Divergent and Incomplete Competence in L2 Acquisition of Polish Aspect

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draft

1.0. Itroduction

The crux of the observations made in Sorace's 1993 study involving two near-native groups of L2 speakers of Italian was that the intuitions of the near-native speakers were different from those of the native speakers and that the judgments of the two L2 groups differed from the native judgments in two different ways. Sorace's investigation was triggered by empirical findings and intuitive observations, which, to her, suggested that reaching native-like L2 competence with respect to the whole of L2 grammar is an impossibility for adult learners. Her point of contention was, and this is what her study demonstrates, that a steady state L2 grammar may be of two types: *incomplete* or *divergent*. These two different states of grammatical competence correspond to qualitatively distinct categories of ultimate attainment.

The present study takes up Sorace's conclusions and investigates the types of grammar which emerge at the final (or near-final) stage of language acquisition, as well as at a prior, advanced stage. Sorace's account views competence as a system of knowledge whose content can be assessed by means of judgments assigned to structures of the target language. Assuming the native grammar to be a complete system of knowledge that allows for categorical assessment of linguistic data, she proposes that an *incomplete grammar* lacks a representation for a part of target grammatical knowledge, and is manifested by indeterminate judgments of grammaticality of the target structures. A *divergent grammar*, on the other hand, being a grammar that has the target properties but with non-target instantiations, will result in determinate judgments which differ from the native judgments. Sorace accounts for such a distinction between final states of L2 acquisition in terms of the learners' L1 grammar systems.

Operating with Sorace's terminology and means of defining interlanguage grammars, the present research investigates systems represented by two groups of L2 speakers, who share the same L1, but differ in competence levels in Polish as a second language. In the previous chapter I

2.0. The aspectual system of Polish

The morphological system under present investigation concerns Polish aspectual preverbs. Polish manifests very intricate interactions within the domain of aspectual morphology. The three preverbal reflexes of distinct Polish aspects that will be discussed are (i) perfective preverbs, (ii) preverbs indicating a 'pofective' aspect, and (iii) a 'completive' aspect. Besides forming a complex set of aspectual interactions, the preverbs in Polish form a system of aspectual morphology involving multiple levels of interpretation: syntactic, semantic and lexical.

2.1. Aspects

Slavic preverbs have received some attention in the descriptive linguistic literature (Galton 1984, Piñón 1993, 1994, 1995). They have mostly been treated as a homogenous set of lexically selected prefixes[1] and described as implying completion of the event and, in some cases, the manner or means of execution of the event. They are all preverbs by virtue of their place in the morphological structure i.e. immediately preceding the verb they modify. What distinguishes them from each other is their individual aspectual contribution. Below I present examples of the three types of aspectual preverbs.

[√V] = imperfective

(1) Ewa pi-la wino.
Ewa drink-past wine
'Ewa was drinking/drank wine.'

[perf-√V] = perfective

(2) a. Adam **wy**-pi-l wino.
Adam **perf**-drink-past wine
'Adam has drunk the wine.'

b. Zofia **do**-pi-la wino.
Zofia **perf**-drink-past wine
'Zofia has drunk up the wine.'

[po-√V] = pofective

(3) Maria **po**-czyta-la ksiazke.
Maria **po**-read-past book
'Maria read a book for a while.'

[po-√V] = completive

(4) Ewa **po**-piek-la ciasta.
Ewa **po**-bake-past cakes
'Ewa has made cakes, one after another.'

In (1) a bare verb receives an imperfective meaning, in (2) perfective preverbs yield perfective aspect but (a) and (b) differ in manner of execution, in (3) the prefix *po-* contributes a temporal boundary to the activity by delimiting its duration but not completion, and in (4) the same prefix indicates that the activity is completed for each subeventuality.[2] While the perfective preverbs can be represented by any lexically

[1]Piñón discusses prefixes *po-* (1993) and *na-* (1995) and distinguishes them from the rest of the preverbs. However, he does so from a purely semantic lattice-theoretic approach and says nothing about the place of these distinct preverbs within phrase structure.

[2] The two aspects rendered by the prefix *po-* have been each independently discussed in the syntactic/semantic literature. One meaning is discussed by Piñón (1993), who argues for the aspectual role of *po-* as a marker of temporal delimitation ("for a while"). He called it the 'pofective', adopting a coinage of Galton (1984) who described a similar phenomenon in Russian. The second meaning has been discussed by Siewierska (1991), who characterizes *po-* as a 'completive' prefix expressing the completion of a set ("one after another"). This differs from the perfective preverb which expresses the completion of each item in a set ("right through") perceived as a single event.

selected perfective prefixes, the pofective and completive aspects are represented by a multifunctional prefix '*po-*'. The present account will show first, that *po-* is distinct from the rest of the preverbs, and second, that the distinct functions of *po-* are strictly conditioned by the semantic content of the VP it attaches to, and must be defined within two syntactic domains.

