

CONTRIBUTIONS TO THE STUDY OF ASPECT,
WITH SPECIAL REFERENCE TO CZECH

by

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CONTRIBUTIONS TO THE STUDY OF ASPECT,
WITH SPECIAL REFERENCE TO CZECH

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Abstract

Czech aspect is dealt with as being primarily a morphological property of verbs. Perfectivity and imperfectivity correlate with presence, 'absence', and position of affixes. Formal identification of both aspects is illustrated through syntactico-semantic tests.

The Transitivity and the Repeatedness vs. Completion tests demonstrate co-occurrence restrictions for which a morphological view cannot account, and motivate a postulation of PHRASAL ASPECT. Complements of verbs are identified as phrasal perfectivizers, analogically to prefixes, verbal perfectivizers.

Representation of morphological aspect uses a SCALE OF BOUNDARY STRENGTH separating affixes from verbal bases. Unified representation is given of both data complying with the general observation

[+Prefix]→Perfective,

[-Prefix]→Imperfective,

and the exceptions to this generalization.

Use of different boundaries supports the statement that aspectual affixes are verbal affixes originating in prepositions, attaching themselves to verbs in the process of aspectual affixation. Only the most recently applied affix is identified as aspectual determiner. Considering aspectual affixation to be a dynamic process, the affixal feature [-aspectual] is then either INHERENT or ACQUIRED.

Reflecting different subcategorization frames of affixed verbs, two groups of aspectual affixes ([±transitive]) are identified. The binary designation of aspect is appropriate for the lowest level (word). Higher level (phrasal) aspect is a combination of aspect specifications

of both levels. A SCALE OF ASPECTS is constructed from aspectual specifications of both levels. The scale is binary at the morphological level, with the poles MORPHOLOGICAL IMPERFECTIVE and PERFECTIVE, determined by the feature values [\pm prefix]. Phrasal aspect also shows two polar values, PHRASAL IMPERFECTIVE and PERFECTIVE, according to the feature values [\pm object]. Incorporating the feature values [\pm prefix] from the lower level, I distinguish between PHRASAL IMPERFECTIVE 1 and 2. Phrasal perfectives ([+object]) differ in the feature values [\pm prefix] incorporated from the lower level. Phrases containing [+prefix] verbs are ordered along the scale according to the feature values [\pm transitive prefix], giving three grades of phrasal perfectivity: PHRASAL PERFECTIVE 1, 2 and 3.

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Chapter 1. Introduction.

The aim of this study is to make a contribution to the understanding of that property of language that has traditionally been referred to as ASPECT. In this thesis, I will concentrate on aspect in Czech, a language which is characterized as having morphological aspect, i.e. aspect marked by minimal phonogrammatical units, morphemes. This characterization also provides justification for a concentration, at least at the outset, on an analysis in terms of morphology and morphological evidence, i.e. of overt formal markers of aspect within the structure of the unit WORD. Thus I have rejected the option of starting from the opposite end, i.e. by defining the MEANINGS of aspect and aspectual values, and subsequently looking for their material exponents. I believe that attempts which first try to define the nature of aspect semantically can only hinder understanding of the essence of this phenomenon, and very often lead to more-or-less arbitrary and language-specific division of the data into very loose general statements of sets or hierarchies of putatively semantic aspectual categories and subcategories.

This thesis will deal mainly with the distinction in verbs that has generally been characterized as PERFECTIVE vs. IMPERFECTIVE. I will introduce Czech aspect in chapter 2 by briefly describing its domain, forms and meanings. The establishment of perfectivity or imperfectivity in verbs will be demonstrated by means of aspectual tests. In the conclusion of chapter 2, I will demonstrate how the definition of aspect via such tests leads directly to the establishment of aspect at higher, syntactic levels. Thus, I will suggest that aspect lends itself to treatment within more than one subdivision of grammar, that in addition to morphological aspect and its semantic interpretation, we also find syntactic aspect, here phrasal aspect with different but comparable cross-level semantic interpretation. Chapter 3 will describe Czech aspect at the morphological level, while aspect at the phrasal level will be dealt with in chapter 4. Chapter 5 will contain concluding remarks.

The original contribution I wish to develop is that there is a morphological aspect parameter, having the poles of perfective and imperfective, and to demonstrate that this is sufficiently general and, at the same time, sufficiently restrictive, to cover the entire range of phenomena subsumed under the term aspect. I will also attempt to justify the proposal that the aspect parameter, correlatively and independently, also operates linguistically at the various levels of syntax, the latter exemplified here at the phrasal level.

This thesis makes no pretensions to follow any particular school of thought in the discussion of aspect. Rather, I am concerned with clarifying some of the general linguistic problems connected with this concept, and with proposing general hypotheses as to clarification, a task that is in essence independent of any particular approach or theory.

Chapter 2. Czech aspect.

Introduction

In this chapter, I will introduce the phenomenon of Czech aspect by first stating its domain, then giving a brief overview of its semantic interpretation. After outlining the formal properties of aspect in Czech, the core of this chapter will deal with tests that are used to establish aspectuality (perfectivity vs. imperfectivity) in verbs. As a conclusion, I will evaluate the aspectual tests and propose to extend the aspectual analysis to cover the level of phrase.

2. 1. The domain of aspect

The unit which is traditionally understood to constitute the domain of Czech aspect, when defined as the opposition imperfective–perfective, is the word. While, from the general theoretic point of view, the word as a linguistic unit is still not a clearly defined entity, I find it useful, and in accordance with established tradition,¹ to adopt and apply the 'level of word' in my discussion of aspect in this thesis.

2. 2. The meaning of aspect

The traditional semantic definitions of aspect concentrate on the distinction between related verbs denoting essentially either the process (duration) or an end-point (inception or completion) of the verbal action. Correspondingly, two notions are used to mark verbs with either one or the other aspect: imperfective aspect is said to denote action which has begun

¹As, for instance, noted by Panzer (1972:11) on the use of notions like, e.g. 'word-final', despite the fact that "...word was cast out of the theoretical framework and from the stock of terminologically fixed entities...". Panzer lists several semantic, grammatical (syntactic and morphological) and phonological criteria for defining the word and postulates the morphological criterion of flexional unity as acceptable basis for defining word as a unit in Proto-Slavic and early Slavic language, concluding that phonological criteria for establishing word as a unit in Slavic languages are only a result of historical development. Shapiro (1972:35), on the other hand, does not consider word to be a unit, rather "... a domain in which certain implementation rules apply ... that is specified by syntactic, morphological and (perhaps) prosodic means."

and is continuing without limitation (e.g. *psal* 'he was writing'), while perfective aspect expresses a limitation of the action (e.g. *napsal* 'he has written'). Other semantic notions used to characterize imperfectivity are, e.g., continuousness, durativity, linearity, longer duration, repeatedness, incompleteness, non-totality, lack of internal limit, non-accomplishment. Perfectivity, on the other hand, is characterized as, e.g., non-continuousness, non-durativity, punctuality, shorter duration, single (non-repeated) action, wholeness, totality, internal limit, accomplishment. Next to the majority of verbs, which are either imperfective or perfective, there is a small group of verbs that are generally analyzed as being capable of 'simultaneously' denoting both the imperfective and perfective action, for this reason they are termed biaspectual (e.g. *darovat* 'to give as a present', *jmenovat* 'to name', etc.). For further discussion of the semantics of aspect, see, e.g., Comrie, 1976.

Apart from the above-mentioned distinctions in semantic interpretation of perfective and imperfective verbs, one of the most commonly observed differences between the use of imperfective and perfective is the fact that only imperfective verbs occur in the present tense (*Jan právě píše_{IMP}*. 'John is writing just now. '), while perfective verbs cannot express the present tense (**Jan právě napíše_{PERF}*). Another area where we find a difference in aspectual usage is the imperative mood. Positive imperative is expressed by perfective aspect (*Zavři_{PERF} okno!* 'Close the window!'), negative imperative, a prohibition, uses imperfective verbs (*Nezavírej_{IMP}!* 'Don't close').

2. 3. The form of aspect

Morphologically, Czech verbal aspect is defined in terms of affixal morphemes combining with a verbal base. Concentrating on affixal elements and their contribution to aspectuality, I will be using the term 'base' in the sense of Crystal's definition of that part of a word to which affixes attach. Thus 'base' will sometimes correspond to the root,

sometimes to the stem of the word.² The reason for preferring 'base' to, e.g., stem, is to simplify the current discussion and keep the so-called inflectional endings on the one hand, and thematic suffixes on the other hand, outside our inquiry. Clearly, the question, especially of the role of thematic suffixes in aspect specification, requires further investigation.

The particular relationships of bases and affixes vary across structural positions. Generally, the presence of pre-radical elements (prefixes) denotes perfectivity, and their absence imperfectivity, while distinguishing, however, between 'absence' and 'overt absence', as will be shown in my analysis. Imperfectivity in Czech is denoted not only by post-radical aspectual affixes but also by the absence of these elements altogether. In this sense, verbs containing no aspectual suffixes will be called affixless, thus, as mentioned above, excluding thematic elements and inflectional affixes from the present discussion. The most notable mark of imperfective verbs is the lack of a prefixal element. The so-called biaspectual verbs, containing a suffix but no prefix, present a problem in that they may be considered either imperfective or perfective. In words containing both a prefix and a suffix, the situation appears to be more complex due to the combinatory possibilities of overt pre- and post-radical elements, which appears to render invalid the claim that, generally, imperfectivity is signalled by the absence of pre-radical elements. I will deal with the distributional patterns of affixes vis-à-vis aspect in chapter 3. For now, I will only note

²Crystal's (1980) definitions of 'base', 'root' and 'stem':

"Base: a term used in MORPHOLOGY as an alternative to ROOT or STEM: it refers to any part of a WORD seen as a UNIT to which an operation can be applied, as when one adds an AFFIX to a root or stem. ... Some analysts, however, restrict the term 'base' to be equivalent to 'root', i.e. the part of a word remaining when all AFFIXES have been removed."

"A root is the base form of a word which cannot be further analyzed without total loss of identity. ... it is that part of the word left when all the affixes are removed. ... From a semantic point of view, the root generally carries the main component of meaning in a word..."

"A Stem: A term often used in linguistics as part of a classification of the kinds of elements operating within the structure of a word. The stem may consist solely of a single root morpheme ... or of two root morphemes ... or of a root morpheme plus a derivational affix ... All have in common the notion that it is to the stem that inflectional affixes are attached."

that simultaneous appearance of pre- and post-radical elements generally correlates with imperfective aspect. The formal properties relevant to the morphological definition of the aspectual domain are then the **absence vs. presence** of verbal affixes and their **position**.

