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Slovak Verbal Derivatives in Background Taxis Constructions

Abstract: Taxis semantics expresses simultaneity, precedence and posteriority of events in the time span. Taxis construction contains two propositions in the sentence. Background taxis usually appears in complex sentences with circumstantial clauses, where taxis semantics plays a sub-dominant role. A verbal derivative, which inherits tense and aspect semantic components from its original verb form, is able to participate in background taxis constructions. Semantic peculiarities of the verb predict its involvement in the taxis construction. The objective of this paper is to clarify how verbal derivatives function in background taxis constructions in Slovak.

Keywords: Taxis, proposition, verbal derivatives, verb classes

1. Introduction

1.1. General definition of the taxis category

Taxis is a functional grammatical category that refers to interdependence of predicates in the poly-predicative sentence (JAKOBSON 1984). Syntactic constructions, verb forms and verbal derivatives express taxis semantics. Semantics of taxis reveals connections of events (their simultaneity, precedence and posteriority) in the time span. Thanks to the taxis construction, speakers emphasize the integrity of the time span and clarify connections of the events¹. Taxis constructions regularly occur in narrative and storytelling (MURAVIEV 2017).

Taxis constructions are characterized by specific peculiarities. Utterances with a taxis construction express two or more propositions connected in the time span. Hence, the speaker marks the sequence of the events and suggests a reference point to evaluate the sequence. A lexical marker often imposes the reference point. In different languages, sets of taxis constructions include compound and complex sentences, clauses with participle / gerund / transgressive / infinitive / verbal noun constructions if verbal derivatives inherit tense and/or aspect (BONDARKO, SHUBIK 2005). Complex sentences are the typical arena of manifestation of taxis semantics. Complex sentences are considered background taxis constructions where the events sequence is associated with circumstances; thus, the subordinate clause acquires semantics

¹In this paper, *event* denotes the proposition of the predicate without connection to the sentence meaning (according to: CROFT (2012)).

of causality, conditionality, etc. When a set of indicators of the taxis category includes constructions with verbal derivatives (verbal noun first of all) and complex sentences with circumstantial clauses, the set brings in the necessity to analyse the ambiguity of verbal derivatives functioning in taxis constructions and to clarify concomitant taxis semantics. The objective of this paper is to describe functions of verbal derivatives in background taxis constructions in Slovak.

Events vary in their ability to change the subject’s state, status and situation that provides the grounds to classify predicates. Vendler classified the predicates taking into account continuance, goals and results: states, actions, achievements and accomplishments (VENDLER 1967). Thus, the probability to participate in taxis constructions depends on predicate semantics since achievements and accomplishments presuppose certain stages of activity in the past while states and actions do not necessarily need any information about previous events (CROFT 2012). Thus, we analyse the background taxis constructions with verbal derivatives taking into account the class of the predicate.

1.2. Grammmemes of the taxis category

Taxis overlaps with grammatical tense and aspect. Taxis semantics includes the correlation of several events, while tense and aspect correspond to the single event indicating its relation to the time of the speech act and the reference point. In taxis constructions, one of the propositions (P1) offers the reference point to another one (P2), while P2 (or P3, P4, etc.) refers to the current speech act. The speaker indicates the reference point in the utterance by mentioning the specific time span, naming events, using adverbs. The relationship between the time of the speech act and the reference point identifies the tense, while the interaction between the time of the event and the reference point identifies the aspect (DECLERCK 1986).

Grammmemes of the taxis category refer to simultaneity, precedence and posteriority of the events. Semantic components of the grammemes reflect temporal localization and duration of the events; they correspond with aspectuality (see table 1 (KHRAKOVSKY 2009: 31)).

Table 1

The grammemes of taxis semantics

Simultaneity			Sequence					
			Precedence			Posteriority		
Complete	Partial A P1 includes P2	Partial B P2 includes P1	Distant	Contact	Terminated	Distant	Contact	Terminating

1.3. Valence vs non-valence taxis and relative vs independent taxis

Verbs with semantics of speech, perception, emotion and mental activity are able to control adjuncts represented by a clause or a verb phrase. The semantic valence of these verbs develops the basis for valence taxis constructions. These constructions denote taxis identifying the correlation in time between mental activity and the event described in the subordinate clause. Thus, valence taxis is always a relative one.