In the next section I introduce a feature system that formally determines the functions and possible morpho-syntactic combinations of the perfective, pofective and completive morphemes within verbal structure. The restrictions on the affixation of the perfective, pofective and completive morphemes derive from the morphological shape of the base but, more precisely, depend on the semantic properties of the verbs that they combine with, e.g. *plurality*, *telicity*, and *specificity*. The concept of features employed for defining these properties has been adopted from the semantic literature (Verkuyl, 1989, Kamp and Reyle, 1993).

2.2. Features and feature contexts

The *perfective aspect* in Polish acts as a telicity marker and carries a [+TELIC] feature. Piñón (1993) illustrated the incompatibility of the perfective aspect with durative adverbs, which confirms their telic character. This observation is also made by Kipka (1990). Slabakova (1997a) discusses both the telicity introduced by the preverbs and the non-durative character of preverb-marked eventualities in Bulgarian and suggests these properties extend to other Slavic languages.

Turning to the *pofective* and the *completive* aspecs, their semantic contributions are those of temporal delimitation and of the completion of a set, respectively. However, I propose that, in terms of semantic features, these two morphemes are identical: they both mark time limits on an eventuality, i.e. they bound it in time.[3] I propose that, in Polish, *po-* is an aspectual marker of temporal boundedness and carries a [+BOUND] feature.

(5) Po-czyta-lam gazete. (pofective)
pofec-read-past newspaper
'I read a newspaper <u>for a while</u>'

(6) Po-zamyk-al okna. (completive)
compl-close-freq-past windows
'He <u>finished closing all</u> the windows'

Both sentences above imply a finished activity. In (5) the activity of reading lasted for a limited time as defined by the pofective aspectual morpheme but the object 'paper' is not exhaustively affected. Sentence (6) suggests completion (all the windows are closed), and the individual plural telic events are subsumed under the bound imposed by the

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[3] Depraetere (1995) argues for the necessity of distinction between *(a)telicity* and *(un)boundedness*. (A)telicity involves having reached an inherent or intended endpoint while (un)boundedness relates to whether or not the situation is described as having reached a temporal boundary (cf. Depraetere 1995 cf. Declerck 1989, p.277).

completive morpheme. The operation of the prefix *po-* is schematically illustrated in (7) below.

(7) ***po*** - marker of temporal boundedness for an eventuality and a set of eventualities

set of eventualities: ■ ■ ■ 1 ■ ■ ■ ■ ■ ■ ■ 1■ ■ ■ □ [+TELIC][+PL]

po- □ [+BOUND]

eventuality: ■■■■■■1■■■■■■■■■■■■■■■1■■■■■■ □ [-TELIC]

As illustrated above, in the context of a plural telic eventuality ([+TELIC][+PL]) *po-* acquires the *completive* interpretation, while in the context of an atelic eventuality ([-TELIC]) it acquires the *pofective* interpretation. Overall properties of the multifunctional *po-* are summarized in Table A.

TABLE A

Feature context and the aspectual alternation

	pofective po-	***completive po-***
semantic features	[+BOUND]: specify time limits on an eventuality	
VP feature context	[-TELIC]	[+TELIC] [+PL]
interpretation	'for X time'	'complete one after another'

Below I present data illustrating how interpretation of po- depends on the properties of the VP. The data will be presented in terms of verb classes. These are roughly based on Vendler's (1967) quadripartition of verb phrases into aspectual types: *accomplishments*, *achievements*, *activities*, *states*.[4]

2.2.1. Accomplishments/achievements

Accomplishments and achievements express single eventualities. They are defined with a feature [+TELIC] and show the following semantic disitribution with respect to *po-*.[5]

[4] Because the Vendlerian verb classes will be defined here in terms of the semantic features outlined above, his original classification, although important, is not strictly maintained. Also, the distinction between accomplishments and achievements will not be crucial for the present analysis.

[5] Accomplishments by virtue of representing a stage leading to an end point of an episode and the end point itself, contain a semantic element of duration of the preparatory stage. Hence the not at all common but possible combination of *po-* with these verbs, where *po-* picks out a part of the preparatory stage. Crucially though this interpretation will have a somewhat anomalous semantic effect of a process (or rather a fragment of it by *po-*) without a final result, which is paradoxical for accomplishments.

