	dźělacym			dźělacej	dźělacymaj			dźělacymi		

Table 55. [hsb] ADJ | Aspect=Imp | VerbForm=Part | Voice=Act | Tense=Pres.
The adjective *dźělacy* means “doing” and is derived from the imperfective verb *dźěłać* “to do”.

Number	Sing				Plur		
Gender	Masc		Neut	Fem	Masc		Fem, Neut
Animacy	Anim, Nhum	Inan			Anim	Nhum, Inan	
Nom	robiący		robiące	robiąca	robiący	robiące	
Gen	robiącego			robiącej	robiących		
Dat	robiącemu			robiącej	robiącym		
Acc	robiącego	robiący	robiące	robiącą	robiących	robiące	
Voc	robiący		robiące	robiąca	robiący	robiące	
Loc	robiącym			robiącej	robiących		
Ins	robiącym			robiącą	robiącymi		

Table 56. [pl] ADJ | Aspect=Imp | VerbForm=Part | Voice=Act | Tense=Pres.
The adjective *robiący* means “doing” and is derived from the imperfective verb *robić* “to do”. The corresponding past adjective is *zrobiwszy*, it is derived from the perfective verb *zrobić* and uses the same suffixes.

Number	Sing				Plur
Gender	Masc		Neut	Fem	
Animacy	Anim	Inan			
Nom	делающий <i>delajuščij</i>		делающее <i>delajuščee</i>	делающая <i>delajuščaja</i>	делающие <i>delajuščie</i>
Gen	делающего <i>delajuščego</i>			делающей <i>delajuščej</i>	делающих <i>delajuščih</i>
Dat	делающему <i>delajuščemu</i>			делающей <i>delajuščej</i>	делающим <i>delajuščim</i>
Acc	делающего <i>delajuščego</i>	делающий <i>delajuščij</i>	делающее <i>delajuščee</i>	делающую <i>delajuščuju</i>	делающие <i>delajuščie</i>
Loc	делающем <i>delajuščem</i>			делающей <i>delajuščej</i>	делающих <i>delajuščih</i>
Ins	делающими <i>delajuščim</i>			делающей, делающей <i>delajuščej, delajuščuju</i>	делающими <i>delajuščimi</i>

Table 57. [ru] ADJ | Aspect=Imp | VerbForm=Part | Voice=Act | Tense=Pres.
The adjective *делающий* (*delajuščij*) means “doing” and is derived from the imperfective verb *делать* (*delat'*) “to do”. The corresponding past adjective is *сделавший* (*sdelavšij*), it is derived from the perfective verb *сделать* (*sdelat'*) and uses the same suffixes.

Nu	Sing			Dual		Plur			
Ge	Masc		Neut	Fem	Masc	Fem, Neut	Masc	Fem	Neut
An	Anim	Inan							
Nom	delajoč		delajoče	delajoča	delajoča	delajoči	delajoči	delajoče	delajoča
Gen	delajočega			delajoče	delajočih				
Dat	delajočemu			delajoči	delajočima		delajočim		
Acc	delajočega	delajoč	delajoče	delajočo	delajoča	delajoči	delajoče		delajoča
Loc	delajočem			delajoči	delajočih				
Ins	delajočim			delajočo	delajočima		delajočimi		

Table 58. [sl] ADJ | Aspect=Imp | VerbForm=Part | Voice=Act | Tense=Pres.
The adjective *delajoč* / *delajoči* means “doing” and is derived from the imperfective verb *delati* “to do”.

Number	Sing				Plur		
Gender	Masc		Neut	Fem	Masc	Fem	Neut
Animacy	Anim	Inan					
Nom	delajući		delajuće	delajuća	delajući	delajuće	delajuća
Gen	delajućeg			delajuće	delajućih		
Dat	delajućem			delajućoj	delajućim		
Acc	delajućeg	delajući	delajuće	delajuću	delajuće		delajuća
Voc	delajući		delajuće	delajuća	delajući	delajuće	delajuća
Loc	delajućem			delajućoj	delajućim		
Ins	delajućim			delajućom	delajućim		

Table 59. [hr] ADJ | Aspect=Imp | VerbForm=Part | Voice=Act | Tense=Pres. The adjective *delajući* means “doing” and is derived from the imperfective verb *delati* “to do”. The corresponding past adjective is *dodelavši*, it is derived from the perfective verb *dodelati* and uses the same suffixes.

Number	Sing			Plur
Gender	Masc	Fem	Neut	
Ind	<i>npabeuy pravešt</i>	<i>npabeuya pravešta</i>	<i>npabeuyo pravešto</i>	<i>npabeuyu pravešti</i>
Def	<i>npabeuyusam praveštijat</i>	<i>npabeuyama praveštata</i>	<i>npabeuyomo praveštoto</i>	<i>npabeuyume praveštite</i>

Table 60. [bg] *npabeuy* (pravešt) “doing” ADJ | Aspect=Imp | VerbForm=Part | Voice=Act | Tense=Pres. The rows correspond to different values of Definite. Bulgarian adjectives do not inflect for Case.