The following table illustrates this point:

(1)		Prefix	Suffix	Aspect
<i>psát</i>	'to write'	-	-	Imperfective
<i>napsat</i>	'to write'	+	-	Perfective
<i>psávat</i>	'to write habitually'	-	+	Imperfective
<i>darovat</i> (biaspectual)	'to give st. as a present'	-	+	Imperfective/Perfective
<i>zapisovat</i>	'to put down in writing'	+	+	Imperfective

2. 4. Determining of aspect *via* tests

To establish whether a verb is perfective, imperfective or biaspectual, there are very clear and direct examples in Czech of what appear to be simple interrelationships between morphological structure, in terms of affixes, and syntactic structure, in terms of co-occurrence restrictions or subcategorizations, which are aspectually interpretable. Such examples are very often used as tests in syntactic studies. These tests can be taken as tests of particular analyses, for instance, in our case, as a morphological aspect test – e.g. determining the aspectual value of a verb, or, sometimes, as a phrasal aspect test – e.g. determining the aspectual value of a verb phrase within a sentence. Here, I will simply list the tests, and will then discuss their implications for aspectual analysis.

- (2) a. The *budu* ___ frame test
- b. The *začnu/přestanu* ___ frame test
- c. The synthetic vs. analytic future test
- d. The gerund test

2. 4. 3. The synthetic vs. analytic future test

2. 4. 3. 1. Perfective and imperfective verbs

A direct consequence, or a variation of the first syntactic frame test (3), is a further diagnostic according to which only perfective verbs may appear in synthetic future tense forms, while imperfective verbs have to resort to analytical means of forming future tense, in this case the conjunction of the auxiliary *být* 'to be' (inflected for agreement with the subject NP) and the infinitive of the main verb. Thus imperfective verbs appear in the frame *budu* ___ 'I will ___' as in (3), while perfective verbs combine aspectual prefixation with present tense morphology to form the so-called synthetic future:

(5)

[+past]	[-past] (present)	(future)
<i>psal</i> 'he wrote/was writing'	<i>píše</i> 'he writes/is writing'	<i>bude psát</i> 'he will write/be writing' Analytic ↓ Imperfective
<i>napsal</i> 'he wrote/has written'		<i>napíše</i> 'he will write/have written' Synthetic ↓ Perfective

Note that tense representation in Reichenbachian terms³, not taking into account aspectual values, will distinguish neither between the meanings of the two past tenses (*psal*_{IMP} and *napsal*_{PERF}), nor between the two future tenses (*bude psát*_{IMP} and *napíše*_{PERF}): both the perfective and imperfective past, and both the perfective (synthetic) and imperfective (analytic) future will be mapped in the same way. Thus:

(6)

Past:	<i>psal</i> _{IMP} , <i>napsal</i> _{PERF}	R, E - S
Present:	<i>píše</i> _{IMP}	S, R, E
Future:	<i>bude psát</i> _{IMP} , <i>napíše</i> _{PERF}	S, R - E

³Reichenbach, 1947.

It should be noted that the synthetic vs. analytic future test is based on the traditional tense specification, which itself is based on semantic interpretation of temporal relations, distinguishing between past – present – future. Stating that verbs specified for perfective aspect form the synthetic future tense implies an interrelationship of the tense and aspect categories. The Czech tense system consists of only a two-way (past/non-past) distinction, if tense is considered to be expressed lexically and morphologically by stem-variation⁴ and post-radical inflection:

(7) <i>psal</i>	<i>píše</i>
stem _{PAST} inflection _{PAST}	stem _{PRESENT} inflection _{PRESENT}
'he was writing'	'he is writing'

Adding aspectual pre-radical (i.e. perfective) morphological marking, the tense distinction still remains past/non-past for perfective verbs, albeit with a changed, or shifted, semantic value in the second member – it is no longer interpreted as 'present' but as 'future':

(8) <u>[+past]</u>	<u>[-past] (future)</u>
<i>napsal_{PERF}</i>	<i>napíše_{PERF}</i>
'he wrote'	'he will write'

When we extend the discussion of tense beyond the morphology of the main verb and include also non-bound elements (auxiliaries), we have an additional, third temporal term extending the two-way distinction to three terms: past – present – future, but only, however, for verbs marked with imperfective aspect:

(9) <u>[+past]</u>	<u>[-past] (present)</u>	<u>[-past] (future)</u>
<i>psal_{IMP}</i>	<i>píše_{IMP}</i>	<i>bude psát_{IMP}</i>
'he wrote/was writing'	'he writes/is writing'	'he will write/be writing'

⁴I will be using the designations 'past stem' and 'present stem' in accordance with the common practice among Czech Slavists (Dokulil, 1960:200f). Some authors use the designations 'infinitive stem' and 'present stem' to denote the same distinction (Petr, 1984:88; 1986, pt. 2:410 ff).

Perfective verbs, not admitting the auxiliary *budu*, retain a two-term temporal distinction as in (8) above:

(10) [+past]	_____	[-past] (future)	_____	[-past] (future)	_____
	<i>napsal</i> _{PERF}	<i>napiše</i> _{PERF}		<i>*bude napsat</i> _{PERF}	
	'he wrote'	'he will write'			

Thus, in relation to aspect, past tense displays values for both aspects, while non-past tenses exemplify a split, where semantic present tense co-occurs only with imperfective aspect, semantic future tense with perfective aspect (synthetic future) and imperfective aspect (analytical future).

2. 4. 3. 2. Biaspectual verbs

One group of Czech verbs displays different syntactic behavior with respect to aspect and tense in that these verbs, although morphologically imperfective ([-prefix] [+suffix]), can be used either in synthetic future tense (in this behaving like perfectives) or in analytical future tense (in the *budu*___ frame like imperfectives). For this reason these verbs are generally designated as biaspectual:

(11) <u>Biaspectual</u> (<i>daruje</i> _{IMP/PERF})	
PRESENT:	<i>Jan mi právě daruje</i> _{IMP} <i>knihu.</i> 'John is now giving me a book as a present.'
FUTURE (synthetic)	<i>Jan mi zítra daruje</i> _{PERF} <i>knihu.</i> 'John will give me a book as a present tomorrow .'
↓	
PERF	
FUTURE (analytic)	<i>Jan mi zítra bude darovat</i> _{IMP} <i>knihu.</i> 'J. will give me a book as a present tomorrow .'
↓	
IMP	

Cf.:

Imperfective (*píše_{IMP}*)

PRESENT: *Jan mi právě píše_{IMP} dopis.*
'John is **now** writing me a letter.'

FUTURE (synthetic): **Jan mi zítra píše_{IMP} dopis.*
'*John is writing me a letter **tomorrow**.'

FUTURE (analytic): *Jan mi zítra bude psát_{IMP} dopis.*
'John is going to write me a letter **tomorrow**.'

Perfective (*napíše_{PERF}*)

PRESENT: **Jan mi právě napíše_{PERF} dopis.*
'*John is **now** will write me a letter.'

FUTURE (synthetic): *Jan mi zítra napíše_{PERF} dopis.*
'John will write me a letter **tomorrow**.'

FUTURE (analytic): **Jan mi zítra bude napsat_{PERF} dopis.*
'John will write me a letter **tomorrow**.'

Not all syntactic–frame tests listed so far are suitable for establishing aspectuality in biaspectual verbs. Thus, for instance, the use of biaspectuals in the frame (4) *začnu/přestanu* _____

(12) **začnu/přestanu ti darovat knihu* 'I will begin/stop to give you the book as a present.'

**začnu/přestanu tě jmenovat předsedou* 'I will begin/stop to name you a chairman.'

often seems odd since many of the biaspectual verbs are so-called performatives (*jmenovat* 'to name', *korunovat* 'to crown', *pasovat* 'to knight', *kanonizovat* 'to canonize'), thus semantically identified as punctual, and, for that reason, incompatible with denotation of the process of initiation, completion or interruption of the act performed that is inherent in the meanings of the verbs *začít* and *přestat*. This behavior of biaspectual verbs clearly indicates

the difficulty of trying to establish aspectuality across tenses for a particular verb, and the relevance of the semantic element involved in lexical characterization of individual verbs.

2. 4. 4. The gerund test

The close relationship between aspect and tense in Czech may be also illustrated by the co-occurrence restrictions obtaining between the present vs. past gerund and the imperfective-perfective aspect. I will illustrate these restrictions below using the verb *psát* 'to write'.

The present gerund, based on the present verbal stem (*píš-*), is characterized by suffixes *-el-a*, *-íc/-ouc*, *-ícel-ouce* (Masculine, Feminine, Plural; agreeing in gender and number with the subject nominal). The past gerund, on the other hand, is based on the past verbal stem (*psa-*), to which suffixes *-v*, *-vši*, *-vše* (Masculine, Feminine, Plural) attach. Gerund, a temporal verbal category⁵, distinguishes morphologically between the present and past tense both within the stem and its suffixes, thus rendering incompatible the following combinations:

- (13) *Present stem + Past gerund suffix: **píš-* + *-v*, *-vši*, *-vše*
 *Past stem + Present gerund suffix: **psa-* + *-e*, *-íc*, *-íce*

⁵Compared with the situation in English, where gerunds, like participles and infinitives, are [-Tense] and, when used for past actions, they are marked by the auxiliary 'have' (DeArmond: p. c.), Czech gerunds are tensed, denoting RELATIVE TENSES, SEQUENCING: the present gerund marks simultaneity of two (or more) verbal actions; the past gerund indicates that one verbal action preceded another:

Present Gerund: *x=hrát si* 'to play', *y=křičet* 'to yell'
 x, y - S
 Děti, hrajíce si venku, křičely.
 'Children, playing outside, were yelling.'

Past Gerund: *x=doslechnout se* 'hear', *y=běžet* 'run'
 x - y - S
 Jana, doslechnuvši se o výprodeji, běžela do obchodu.
 'Jane, having heard about the sale, ran to the store.'