(8) *Jan po-gubi-l klucz.
Jan po-lose-past key-sg
'Jan has lost a key/lost a key for a while.' *pofective/*completive

(9) Jan po-gubi-l klucze.
Jan po-lose-past key-pl
'Jan has lost many keys.' *pofective/✓completive

The above examples show that for accomplishments/achievements to allow for affixation of *po*-, i.e. for such a morphological composition to be able to receive an aspectual interpretation, the requirement for the plurality of the object NP must be satisfied. In such cases the resulting interpretation is that of the completive aspect.

2.2.2. 'Plural achievements'

Another group ov verbs are classified here as plural achievements and as such are defined by [+TELIC] and [+PL] features. These verbs combined with *po*- do not require plurality of the object as shown in (10) and (11). The absence of the plurality requirement is a result of a [+PL] feature being a part of the feature definition of these verbs.

(10) Ewa po-rwa-la zdjeci-e/a.
Ewa compl-rip-past photograph-sg/pl
'Eve ripped (a) photograph(s).'

(11) Adam po-sia-l stokrotk-e/stokrotk-i.
Adam compl-sow-past daisy-sg/pl.
'Adam has sowed daisies.'

The underlying plurality of the situation described by the verb roots renders either the effect of iteration of the situation or the plurality of the end state object. Hence for 'plural achievements' the requirement for the plurality of the object is no longer relevant but is satisfied by the [+PL] feature of the root verb itself.[6]

2.2.3. Activities

Activities do not contain an inherent end point. I define their telicity status as unspecified [+/-TELIC] and discuss it below. *Po*- attached to activity verbs yields both interpretations. Note, however, the requirements on the object complements for the completive interpretation to be possible: plural and specified in quantity. This is illustrated in the examples (12) - (14).

(12) Ewa po-czyta-la gazet-y. [-SQA]&[+PL]
Ewa pofec-read-past paper-pl
'Eve read papers for a while.' pofective/*completive

[6] The iterative character induces a pseudo-atelic interpretation. These verbs often may be compatible with durative adverbials as in *"He cut wood for two hours"* or *"She ripped letters all day*". In such cases the pofective aspectual interpretation is marginally acceptable.

(13) Ewa po-czyta-la wszystkie gazet-y. [-SQA]&[+PL]
Ewa pofec-read-past all paper-pl
'Eve read all the papers, one after another.' *pofective/ completive

(14) Ewa po-czyta-la gazet-e. [-SQA]&[-PL]
Ewa pofec-read-past paper-sg
'Eve read a paper for a while.' pofective/*completive

What these examples show is that a *po*-marked activity verb in the context of a plural object exhaustively specified by the quantifier *wszystkie* 'all' receives an interpretation of completion. Without the quantifier the alternative pofective interpretation of 'for a while' is assigned to the VP. The property of the object Noun Phrase (NP) obtained by means of quantification resembles the nominal feature [+SQA] proposed by Verkuyl (1987; 1989), where SQA stands for 'Specified Quantity of A', and where A is the interpretation of the NP. [+SQA] is formed compositionally on the basis of information contained by the Determiner and by the Noun, and pertains to the specified quantity of the object NP. The [+SQA] feature on the object NP renders the situation telic [+TELIC$_{SQA}$]. Without this feature the eventuality remains atelic, and pofective rather than completive interpretation is obtained.

2.2.4. States

States have an internal temporal structure. They have been described as 'indefinite temporal entities' (Vendler, 1967), or 'process of no change' (Verkuyl, 1989). In terms of the semantic criteria used here, they are defined by a [-TELIC] feature and when combined with *po*- receive a pofective interpretation as shown in (15) below.

(15) Marek po-mieszkal w Montrealu.
Marek pofec-lived in Montreal.
"Marek lived in Montreal for a while.'

2.2.5. Aspectual features

As shown so far, the telicity status of a VP which combines with a *po*-marked aspectual structure depends primarily on the aspectual verb class. It was also observed that the features of VPs can be derived from the features of NP objects.[7] The same properties may also be derived from other aspectual markers on the verb, as is illustrated in the examples below.

(16) Zofia po-na-pis-ywala list/y. (activity: [perf-√V-freq]+NPsg/pl)
Zofia po-perf-write-freq letter-sg/pl
'Zofia has finished writing the letter on many occasions/letters'

(17) Marek po-za-syp-ial na zajeciach. (state: [perf-√V-freq]+NPsg/pl)
Marek po-perf-sleep-freq on classes

[7] Motion verbs, not discussed in this paper, may acquire a telic reading by means of PPs.

a. 'Marek fell asleep in classes'
b. 'There was a period when Marek would fall asleep in classes.'