The ‘independent vs relative taxis’ opposition appears in non-valence taxis. Semantics of independent taxis characterizes the temporal connection of equipollent events (BONDARKO 1987). Non-valence relative taxis constructions refer to the relation between dominant and subdominant events, where temporal semantics performs a supporting role. Non-valence taxis is associated with adjuncts and circumstances. The correlation of the types of the taxis constructions is shown on the diagram in Fig. 1.

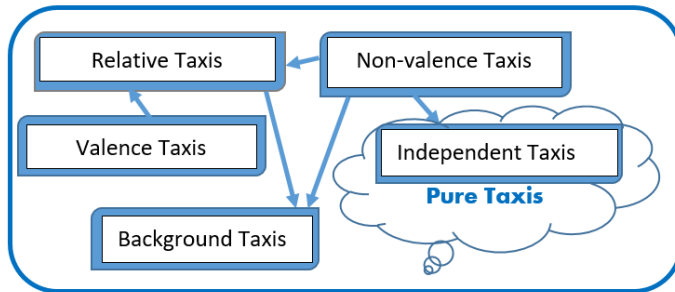


Figure 1: Correlation of types of taxis constructions

On the diagram, the class of valence taxis constructions includes the relative taxis constructions. The class of non-valence taxis constructions contains independent taxis constructions (pure taxis) and background taxis constructions. Dominant and subordinate events are involved in relative taxis. Background taxis appears in the complex sentence when taxis semantics combines with causality / conditionality / concessivity / etc. (KHLAKOVSKY 2009). Taxis semantics produces the background for the dominant semantics of the clause. The dominant semantics is expressed by conjunctions, while verbs and verbal derivatives manifest background taxis. A predicative name of the event marks the reference point or refers to the integrity of the time span (KHLAKOVSKY 2009).

2. Methods and material

2.1. Research questions

Ambiguity of the taxis category is revealed in the case of background taxis. To clarify the value of taxis semantics in the background taxis construction, we have to analyze markers of taxis semantics in a language with rich morphology.

The grammatical category of verbal aspect coexists with pluperfect tenses in Slavic languages. The Slovak language inherited pluperfect from Proto-Slavic; the pluperfect is in use in literary texts. In Slovak, verbal nouns are involved in taxis constructions alongside with particles and transgressives since they inherit transitivity, reflexiveness, tense and aspect of their original verb (ISACHENKO 2003). Combinations of perfective and progressive verb forms allow for referring to the different options of simultaneity, precedence and posteriority. The research questions are: (a) how verbal derivatives participate in background taxis constructions; (b) how the semantic class of the predicate affects its participating in the taxis construction.

2.2. Dataset and methods

The research is based on the Slovak National Corpora² and online media. Verbs and verbal derivatives, which represent Vendler's classes, were included in the query to the Corpus searching engine. The query was responded by the set of sentences with requested forms; complex sentences with circumstantial clauses were examined. Slovak web resources were also analysed to obtain samples of slang utterances and archaic texts; the reference to the resource is shown in footnotes. Our dataset includes 120 instances (approximately 2300 words). Semantic, discourse and morphosyntactic analysis of the material allowed to find out the markers of the taxis category and to clarify the interrelation between taxis grammemes and the class of the dominant verb in the background taxis constructions. The instances are glossed according to The Leipzig Glossing Rules³.

3. Analysis of the Slovak background taxis constructions

3.1. Constructions with transgressive and participle

Semantics of background taxis in the instance (1) is denoted by the combination of transgressive and finite verbs. The taxis construction refers to partly overlapping simultaneity:

- (1) Európan-ia, **hladajú-c** (P2) prírodn-é bohatstvá,
European-NOM.PL, looking for.IPFV-GRND natural-ACC.PL resources
ACC.PL,
narazi-l-i (P3) na star-é domorod-é kultúr-y,
hit-PST-PL on old-ACC.PL aboriginal-ACC.PL culture-ACC.PL
úzko **spä-t-é** (P1) s prales-om.
closely tied-PST.PT.PAS-ACC.PL with jungle-INSTR.SG.MAS
Looking for natural resources, Europeans destroyed indigenous
cultures, which were intimately connected with the jungle.