Number	Sing			Dual		
Gender	Masc	Neut	Fem	Masc	Neut	Fem
Nom	ДѢЛАѦ dělaję		ДѢЛАѦЖИИ dělajōsti	ДѢЛАѦЖИѦ dělajōšta	ДѢЛАѦЖИИ dělajōsti	
Gen	ДѢЛАѦЖИѦ dělajōšta		ДѢЛАѦЖИѦ dělajōšte	ДѢЛАѦЖИОУ dělajōštu		
Dat	ДѢЛАѦЖИОУ dělajōštu		ДѢЛАѦЖИИ dělajōsti	ДѢЛАѦЖИЕМА dělajōštema		ДѢЛАѦЖИѦМА dělajōštama
Acc	ДѢЛАѦЖИѦ dělajōštĭ	ДѢЛАѦЖИЕ dělajōšte	ДѢЛАѦЖИЖ dělajōštŏ	ДѢЛАѦЖИѦ dělajōšta	ДѢЛАѦЖИИ dělajōsti	
Voc	ДѢЛАѦ dělaję		ДѢЛАѦЖИИ dělajōsti	ДѢЛАѦЖИѦ dělajōšta	ДѢЛАѦЖИИ dělajōsti	
Loc	ДѢЛАѦЖИИ dělajōsti			ДѢЛАѦЖИОУ dělajōštu		
Ins	ДѢЛАѦЖИЕМѢ dělajōštemĭ		ДѢЛАѦЖИЕИЖ dělajōšteġŏ	ДѢЛАѦЖИЕМА dělajōštema		ДѢЛАѦЖИѦМА dělajōštama

Number	Plur		
Gender	Masc	Neut	Fem
Nom	ДѢЛАѦЖИЕ <i>dělaġoŝte</i>	ДѢЛАѦЖИѦ <i>dělaġoŝta</i>	ДѢЛАѦЖИѦ <i>dělaġoŝte</i>
Gen	ДѢЛАѦЖИѦ <i>dělaġoŝtĭ</i>		
Dat	ДѢЛАѦЖИЕМѢ <i>dělaġoŝtemĭ</i>		ДѢЛАѦЖИѦМѢ <i>dělaġoŝtamĭ</i>
Acc	ДѢЛАѦЖИѦ <i>dělaġoŝte</i>	ДѢЛАѦЖИѦ <i>dělaġoŝta</i>	ДѢЛАѦЖИѦ <i>dělaġoŝte</i>
Voc	ДѢЛАѦЖИЕ <i>dělaġoŝte</i>	ДѢЛАѦЖИѦ <i>dělaġoŝta</i>	ДѢЛАѦЖИѦ <i>dělaġoŝte</i>
Loc	ДѢЛАѦЖИИХѢ <i>dělaġoŝtichĭ</i>		ДѢЛАѦЖИѦХѢ <i>dělaġoŝtachĭ</i>
Ins	ДѢЛАѦЖИИ <i>dělaġoŝti</i>		ДѢЛАѦЖИѦМИ <i>dělaġoŝtami</i>

Table 61. [cu] ADJ | Aspect=Imp | VerbForm=Part | Voice=Act | Tense=Pres. The adjective ДѢЛАѦ (*dělaġ*) means “doing” and is derived from the imperfective verb ДѢЛАТИ (*dělati*) “to do”. The corresponding past adjective is СѢДѢЛАВѢ (*sĭdĕlavĭ*), it is derived from the perfective verb СѢДѢЛАТИ (*sĭdĕlati*) and uses similar suffixes: Sing Masc Gen СѢДѢЛАВѢША (*sĭdĕlavŭša*), Sing Fem Nom СѢДѢЛАВѢШИ (*sĭdĕlavŭŝi*) etc. The table shows the short (“strong”) forms of the nominal declension.

14. Passive Participle

[cs] *příčestí trpné, přídavné jméno slovesné trpné*; [sk] *trpné prídavie*; [hsb] *preteritowy particip*; [pl] *imiesłów przymiotnikowy bierny*; [uk] *називний дієприкметник*; [ru] *страдательное причастие*; [sl] *trpni deležnik*; [hr] *glagolski pridjev trpni*; [bg] *минало страдателно причастие*. Tables 62–72.

The passive participle is a non-finite verbal form used to construct the periphrastic passive. It is the only form that bears the feature Voice=Pass.

All the other verb forms may take part in passive constructions. Examples [cs]: *je nominován* “he is (being) nominated”; *byl jsem nominován* “I was nominated”; *byl bych nominován* “I would be nominated”; *budeš nominován* “you will be nominated”; *budte nominován* “be nominated”; *být nominován* “to be nominated” etc. It is always the passive participle that makes the construction passive. The auxiliary verb forms do not differ morphologically from the forms used in the active voice, which is the default. Therefore they should either be marked Voice=Act, or the Voice feature should be left empty. We suggest that the explicit annotation of Voice=Act is mandatory for the other participles, so that all types of participles are explicitly distinguished. For the other verbal forms, the feature is optional.

Note that Slavic languages also have the reflexive passive, consisting of a reflexive pronoun and a 3rd person indicative verb ([cs] *Prezident se volí každé 4 roky*. “The president is elected every 4 years.”) Although the analytical construction is passive, the participating verb is morphologically not passive and will not be marked as such. The passive nature of the clause will be visible in the dependency annotation (the subject will be attached as *nsubjpass* and the reflexive pronoun will be attached using the language-specific relation *auxpass: reflex*). In [ru] the reflexive pronoun is written as one word with the finite verb: *негласно считалось, что ему прощительно всякое* (*neglasno sčitalos', čto emu prostitel'no vsjakoe*) “it was silently thought that he could be forgiven everything”. When it is used to form the reflexive passive, we could in theory mark the whole form as passive; however, we recommend to split the form to two syntactic words (*считало+сь* / *sčitalo+s'*) and make it parallel with the other Slavic languages.