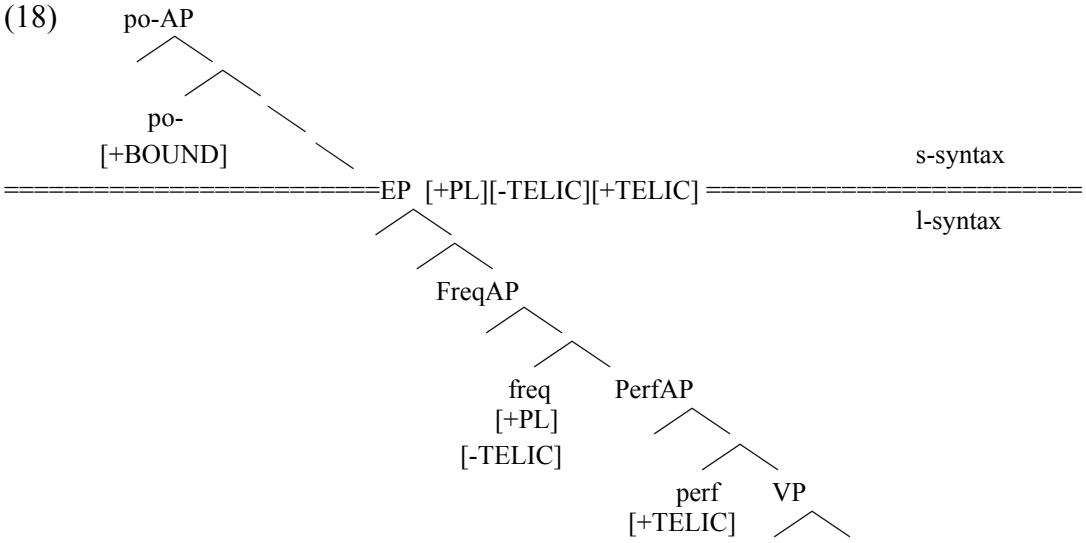
In the examples above the frequentative marker contributes plurality [+PL] of the situations and the perfective marker contributes telicity [+TELIC].[8]

2.3. Morphosyntactic composition mechanism

Two processes are employed in aspectual verb formation in Polish: 1/ head movement of the morphological units, deriving the morphological structure, and 2/ semantic feature percolation akin to Lieber's approach (1980), resulting in semantic composition interpreted at the level of maximal projections. These two give a combination of morphemes confined by and resulting from feature selection and whose semantics is reflected in the order of affixation of the aspects. The order of morpheme affixation is dictated by the phrase structure of the aspectual projections.

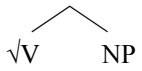
As is shown in (18), the frequentative aspect is generated as the head of Frequentative Aspect Phrase (FreqAP) above the Perfective Aspect Phrase (PerfAP) immediately above the root verb. I adopt the terminology from Travis (1994) and assume the interpretation of the aspectual composition takes place in the head of EP (Event Phrase). Progovac (in press) gives further evidence from Serbian for treating EP as the place where the eventuality is defined.[9]

(18)



[8] Two new observations must be made. First, the interpretation is now not unambiguously completive or pofective. Sentence (16) means completion of multiple events (completive) while (17) may imply either a set of events (again, completive) or multiple events occurring within certain time period (more pofective-like). The second observation is that the cardinality of the object NP is in these structures irrelevant. While the first observation is hard to explain at this point, the cardinality effect is quite easily accounted for in terms of the plurality effect introduced by the frequentative.

[9] Slabakova (2001) puts Slavic preverbs in the head of PerfAspP (below the higher VP projection of a VP shell) where not only telicity but also inchoative, causative and manner information is encoded. In my view only the telicity of the preverbs has syntactic character (hence [+TELIC] will be treated as an s-feature) as it is uniform across all preverbs. The other properties (manner, causation) are specific to individual preverbs and are therefore lexical.