In addition to this temporal distinction, another restriction limits the occurrence of present gerund forms (present stem + suffix *-e*, *-íc*, *-íce*) to imperfective ([-prefix]) verbs, while past gerund forms (past stem + suffix *-v*, *-vši*, *-vě*) appear only with perfective ([+prefix]) verbs. The tables (14) and (15) below summarize these observations:

(14) PRESENT GERUND:

Present stem:	Present gerund suffix:	Present gerund forms:
<i>píš-</i>	<i>-e, -íc, -íce</i>	<i>píše, píšíc, píšíce</i> 'writing'
but not:	(*suffix) (*stem) (*prefix)	* <i>píšev, píševši, píševše</i> * <i>psaje, psajíc, psajíce</i> * <i>napíše, napíšíc, napíšíce</i>

(15) PAST GERUND:

Past stem:	Past gerund suffix:	Past gerund forms:
<i>psa-</i>	<i>-v, -vši, -vě</i>	<i>napsav, napsavši, napsavše</i> 'having written'
but not:	(*suffix) (*stem) (*prefix)	* <i>napsaje, napsajíc, napsajíce</i> * <i>napíšev, napíševši, napíševše</i> * <i>psav, psavši, psavše</i>

While this situation of itself appears quite simple and straightforward, it raises the interesting but difficult issue of the relationship between what is traditionally referred to differentially as aspect vs. tense. Restrictions of the above kind undoubtedly contributed to the widespread alignment of perfective aspect with past tense and of imperfective aspect with present tense. In fact, in this particular case of the Czech gerunds, there is a direct correlation of the aspect and tense distinctions, which raises the question of whether the

aspect–tense distinction is necessary. There are obvious reasons for further examination of this possibility.⁶

2. 4. 5. The transitivity test

I will introduce this test to capture the connection between the aspect and transitivity of verbs.⁷ In my discussion of this relationship, I will link transitivity, a syntactic property, to verbal morphology, showing that, in the internal structure of the derived (affixed) verb, the element in the pre–radical position often marks transitivity, i.e. connection to the verbal object. Prefixation then indicates expansion of the verbal argument structure, and in this manner we may account for the obligatoriness of a verbal complement in verb phrases containing a perfective ([+prefix]) verb:

- | | |
|-----------------------|---------------------------------------------------------------------------|
| (16) [-prefix] [-OBJ] | <i>Jan četl_{IMP}</i> . 'John read/was reading.' |
| [-prefix] [+OBJ] | <i>Jan četl_{IMP} knihu</i> . 'John read/was reading a/the book.' |
| [+prefix] [-OBJ] | * <i>Jan přečetl_{PERF}</i> . '*John read through.' |
| [+prefix] [+OBJ] | <i>Jan přečetl_{PERF} knihu</i> . 'John read the book through.' |

Given the general linguistic property of prepositions that they take objects, this is clearly indicative of the syntactic valence link between the morphological prefix function and the syntactic phrasal prepositional function via transitivity. It also indicates historical, formal, and functional linguistic continuity.

⁶In this relation, it should be noted that contemporary Czech grammars (Petr, 1986:153) characterize gerunds as "non-clausal propositions ... possessing some adjectival characteristics". In discussion of their verbal characteristics, tense in gerunds is said to be "... limited to relative tense, i.e. simultaneity and temporal precedence."

⁷For discussion of the connection between aspect and transitivity, see, e.g. DeLancey in Hopper (1982:167-184).

There are some prefixes that do not impose the restriction on obligatory occurrence of a verbal complement. Therefore they do not influence the argument structure of the verb, and verbs thus prefixed may appear without a complement:

- (17) [+prefix] [-OBJ] *Jan dočetl*_{PERF}.
 'John read [= 'he was reading and has finished it].'

This fact may be interpreted as an expression of different subcategorization requirements of prefixes and will later motivate the division of prefixes into 'transitive' and 'intransitive' (see 4. 2.).

At this point, I will only state a correlation between the syntactic notion of transitivity, expressed in terms of the verb's argument structure, and perfectivity of prefixed verbs. This correlation may be generalized as:

- | | |
|--------------------|---------------|
| (18) [-transitive] | [+transitive] |
| ↓ | ↓ |
| IMP | PERF |
| [-prefix] | [+prefix] |

I will return to the distinction between transitive and intransitive prefixes in chapter 4.

2. 4. 6. The conjunction of predicates test

I propose a further semantico-syntactic test based on the distinction between imperfectives and perfectives, which has often been formulated along the semantic lines of 'durative, repeated action' vs. 'completed, single action'.

This test assumes that identical imperfective predicates may conjoin to emphasize the long, repetitive nature of the course of the verbal action they denote. Perfective predicates

cannot occur thus conjoined because of semantic incompatibility of the notion 'repeatedly' implied in such conjunction with the perfective notions of 'singleness, completedness':

- (19) *Jan šel a šel.* 'John walked and walked.'
Jan psal a psal. 'John wrote and wrote.'
Jan plakal a plakal. 'John wept and wept.'
Jan jedl a jedl. 'John ate and ate.'



Imperfective

- (20) **Jan přišel a přišel.* '*John arrived and arrived.'
**Jan napsal a napsal.* '*John wrote it and wrote it.'
**Jan zaplakal a zaplakal.* '*John cried out and cried out.'
**Jan dojedl a dojedl.* '*John ate up and ate up.'



Perfective

The restriction on sentences in (20) is comparable in nature to the restriction on the use of the English phrase 'on and on', which is not allowable in conjunction with transitive verbs. However, it appears that this restriction is not limited to direct object transitives. Rather, verbs with other verbal complements are excluded as well, and verbs characterized semantically as achievements or accomplishments⁸ are incompatible with the phrase 'on and on':

- (21) he went on and on
he cried on and on
he wrote on and on
*he ate lunch on and on⁹

⁸Vendler, 1967.

⁹Interestingly, states appear not to be subject to this restriction: he loved her on and on, he ruled the country on and on. We may thus conclude that from Vendler's four groups of verbs (Vendler, 1957, 1967), it is only activities and states which may appear in this frame, to the exclusion of achievements and accomplishments.

- *he went home on and on
- *he cried himself to sleep on and on
- *he went with her on and on
- *he left on and on

2. 4. 7. The time adverbials tests

According to the adverbial expressions a verb can associate with, the most common semantic test on aspectuality involves the distinction between the properties of durativity and accomplishment or telicity¹⁰ of the verbal action. Thus, Czech verbs admissible in the durative frame *__hodinu_{DUR}* ' __for an hour_{DUR}' are imperfective, while verbs filling the accomplishment frame *__za hodinu_{ACCOMP}* ' __in one hour_{ACCOMP}' are perfective:

(22) *maloval hodinu_{DUR}* 'he has been painting for an hour'

↓
Imperfective

**domaloval hodinu_{DUR}* '*he finished painting for an hour'

↓
Perfective

(23) *domaloval za hodinu_{ACCOMP}* 'he finished painting in one hour'

↓
Perfective

**maloval za hodinu_{ACCOMP}* 'he was painting in one hour'¹¹

↓
Imperfective

Thus, we have the following formulae:

¹⁰I will be using here the designation ACCOMP (accomplishment) which is to be understood as a subset term of telicity, i.e. designation of an activity with a clear terminal point. The choice of ACCOMP over TELIC is motivated by Czech language facts in (25) and (27) below where telic achievement verbs are shown not to be compatible with the time adverbial *za hodinu* 'in one hour', even though in English, both achievements and accomplishments (telic) predicates are compatible with 'in an hour' (Dowty, 1979).

¹¹Note that the English translations are only approximative.

- | | |
|-----------------------------------------------|----------------------------------------------|
| (24) Verb _{IMP} + Adv _{DUR} | *Verb _{IMP} + Adv _{ACCOMP} |
| Verb _{PERF} + Adv _{ACCOMP} | *Verb _{PERF} + Adv _{DUR} |

It is interesting to note that while the durative-accomplishment distinction of English predicates is paralleled by restrictions on co-occurring prepositions,¹² the same distinction in Czech is paralleled by a structural distinction in the adjoined phrases of adverbial modification. In the examples (22) and (23) above, perfectives, morphologically prefixed structures, are modified by a transitive (PP) structure. Imperfectives, on the other hand, morphologically prefixless, are modified by an adjoined NP. In the PP structure, the preposition, being equivalent to a transitive predicate, subcategorizes for a complement (NP), thus the whole PP is rendered transitive, as opposed to the intransitive NP structure of the imperfective modifying phrase.

The adverbial test is not suitable for establishing the aspectuality of all groups of verbs. For instance, it will incorrectly label perfective verbs of the type *počkat* 'to wait for a little while', *postát* 'to stand for a little while' (verbs traditionally called 'momentary') as imperfective:

- (25) *počkal, postál tam [hodinu]_{DUR}* 'he was waiting/standing there for an hour'

↓
IMP

- **počkal, postál tam [za hodinu]_{ACCOMP}* '*he was waiting/standing there in an hour'

↓
PERF

¹²The 'durativity' vs. 'accomplishment' characterization of these frames is based on the 'durative' vs. 'accomplishment' interpretation of the adjoined adverbial phrase. Correspondingly, English prepositions for [+durative] and in [+accomplishment] determine the aspectual reading of the phrase.

These verbs do not fit the accomplishment frame, thus they are labeled imperfective. They do fit the durative frame, according to which they are also imperfective. This is in contradiction to the first test (3) and to the morphological criterion ([+prefix] → perfective), which, together with the synthetic vs. analytical future test, label these verbs as perfective. The behavior of momentary verbs only indicates that, semantically, these verbs are durative accomplishments. In English, we may characterize predicates semantically as distinguishing initially between [\pm DUR], then, within [+durative] verbs, with respect to accomplishment, between [\pm ACCOMP],¹³ which, in terms of subcategorization frames, is expressed by the obligatoriness of a direct object for accomplishment verbs like the English 'to paint'. Thus, in its transitive use, 'to paint', signifying the accomplishment, will be PERF; in its intransitive use, 'to paint', signifying the process, will be IMP. Verbs like *počkat* 'to wait for a little while', are [+DUR] and [+ACCOMP], therefore PERF, even though they do not fit the accomplishment frame:

(26) <i>malovat</i> 'to paint'	+DUR	-ACCOMP	→	IMP
		+ACCOMP	→	PERF
<i>počkat</i> 'to wait for a little while'	+DUR	+ACCOMP	→	PERF

Similarly, verbs of the type *sednout* 'to sit down (once)', *kopnout* 'to kick (once)', often called semelfactives, do not lend themselves to use with either of the above adverbial expressions:

(27) * <i>sednul si [hodinu]_{DUR}</i> 'he sat down for one hour'
↓
PERF

¹³DeArmond, p. c.

*sednul si [za hodinu]_{ACCOMP}¹⁴ 'he sat down in one hour'

↓
IMP

Further, this test does not make any sense in relation to the traditionally designated biaspectual verbs, since they are not admissible in either frame:

(28) *daroval mi to [hodinu]_{DUR} '*he gave it to me as a present for an hour'

*daroval mi to [za hodinu]_{ACCOMP}¹⁵ '*he gave it to me as a present in an hour'¹⁶

The unsuitability of the durativity-accomplishment test for verbs mentioned in (25), (27) and (28) can be interpreted as suggesting the influence of the semantic element on aspectuality in verbs, a suggestion which clearly merits further later examination.

2. 4. 8. The repeatedness vs. completion test

The last test is based on the general distinction between the correlations of the semantic notion 'completed' with perfectivity, and 'repeated' with imperfectivity. It shows that in a sequence of conjoined imperfective ([-prefix]) verbs, denoting the repetitive character of a verbal action, which climaxes in a perfective ([+prefix]) verb which designates the completion of that verbal action, there is a very restricted set of perfective verbs which may occur in this position, namely verbs perfectivized by prefixes (*do-*, *u-*).