² Slovenský národný korpus. Available at WWW: <http://korpus.juls.savba.sk>.

³ <https://www.eva.mpg.de/lingua/pdf/Glossing-Rules.pdf>.

In (1), the taxis construction emphasizes the opposition of dominant and peripheral agent's activity. The finite form of the achievement verb represents P3, while the transgressive of the accomplishment verb explicates the peripheral activity (P2) that allows understanding the purpose of the agent's activity. P1 clarifies the accomplishment that preceded (P2+P3) in the distant past of the cultures and explains the precondition of the dominant achievement event (P3). P2 marks the reference point. The background taxis construction refers to the partial simultaneity B: P3 is an unexpected result of activity (P2). The dominant semantics of the connection between P3 and P2 indicates resultative (a side effect). Nevertheless, temporality is important for understanding the sentence meaning.

A taxis construction can express partial simultaneity when P1 lasts longer than P2.

(2)⁴ A naopak, cudzinc-i **pracuj-úc-i** (P1)

And on the contrary, foreigner-NOM.PL working-PRS.PT.ACT-NOM.PL
v Česk-ěj republik-e, **posla-l-i** (P2) domov 22.7
in Czech-LOC.SG.FEM republic-LOC.SG.FEM sent-PST-PL home 22.7
miliard-y Kč.
billion-ACC.PL CZK.

On the contrary, working in the Czech Republic, foreigners sent home 22.7 billion crowns.

In (2), the propositions partly overlap each other: duration of the P1 includes P2. P2 is verbalized by the perfective achievement verb; the action of P2 was performed completely, while duration of background activity (P1), verbalized by the progressive participle, associates with the long period of time. Taxis construction involves morphological (the finite verb and the verbal derivative) and syntactic (the participle construction) markers.

3.2. Constructions with verbal noun

(3) **Dozvede-l-i s-me sa** (P3) to od star-ých

Learn-PST-PL were.AUX.IPFV-PRS.1PL REFL. this.DEMONSTR from
old-GEN.PL

lágrovník-ov, ktor-í tu **po odpyk-an-í** (P1)

prisoner-GEN.PL which-NOM.PL here after redeem.PFV-NOUN-
LOC.SG.NEU

trest-u **žili** (P2)

punishment-DAT.SG.MAS lived-PST.PL

We learned it from the old prisoners who used to live here after serving their sentences.

⁴ <http://finweb.hnonline.sk/spravy-zo-sveta-financii/454711-cesi-pracujuci-v-zahranici-posielaju-domov-miliardy-korun> (Last accessed 27.01.2020)

The subordinate clause clarifies the source of the achievement P3. Although the verb belongs to the class of mental activity verbs, it participates in the background taxis construction of overlapping simultaneity (P2+P3). The background taxis P1+P2 occurs in the subordinate clause. The accomplishment verbal noun (P1) refers to the precondition of P2 and P3. P1 marks the reference point. The verbal noun denotes a prerequisite and Terminus a quo of activity (P2). The taxis construction ‘preposition + verbal noun + finite verb’ expresses contact posteriority.

Sentence (4) encloses the taxis construction of contact precedence (P2+P1):

- (4) **S-ú** (P3) to nadstavc-e a podstavc-e
 Are.AUX.IPFV-PRS.3PL these.DEMONSTR. attachments-ACC.PL
 and bases-ACC.PL
 žargónov-ých frazeologick-ých jednotí-ek **prenes-en-ých** (P2)
 slang.ADJ-GEN.PL phraseological-GEN.PL units-GEN.PL transfer-
 PT.PASS.PST-GEN.PL
 zo spoločn-ého federáln-ého duchovn-ého majetk-u
 from common-GEN.SG federal-GEN.PL intellectual-GEN.PL property-
 GEN.PL
 na Slovensk-o ešte **pred rozdel-en-ím** (P1)
 to Slovakia-ACC.SG yet before dissolution.PFV-NOUN-INSTR.SG

There are attachments and frames of slang idioms transferred from the common federal intellectual heritage to Slovakia before dissolution.