In PerfAP of (18) the verb obtains a [+TELIC] feature contributed by the perfective aspect. In FreqAP the [perf-√V-freq] obtains [+PL] and [-TELIC] features from the frequentative marker. The structure's final morphological shape of [perf-√V-freq] is defined and interpreted in EP.[10] Throughout the data so far we have seen the morpheme *po-* contributing two distinct yet related semantic interpretations to verbs: a pofective and a completive aspect. These were conditioned essentially by the semantic feature context of the VP that *po-* modified. This context was established either by features of lexical items within the VP or by morpho-syntactic morphological aspectual markers on the verb base. A principled distinction between these types of features is maintained when we view them through the prism of a syntactic structure with two domains: s-syntactic and l-syntactic, separated by a boundary in EP, as proposed by Travis (2000).[11] I suggest that the features coming from lexical items i.e. object NPs carrying [+PL] or [+SQA] features,[12], are of a lexical character. The morphologically realized aspectual markers, perfective, pofective/completive and frequentative, seem more productive in the derivation processe and are of syntactic character. What distinguishes the multifumctional morpheme *po-* from the rest is that it may operate from two places of generation within a phrase structure it may operate from: one below EP (an l-syntactic position) and one above EP (an s-syntactic position).

2.3.1. Two positions for po-

Starting with the l-syntactic position, I suggest that *po-* must be generated here in the head position of the PerfAP. I suggest that it shares a position with the perfective aspect for a number of reasons. First, is the lack of co-occurrence of any two of the aspects: perfective, pofective or completive, within an l-syntactic derivation, i.e. for structures not involving the frequentative aspect, *po-* may not appear with the perfective aspect, as shown below.

[10] We will see that, unlike in Lieber's account, it is important that the perfective and frequentative features do not block each other but all percolate to be interpreted in EP.
[11] The distinction between s(yntactic)-syntax and l(exical)-syntax has been proposed by Hale & Keyser (1993) and developed by Harley (1995), Marantz (1997) and Travis (2000).
[12] And directional PPs implying telicity of motion verbs, or the frequentative aspect marked inside the root motion verbs

(19) Agata po-z-jad-ala czekolad-e/y [perf-√V-freq]
Agata po-perf-eat-freq chocolate-sg/pl
'Agata has finished a chocolate bar on many occasions/chocolate bars'

(20) *Agata po-z-je czekolad-e/y. *[perf-√V]
Agata po-perf-eat chocolate-sg/pl

(21) Agata po-jad-ala (*wszystkie) czekolad-y [√V-freq]
Agata pofec-eat-freq (*all) chocolate-pl
'Agata occasionally ate chocolate bars.'

Note that the only structure where *po-* may co-occur with the perfective aspect is that containing the frequentative aspect (19). Assuming that both perfective and frequentative aspects are a part of the s-syntactic derivation, the *po-* that combines with [perf-√V-freq] must be s-syntactic itself, hence the position it will operate from for sentences like (19) must be an s-syntactic position (above EP). Further, structures with both perfective aspect and *po-* (but no frequentative marker) are unattested in Polish (as shown in (20)) but those with the frequentative aspect and *po-* (and no perfective preverb) are, as in (21). This implies that perfective and *po-* will not co-occur unless a verb also carries the frequentative aspect and *po-* takes the s-syntactic position above EP. Finally, when *po-* co-occurs with the frequentative scope effects are exactly like those for the perfective preverbs i.e. the frequentative takes scope over *po-* (as it would over a perfective preverb), as in (21). This suggests that the l-syntactic position (below EP) for *po-*, from which *po-* interprets the lexical features of VPs, is, indeed, the PerfAspP. The s-syntactic position above the projection of EP is in the head of a provisionally labeled po-AspP.

2.3.2. S-features and l-features

The distinction between s- and l-syntax extends further and accounts for the grammaticality contrasts in (19) - (21) in a systematic fashion. Note that with *po-* in the s-syntactic position the VPs of (20) and (21) still seem to provide the required feature contexts: in (20) the perfective provides [+TELIC] and the NP [+PL] features, while in (21) the frequentative provides a [+PL] and the quantifier yields the eventuality [+$TELIC_{SQA}$]. Yet, the structures are ungrammatical.[13]

The explanation for this apparent inconsistency in how the features contribute to the derivations lies in their class. Note the contrast in the source of the features entering derivations: in all the data discussed before (examples (3) -(15)), features [+TELIC] [+PL] were supplied by lexical items (verb roots and NPs, PPs). In derivation in (20), on the other hand, while the potential [+PL] feature comes from a lexical item, the [+TELIC] feature comes from aspectual morphology (the perfective preverb). Similarly in (21) the conflict lies between the [-TELIC] frequentative feature and the [+$TELIC_{SQA}$] of the VP. The [-TELIC] feature is provided by a frequentative morphological affix, while the [+$TELIC_{SQA}$] derived from the object is provided by a lexical item. In other words, the combination of a lexical feature and the morpho-syntactic feature is disallowed.

[13] Structures in (20) and (21) with both plural and singular NPs are grammatical without *po-* and both imply a finished situation.