Passive participles may have short and long forms. As explained above (see Section 3), this distinction can be interpreted as indefinite vs. definite adjectives in the south Slavic languages. In the north it applies to Czech and Russian, where the short forms are used predicatively, and their Case inflection almost vanished (Czech short participles may form accusative but it is very rare). Since we cannot distinguish the forms by the Definite feature here, we suggest to tag the short forms VERB, even though the remnants of case inflection make this decision slightly inconsistent with the rest.¹² The long forms are also called passive verbal adjectives and we treat them

¹²We also lose the parallelism between short passive participles and short forms of adjectives in Czech (*неточен* vs. *неточný* “ill”). The short adjectives are used in predicates as well. This is a controversial issue and the guideline we propose may be revised in future.

Number	Sing			Plur			
Gender	Masc		Neut	Fem	Masc		Fem, Neut
Animacy	Anim	Inan			Anim	Inan	
Nom	<i>dělaný</i>		<i>dělané</i>	<i>dělaná</i>	<i>dělaní</i>	<i>dělané</i>	<i>dělaná</i>
Gen	<i>dělaného</i>			<i>dělané</i>	<i>dělaných</i>		
Dat	<i>dělanému</i>			<i>dělané</i>	<i>dělaným</i>		
Acc	<i>dělaného</i>	<i>dělaný</i>	<i>dělané</i>	<i>dělanou</i>	<i>dělané</i>		<i>dělaná</i>
Voc	<i>dělaný</i>		<i>dělané</i>	<i>dělaná</i>	<i>dělaní</i>	<i>dělané</i>	<i>dělaná</i>
Loc	<i>dělaném</i>			<i>dělané</i>	<i>dělaných</i>		
Ins	<i>dělaným</i>			<i>dělanou</i>	<i>dělanými</i>		
VERB	<i>dělán</i>		<i>děláno</i>	<i>dělána</i>	<i>dělání</i>	<i>dělány</i>	<i>dělána</i>

Table 62. [cs] *dělaný / dělán* “done” ADJ, VERB | Aspect=Imp | VerbForm=Part | Voice=Pass.

Number	Sing				Plur		
Gender	Masc		Neut	Fem	Masc		Fem, Neut
Animacy	Anim	Inan			Anim	Inan	
Nom	robený		robené	robená	robení	robené	
Gen	robeného			robenej	robených		
Dat	robenému			robenej	robeným		
Acc	robeného	robený	robené	robenú	robených	robené	
Loc	robenom			robenej	robených		
Ins	robeným			robenou	robenými		

Table 63. [sk] *robený* “done” ADJ | Aspect=Imp | VerbForm=Part | Voice=Pass.

as adjectives derived from verbs. Their tag should be ADJ and their lemma should be the adjectival form in masculine singular nominative, not the verb infinitive. They can be used as attributive modifiers of noun phrases (with which they agree in gender, number and case).

The long forms of passive participles may also be used in predicates, especially in languages that have only the long forms (e.g. Slovak). However, since they are tagged as adjectives, the dependency layer will analyze them as adjectival predicates with a copula.

In Polish and Ukrainian, the attributive form of singular neuter is different from the predicative one: [uk] *писане правило* (*py sane prav ylo*) “a written rule” vs. *правило*

Nu	Sing			Dual			Plur		
Ge	Masc		Neut	Fem	Masc		F., N.	Masc	F., N.
An	An.	In.			An.	In.		An.	In.
Nom	<i>džělany</i>		<i>džělane</i>	<i>džělana</i>	<i>džělanaj</i>	<i>džělanej</i>		<i>džělani</i>	<i>džělane</i>
Gen	<i>džělaneho</i>			<i>džělaneje</i>	<i>džělaneju</i>			<i>džělanych</i>	
Dat	<i>džělanemu</i>			<i>džělanej</i>	<i>džělanymaj</i>			<i>džělanym</i>	
Acc	<i>džělaneho</i>	<i>džělany</i>	<i>džělane</i>	<i>džělanu</i>	<i>džělaneju</i>	<i>džělanej</i>		<i>džělanych</i>	<i>džělane</i>
Loc	<i>džělanym</i>			<i>džělanej</i>	<i>džělanymaj</i>			<i>džělanych</i>	
Ins	<i>džělanym</i>			<i>džělanej</i>	<i>džělanymaj</i>			<i>džělanymi</i>	

Table 64. [hsb] *džělany* “done” ADJ | Aspect=Imp | VerbForm=Part | Voice=Pass.

Number	Sing				Plur		
Gender	Masc		Neut	Fem	Masc		Fem, Neut
Animacy	Anim, Nhum	Inan			Anim	Nhum, Inan	
Nom	<i>robiony</i>		<i>robione</i>	<i>robiona</i>	<i>robieni</i>	<i>robione</i>	
			<i>robiono</i>				
Gen	<i>robionego</i>			<i>robionej</i>	<i>robionych</i>		
Dat	<i>robionemu</i>			<i>robionej</i>	<i>robionym</i>		
Acc	<i>robionego</i>	<i>robiony</i>	<i>robione</i>	<i>robionq</i>	<i>robionych</i>	<i>robione</i>	
Voc	<i>robiony</i>		<i>robione</i>	<i>robiona</i>	<i>robieni</i>	<i>robione</i>	
Loc	<i>robionym</i>			<i>robionej</i>	<i>robionych</i>		
Ins	<i>robionym</i>			<i>robionq</i>	<i>robionymi</i>		

Table 65. [pl] *robiony* “done” ADJ | Aspect=Imp | VerbForm=Part | Voice=Pass.

nucaho (*pravylu pysano*) “a rule is/was written”. One might be tempted to tag the predicative forms as VERB instead of ADJ, to make them parallel with the short (predicative) participles in Czech and Russian. Unfortunately, that would mean that two very similar Ukrainian sentences would get different part-of-speech and dependency analyses just because their subjects differ in gender and/or number. Therefore it seems better to classify these forms as adjectives, too.