¹⁴This sentence is grammatical when *za hodinu* is interpreted as 'after one hour elapsed', i.e. when the punctual meaning of the verb is not excluded.

¹⁵Ditto

¹⁶Interestingly, as noted by DeArmond (p.c.) in relation to the verb *darovat*, the English pattern '*he [presented] the gift in an hour' vs. 'the [presentation] of the gift took an hour', shows that the [-durative] verb does not combine with a [+durative] adverbial expression, while the nominalized counterpart is compatible with [+durative] adverbials.

- (29) *zpíval a zpíval, až dozpíval* 'he was singing and singing, till he finished singing'
plakal a plakal, až doplakal 'he was crying and crying, till he finished crying'
psal a psal, až dopsal 'he was writing and writing, till he finished writing'
pletla a pletla, až dopletla 'she was knitting and knitting, till she finished knitting'
vařil a vařil, až uvařil 'he was cooking and cooking, till he finished cooking'
- (30) **zpíval a zpíval, až zazpíval* '*he was singing and singing, till he sang out'
 **plakal a plakal, až vyplakal* '*he was crying and crying, till he cried out'
 **psal a psal, až sepsal* '*he was writing and writing, till he wrote down'
 **pletla a pletla, až upletla* '*she was knitting and knitting, till she had knitted'

However, an overt verbal complement, direct object, or even an adverbial expression, may induce acceptability of the sentences in (30):

- (31) *zpíval a zpíval, až to zazpíval*
 'he was singing and singing, till he managed to sing **it** (right)'
- plakal a plakal, až se vyplakal*
 'he was crying and crying, till he cried **himself** out'
- psal a psal, až to všechno sepsal*
 'he was writing and writing, till he wrote **it all** down'
- pletla a pletla, až to upletla*
 'she was knitting and knitting, till she finished knitting **it**'

The non-occurrence, or non-grammaticality, of prefixed verbs in sentences in (30) is due to the TRANSITIVE vs. INTRANSITIVE distinction within prefixes, as in the transitivity test 2. 4. 5. (16) and (17), where a transitive prefix had to be accompanied by an overt complement.

2. 5. Conclusion

In this chapter, I have designated the level of word as the domain of morphological aspect in Czech and suggested that, concentrating on the two polar notions, that of imperfectivity and perfectivity of verbs, verbal aspect may be determined in terms of its formal markers, i.e. verbal affixes and their relation to the verbal base. I have listed several tests which may be used to establish the aspectuality of verbs.

Apart from the fact that these tests do not always designate a verb with identical aspect, we note that one of the standard features of the tests above is the principle of binarity, i.e. aspectual value designations for the morphological domain can be characterized as [\pm perf]. The domain of aspect being the level of word, aspect is considered a morphological property, with semantically interpretable correlates. No account is given of the restrictions related to the verb's argument structure, i.e. the verb phrase level, as observed in sections 2. 4. 5. dealing with the Transitivity test, and 2. 4. 8. with The repeatedness vs. completion test.

To account for these restrictions, I will, after analyzing morphological aspect in the next chapter, propose the establishment of a higher level domain of aspect in chapter 4, which will deal with phrasal aspect and discuss the nature of the distinction between the two classes of prefixes which trigger the previously mentioned restrictions.

Chapter 3. Morphological aspect.

Introduction

This chapter deals with the examination of morphological aspect in Czech, and consequently will refer to the morphologically placed forms and functions of affixes. Affixes are morphological markers of Czech verbal aspect as stated in chapter 2. Here, I investigate the interplay between verbal structures arising during the affixation processes and the resulting verbal aspects. Aspect specification of verbs, respectively, as perfective or imperfective follows the standard usage based on the aspectual tests listed in chapter 2.

3. 1. Structure of the verb and aspect.

In the affixation process, prefixes attach themselves to the left of the verbal base, where prefixing a verb, i.e. placing the affix to the left of the verbal base, generates the structure:

(32) [**prefix** base].

Suffixation places an affix to the right of the verbal base, preceding inflectional endings and following thematic elements, if any, resulting in the structure:

(33) [base **suffix** inflection]

While prefixes are joined directly to the verbal root, again, in the sense of Crystal's (1980) definition, suffixes may be attached either to the root or to the stem. (See Ch. 2, Footnote 2.)

Verbs may lack aspectual affixes altogether. I will represent such structures as:

(34) #base#,

using the '#' boundary symbol surrounding the base to indicate the complete absence of aspectual affixes, ignoring, as stated in chapter 2 (section 2. 3.), thematic elements and inflectional endings denoting tense, voice, mood, etc. Further, verbs may occur with only a prefix, only a suffix, or with both a prefix and a suffix. These structures are represented as:

(35) #_base#,

(36) #base_#, and

(37) #_base_#,

respectively, the dash '_' denoting the slot occupied by an aspectual affix. Both [prefix] and [suffix] are recursive, subject to some restrictions. Verbs with recurring aspectual affixes may be represented as, e.g., #__base__#.

Thus, we encounter five types of mutual arrangements of 'base' and 'aspectual affix', with the following typical aspectual values:

(38) a) #base#	(affixless structure)	Imperfective
b) #_base#	(prefixed structure)	Perfective
c) #base_#	(suffixed structure)	Imperfective
d) #_base_#	(prefixed/suffixed structure)	Imperfective
e) #__base__#	(multiply affixed structure)	Perfective

I will examine the relationship between these affix–base structural arrangements and their relationship with the aspect of the verb, looking, in turn, at affixless, prefixed, suffixed, simultaneously prefixed and suffixed verbs. I will not deal in this thesis with

multiply affixed structures. For discussion of multiple aspectual affixation, see Kipka, 1990.

The general statements I have made so far about aspect in relation to morphological structure are not unproblematic for there is a not insignificant number of what appear to be counter-examples. The problematic areas essentially involve the following:

- (39) a) affixless perfectives (#base#PERF),
b) prefixed imperfectives (#_base#IMP),
c) suffixed perfectives (#base_#PERF),
d) simultaneously prefixed-and-suffixed perfectives (#_base_#PERF),
e) biaspectual verbs (#base_#PERF/IMP)

For all of these apparent counter-examples, the least general, least economical, and least satisfactory solution would be to list the individual prefixes and suffixes together with a statement denoting whether they perfectivize or imperfectivize the verbal base they are affixed to. However, since, as I have already observed above, prefixes generally do denote perfectivity, suffixes imperfectivity, it would seem reasonable to hypothesize that there is an explanation to the counter-examples to the general statement which would bring them within the purview of a general, overall analysis of aspect in Czech.

I will assume that it is not the particular or intrinsic nature of a particular affix that determines the resulting aspect of a derived verb (which would have to result in a simple listing, and no general analysis) but rather features such as position in the word, e.g., pre-radical or post-radical, i.e. the relative order of affixal elements and the verbal base, together with their structural presence and/or absence. I will now list the mutual base-affix arrangements and point out the problematic cases, at the same time proposing solutions.

3. 2. Affixless verbs

The vast majority of affixless¹⁷ verbs, also called base verbs, or simplex verbs, are of imperfective aspect and thus considered to be primary, i.e. underived, imperfectives:

- (40) *psát_{IMP}* 'to write', *pít_{IMP}* 'to drink', *jíst_{IMP}* 'to eat', *číst_{IMP}* 'to read'

These base imperfectives fit the previously introduced structural representation for imperfective verbs (38 a):

- (41) #base#_{IMP} *psát_{IMP}* 'to write'

The counterexamples to the above statement are represented by a group of prefixless perfectives. There are in Czech some synchronically simplex, but historically prefixed, verbs which are interpreted as being of perfective aspect, e.g.:

- (42) *smířit_{PERF}* 'to reconcile', *obout_{PERF}* 'to put on shoes', *slíbit_{PERF}* 'to promise',
otéci_{PERF} 'to swell', *pověděť_{PERF}* 'to say', *poslat_{PERF}* 'to send', *potkat_{PERF}* 'to meet'.

Another small group of perfective affixless verbs, the true primary perfectives, do not contain [historically] a prefix:

- (43) *dát_{PERF}* 'to give', *říct_{PERF}* 'to say',

Hrubant (1971:123–4), noting that the perfective–imperfective distinction is not totally marked in the affixal system, states that "... the group of unprefixed perfectives became non-productive in the process of stabilization of the aspectual system ... [t]hus ... can be called an exception in the aspectual system."

¹⁷Note again that I am excluding thematic and inflectional suffixes from consideration throughout this thesis.

I will consider that both the historical and primary (prefixless) perfectives have a non-overtly realized pre-radical position, which determines the (perfective) aspect of verbs containing such an underlying prefix. Prefixless perfectives will thus have the perfective structure as in (38 b):

(44) #_base#_{PERF} *dát*_{PERF} 'to give'

Assuming a non-overtly realized pre-radical position for prefixless perfectives may appear ad hoc. However, in case of diachronically prefixed, synchronically prefixless verbs, the pre-radical position is, at least diachronically, overtly filled. It is hypothesized on this basis that verbs like *dát*_{PERF}, which never had an overt prefix, must be included in this category on theoretical grounds.

3. 3. Prefixed verbs

Verbs containing a prefix are generally perfective:

(45) *napsat*_{PERF} 'to write', *vypít*_{PERF} 'to drink', *sníst*_{PERF} 'to eat', *dočíst*_{PERF} 'to read'.

Regular, i.e. prefixed perfectives, as well as the above-mentioned primary and historical perfectives, are represented as in (38 b):

(46) #__base#_{PERF} *napsat* 'to write'

Note that absence of an overt (phonetically realized) prefix may suggest its underlying presence, i.e. the underlying prefix is interpreted formally as zero-morpheme, whose semantic-grammatical function is to mark perfective aspect.

The apparent counter-examples to the simple equation "prefixed=perfective" present verbs which, although prefixed, are considered to have imperfective aspect. On closer examination these verbs turn out to be imperfective if the prefix is attached to an

imperfective base verb. Only when the verb itself is perfective before prefixation is the prefixed formation also perfective. In fact, as illustrated below, these prefixes, grouped into negative, adverbial and nominal, do not induce aspectual change at all:

(47) a) Negative *ne-* 'not':

psát_{IMP}-nepřát_{IMP} 'to write-not to write', *pít_{IMP}-nepít_{IMP}* 'to drink-not to drink';
napsat_{PERF}-nenapsat_{PERF} 'to write-not to write', *vypít_{PERF}-nevypít_{PERF}* 'to drink-not to drink'.

b) Prefixes of adverbial origin, e.g. *spolu-* 'together', *sou-* 'together':

pracovat_{IMP}-spolupracovat_{IMP} 'to work - to cooperate', *cítit_{IMP}-soucítit_{IMP}* 'to feel - to sympathise', *určit_{PERF}-spoluurčit_{PERF}* 'to determine - to determine together'

c) Nominal prefixes, i.e. long vowel prefixes *ná-* 'on, at, for'; *pří-* 'at, to'; *zá-* 'behind', which were, diachronically, attached not to a verb, but rather to a noun, from which, later, a verb was derived:

nádeník - nádeničit_{IMP} 'a day worker - to work as a day worker'; *přísaha - přísahat_{IMP}* 'a vow - to swear'; *závist - závidět_{IMP}* 'envy - to envy'.