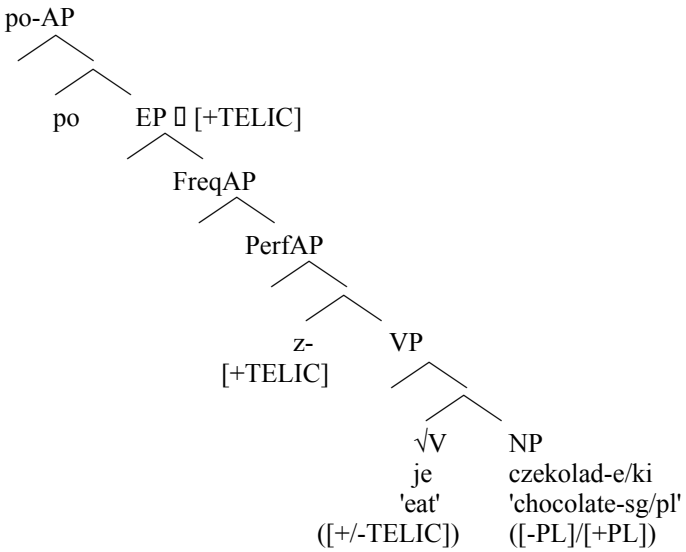
The data above provide some interesting observations. First, features required for the aspectual affixation of *po-* can be obtained from lexical items like verb roots, object NPs, PPs or from aspectual morphology. Second, lexical features are not compatible with the morphosyntactic features when used in a single derivation. The aspectual morpheme *po-* can be used with either type of feature, because there are two types of *po-*, lexical and syntactic.

2.3.3. Morphosyntactic derivations within the two domains

With all the facts in place, we can now structurally illustrate the derivations of (20) and (21) repeated below.

(20)	*Agata	po-z-je	czekolad-e/y.	*[po-perf-√V]
	Agata	po-perf-eat	chocolate-sg/pl	

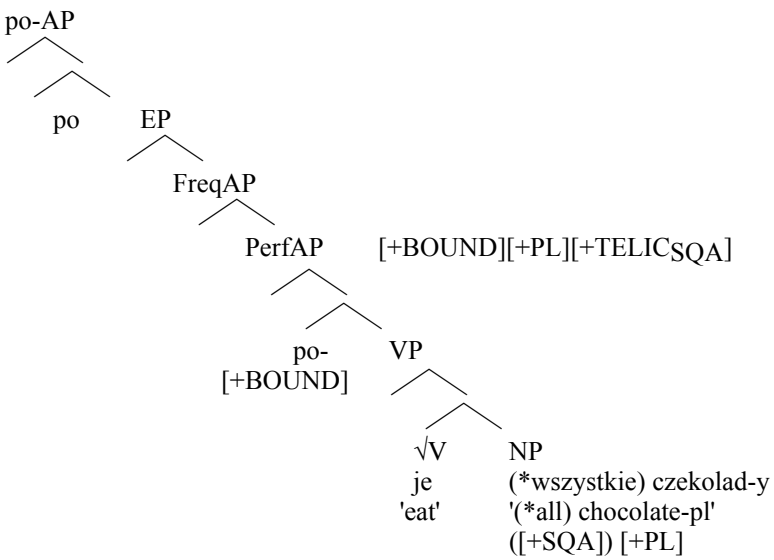
(20a)



As suggested before, sentence (20) must be ruled out for structural reasons. The derivation is impossible within the domain of l-syntax, because the place of generation of *po-* is taken by the perfective preverb. It is also impossible in s-syntax because the features that the s-syntactic *po-* selects for are not available: [-TELIC] is not supplied, and the [+PL] is l-syntactic.

(21)	Agata	po-jad-ala	(*wszystkie)	czekolady	[po-√V-freq]
	Agata	pofec-eat-freq	(*all)	chocolate-pl	
	'Agata occasionally ate chocolate bars.'				

(21a)



The sentence in (21) is grammatical provided that the object NP is not exhaustively quantified. The reason for this requirement is the incompatibility of features. Note that the derivation of [po-√V]+[NPpl]$_{[+SQA]}$ is possible, with a resulting completive interpretation. But the features that such a structure has are NP l-syntactic features ([+PL][+TELIC$_{+SQA}$]) and the syntactic [+BOUND] feature of the l-syntax *po-*. Attaching the frequentative aspect means combining the l-syntactic feature [+TELIC$_{SQA}$] with an s-syntactic one [-TELIC] of the frequentative. This is disallowed and the derivation is impossible. However, the derivation is saved by not including the quantifier, i.e. not supplying the [+TELIC$_{SQA}$] feature. Attaching the frequentative and yielding atelicity is a feature changing rather than a feature adding process. If *po-* were projected above EP in s-syntax (which is hard to tell but not crucial for the interpretation), the feature selection (an s-syntax [-TELIC] feature of the frequentative) is satisfied, *po-* may attach and receives the pofective reading.