The construction manifests the semantics of precedence (P2+P3); the idioms had been functioning in Slovak in Czechoslovakia and they are still in use. The verbal noun refers to the achievement event (P1) and marks the reference point of terminating posteriority (P1+P2) of the accomplishment event expressed by the participle.

Being involved in expressing concessive semantics, verbal nouns in combination with concessive prepositions denotes concessivity in the background taxis construction (5).

- (5) Slovník-y A. Caforia **napriek použit-i-u** (P1)
 Dictionary- NOM.PL A. Caforia despite using-AMBIVALENT.NOUN-
 DAT.SG.NEU
 výkonn-ého editora **trp-ia** (P2) nedostat-om
 executive-GEN.SG.MAS editor-GEN.SG.MAS suffer-PRS.3PL
 deficiency-INSTR.SG.MAS
 jednoznačnosť-i
 clarity-GEN.SG.FEM

A. Caforia's dictionaries, despite the use of the powerful editor, suffer from the deficiency of clarity.

In (5), the derivative of the verb inherits ambivalent aspectual semantics; the verb indicates progressive or perfective aspect according to the context. Thus,

the action verbal noun denotes the regular situation (P1); however, the action leads to the state (P2). The background taxis construction expresses the precedence: P1 precedes P2 since P2 refers to the result of P1.

An event can cause interruption of a preceding one before it reaches its natural end:

- (6) Cel-é **tráp-en-ie** (P1) milosrdne **preruši-l-a** (P2)
 Whole-ACC.SG.NEU suffering-IPVF.NOUN-ACC.SG.NEU mercifully
 interrupt-PST-SG.FEM
 Cox-ov-a indispozíci-a a skupin-a
 Cox-POSS-NOM.SG.FEM disease-NOM.SG.FEM and group-
 NOM.SG.FEM
sa vráti-l-a (P3) do Londýn-a.
 REFL return-PST-SG.FEM to London-GEN.SG.MAS.
 The misery was mercifully interrupted by Cox's disease and the band
 returned to London.

In (6), the achievement event (P2) terminates the state (P1) denoted by the verbal noun. The achievement event (P2) caused the accomplishment event (P3). Arguments of the propositions verbalized in the clauses of the compound sentence do not match. The compound sentence with the combination of (P1,P2)+P3 represents semantics of the terminated precedence (P1,P2) of background taxis and the contact posteriority (P2+P3) of independent taxis. P1 expressed by the state verbal noun marks the reference point.

Nevertheless, a verbal noun does not necessarily indicate taxis semantics. A construction with a perfective verbal noun is represented in the clause *využil svoje hudobné vzdelanie* 'he used his musical education' (7).

- (7)⁵ J-eho rozprávačstv-o **dopĺňaj-ú** (P4) hudobn-é
 His-GEN.SG.MAS narrative-NOM.SG.NEU add-PRS.3PL music-
 ACC.PL.MAS
 motív-y – **využi-l-0** (P3) svoj-e hudobn-é
 motive-ACC.PL.MAS **use**-PST-SG.MAS his-ACC.SG.MAS music-
 ACC.SG.NEU
 vzdel-a-ni-e (**študova-l-0** (P2)
 educate-PVF.NOUN-ACC.SG.NEU (study-PST-SG.MAS
 na konzervatóri-u, **hra-l-0** (P1) na lesn-om
 on Conservatory-ACC.SG.FEM, play-PST-SG.MAS on forest-
 LOC.SG.MAS
 roh-u a organ-e).
 horn-LOC.SG.MAS and organ-LOC.SG.MAS

⁵ <https://zmaturoj.zones.sk/materialy/maturitne-temy/sj-literatura/sucasna-slovenska-proza.pdf> p.4: Vincent Šikula (Last accessed 28.01.2020)

His narrative includes music reminiscences – he took advantage of his musical education (he had studied at the Conservatory, had played the French horn and the organ).

