

Temporality in the nominal domain: Evidence from Czech adjectives

Introduction. We explore Czech adjectival expressions involving a temporal component. While traditional grammar associates Tense and Aspect exclusively with the verbal domain, recent research (Tonhauser 2007, 2020; Berthold 2024; see also Musan 1999, O’Leary 2022) suggests that natural languages can encode these categories within the nominal domain as well. In this paper, we demonstrate that the Czech **privative adjectives** *bývalý* (‘former’), *budoucí* (‘future’), *nastávající* (‘to-be’), the **temporal anaphora** *tehdejší* (‘then’), *současný* (‘current’), *soudobý* (‘contemporary’), and the **frequency adjectives** *pravidelný* (‘regular’), *častý* (‘frequent’), *občasný* (‘occasional’), and the multiplicative *dvojnásobný* (‘two-times’) are not merely lexical modifiers but rather perform specific operations on time intervals and the hidden event structure of nouns (Wagiel 2022). The aim of the paper is to establish a formal distinction between nominal time and nominal aspect and to show the distributional restrictions that result from the semantic properties of these adjectives.

Data. We examine the status of the adjectives in question by applying a set of semantic diagnostics adapted from Berthold (2024). Crucially, these tests are designed to verify the **precedence relation** property, the **change of state** property, and the **existence** property, which were originally established by Tonhauser (2007) as the defining criteria for distinguishing between tense and aspect in the nominal domain. (i) The precedence relation property: An adjective is characterized as a marker of nominal aspect if the relation between **nominal event time** (NET) and **noun phrase time** (NPT \approx reference time) is modified (1); it is characterized as a marker of nominal tense if the modification pertains to the relation between NPT and utterance time (UT) (2)

(1) V roce 2007 jsem potkala **bývalého** prezidenta.
In year 2007 AUX met former president
‘In 2007, I met the former president.’ ASPECT: NET < NPT

(2) V roce 2007 jsem potkala **tehdejšího** prezidenta.
In year 2007 AUX met then president
‘In 2007, I met the then president.’ TENSE: NPT < UT

(ii) The change of state property: Adjectives classified as markers of nominal aspect are predicted to indicate a change of state. Consequently, (3) generates a contradiction. In contradistinction, the employment of the nominal tense does not endanger such an entailment, thus permitting the semantic acceptability (4).

(3) #**Bývalý** kapitán národního hokejového týmu je stále jeho kapitánem.
former captain national hockey team is still its captain
‘The former captain of the national hockey team is still its captain.’ ASPECT: CHANGE

(4) *Context: Katka and Marek discuss the success of the Czech national hockey team in 2023.*
Tehdejší kapitán národního hokejového týmu je stále jeho kapitánem.
then captain national hockey team is still its captain
‘The captain of the national hockey team at that time is still its captain.’ TENSE: NO CHANGE

(iii) The existence property: We investigate whether the evaluation time must fall within the lifespan of the individual. We demonstrate that adjectives expressing nominal aspect strictly obey this property. For example, referring to a deceased individual with *bývalý* (‘former’) is semantically unacceptable if they died while holding the property (5-a). Adjectives expressing nominal tense do not impose this restriction (5-b).

(5) *Context: Matěj was the mayor of our town. He died in 2018 while still serving as mayor.*
a. #Matěj byl **bývalým** starostou naší obce.
Matěj was former mayor our town
‘Matěj was the former mayor of our town.’ ASPECT: EXISTENCE PROPERTY
b. Matěj byl **tehdejším** starostou naší obce.
Matěj was then mayor our town
‘Matěj was the then mayor of our town.’ TENSE: NO EXISTENCE PROPERTY

The frequency adjectives *pravidelný* (‘regular’), *častý* (‘frequent’), *občasný* (‘occasional’) express the fre-

quency with which events occur over time, based on which an individual acquires a given property (Gehrke & McNally 2015). The condition of their felicity is that the events (NET) whose frequency is evaluated must precede NPT, and the frequency must continue in reference time (6).

- (6) a. Jakub je **pravidelný** účastník vědomostních soutěží.
 Jakub is regular participant knowledge competitions
 ‘Jakub is a regular participant in knowledge competitions.’
 b. \models Jakub regularly participates in knowledge competitions.