2.4. Summing up

To summarize, the distinction between the two domains of syntax, l-syntax and s-syntax, is maintained between the type of features involved in the morphosyntactic derivations. In Polish, this distinction must hold for the aspectual structure formation involving pofective, completive, perfective and frequentative aspects. These aspects are introduced by means of morphological marking and contribute the s-features. The perfective and frequentative aspects are not sensitive to the l-syntactic features of the root verbs or other lexical VP elements, i.e. they cannot use the information provided by these features. The pofective and completive aspects are introduced by a single morpheme *po-*, which has two domains of generation, l-syntactic and s-syntactic. The l-syntactic *po-* is sensitive to the l-features and the s-syntactic *po-* is sensitive to the s-features. Importantly, from both positions, *po-*, being an aspectual morphological marker, contributes s-features and is visible to other aspects

3.0. L2 acquisition of the Polish aspects

The experimental study on acquisition of the aspectual system of Polish involved a group of advanced and a group of near-native speakers whose L1 is English. The goal of the study was to identify which parts of the system described above are acquired by L2 speakers and which parts are not. The purpose of this investigation was to define the content and the nature of the near-native grammar at the steady-state of acquisition as well as examine it in the context of the preceding, advanced, state. Below I summarize the elements of the system which need to be acquired in order to constitute knowledge comparable to native knowledge.

3.1.1. Knowledge of the Polish aspects

For the end-state grammar to be complete with respect to the aspectual system of Polish, L2 speakers must manifest the distinctions between all three aspects perfective, completive and pofective. This, in turn, implies underlying knowledge of, first, the selectional requirements, second, the semantic properties in terms of features carried by the aspectual morphology, as well as by the verb classes involved in the aspectual composition, and, third, the feature system and restrictions falling out of its distribution within the two domains of syntax.

Knowledge of the interpretive distinctions must imply knowledge of the underlying semantic and morpho-syntactic properties of the entire system because the restrictions and the requirements of the system drive the resulting interpretations. That is, each aspect assumes a different interpretation depending on the features, [-TELIC] vs. [+TELIC][+PL], supplied by the VP. Further, all three aspects, despite their apparent uniformity - they are all preverbs - are themselves defined by semantic features, perfective [+TELIC] and pofective and completive [+BOUND], and differ in levels of specification for the required feature context, from the least (perfective) to the most exhaustively specified aspect (completive). Finally, the combination of the aspectual features with the features of the VPs, which yields an interpretation, may take place only within a single domain of syntax and not across domains, otherwise a derivation is illicit and a potential interpretation which would result from composition of given features is impossible. The learners' competence must, therefore, contain information not only about which feature context yields which interpretation and which interpretations are unrealizable in these contexts (the syntax-semantics level of analysis) but also which aspectual structures are allowed by virtue of their syntactic vs. lexical feature components (the syntax-lexicon interface).

3.2. The experiment

To test the state of L2 knowledge with respect to the aspectual properties of Polish, four tasks were devised: a semantic compatibility task, an end-state compatibility task, a grammaticality judgment task, and a picture selection task. Each task aimed at revealing information about the subjects' competence with respect to a separate set of restrictions governing the system described above.

3.2.1. Subjects

The study involved a group of adult native speakers, one group of advanced adult L2 speakers and one group of adult near-native speakers of Polish.

The native group consisted of 27 speakers. Their average age was 34 years old, ranging from 22 to 62. The L2 speakers were classified into two groups, advanced and near-native, on both the impressionistic grounds and on the basis of a proficiency.

The advanced group consisted of 15 subjects. Their mean age was 29, ranging from 22 to 42. They all started learning Polish as adults, where the age of the first exposure to Polish varied from 19 to 30, and the length of exposure from 1 to 12 years. 5 of the subjects had taken formal instruction in Polish, while the others' instruction lasted from 2 months to 3 years. The near-native group consisted of 14 subjects. Their mean age was 30, ranging from 21 to 46. Their age of the first exposure to Polish varied from 19 to 25, and the length of exposure from 5 to 30 years. Three of the subjects had taken formal instruction in, while the others' instruction lasted from 1 to 2 years. All L2 subjects lived in Poland, temporarily or permanently, and were fully integrated within the Polish society.

In the following sections, I describe the experimental tasks. Each task description will be followed by a presentation of the results.