Slovenian and Serbo-Croatian inflect both short and long adjectives for Case, and the same applies to passive participles (passive verbal adjectives).

Definite adjectives are longer than indefinite also in Bulgarian and Macedonian, although the construction is different from that of [sl] and [hr]. The definite forms are used only attributively, the short forms both as attributes and predicates. As this

Number	Sing				Plur
Ge/An	M/Anim	M/Inan	Neut	Fem	
Nom	делаемый <i>delaemyj</i>		делаемое <i>delaemoe</i>	делаемая <i>delaemaja</i>	делаемые <i>delaemye</i>
Gen	делаемого <i>delaemogo</i>			делаемой <i>delaemoj</i>	делаемых <i>delaemyh</i>
Dat	делаемому <i>delaemotomu</i>			делаемой <i>delaemoj</i>	делаемым <i>delaemyim</i>
Acc	делаемого <i>delaemogo</i>	делаемый <i>delaemyj</i>	делаемое <i>delaemoe</i>	делаемую <i>delaemuju</i>	делаемых, делаемые <i>delaemyh, delaemye</i>
Loc	делаемом <i>delaemom</i>			делаемой <i>delaemoj</i>	делаемых <i>delaemyh</i>
Ins	делаемым <i>delaemyim</i>			делаемой, делаемую <i>delaemoj, delaemuju</i>	делаемыми <i>delaemyimi</i>
VERB	делаем <i>delaem</i>		делает <i>delaeto</i>	делает <i>delaeta</i>	делают <i>delaety</i>

Table 66. [ru] ADJ, VERB | Aspect=Imp | VerbForm=Part | Voice=Pass | Tense=Pres.

Number	Sing				Plur
Ge/An	M/Anim	M/Inan	Neut	Fem	
Nom	сделанный <i>sdelannyj</i>		сделанное <i>sdelannoe</i>	сделанная <i>sdelannaja</i>	сделанные <i>sdelannye</i>
Gen	сделанного <i>sdelannogo</i>			сделанной <i>sdelannoj</i>	сделанных <i>sdelannyh</i>
Dat	сделанному <i>sdelannomu</i>			сделанной <i>sdelannoj</i>	сделанным <i>sdelannyim</i>
Acc	сделанного <i>sdelannogo</i>	сделанный <i>sdelannyj</i>	сделанное <i>sdelannoe</i>	сделанную <i>sdelannuju</i>	сделанных, сделанные <i>sdelannyh, sdelannye</i>
Loc	сделанном <i>sdelannom</i>			сделанной <i>sdelannoj</i>	сделанных <i>sdelannyh</i>
Ins	сделанным <i>sdelannyim</i>			сделанной, сделанною <i>sdelannoj, sdelannoju</i>	сделанными <i>sdelannyimi</i>
VERB	сделан <i>sdelan</i>		сделано <i>sdelano</i>	сделана <i>sdelana</i>	сделаны <i>sdelany</i>

Table 67. [ru] сделанный / сделан (*sdelannyj* / *sdelan*) “done” ADJ, VERB | Aspect=Perf | VerbForm=Part | Voice=Pass | Tense=Past.

Number	Sing			Plur	
Gender	Masc		Neut	Fem	
Animacy	Anim	Inan			Anim Inan
Nom	зроблений zroblenyj		зроблене zroblene	зроблена zroblena	зроблені zrobleni
			зроблено zrobleno		
Gen	зробленого zroblenoho			зробленої zroblenoї	зроблених zroblenych
Dat	зробленому zroblenomu			зробленій zroblenij	зробленим zroblenym
Acc	зробленого zroblenoho	зроблений zroblenyj	зроблене zroblene	зроблену zroblenu	зроблених zroblenych зроблені zrobleni
Loc	зробленому zroblenomu			зробленій zroblenij	зроблених zroblenych
Ins	зробленим zroblenym			зробленою zroblenoju	зробленими zroblenymy

Table 68. [uk] зроблений (zroblenyj) “done” ADJ | Aspect=Perf | VerbForm=Part | Voice=Pass. The Nom-Ins rows show Case inflections of verbal adjectives.

Number	Sing			Plur
Gender	Masc	Fem	Neut	
Ind	правен praven	правена pravena	правено praveno	правени praveni
Def	правеният pravenijat	правената pravenata	правеното pravenoto	правенияте pravenite

Table 69. [bg] правен (praven) “done” ADJ | Aspect=Imp | VerbForm=Part | Voice=Pass. The rows correspond to different values of Definite. Bulgarian adjectives do not inflect for Case.

also applies to passive participles, it seems appropriate to classify them (both forms) as ADJ. They do not inflect for Case but neither do adjectives because [bg] and [mk] have lost the case system.

Russian and Old Church Slavonic distinguish present and past passive participles: журнал, читаемый студентом (*žurnal, čitaemyj studentom*) “journal that is being read by the student” vs. журнал, прочитанный студентом (*žurnal, pročitannyj studentom*)

Nu	Sing			Dual		Plur			
Ge	Masc		Neut	Fem	Masc	Fem,Neut	Masc	Fem	Neut
An	Anim	Inan							
Nom	delan		delano	delana	delana	delani	delani	delane	delana
Gen	delanega			delane	delanih				
Dat	delanemu			delani	delanima		delanim		
Acc	delanega	delan	delano		delana	delani	delane		delana
Loc	delanem			delani	delanih				
Ins	delanim			delano	delanima		delanimi		

Table 70. [sl] *delan* / *delani* “done” ADJ | Aspect=Imp | VerbForm=Part | Voice=Pass.