The behavior of these prefixed structures in relation to the resulting aspect motivates the need to distinguish at the outset between two basic classes of prefixes: aspectual, which introduce aspectual change, and non-aspectual, which do not change the verbal aspect. To exclude the negative prefix and prefixes of adverbial or nominal origin, the domain of aspect, with respect to prefixes, must be thus restricted to

- (48) 1. prefixes attached to VERBS, not to other parts of speech;
 2. prefixes originating in a PREPOSITION, not in an adverb or in a negative particle.

The prefixes included in the above examples are thus considered to be of a non-aspectual character. To represent the fact that these prefixes do not induce aspectual change, I mark a distinction in internal boundaries connecting individual affixes to verbal bases they attach to.

While the '-' boundary connects aspect changing affixes (prefixes of prepositional origin, attaching themselves to verbs in the process of aspectual change, and aspectual suffixes) to verbs, as in:

- (49) *na-psat_{PERF}* 'to write' [aspectual prefix - verb]
psá-vat_{IMP} 'to write habitually' [verb - aspectual suffix],

the '+' boundary designates a juncture between verbs and non-aspect changing, i.e. lexical, affixes (prefixes attaching themselves to other parts of speech, prefixes of non-prepositional origin, suffixes not participating in aspectual change):¹⁸

- (50) *sou+cítit_{IMP}* 'to sympathise' [non-aspectual prefix - verb]
pří+sahat_{IMP} 'to swear' [non-aspectual prefix - verb]

To bring these examples within the purview of my analysis, I suggest that structures with the '+' boundary between the prefix and the base (see footnote 2) are converted into an imperfective aspectual structure by a conversion rule.

- (51) Conversion Rule No. 1:

#_+base# ⇒ #base#

I also posit a third boundary type, '\$', connecting the negative prefix *ne-* to the verbal base. The need here to introduce a boundary symbol distinct from '-' and '+' is motivated firstly by the fact that the negative particle cannot be considered an aspectual prefix, for it does not influence the verb's aspect, thus the '-' boundary cannot be used:

- (52) *psát_{IMP} - ne\$psat_{IMP}* 'to write - not to write',
napsat_{PERF} - ne\$napsat_{PERF} 'to write - not to write',

¹⁸The inclusion here of non-aspectual suffixes might bring within my discussion also the thematic and inflectional elements, which may be thus, as by default, considered to attach to the verbal root by the '+' boundary, thus being not relevant to aspectuality. However, I will not represent the juncture connecting the root with the thematic and inflectional suffixes in order to keep my representations as simple as possible.

Secondly, the introduction of the '\$' boundary symbol is motivated by the behavior of the particle in future tense of imperfective verbs. While negated perfective verbs contain the negative particle in all tenses, in negated imperfective verbs, the negative element floats in the analytic future tense from the main verb in infinitive to the inflected auxiliary. This behavior excludes the possibility of the lexical, '+', boundary connecting the negative particle to the verbal base:

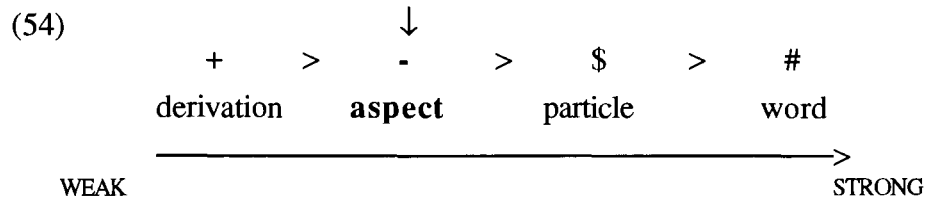
- (53) *napíšUPERF* 'I will write' - *ne\$napíšUPERF* 'I will not write'
budu psátIMP 'I will be writing' - *ne\$budu psátIMP* 'I will not be writing'

I conclude this section by stating that the '+' boundary symbol indicates a tighter merge, or binding, between the affix and the base, corresponding to the lexical, derivative character of this kind of affixation process. The aspectual boundary symbol '–', on the other hand, indicates a looser fit which results from the non-lexical, non-derivational, aspectual affixation. The '\$' boundary type represents a yet weaker, syntactic connection (non-lexical, non-aspectual) between the prefixed element and the base.¹⁹

My generalization regarding aspect may be then formulated as follows: An affix is aspectual if the boundary separating it from the base is '–'. A stronger ('+'), or a weaker type boundary ('\$'), and, of course, the word boundary '#' does not introduce aspectual change in a verb. This restriction gives a principled expression to the reason why prepositions must be reanalyzed into prefixes in order to become aspectual markers. A scale

¹⁹This type of distinctive use of boundaries has been standard in both structural and generative works. (Cf. Moulton, 1947; Chomsky & Halle, 1968).

of boundary types, going from the strongest to the weakest boundary type, emerges.²⁰ On it we may locate the domain of verbal, morphological aspect:



3. 4. Suffixed verbs

Suffixed verbs are generally imperfective:

(55) *psávat_{IMP}* 'to be in the habit of writing', *spávat_{IMP}* 'to be in the habit of sleeping'.

Their structure, as in (38 c)

(56) #base__#_{IMP} *psávat_{IMP}* 'to be in the habit of writing'

compared with the previously introduced affixless imperfective structure (38 a: #base#) suggests the possibility of making the slot occupied by a suffix optional in our structural representation of imperfectives. Then both the base (affixless) and derived (suffixed) imperfectives may be represented as

(57) #base(____)#_{IMP} *psát_{IMP}*, *psávat_{IMP}* 'to write, to be in the habit of writing'

which is equivalent to a statement: "A verb is imperfective if it is a base verb or a base verb extended by a suffix." To further simplify my representation, I consider the basic imperfective structure to be #base#_{IMP}, which is to be understood as subsuming the

²⁰For such a scale, compare, e.g., Hyman (1975).

structure #base_#. ²¹ A conversion rule again reanalyzes the structure, whereby the suffixed imperfective changes into the suffixless, basic imperfective structure:

(58) Conversion Rule No. 2:

#base_# ⇒ #base#

The above generalizations about the structure of imperfective verbs and their aspect appear to be invalidated by a number of exceptions, notably by the group of perfective verbs which contain the suffix *-n* ²² :

(59) *padnout_{PERF}* 'to fall', *sednout_{PERF}* 'to sit down'.

Before attempting to deal with verbs like the examples above, I must mention that there are verbs containing the apparently identical n-suffix, which, however, are imperfective:

(60) *žasnout_{IMP}* 'to marvel', *rudnout_{IMP}* 'to turn dark red', *vadnout_{IMP}* 'to wilt';

The difference between these two groups of verbs turns out to correspond to the distinction between the 'aspectual' and 'non-aspectual' boundary ('-' and '+') connecting the verbal base with the n-suffix. Thus, in (59), the n-suffix is connected to the base by an aspectual ('-') boundary, but in (60) by a lexical ('+') boundary. Accordingly, the lexical n-suffix does not change the aspect of the verb, hence *žasnout_{IMP}*. The aspectual n-suffix perfectivizes the verbal base:

²¹The optionality with regards to the presence/absence of the suffixal position in the case of imperfective verbs makes sense of the decision at the outset of this chapter to ignore in my representation thematic and inflectional affixes since a verb always includes some post-radical material. The thematic, inflectional elements and aspectual affixes may have coalesced the functions of both aspect and other verbal categories' marking.

²²Alternatively, the form of this suffix may be considered to be *-nu-* or *-nou-*. I am using the form *-n-* to reflect the fact that *-nu-* is limited to 1.P.sg. (*kopnu* 'I will kick') and colloquial past tense forms (*kopnul* 'he kicked'), the variant *-nou-* to 3.P.pl. (*kopnou* 'they will kick') and infinitive (*kopnout* 'to kick'). Elsewhere, only the element *-n-* consistently remains, followed by regular inflectional endings: *padneš padne, padneme, padnete* 'you Sg./he/we/you Pl. will kick'.

(61)

	Aspectual suffix	Lexical suffix
	<i>kop-n</i>	<i>žas+n</i>
Structure:	#base_#	#base#
	↓	↓
Aspect:	<i>kopnout</i> _{PERF}	<i>žasnout</i> _{IMP}

The motivation for introducing different boundary types here, in order to establish that the *n*-suffix in *kopnout* is aspectual, in contradistinction to *žasnout*, where the *-n-* is analyzed not as an aspectual suffix, rather as belonging to the base, is the fact that, next to the *n*-suffixed perfective verb *kopnout* 'to kick', we also have an imperfective variant without the *n*-suffix: *kopat* 'to kick habitually'. This is not the case with the imperfective verb *žasnout* 'to marvel', since a variant without the *n*-suffix, **žasat*, does not occur. Where the *n*-suffix is present in all derived forms of the verb, we consider it a part of the verb's base, i.e. a lexical suffix. Such verbs, possessing no aspectual suffix, are then regular imperfectives of the #base# structure. The absence of the *n*-suffix in some derivatives, as in *kopnout-kopat*, signals that the suffix is of aspectual character.

This still leaves us with the question of why the *n*-suffixed verbs (*kopnout*_{PERF}) are perfective. Having established that *n*-suffix in these verbs is aspectual, I have to conclude that, even though structurally post-radical, the function of the suffix equals that of pre-radical elements, i.e. it perfectivizes the verb. I consider the suffix as co-indexing with an underlying (perfectivizing) prefix. I will return (in 4. 2.) to the prefix-coindexed (perfectivizing) *n*-suffix later, where I will also deal with the distinction between it and so-called regular (not perfectivizing) suffixes (*-va*, *-ova-*). For the time being, I recognize only that the perfectivizing suffix is related in its aspectual function to prefixes, and propose another conversion rule which changes the structure of the 'n-base co-indexed with an underlying prefix' into a perfective structure with a non-overt prefix:

(62) Conversion Rule No. 3:

#base-n# ⇒ #_base#

Another problematic group among suffixed verbs are the so-called biaspectual verbs. Biaspectuals, despite their structural make-up (#base_#), according to which we would expect them to be imperfective, are used both perfectly and imperfectly. (For examples, see Chapter 2, section 2. 4. 3. 2.) Often, apart from not being biaspectual in all their meanings, there is no consensus among grammarians as to the aspect of these verbs. Dictionaries designate most biaspectuals as primarily imperfective (corresponding to their morphological structure), and only secondarily as perfective. Only a few biaspectuals are listed as primarily perfective, secondarily imperfective. Some are listed as perfective, but used in both aspects. (For examples, see Hrubant (1971:125 ff.). On the frequent occurrence of biaspectuality among borrowed words Hrubant (1971:132) mentions that

"... aspect is expressed rather by the structure of the whole verb (prefixed–unprefixed) than only by suffixes. Moreover, verbal suffixes always have the word formative (lexical) function of differentiating the verb from other parts of speech. ... it is hard to decide to what extent the word–formative function of the suffix is shared with the aspectual functions, or whether it is the meaning that prevents definite aspectual function of the suffix. Thus we cannot maintain with certainty that it is the meaning that causes aspectual syncretism or that it is only the lack of grammatical formants (or formants unsuitable for the loanwords) which does not allow to express the semantic meaning with the precision usual for non–borrowed verbs ..."