The propositions P2 and P1 explain prerequisites of P4. A subordinate conjunction (as *because / since / due to / thanks to*) is omitted due to transparency of the semantics of causality that links P1,P2 and P3,P4 (he was able to use his music education *because* he had studied at the Conservatory). P1 and P2 are involved in the independent taxis construction of the partly overlapping simultaneity (P2 includes P1), while the background taxis of distant precedence is represented in the construction (P1,P2)+P3. The construction refers to the distant precedence due to progressive verbs in the parenthetical clauses. The pluperfect is not in use in the text since it does not belong to folklore or fiction. P4 links the events to the actual speech act; the accomplishment verb refers to the current situation in the narrative. The perfective verbal noun *vzdelanie* ‘education’ denotes the result of the accomplishment (P2)⁶ that generates the basis for the action (P3). This verbal noun is not able to participate in the taxis construction since it does not denote the event with its latent temporal and aspectual characteristics.

3.3. Verbal derivatives in background taxis constructions

Since P1 in taxis constructions is not linked to the time of speech act directly, verbal derivatives are able to express P1 due to their verbal aspect. Transgressives, participles and deverbatives indicate the reference point for the dominant event in taxis constructions of overlapping simultaneity (see (1)-(2)), contact (4), distant (see (1), (5)) and terminated (6) precedence, contact (3) and terminating (4) posteriority. Verbal derivatives are able to participate in background taxis constructions where subdominant propositions express semantics of concessivity (5), conditionality ((1), (3)), causality (2), state (6) and activity ((1), (4)).

Participles share the verbal categories of their original verb form, including tense. Due to the tense markers, the participle is able to mark P1 in the time span and localise the reference point in the time span, as in (1)-(2) and (4).

Transgressives are involved in taxis constructions due to their reference to the concomitant event (see (1)). The event expressed by a Slovak transgressive lacks any link to the moment of the speech act since the transgressive is a derivative of the present tense verb form, so the transgressive is unable to denote previous events. The aspect of the transgressive allows indicating continuation of the concomitant event (1). The focus on the dominant event in the sentence with a transgressive construction reflects the communicant’s choice and evaluation of the events in the script.

Verbal nouns share the categories of their basic verb: transitivity, reflexiveness and aspect. The verbal noun reflects background taxis in (6)

⁶ The second definition in the <http://www.slex.sk/index.asp>

where the progressive verbal noun *trápenie* ‘suffering (ipfv)’ denotes the state, which represents P1 in the construction of the terminated precedence. In (3), the perfective verbal noun *po odpykaní* ‘after redeem (pfv)’ refers to the beginning of the event expressed by the progressive verb (P2). These verbal nouns indicate the reference points of the events the author narrated about regardless of the grammatical aspect of the nouns. The prepositions mark the temporality when the clause semantics needs it. The verbal noun, which contains semantic features of aspect, transitivity, reflexiveness, functions as the separate and sufficient reference to the proposition; therefore, it is able to participate in the taxis constructions when the clause semantics requires indication of the continuity or termination of the activity. In background taxis constructions, the phrase ‘proposition + verbal noun’ indicates the temporal semantics thanks to the meaning of the preposition; verbal noun refers to the reference point, which can be localized in the particular time span.

4. Discussion

4.1. Verbal derivatives in the set of indicators of background taxis semantics in Slovak

In the Slovak language, syntactic constrictions and the rich set of morphological forms, including the Slovak pluperfect (SUSSEX, CUBBERLEY 2006), are involved in expressing taxis semantics.

Verbal derivatives are unable to express semantics of independent taxis due to their mixed morphological origin. They function in the relative taxis constructions expressing subdominant proposition. The syntactic constructions with verbal derivatives are able to represent background taxis semantics in the clause. Participles and transgressives are in wide use in background taxis constructions. Slovak transgressives inherit present tense; it is not distinguished for either number or gender (GARABÍK, ŠIMKOVÁ 2012: 56). Thus, the usage of transgressives is restricted to the taxis constructions of simultaneity.