The multiplicative *dvojnásobný* (‘two-time’) quantifies over the events on the basis of which an individual acquired a given property. It thus modifies the noun on the same principle as the English expression *two-time* (Wągiel 2022). This adjective does not determine the relation between NET and NPT, as in the former case, nor does it function as a temporal anaphora expressing the relation between NPT and UT (7).

- (7) a. Martin je **dvojnásobný** prezident.
 Martin is two-time president
 ‘Martin is a two-time president.’
 b. \models Martin has been appointed president twice.

Distribution. Adjectives marking nominal aspect are constrained by the property of existence, e.g., *bývalý* is compatible only with stage-level predicates (SLPs), e.g., *bývalý prezident* (‘former president’) \sim $\#bývalý$ *člověk* (‘former man’), *budoucí* exhibits a broader distribution: while it combines with SLPs, it is also admissible with ILPs, provided the property is acquired over the course of the individual’s lifetime, e.g., *budoucí diabetik* (‘future diabetic’), and *nastávající* is most restricted. While adjectives expressing nominal time do not necessarily require a change of state, their distribution is restricted to nouns that allow for such a change (i.e., SLPs), e.g., *tehdejší prezident* (‘then president’). They are infelicitous with ILPs, as this implies a temporal restriction on a property defined as permanent, e.g., $\#tehdejší$ *člověk* (‘then man’). Adjectives quantifying over events require a repeatable initiating event, e.g., *dvojnásobný prezident* (‘two-time president’), *pravidelný host* (‘regular guest’). Nominal time markers scope over nominal aspect markers: *tehdejší bývalý prezident* (‘then former president’) \sim $\#bývalý$ *tehdejší prezident* (‘former then president’). While stacking of two nominal tense markers within a single phrase is impossible (as in the verbal domain), e.g., $\#současný$ *tehdejší prezident* (‘current then president’), nominal aspect markers can be stacked in certain contexts, e.g., *budoucí bývalý prezident* (‘future former president’). When interacting with frequency expressions, they can lead to ambiguities, e.g., *bývalý dvojnásobný rekordman* (‘former two-time record holder’) can imply the loss of two titles or the loss of just one title.

Analysis. We adopt Berthold’s (2024) approach to nominal temporality (see also Rapp 2015, Tonhauser 2020, O’Leary 2022) and assume a distinction between stative and eventive nouns (8-a). Nominal aspect markers are functions from eventive nominal predicates to temporal nominal predicates (type $\langle\langle v, \langle e, t \rangle \rangle, \langle i, \langle e, t \rangle \rangle\rangle$) (8-b). Nominal tense markers are functions from temporal nominal predicates to individual predicates (type $\langle\langle i, \langle e, t \rangle \rangle, \langle e, t \rangle \rangle$) (8-c). On the other hand, *dvojnásobný* (‘two-time’) counts the events of acquiring the relevant property by an individual (Wągiel 2022).

- (8) a. $\llbracket \text{prezident} \rrbracket = \lambda e_v. \lambda x_e. \text{PRESIDENT}(e)(x)$
 b. $\llbracket \text{bývalý} \rrbracket = \lambda P_{\langle v, \langle e, t \rangle \rangle}. \lambda t_i. \lambda x_e. \exists e_v : \tau(e) < t \wedge P(e)(x) \wedge \neg \exists e_v : \tau(e) \subset t \wedge P(e)(x)$
 c. $\llbracket \text{tehdejší} \rrbracket = \lambda P_{\langle i, \langle e, t \rangle \rangle}. \lambda x_e. \exists t_i : P(t)(x) \wedge t < t^*$

Conclusion. Our data support a structural parallelism between the verbal and nominal domains, providing evidence that Czech adjectives lexically encode abstract temporal operators. The distinction between nominal tense and nominal aspect is empirically motivated. Thus, we propose a classification of Czech temporal adjectives into nominal tense markers, nominal aspect markers, and event quantifiers.

References. Berthold (2024) *On nominal tense and aspect* • Gehrke & McNally (2015) *Distributional modification: The case of frequency adjectives* • Musan (1999) *On the temporal interpretation of noun phrases* • O’Leary (2022) *About time* • Tonhauser (2007) *Nominal tense? The meaning of Guarani nominal temporal markers* • Tonhauser (2020) *Temporal properties of noun phrases* • Wągiel (2022) *Quantifying over hidden (parts of) events*