Number	Sing				Plur		
Gender	Masc		Neut	Fem	Masc	Fem	Neut
Animacy	Anim	Inan					
Nom	delan		delano	delana	delani	delane	delana
Gen	delanog			delane	delanih		
Dat	delanom			delanoj	delanim		
Acc	delanog	delan	delano	delanu	delane		delana
Voc	delan		delano	delana	delani	delane	delana
Loc	delanom			delanoj	delanim		
Ins	delanim			delanom	delanim		

Table 71. [hr] *delan* / *delani* “done” ADJ | Aspect=Imp | VerbForm=Part | Voice=Pass.

“journal that has been read by the student”. The distinction will be annotated using the Tense feature. Note that other languages will have the Tense feature empty. Both the above examples will use the same (the only) passive participle in Czech, they will differ only by the prefix because the second verb is perfective: *časopis (pře)čtený studentem* “journal read by the student”.

Passive participles are normally formed for transitive verbs, although verbs that subcategorize for a non-accusative object may also have a passive participle (neuter singular only).

Number	Sing			Dual		
Gender	Masc	Neut	Fem	Masc	Neut	Fem
Nom	ДѢЛАЕМЪ <i>děljajem</i>	ДѢЛАЕМО <i>děljajemo</i>	ДѢЛАЕМА <i>děljajema</i>	ДѢЛАЕМА <i>děljajema</i>	ДѢЛАЕМѢ <i>děljajemě</i>	
Gen	ДѢЛАЕМА <i>děljajema</i>		ДѢЛАЕМЫ <i>děljajemy</i>	ДѢЛАЕМОУ <i>děljajemu</i>		
Dat	ДѢЛАЕМОУ <i>děljajemu</i>		ДѢЛАЕМѢ <i>děljajemě</i>	ДѢЛАЕМОМА <i>děljajemoma</i>		ДѢЛАЕМАМА <i>děljajemama</i>
Acc	ДѢЛАЕМЪ <i>děljajemъ</i>	ДѢЛАЕМО <i>děljajemo</i>	ДѢЛАЕМЖ <i>děljajemъ</i>	ДѢЛАЕМА <i>děljajema</i>	ДѢЛАЕМѢ <i>děljajemě</i>	
Voc	ДѢЛАЕМЪ <i>děljajemъ</i>	ДѢЛАЕМО <i>děljajemo</i>		ДѢЛАЕМА <i>děljajema</i>	ДѢЛАЕМѢ <i>děljajemě</i>	
Loc	ДѢЛАЕМѢ <i>děljajemě</i>			ДѢЛАЕМОУ <i>děljajemu</i>		
Ins	ДѢЛАЕМОМЪ <i>děljajemomъ</i>		ДѢЛАЕМОЖ <i>děljajemoж</i>	ДѢЛАЕМОМА <i>děljajemoma</i>		ДѢЛАЕМАМА <i>děljajemama</i>

Number	Plur		
Gender	Masc	Neut	Fem
Nom	ДѢЛАЕМИ <i>děljajemi</i>	ДѢЛАЕМА <i>děljajema</i>	ДѢЛАЕМЫ <i>děljajemy</i>
Gen	ДѢЛАЕМЪ <i>děljajemъ</i>		
Dat	ДѢЛАЕМОМЪ <i>děljajemomъ</i>		ДѢЛАЕМАМЪ <i>děljajemamъ</i>
Acc	ДѢЛАЕМЫ <i>děljajemy</i>	ДѢЛАЕМА <i>děljajema</i>	ДѢЛАЕМЫ <i>děljajemy</i>
Voc	ДѢЛАЕМИ <i>děljajemi</i>	ДѢЛАЕМА <i>děljajema</i>	ДѢЛАЕМЫ <i>děljajemy</i>
Loc	ДѢЛАЕМѢХЪ <i>děljajestichъ</i>		ДѢЛАЕМАХЪ <i>děljajestachъ</i>
Ins	ДѢЛАЕМЫ <i>děljajemy</i>		ДѢЛАЕМАМИ <i>děljajemami</i>

Table 72. [cu] ADJ | Aspect=Imp | VerbForm=Part | Voice=Pass | Tense=Pres. The adjective ДѢЛАЕМ (*děljajem*) means “being done” and is derived from the imperfective verb ДѢЛАТИ (*dělati*) “to do”. The corresponding past adjective is СДѢЛАН (*sъdělān*) “done”, it is derived from the perfective verb СДѢЛАТИ (*sъdělati*) and uses similar suffixes: Sing Fem Nom СДѢЛАНА (*sъdělana*), Sing Neut Nom СДѢЛАНО (*sъdělano*) etc. The table shows the short (“strong”) forms of the nominal declension.