Slovak verbal nouns are treated as words that exhibit features from two morphological parts of speech in the Slovak National Corpus⁷ (GIANITSOVÁ 2006: 172). The duality of verbal nouns allows deverbatives to avoid participating in the taxis constructions (see discussion in: (MURAVIEV 2017)). Verbal nouns are considered similar to participles and transgressives by (ISACHENKO 2003) since they refer to the duration / termination of the action according to their grammatical aspect. Verbal nouns regularly indicate the reference point in the background taxis constructions. The combination of aspect semantics of verbal noun and dominant verb in taxis constructions plays a significant role in the explication of complete simultaneity / discreteness /

⁷ «Mixed (symbol F) – used for nouns, adjectives, pronouns and numerals. This paradigm is used for words that do not clearly follow one inflectional pattern but instead exhibit features from two or more morphological parts of speech» (GARABÍK, ŠIMKOVÁ 2012: 47).

termination of events as we clarified in the analysis of the instances. Verbal nouns are a grammatical tool to lexicalize an event by naming it (see (4)). The naming of the event puts aside the event structure because the verbal noun does not inherit the valences of the original verb. The verbal noun functions as a ‘complete name’ of the event that allows to holistically denote the event with all of its peculiarities and potential participants (see (6)). The verbal nouns of achievement verbs and accomplishment verbs refer to events in the script that might be mentioned as the prerequisite of the dominant event (see (3)).

Khrakovsky (2009: 39) considers the nouns to represent the first proposition (P1) that is linked to the moment of the speech act due to the second proposition (P2). Based on the analysis of the instances from the Slovak National Corpus and online media, we described how the Slovak verbal nouns can connect two propositions and mark the reference point.

4.2. How the semantic class of predicate affects its participating in background taxis constructions

In the Slovak language, thanks to its rich morphology, the interrelation of the categories of tense, aspect and taxis shows the significance value of the verbal aspect in the indication of the taxis construction. The involvement of the verb in taxis constructions is associated with the semantics of the verb, including valence and aspectual peculiarities.

The verbal aspect also shows interaction of the grammatical and lexical semantics in the description of the event (CROFT 2012). Based on the Vendler’s classification, Croft distinguishes ten aspectual types of simple predicates and generates a model, integrating aspectual and causal structures of the event (Croft 2012). The difference in the event structure generates differences in potential connections of events.

There is a way to clarify the role of aspect semantics as the time contained in the event. Our results show the various functions of the verbal derivatives in background taxis constructions according to their semantic class. Achievements are associated with terminating taxis because the achievement occurs instantaneously. Thus, verbal derivatives of the achievement verbs are involved in the terminating posteriority (as the verbal noun in (4)). Achievement verbs participate in the constructions with semantics of simultaneity (see the dominant propositions in (1)-(3), (6)).

Accomplishment verbs show the results of the previous activity. The derivatives of these verbs participate in the construction with semantics of overlapping simultaneity and distant precedence (see (1)), contact and terminating posteriority ((3)-(4)). Derivatives of action verbs are involved in the background taxis constructions with semantics of simultaneity (2) and precedence (see (5)). Derivatives of state verbs are involved in indication of taxis semantics owing to their duration that presupposes occurrence of additional activity at the same time span or necessity to terminate the state (see (6)).

Our results are consistent with the Croft’s model of the event decomposition

in three deferent ways: temporal, causal and qualitative (Croft 2015). The background taxis constructions with the verbal derivatives represent temporal decomposition of the complex event when the combination preposition +verbal noun expresses grammemes of precedence / posteriority according to the meaning of the preposition (see (3)-(4)). Qualitative decomposition is represented in the constructions that refer to a complex event when it is important to describe its dominant and concomitant stages and results by using a participle / transgressive (see (1)). Casual decomposition appears in the background taxis constructions with casual semantics.

5. Conclusions

Taxis semantics provides the background of the interdependence of events, where their localization in time is of importance for communicants to understand the speaker's intention. The aspect of the verb, according to the Vendler's verbal aspectual classes, determines its possibility to participate in the taxis construction. Besides complex sentence and verb forms, the set of indicators of background taxis semantics in Slovak includes constructions with verbal derivatives, which refer to a subdominant proposition. In Slovak, the verbal noun, alongside with other verbal derivatives, is able to express P1 in background taxis constructions. Verbal nouns indicate the reference point naming the event in its integrity, while finite verb forms refer to the dominant activity.

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