This further corroborates my view on thematic elements expressed throughout the last two chapters and in footnotes 17 and 18.

To represent the structure of biaspectual verbs in terms of boundary distinctions, I suggest that biaspectual verbs of the type *darovat*_{PERF/IMP} 'to give st. as a present' be re-analyzed as #base#, rather than #base_#, due to the fact that a suffixless variant **darat* does not occur. Thus the *-ova-* suffix must be considered to be lexical. I again use a

conversion rule to convert a form with a lexical suffix (*dar+ovat_{IMP}*) to an aspectually suffixless, thus imperfective, structure:

(63) Conversion Rule No. 4

#base+_# ⇒ #base#

The imperfective use of *darovat_{IMP}* is unproblematic and expected. In its perfective use, *darovat* may be analyzed as having a perfective structure with an underlying prefix, as was the case for affixless perfectives in section 3. 2.

3. 5. Simultaneously prefixed and suffixed verbs

The majority of simultaneously prefixed and suffixed verbs belongs to the imperfective aspect:

(64) *zapisovat_{IMP}* 'to be writing down', *zaspávat_{IMP}* 'to be sleeping in'.

The structure representing verbs which contain both a prefix and a suffix, as per (38 d), is

(65) #_base_#,

and the fact that these verbs are, in the majority, imperfective, may suggest that, in deciding on the perfectivity–imperfectivity of the verb according to its morphological structure, the presence of an imperfectivizing suffix, rather than the presence of a perfectivizing prefix, determines the resulting aspect of the verb, i.e. that the suffix overrides the perfectivizing effect of the prefix.

However, from an examination of the small group of perfective verbs containing both a prefix and a suffix:

(66) *poděkovat_{PERF}* 'to thank', *dopracovat_{PERF}* 'to finish working',

together with the group of perfectives formed by prefixation of biaspectual verbs:

(67) *obdarovat*_{PERF} 'to give a gift to somebody', *pojmenovat*_{PERF} 'to name'

and noting that in either group, we do not encounter suffixless variants:

(68) **poděkat*_{PERF} 'to thank', **dopracat*_{PERF} 'to finish working', **obdarat*_{PERF} 'to give a gift to somebody', **pojmenat*_{PERF} 'to name',

the analogy of verbs containing long vowel prefixes, and of biaspectual verbs offers itself. Extending the 'different boundary types' analysis to the domain of simultaneously prefixed and suffixed verbs, I arrive at a natural explanation of both imperfectivity and perfectivity of the above compounds, thus giving a principled reason to the above-stated fact that suffixes seem to override the effect of prefixes in their aspectual influence. On the topic of simultaneously prefixed and suffixed imperfectives (called secondary imperfectives), Hrubant, referring to Poldauf (1954:219), who "noticed that prefixes can perfectivize only if they are added to the verb and the combination prefix + verb is felt by the speaker in the new formation", considers secondary imperfectives to be "not prefixed new formations, but suffixal deverbatives" (Hrubant, 1971:137).

In terms of my representation, the derivation of a simultaneously prefixed and suffixed imperfective like *zaspávat* 'to be in the habit of sleeping in' is thus:

(69) BASE VERB		PERFECTIVIZED BY PREFIXATION		IMPERFECTIVIZED BY SUFFIXATION
<i>spát</i> _{IMP}	>	<i>zaspát</i> _{PERF}	>	<i>zaspávat</i> _{IMP}
'to sleep'		'to sleep in'		'to sleep in'

To indicate the order in which affixation applies, I represent the morphological structure of these verbs by employing brackets. Assuming that each subsequent affixing process builds upon previous processes, and that always only the last, the most recent aspectual

affixation determines the resulting aspect, the derivation of simultaneously prefixed and suffixed imperfectives is as follows (the most recently applied affix is bold):

- (70) (a) $[spát]_{IMP} > [za[spat]]_{PERF} > [[za[spá]]vat]_{IMP}$
 not:
 (b) $[spát]_{IMP} > [[spá]vat]_{IMP} > *[za[[spá]vat]]_{PERF}$

In terms of boundary types and corresponding aspectual structures, the derivation of *zaspávat* is thus as below:

- (71) $spát_{IMP} > za-spat_{PERF} > za+spá-vat_{IMP}$
 $\#base\# > \#prefix-base\# > \#prefix+base-suffix\#$
 $\downarrow \qquad \qquad \downarrow \qquad \qquad \downarrow$
 Imperfective \qquad \qquad Perfective \qquad \qquad Imperfective

Conversion Rule No. 1 converts the structure $\#prefix+base-suffix\#$ (*za+spá-vat*), in which, after suffixation, the prefix is considered no longer aspectual, but rather lexical, into an imperfective structure:

- (51) Conversion Rule No. 1:
 $\#_+base_\# \Rightarrow \#base_\#$

which by Conversion rule No. 2 will be simplified to the basic imperfective structure $\#base\#$ as in:

- (58) Conversion rule No. 2:
 $\#base_\# \Rightarrow \#base\#$

The argument for deriving the secondary imperfective from a prefixed perfective (70 a), rather than prefixing a suffixed imperfective (70 b), is supported by the existence of verbs like *pocít'ovat* 'to feel', *oceňovat* 'to appraise', *přibližovat se* 'to near', whose stems do not occur without prefixes, even though their suffixless counterparts do (Hrubant, 1971:146):

(72) -PREFIX, -SUFFIX	+PREFIX, -SUFFIX	-PREFIX,+SUFFIX	+PREFIX, +SUFFIX
<i>cítit</i> _{IMP}	<i>pocítit</i> _{PERF}	<i>*cit'ovat</i> _{IMP}	<i>pocit'ovat</i> _{IMP}

Addressing the group of simultaneously prefixed and suffixed perfective verbs (*dopracovat*_{PERF} 'to finish working', *poděkovat*_{PERF} 'to thank'), I suggest that the derivation of these verbs is the reverse of that of the secondary imperfectives, i.e., here, prefixation applies to an already suffixed verb, this order being motivated by the fact that neither prefixless, nor suffixless variants of such verbs exist:

(73) -PREFIX, -SUFFIX	+PREFIX, -SUFFIX	-PREFIX,+SUFFIX	+PREFIX, +SUFFIX
<i>*děkat</i> _{IMP}	<i>*poděkat</i> _{PERF}	<i>děkovat</i> _{IMP}	<i>poděkovat</i> _{PERF}

The last conversion rule reanalyzes the lexically suffixed *pracovat* into an aspectually suffixless, i.e. imperfective, form as follows:

(74) Conversion Rule No. 4

$$\#base+_ \# \quad \Rightarrow \quad \#base\#,$$

i.e. the *-ova-* suffix in this verb is considered to have no aspectual function, or as coalescing with its lexical function. The verb *dopracovat* is then treated as a prefixed perfective formation:

$$(75) \text{ (a) } *[\textit{pracat}]_{IMP} > [[\textit{prac}]\textit{ovat}]_{IMP} > [\textit{do}][[\textit{prac}]\textit{ovat}]]_{PERF}$$

not:

$$(b) *[\textit{pracat}]_{IMP} > *[[\textit{do}]\textit{pracat}]]_{PERF} > *[[\textit{doprac}]\textit{ovat}]_{IMP}$$

The aspectual structures corresponding to the different boundary types in the derivation of *dopracovat* then are:

(76) <i>*#pracat#</i> _{IMP}	>	<i>#prac+ovat#</i> _{IMP}	>	<i>#do-prac+ovat#</i> _{PERF}
<i>#base#</i>	>	<i>#base+suffix#</i>	>	<i>#prefix-base+suffix#</i>
↓		↓		↓
Imperfective		Imperfective		Perfective

Conversion rules convert the structure *#do-prac+ovat#* containing an aspectual prefix and a lexical suffix into a perfective, prefixed structure:

(74) Conversion Rule No. 4

#prefix-base+_# ⇒ *#_base#*,

To conclude the morphological analysis of simultaneously prefixed and suffixed verbs I mention two assumptions upon which the analysis itself is based:

- (77) 1. Lexical operations precede syntactic rules, i.e. units connected by a '+' boundary merge before units connected by a '-' boundary combine.
2. The status of a boundary may be reanalyzed from 'aspectual' (-) to 'lexical' (+) if a subsequent affixation occurs, thus, previously applied affixes change their status from 'aspectual' to 'lexical'.

In this sense, the simultaneousness of prefixation and suffixation is only illusory, obscuring reanalyses of affixal elements and their connection to the base prior to further affixation. Only the most recent affixal process is aspectually significant, determining the resulting aspect of the verb.

3. 6. Conclusion

In this chapter, I have identified and analyzed four basic aspectual structures consisting of affix-base arrangements: *#base#*, *#_base#*, *#base_#*, *#_base_#*. By setting up a set of affix-to-base connecting boundary types, which are hierarchically ordered on a scale from strong ('+') to weak ('#'), to reflect the distinction between aspectual and non-aspectual affixes, the above four distinct structures, are reduced by means of Conversion Rules to two basic structures, *#base#* and *#_base#*, corresponding to the two basic aspect designations, imperfective and perfective.

I have employed four Conversion Rules to represent reanalyses changing the boundary status in the affix-base arrangements and therefore the resulting aspect of the verb. The following list summarizes the reanalyses and the resulting aspectual characterization of verbs undergoing these processes:

(78) **List of boundary status reanalyses:**

STRUCTURE	REANALYZED AS	STRUCTURE	CORRESPONDING ASPECT
CONVERSION RULE NO. 1			
a) #_+base#	⇒	#base#	Imperfective
CONVERSION RULE NO. 2			
b) #base_#	⇒	#base#	Imperfective
CONVERSION RULE NO. 3			
c) #base-n#	⇒	#_base#	Perfective
CONVERSION RULE NO. 4			
d) #base+_#	⇒	#base#	Imperfective

(79) **Examples:**

- a) #_+base# *zá+ležet_{IMP}* 'to depend'
 ↓
 #base#
- b) #base_# *psá-vat_{IMP}* 'to write habitually'
 ↓
 #base#
- c) #base-n# *kop-nout_{PERF}* 'to kick'
 ↓
 #_base#
- d) #base+_# *žas+nout_{IMP}* 'to wonder'
 ↓
 #base#

For verbs containing both a prefix and a suffix, two rules are needed. For verbs with non-aspectual prefixes like *přísahat_{IMP}* 'to swear', and for secondary imperfectives like *za+spá-vat_{IMP}* 'to sleep in habitually', with the structure #_+base_#, the first Conversion Rule is as in (79 a) above, resulting in the structure #base_#, the second Conversion Rule, as in (79 b), converts it into the basic imperfective structure #base#.