Example	Gloss	Languages	L	Tag	VerbFo	Voic	Tense	Defin
<i>budoucí</i>	<i>what will be</i>	all?	l	ADJ	(Part)		(Fut)	
<i>delajoč</i>	<i>who is doing</i>	sl, bg, cu	s	ADJ	Part	Act	Pres	Ind
<i>dělající</i>	<i>who is doing</i>	all	l	ADJ	Part	Act	Pres	(Def)
<i>сѣлѣвъ</i>	<i>who has done</i>	cu	s	ADJ	Part	Act	Past	Ind
<i>udělavši</i>	<i>who has done</i>	cs, sk, hsb, pl uk, ru, hr	l	ADJ	Part	Act	Past	(Def)
<i>dělal</i>	<i>did / (has) done</i>	all	s	VERB AUX	Part	Act	Past	
<i>правел</i>	<i>was doing</i>	bg	s	VERB	Part	Act	Imp	
<i>minulý</i>	<i>what has passed</i>	all?	l	ADJ	(Part)		(Past)	
<i>dělán</i>	<i>(is (being)) done</i>	cs	s	VERB	Part	Pass		
<i>delan</i>	<i>((who) is) done</i>	sl, hr, bg	s	ADJ	Part	Pass		Ind
<i>dělaný</i>	<i>who is/was done</i>	cs, sk, hsb, pl, uk, sl, hr, bg	l	ADJ	Part	Pass		(Def)
<i>делаем</i>	<i>(is being) done</i>	ru	s	VERB	Part	Pass	Pres	
<i>дѣлаемъ</i>	<i>(is being) done</i>	cu	s	ADJ	Part	Pass	Pres	Ind
<i>делаемый</i>	<i>who is being done</i>	ru, cu	l	ADJ	Part	Pass	Pres	(Def)
<i>сделан</i>	<i>(has been, is) done</i>	ru	s	VERB	Part	Pass	Past	
<i>сѣлѣан</i>	<i>(who is) done</i>	cu	s	ADJ	Part	Pass	Past	Ind
<i>сделанный</i>	<i>who has been done</i>	ru, cu	l	ADJ	Part	Pass	Past	(Def)

Table 73. Participles. The “L” column denotes short vs. long forms. The Def feature only applies in languages where the Ind counterpart exists.

15. Participle Summary

Participles are words that share properties of verbs and adjectives. Just like adjectives, they have short and long forms. Historically, the long forms emerged as a fusion of the short form and a pronoun. North Slavic languages either do not have the short form or they do not mark the Case on it. Short and long forms are distinguished by the POS tag (VERB/ADJ). South Slavic languages use the short form and inflect it for Case (except for [bg] and [mk], which have lost cases). The long form is definite. Both forms are ADJ; short vs. long is distinguished by Definite=Ind/Def. The l-participle is special. Its short form is VERB even in the south Slavic languages (the Definite and Case features of the short form are empty). Table 73 gives a summary of the proposed annotation of participles. Adverbial participles are not covered here because we tag them as transgressives (VerbForm=Trans, see Section 12). [cu] does not have transgress-

Number	Sing	Plur
Nom	<i>dělání</i>	<i>dělání</i>
Gen	<i>dělání</i>	<i>dělání</i>
Dat	<i>dělání</i>	<i>děláním</i>
Acc	<i>dělání</i>	<i>dělání</i>
Voc	<i>dělání</i>	<i>dělání</i>
Loc	<i>dělání</i>	<i>děláních</i>
Ins	<i>děláním</i>	<i>děláními</i>

Table 74. [cs] *dělání* “doing” NOUN | Aspect=Imp. The rows correspond to different values of Case.

Number	Sing	Plur
Nom	<i>robenie</i>	<i>robenia</i>
Gen	<i>robenia</i>	<i>robení</i>
Dat	<i>robeniu</i>	<i>robeniam</i>
Acc	<i>robenie</i>	<i>robenia</i>
Loc	<i>robení</i>	<i>robeniach</i>
Ins	<i>robením</i>	<i>robeniami</i>

Table 75. [sk] *robenie* “doing” NOUN | Aspect=Imp. The rows correspond to different values of Case.

sives but the nominative forms of its active participles correspond to transgressives and can be used as adverbial modifiers.

16. Verbal Noun

[cs] *podstatné jméno slovesné*; [sk] *slovesné podstatné meno*; [hsb] *werbalny substantiw*; [pl] *rzeczownik odczasownikowy*; [uk] *віддієслівний іменник*; [ru] *отглагольное существительное*; [sl] *glagolsko ime*; [hr] *radna (glagolska) imenica*; [bg] *отглаголно съществително име*. Tables 74–83.

Verbal noun is an abstract noun productively derived from a verb, denoting the action of the verb. It inflects for Case and Number, although it is only rarely seen in plural. Its gender is always Neut. We tag it NOUN and use its singular nominative form as the lemma (not the infinitive of the base verb).

The UD guidelines v1 suggest that VerbForm=Ger can be used to distinguish verbal nouns from other nouns. This works in English where the corresponding form is

Number	Sing	Dual	Plur
Nom	<i>džělanje</i>	<i>džělani</i>	<i>džělanja</i>
Gen	<i>džělanja</i>	<i>džělanjow</i>	
Dat	<i>džělanju</i>	<i>džělanjomaj</i>	<i>džělanjam</i>
Acc	<i>džělanje</i>	<i>džělani</i>	<i>džělanja</i>
Loc	<i>džělanju</i>	<i>džělanjomaj</i>	<i>džělanjach</i>
Ins	<i>džělanjom</i>	<i>džělanjomaj</i>	<i>džělanjemi</i>

Table 76. [hsb] *džělanje* “doing” NOUN | Aspect=Imp. The rows correspond to different values of Case.

Number	Sing	Plur
Nom	<i>robienie</i>	<i>robienia</i>
Gen	<i>robienia</i>	<i>robień</i>
Dat	<i>robieniu</i>	<i>robieniom</i>
Acc	<i>robienie</i>	<i>robienia</i>
Voc	<i>robienie</i>	<i>robienia</i>
Loc	<i>robieniu</i>	<i>robieniach</i>
Ins	<i>robieniem</i>	<i>robieniami</i>

Table 77. [pl] *robienie* “doing” NOUN | Aspect=Imp. The rows correspond to different values of Case.

termed *gerund*. Unfortunately, this feature might cause confusion in Slavic linguistics where some authors use the term *gerund* for adverbial participles (cf. Section 12). Hence we advise against using it with Slavic verbal nouns. Nevertheless, the verbal nouns may mark the Aspect of their base verb.