Verbs of the type *do-prac+ovat_{PERF}* 'to finish working', *po-děk+ovat_{PERF}* 'to thank', i.e. verbs with the structure #_base+_#, have their suffix reanalyzed as in (79 d), changing them into the regular perfective structure #_base#.

As a final note, I state that the reasons for a prefix failing to perfectivize is its lexical, derivational character, which may be either inherent, as is the case of prefixes, e.g. *ná-*, *pří-*, *zá-*, *spolu-*, or acquired, i.e. cases where the prefix is not in the domain of the most recent, aspectual affixing process, as in *zaspávat*. The same reasons account for the failure of a suffix to imperfectivize a verb, e.g. cases where *-(o)va-* is reanalyzed as a lexical, derivational, rather than an aspectual suffix, as in *dopracovat*.

Chapter 4. Syntactic aspect.

Introduction

Having analyzed morphological aspect on the word-level, in this chapter I will introduce aspect within the next higher unit, i.e. phrasal aspect. I assume that essentially the same rules apply to aspect specification or formation in both the word and phrasal domains. Further, I also assume that aspect specification of the lower unit contributes to the aspect specification of the next higher unit. Thus, the aspect specification of the unit word contributes to aspect specification of the unit phrase. Presumably, aspect specification of the unit phrase further contributes to aspect specification of larger–higher units, e.g. of sentence and discourse. However, apart from stating that aspect is a notion relevant to these higher domains, I do not, for reasons of space and relevance in a Master's thesis, develop the issue in this thesis. For some already published work of interest in this area, see, e.g., Forsyth (1970:357), Friedrich (1974:3ff), Kučera, Mikoś and Scarborough (1978:183), Hopper (1982:5), Chung and Timberlake (1985:239). In this sense, aspect is considered to be a cumulative process across the various levels or domains of language, from smaller to larger.

To distinguish in my discussion between word-level (morphological) and phrase-level (syntactic) aspect, I use the following notation:

- (80) M-Imperfective for morphological imperfective aspect: verb_{IMP}
M-Perfective for morphological perfective aspect: verb_{PERF}
P-Imperfective for phrasal imperfective aspect: phrase_{IMP}
P-Perfective for phrasal perfective aspect: phrase_{PERF}

4. 1. Aspect at the phrasal level

Looking for possible correlates of Czech morphological imperfective–perfective distinction *psát*_{IMP} - *napsat*_{PERF} 'to write', characterized structurally as #base# vs. #_base#, i.e. the distinction between a prefixless and a prefixed structure, I consider the English structural opposition of plain vs. complemented verbal predicate. This opposition has been characterized often, e.g., as the syntactic opposition 'intransitive vs. transitive' or, in aspectual terms, as 'atelic vs. telic'.²³ I propose that this distinction is the phrasal equivalent of the imperfective–perfective morphological distinction. Thus, by the analogy of

(81) <i>psát</i> 'to write' _{IMP}	<i>napsat</i> 'to write' _{PERF}
#base#	#_base#
[-prefix]	[+prefix]
↓	↓
M-Imperfective	M-Perfective

I distinguish between imperfective and perfective phrases as in the following examples:

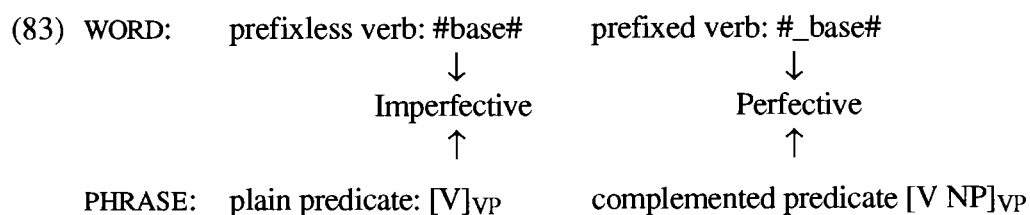
(82) <i>Jan psal.</i>	<i>Jan psal dopis.</i>
'John wrote/was writing.'	'John wrote/was writing a letter.' ²⁴
[V]	[V NP]
[-complement]	[+complement]
↓	↓
P-Imperfective	P-Perfective

The syntactic definition of aspect is then essentially based on the formal property intransitive–transitive, or, more precisely, on the absence vs. presence of a verbal

²³The fact that basic activity (atelic) predicates combine with singular count direct object or goal complements to form accomplishment (telic) verbal predicates is widely agreed upon, see, e.g. Verkuyl (1972, 1989), Dowty (1972, 1979), Langacker (1982, 1983), Jackendoff (1990), Grimshaw (1990), Smith (1991), etc. (Hedberg, p.c.) For a detailed study of the effect of telicity, and thus also of transitivity, on aspect specification, see Voorst (1988) and his notions 'object of origin/termination'.

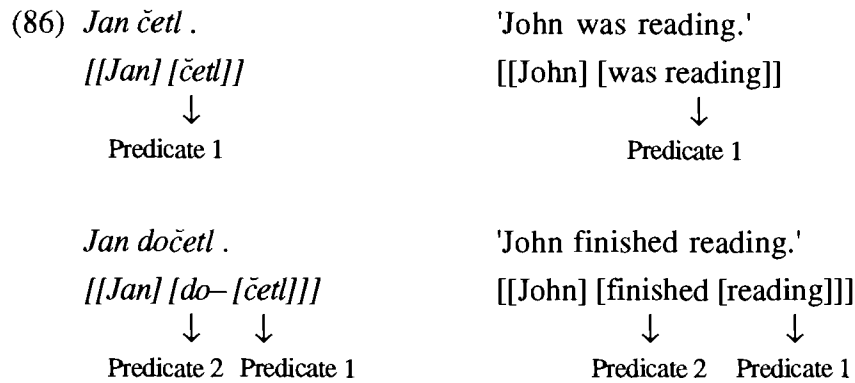
²⁴The English translations here show that telicity, transitivity and perfectivity are not simply analogous terms. Tense (±progressive), apart from the presence of a direct object, influences the telicity of the phrase.

complement in the phrase structure of the predicate. Both in the case of morphologically marked aspect, as in the Czech example (81), and in the case of syntactically encoded aspect, as in the English sentences (82), perfectivity is achieved by adding something to the imperfective, complementing the base. The base is a verbal root/stem, when speaking in morphological terms, a plain, uncomplemented predicate, when speaking in syntactic terms. Similarly, the added element is either an affix or a noun phrase, depending whether perfectivization occurs within the domain of the word or within the domain of the phrase:



The relationship of the prefix to the verbal base on one hand, and the relationship of the complement to the verb on the other hand, and their function from the point of view of aspectual change, remains the same: both the prefix and the complement act as perfectivizers.

The most notable syntactic (phrasal) correlate of the morphological imperfective–perfective aspectual distinction is thus the syntactic intransitivity vs. transitivity distinction, characterizable as the difference between the absence vs. presence of a complement (most frequently direct object) in verbal predicates. We may consider this correlation to form the basis of the phrasal aspect and consider a verbal phrase without complement to be imperfective, verbal phrase with complement to be perfective.



Distinguishing between transitive and intransitive prefixes entails that the former have an argument status and be linked to verbal complements, as opposed to the latter, which have the status of a predicate and their link is not to a complement but to the base predicate, their argument. In this sense, this distinction between intransitive and transitive prefixes is relatable to the difference between the semantic notions of argument and predicate.

The link between aspect at the morphological and syntactic levels is seen clearly when observing the different subcategorization restrictions for both kinds of prefixes. Here, I repeat the examples from chapter 2 to show the interrelationship between the intransitive/transitive prefixes and their requirements for the presence of direct objects:

[-prefix]	[+prefix]	[+prefix]
<i>Jan četl</i> _{IMP} (<i>knihu</i>).	<i>Jan dočetl</i> _{PERF} (<i>knihu</i>).	* <i>J. přečetl</i> _{PERF} . > <i>J. přečetl knihu</i> _{PERF}
J. was reading (a book).	J. finished reading (a book).	*J. read through. > J. read the book through.
[optional OBJ]	[optional OBJ]	[obligatory OBJ]
	↓	↓
	Intransitive prefix	Transitive prefix

Transitive prefixes, linked to verbal complements, are considered as being co-indexed with these complements, and are expected to be subject to co-occurrence restrictions. This is indeed the case. The link between a transitive prefix and the verbal complement,

semantically characterized as a relationship between two arguments, one expressed as a prefix, the other as, e.g., a noun phrase, may be expressed, similarly to the mutual co-indexing of nominal elements in an agreement relationship, by co-indexing the transitive prefix with its subcategorized complement. However, their relationship is not one of formal agreement, but rather of semantic compatibility. Thus we note the following:

- (88) *Jan roz_Mvařil brambory_M.* *cf. Jan vařil brambory_M.*
 'John overcooked the potatoes.' 'John cooked potatoes.'
- **Jan roz_Mvařil mléko_L.* *cf. Jan vařil mléko_L.*
 'John overcooked milk.' 'John boiled milk.'

where _M and _L stand for 'massiness' and 'liquidity' of potatoes and milk, respectively, and impose a semantic restriction on possible complements of the prefix *roz-* marked as _M to combine only with complements similarly marked, thus with *brambory_M*, but not with **mléko_L*, even though, the unprefixated verb *vařil* is free from this restriction, being, of course, subject to a more general restriction, e.g., *vařil OBJ_F=food*.