Verbal nouns use suffixes similar to passive participles. Unlike passive participles, they can be derived from intransitive verbs as well.

17. Negation

Slavic verbs are negated by a local variant of the morpheme *ne*, which is either a bound morpheme (prefix), or a separate word (particle). If it is a prefix, we do not cut it off during tokenization.

A standalone negating word is tagged PART and it has the feature Negative=Neg. On the dependency level, it is attached to the negated verb using the neg relation.

Number	Sing	Plur
Nom	<i>роблення</i> <i>roblennja</i>	<i>роблення</i> <i>roblennja</i>
Gen	<i>роблення</i> <i>roblennja</i>	<i>роблень</i> <i>roblen'</i>
Dat	<i>робленню</i> <i>roblennju</i>	<i>робленням</i> <i>roblennjam</i>
Acc	<i>роблення</i> <i>roblennja</i>	<i>роблення</i> <i>roblennja</i>
Loc	<i>робленні, робленню</i> <i>roblenni, roblennju</i>	<i>робленнях</i> <i>roblennjach</i>
Ins	<i>робленням</i> <i>roblennjam</i>	<i>робленнями</i> <i>roblennjamu</i>

Table 78. [uk] *роблення (roblennja)* “doing” NOUN | Aspect=Imp. The rows correspond to different values of Case.

In the case of the negative prefix, the verb itself bears the Negative=Neg feature. This type of prefixing is considered inflectional rather than derivational, that is, the lemma is still the affirmative (unprefixed) infinitive. If the language negates verbs by prefixing, all affirmative forms of these verbs should be annotated Negative=Pos.

In periphrastic constructions it is normal that only one participating word is negated, but various languages may have different rules on what participant it should be. Cf. [cs] *Včera jsem nešel domů.* “I did not go home yesterday.” (negated participle) and [hr] *Jučer nisam išao kući.* (negated auxiliary).

Verbal adjectives (long forms of participles) and verbal nouns are negated in a similar fashion.

Czech is an example of a language where all verbs are negated using the prefix *ne-*. Russian is an example of the opposite: all finite forms and the l-participles are negated using the particle *не (ne)*. With the other participles it becomes a prefix though: *несовершенный (nesoversennyj)* “imperfect”. Yet different is Croatian where the negative particle is the default, except for the verbs *biti*, *htjeti* and *imati* that take the negative morpheme as a prefix.

18. Current Data

UD version 1.2, released in November 2015, contains data from 6 Slavic languages: Czech, Polish, Slovenian, Croatian, Bulgarian and Old Church Slavonic. Most of these datasets distinguish AUX from VERB (except for [cu], which uses only the VERB tag) and most of them have a non-empty value of VerbForm for all verbs (auxiliary or not). Here

Number	Sing	Plur
Nom	<i>делание, деланье delanie, delan'e</i>	<i>делания, деланья delanija, delan'ja</i>
Gen	<i>делания, деланья delanija, delan'ja</i>	<i>деланий delanij</i>
Dat	<i>деланию, деланью delaniju, delan'ju</i>	<i>деланиям, деланьям delanijam, delan'jam</i>
Acc	<i>делание, деланье delanie, delan'e</i>	<i>делания, деланья delanija, delan'ja</i>
Loc	<i>делании, деланье, деланьи delanii, delan'e, delan'i</i>	<i>деланиях, деланьях delanijah, delan'jah</i>
Ins	<i>деланием, деланьем delaniem, delan'em</i>	<i>деланиями, деланьями delanijami, delan'jami</i>

Table 79. [ru] *делание (delanie)* “doing” NOUN | Aspect=Imp. The rows correspond to different values of Case.

the exceptions are [hr] (finite verbs are not marked), [pl] (predicative nonverbs such as *to* “it (is)” are tagged VERB) and [bg] (empty VerbForms are probably annotation errors). [cu] uses the subjunctive mood (Mood=Sub) instead of Mood=Cnd for the conditional auxiliaries.

All but [bg] have occurrences of VerbForm=Inf, [cu] and [sl] also have VerbForm=Sup.

All languages except [pl] tag verbal nouns as regular NOUN, without setting the VerbForm. Polish tags them VERB with VerbForm=Ger.

VerbForm=Trans is used in [cs], [pl] and [sl]; In Czech and Polish their main part of speech is VERB (or AUX) while in Slovenian it is ADV. Croatian data ignores the Trans value and annotates transgressives as ADV plus VerbForm=Part. Bulgarian tags them as regular adverbs, without any distinctive feature.

By far the largest proportion of inconsistency is caused by participles.

[cs]: The l-participles are tagged VERB/AUX VerbForm=Part | Tense=Past | Voice=Act. Short forms of passive participles are tagged VERB VerbForm=Part | Voice=Pass (empty Tense). Long forms are tagged as regular adjectives (empty VerbForm). Active participles related to transgressives are tagged ADJ VerbForm=Part | Voice=Act and distinguished by tense and aspect: either Aspect=Imp | Tense=Pres or Aspect=Perf | Tense=Past.

[pl]: All participles are tagged VERB. Present active (progressive) participles are marked Voice=Act | Tense=Pres, while the passive participles have Voice=Pass and empty Tense. The l-participles are marked as finite forms (VerbForm=Fin instead of Part!) with Tense=Past and empty Voice.

Number	Sing	Dual	Plur
Nom	<i>delanje</i>	<i>delanji</i>	<i>delanja</i>
Gen	<i>delanja</i>	<i>delanj</i>	
Dat	<i>delanju</i>	<i>delanjema</i>	<i>delanjem</i>
Acc	<i>delanje</i>	<i>delanji</i>	<i>delanja</i>
Loc	<i>delanju</i>	<i>delanjih</i>	
Ins	<i>delanjem</i>	<i>delanjema</i>	<i>delanji</i>

Table 80. [sl] *delanje* “doing” NOUN | Aspect=Imp. The rows correspond to different values of Case.

Number	Sing	Plur
Nom	<i>delanje</i>	<i>delanja</i>
Gen	<i>delanja</i>	<i>delanja</i>
Dat	<i>delanju</i>	<i>delanjima</i>
Acc	<i>delanje</i>	<i>delanja</i>
Voc	<i>delanje</i>	<i>delanja</i>
Loc	<i>delanju</i>	<i>delanjima</i>
Ins	<i>delanjem</i>	<i>delanjima</i>

Table 81. [hr] *delanje* “doing” NOUN | Aspect=Imp. The rows correspond to different values of Case.

[sl]: The predicatively used l-participles are tagged VERB/AUX VerbForm=Part, with empty Voice and Tense. Participles tagged as adjectives (ADJ VerbForm=Part) are mostly passive participles, albeit their Voice feature is empty, too. However, some of them are adjectives derived from the l-participles (*minuli*, *ostali*, *odrasle*) and rarely also the present active participle (*boleče*).

[hr]: The l-participles are tagged VERB/AUX VerbForm=Part and they are the only active participles marked. Passive participles are tagged ADJ VerbForm=Part. The Tense and Voice features are always empty.

[bg]: Only the l-participles of the verb *to be* are tagged VERB/AUX VerbForm=Part. Predicatively used l-participles of other verbs appear as finite verbs (VerbForm=Fin), they are thus indistinguishable from the aorist and imperfect simple past tenses, respectively. For example, both *можах* and *могъл* (aorist and perfect l-participle of *could*) are annotated Voice=Act | Tense=Past. In parallel, both *можех* and *можел* (simple imperfect and imperfect l-participle of the same verb) are annotated Voice=Act

Number	Sing	Plur
Ind	<i>правене</i> <i>pravene</i>	<i>правения, правенета</i> <i>pravenija, praveneta</i>
Def	<i>правенето</i> <i>praveneto</i>	<i>правенията, правенетата</i> <i>pravenijata, pravenetata</i>

Table 82. [bg] *правене* (*pravene*) “doing” NOUN | Aspect=Imp. The rows correspond to different values of Definite. Bulgarian nouns do not inflect for Case.

Number	Sing	Dual	Plur
Nom	ДѢЛАННЕ <i>dělanije</i>	ДѢЛАННН <i>dělanii</i>	ДѢЛАННѢ <i>dělanija</i>
Gen	ДѢЛАННѢ <i>dělanija</i>	ДѢЛАННЮ <i>dělaniju</i>	ДѢЛАННН <i>dělanii</i>
Dat	ДѢЛАННЮ <i>dělaniju</i>	ДѢЛАННЕМА <i>dělanijema</i>	ДѢЛАННЕМЪ <i>dělanijemъ</i>
Acc	ДѢЛАННЕ <i>dělanije</i>	ДѢЛАННН <i>dělanii</i>	ДѢЛАННѢ <i>dělanija</i>
Voc	ДѢЛАННЕ <i>dělanije</i>	ДѢЛАННН <i>dělanii</i>	ДѢЛАННѢ <i>dělanija</i>
Loc	ДѢЛАННН <i>dělanii</i>	ДѢЛАННЮ <i>dělaniju</i>	ДѢЛАНННХЪ <i>dělaniiichъ</i>
Ins	ДѢЛАННЕМЪ <i>dělanijemъ</i>	ДѢЛАННЕМА <i>dělanijema</i>	ДѢЛАННН <i>dělanii</i>

Table 83. [cu] ДѢЛАННЕ (*dělanije*) “doing” NOUN | Aspect=Imp. The rows correspond to different values of Case.

| Tense=Imp. All other participles, including some l-participles, are tagged ADJ Verb-Form=Part (they actually can take the definite suffix: *миналата, останалите, миналия*). Passive participles have empty Tense. Active participles are distinguished by Tense=Pres (imperfective verbs, progressive meaning) and Tense=Past (the l-participles).

[cu]: All participles are tagged VERB VerbForm=Part and no other part-of-speech tag occurs with the VerbForm feature. Except for the l-participle, which is relatively rare, all participle types can inflect for Case. Active participles are further distinguished by Tense=Pres, Past and in one case even Fut (*бъждѣщнн*). The l-participles have Voice=Act but no Tense; on the other hand, they have currently a special value

of Aspect=Res, disregarding the lexical aspect of the lemma. Passive participles use the Tense feature to distinguish present and past forms.

19. Conclusion

We have presented the various combinations of morphological features of verbs that occur in Slavic languages, and we have proposed their unified and consistent representation within the Universal Dependencies framework. There already exist UD treebanks of six Slavic languages and we have shown that their authors have not always applied the UD annotation style in the same manner. Datasets for other languages are being prepared at the time of this writing, and their authors will have to take similar decisions. Our proposal should contribute to further harmonization of all these datasets: we hope to trigger discussion that will eventually lead to a more precise specification of UD guidelines for Slavic languages.

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