In the case of intransitive (modifying) prefixes, where the prefix–verb complex is seen as a compound of two predicates, the prefix (Predicate 2) indicates, e.g., the completion of the verbal action expressed by the base (Predicate 1), its argument as in (86). Intransitive (modifying) prefixes do not have the verbal complement in their scope. Rather, the complement, if any, is in the scope of the whole verb complex. Thus, the semantic compatibility restrictions which intransitive prefixes are subject to, are directed not at the complement but rather at the base predicate they modify. For instance, the intransitive prefix *do-*, equivalent to the predicate 'to finish', combines only with predicates that are compatible with this notion, and is, as the following examples suggest, restricted to activities:

- | | |
|--------------------------------|-------------------------|
| (89) <i>Jan dopsal.</i> | cf. <i>Jan psal.</i> |
| 'John finished writing' | 'John was writing' |
| <i>*Jan domokl.</i> | cf. <i>Jan mokl.</i> |
| 'John finished getting soaked' | 'J. was getting soaked' |

Note that the post-radical, i.e. suffixal, elements generally do not influence the argument structure of the verb in the same way transitive prefixes do, i.e. they do not impose a requirement for an obligatory direct object:

- | | |
|----------------------------------------------------|--------------------------------------------------------|
| (90) <i>Jan psal (knihu).</i> | 'John was writing (a book).' |
| [[<i>Jan</i>] [<i>psal (knihu)</i>]] | [[<i>John</i>] [<i>was writing (a book).</i>]] |
| <i>Jan psával (knihu).</i> | 'John used to write (a book).' |
| [[<i>Jan</i>] [<i>psá [-val] (knihu)</i>]] ... | [[<i>John</i>] [<i>used to [write (a book)]</i>]], |

thus a link similar to that between perfectivity and transitivity is not observed in the group of imperfective verbs. Aspectual elements occurring in the suffixal position, denoting imperfectivity, are interpretable as the functional equivalent of intransitive (modifying) prefixes, i.e. they modify the base predicate. They differ from intransitive prefixes in one respect: while modifying prefixes denote a point in time (completion, climax, initiation), suffixes present a quantitative evaluation of the situation described by the verb (duration, repeatedness). Note that this intransitive prefix vs. suffix distinction corresponds to the distinction of 'one vs. many', 'singular vs. plural', or 'count vs. mass'. Restrictions on the compatibility of the suffix with the verbal base, similar to those mentioned above in (89) apply:

- | | |
|----------------------------|----------------------------|
| (91) <i>Jan psal.</i> | <i>Jan psával.</i> |
| 'John was writing.' | 'John used to write.' |
| <i>Jan mokl.</i> | <i>*Jan mokával.</i> |
| 'John was getting soaked.' | 'John used to get soaked.' |

The sole exception to this statement regarding suffixes is the group of perfectives formed by n-suffixation, where, again, we see the obligatoriness of complements, be they expressed as grammatical objects, or as reflexives, etc. I call this group of perfectivizing suffixes **transitive** by analogy with the perfectivizing function of prefixes:

- (92) [+transitive suffix] [-OBJ] **Jan kopnul_{PERF}* '*John kicked.'
- [+transitive suffix] [+OBJ] *Jan ho kopnul_{PERF}* 'John kicked **him**.'
- Jan kopnul_{PERF} Evu.* 'John kicked **Eve**.'
- Jan se kopnul_{PERF}* 'John kicked **himself**.'

Noting the parallelism in distribution in terms of a requirement of obligatory appearance of verbal complements, we may link transitive prefixes with transitive (perfective) suffixes, and intransitive (modifying) prefixes with regular (imperfective) suffixes, thus establishing a scale of morphological exponents of aspect :

(93)	transitive prefix	>	intransitive prefix	>	transitive suffix	>	intransitive suffix
	<i>pře-</i>		<i>do-</i>		<i>-n-</i>		<i>-va-</i>
Complement:	+		-		+		-
Aspect:	PERF		PERF		PERF		IMP

The transitive–intransitive distinction within the group of aspectual affixes predicts the occurrence of transitive, that is, complement licensing affixes only with transitive, or potentially transitive, verbs, i.e. verbs which are capable of having their argument structure extended by a complement, be it direct object, adjoined phrase, reflexive pronoun or a prepositional phrase. Intransitive affixes, on the other hand, are expected to occur only with intransitive verbs, if the verb is not to have its argument structure changed, i.e. extended by transitivity, complementization or reflexivization. This is indeed so:

- (94) [-affix] *čel, dýchal, kýchal* 'he was reading, breathing, sneezing'
 [+intransitive affix] *dočel, dodýchal, dokýchal* 'he finished reading, breathing, sneezing'
 [+transitive affix] **přečel* '*he read through'
 **zadýchal* 'he ran out of breath'
 **prokýchal* '*he was sneezing through'
- (95) Transitivized: *přečel knihu* 'he read the **book** through'
 Reflexivized: *zadýchal se* 'he ran out of breath'
 Complementized: *prokýchal celou noc*²⁶ 'he was sneezing through **the whole night**'

4. 3. Relationship between aspect at the morphological and syntactic level

Syntactic level aspect, incorporating cumulatively aspectual values brought up from lower levels, may be considered to be ordered along a scale, to represent the fact that, as it incorporates different aspectual values from the lower levels, it marks a greater or lesser degree of perfectivity of first the word, then of a phrase, according to certain criteria, the basic criterion being the presence or absence and the type of affix at the morphological word level, the presence or absence of a verbal complement at the phrasal level. Further criteria may include, e.g., the syntactic structure of that complement (NP, PP, CP...), other grammatical characteristics (singular vs. plural, definite vs. indefinite, ...). This scale thus mirrors the additive nature of aspectual representation analogously to the increase in level

²⁶The fact that *celou noc* is not a semantic argument of the verb, while still exercising influence on the aspectuality of the phrase, supports the notion that it is not solely direct object complements of V, but also VP-adjoined constituents (its modifiers) that play a role in aspectuality of the whole VP. (DeArmond, p. c.)

size: morphological aspect, expressed by the verb's affixal elements, will combine with aspect specification of the phrase.²⁷

We may summarize the formation of verbal, i.e. morphological, aspect (M-aspect), where the presence of a prefix indicates perfectivity, and that of phrasal aspect (P-aspect), where the presence of a complement, direct object, indicates perfectivity as follows:

(96)	Verbal aspect (M-aspect):	Phrasal aspect (P-aspect):
	[-prefix] [+prefix]	[-direct object] [+direct object]
	↓ ↓	↓ ↓
	M-Imperfective M-Perfective	P-Imperfective P-Perfective

This analogousness of morphological and syntactic aspect, apart from elucidating the differences in understanding of aspectuality in Slavonic languages, where aspect is morphologically marked on the verb, and languages like English, in which aspect may be said to be encoded by lexical and syntactic means, also explains why classification schemes (cf. Ryle, 1949; Kenny, 1963; Vendler, 1957, 1967; Dowty, 1979) of verbs into 'predicate types' abound for English, while they gather only marginal interest in studies of aspect for languages like Czech. Moreover, extending the syntactic aspect analysis to languages with morphologically marked aspect, enables the interpretation of the differences in the Czech sentences throughout this chapter not only as a polarity between an imperfective and perfective verb, but rather as a scalar progression from morphological imperfective to morphological perfective and from phrasal imperfective to phrasal perfective:

²⁷This additive/cumulative property does mean that levels must, correlatively, be regarded as ordered, i.e. additiveness of aspect and ordering (additiveness of levels) are hierarchically symmetrical notions.

(97)	M-IMP	[-prefix]			... <i>psal</i> ...
	∨				
	M-PERF	[+prefix]			... <i>dopsal</i> <i>přepsal</i> ...
	∨				
	P-IMP1	[-prefix]		[-OBJ]	... <i>psal</i> .
	∨				
	P-IMP2	[+prefix]	[-transitive prefix]	[-OBJ]	... <i>dopsal</i> .
	∨				
	P-PERF1	[-prefix]		[+OBJ]	... <i>psal dopis</i> .
	∨				
	P-PERF2	[+prefix]	[-transitive prefix]	[+OBJ]	... <i>dopsal dopis</i> .
	∨				
	P-PERF3	[+prefix]	[+transitive prefix]	[+OBJ]	... <i>přepsal dopis</i> .

Phrasal aspect incorporates aspectual values from the morphological level and builds upon them, hence the distinction between P-PERF1, P-PERF2 and P-PERF3, which, although specified in the same way with respect to the presence of the phrasal perfectivizer ([±OBJ]), differ with respect to the morphological specification of their verbs ([±prefix], [±transitive prefix]).

4. 4. Conclusion

The approach of including in the discussion of aspect not only the morphological level but also the syntactic level, allows us to extend our attention from concentration on morphologically marked aspect only, leaving the role of the verbal complement, e.g., as totally irrelevant and absent from the aspectual domain, and to see aspect as a progression. The fact of the analogousness of aspectuality across ordered levels leads automatically to the conclusion that, at all levels higher than the lowest, aspect is generated and described as

an additive process, which, taking into consideration all the aspectual information supplied throughout the levels from lower to higher (e.g. morphological to syntactic), builds upon it using mechanisms appropriate to the domain in focus at any given time.

Chapter 5. Concluding remarks

Czech aspect is introduced in this thesis as a morphological phenomenon relevant to the level of word, expressed by means of aspectual affixes. The presence of a prefix is correlated with perfectivity, its absence with negative perfectivity, i.e. imperfectivity. This binary [\pm PERF] designation of verbal aspectuality is aligned with corresponding, perfective and imperfective, semantic notions.

The formal, i.e. morphological, identification of aspect is supported by a series of syntactico-semantic tests. However, it is noted at the same time that these tests do not always agree in their designation of aspect for a particular verb. Two tests, the Transitivity test and the Repeatedness vs. Completion test show restrictions placed on aspectually different forms, which cannot be accounted for if aspect is to be considered a property relevant to verbs only. This leads to postulation of higher level, phrasal aspect. In this way, apart from accounting for the above mentioned co-occurrence restrictions, the disjoint vocabularies employed when discussing aspect in two different languages like Czech and English, are brought together.

I have formalized the representation of Czech morphological aspect above the simple equation [$+$ prefix] \rightarrow PERF by incorporating different boundary symbols separating affixes from verbal bases, thus bringing counterexamples to the above equation within the scope of my analysis. I have identified aspectual affixes as forms originating in prepositions attaching themselves to verbs in the process of aspectual affixation. Noting the failure of some aspectual affixes to mark the verb with the expected aspect, I have concluded that aspectual affixation may apply to a verb already containing an aspectual affix, and that only the most recently applied affix is relevant, or visible when determining the verb's aspect.

Thus, I have stated that the feature [-aspectual] in affixes may be either inherent or acquired.

Phrasal aspect is analyzed as a phenomenon analogous to word aspect. The verbal complement is identified as a perfectivizing agent at the phrasal level, the analogue of the morphological prefix. Similarly, as the verbal structure is relevant for morphological aspect specification, it is the whole verb phrase structure that is relevant for aspect specification at the phrasal level.

Having identified two groups of affixes differing in their subcategorization frames, I have proposed a scale of aspects, combining aspectual specifications of both the word and the phrase level in an additive manner. I have concluded that the binary designation of aspect [\pm PERF] may be valid for the lowest level at which aspect is identified, here morphology, but that at higher levels, aspect must be a combination of this basic matrix to account for the fact that the higher level aspect specification builds on aspect specifications brought up, as it were, from the lower level(s).

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