3.2.2. Semantic compatibility task

This task was designed to test the subjects' competence with respect to the distinctions in meaning among the three aspects. The contrasts that the subjects were presented with were of two types: one between the perfective and pofective aspects, and the other between perfective and completive aspects. These contrasts were devised to elicit knowledge that both pofective and completive aspects differ in interpretation from the perfective aspect.

The task was composed of 20 test and 10 filler items. Each item consisted of 2 pairs of sentences. For the test items, the first pair contained one sentence with a *po*-marked verb and one with the same verb but marked with an appropriate perfective preverb. The second pair contained sentences which were continuations of the sentences in the first pair. Examples are given in an Appendix. In each case, sentence a. was a natural/logical continuation of one of the sentences 1 and 2, while sentence b. was a natural/logical continuation of the other. The subjects' task was to pair up sentences 1 and 2 with sentences a. or b. on the basis of semantic compatibility. In the filler items 1 and 2 involved an identical verb but marked with different preverbs modifying the manner or means of execution of the eventuality in two distinct ways implied in sentences a. and b.

The verbs used for this task were achievements/accomplishments and states. The rationale behind choosing these two groups was that the interpretation of *po-* with these verbs is unambiguous. Structure [po-state] can only be pofective and mean 'for a while', while structure [po-accomplish./achiev.+NPpl] can only be completive and mean 'finish one after another'.

3.2.2.1. Semantic compatibility task - results

Table A presents results given as percentages of accurate matchings, i.e. correct interpretations for a targeted aspect (indicated in the ***'tested contrast'*** column, where the three contrasts are given as A - **pofective** vs. perfective, B - **completive** vs. perfective,

and C. perfective vs. perfective).[14] Univariate ANOVA comparisons were made between the numbers of correct responses for the targeted aspects in contrasts A, B or C.

TABLE A

Accuracy scores in the semantic compatibility task

tested contrast	advanced	near-native	control
A. **pofective**	**60.5%**	**74.7%**	**92.2%**
B. **completive**	**69.1%**	**83.2%**	**91.7%**
C. perfective	**80.7%**	**96.4%**	**98.9%**

The advanced group exhibits a weak distinction between the pofective and the perfective aspects (contrast A), a stronger distinction between the completive and the perfective aspects (contrast B), and high accuracy in distinguishing between perfective meanings (contrast C). Planned comparisons of the rates of correct responses on the three conditions (A vs. C, B vs. C, and A vs. B) shows that the advanced group behaves differently only on the pofective aspect with respect to perfective [$F(1,24)=10.81$, $p=0.003$] but not to the completive aspect with respect to perfective [$F(1,24)=3.35$, $p=0.08$], and there is no difference in behavior on the pofective and completive conditions [$F(1,24)=1.75$, $p=0.198$], suggesting that the advanced learners do not treat pofective and completive aspects as distinct from the perfective.

The behavior of the near-native group on all the contrasts is much more systematic. They identify the pofective aspect more regularly (contrast A), being almost 75% of the time accurate in matching this aspect with situations that are bounded but not telic and over 80% of the time choosing the correct distributive situation to match the completive aspect (contrast B) rather than the perfective one. Their responses for the perfective condition (contrast C) are highly accurate. While their responses on the completive and pofective conditions are not statistically different (A vs. B comparison, [$F(1,24)=1.64$, $p=0.212$]) the rates of correct responses on these contrasts both differ from the responses in the perfective condition (B vs. C comparison [$F(1,24)=4.22$, $p=0.051$] and A vs. C comparison [$F(1,24)=12.08$, $p=0.002$]). This suggests that for the near-native speakers the status of both the pofective and completive aspects is distinct from that of the perfective aspect.

So far we have observed that both advanced and the near-natives' identify the shades of meaning for the perfective aspect , and show no contrast in behavior on the completive and pofective conditions. The same observation characterizes the results from the control group. While they distinguish aspects in all contrasts, the pofective and completive aspects are not treated significantly differently (A vs. B comparison [$F(1,24)=0.02$, $p=0.883$], and the scores on both these conditions are significantly lower than the scores on the perfective condition (A vs. C comparison [$F(1,24)=4.19$, $p=0.051$] and B vs. C comparison [$F(1,24)=4.56$, $p=0.043$]).

The general goal of this task was to test the aspectual interpretations of Polish. However, it did not concern the interpretations ruled out on the basis of unfulfilled semantic feature selection requirements. This type of knowledge was targeted in the *end-*

[14] In the case of filler items there was no single target within a contrast but a response was classified as either correct or incorrect.

state compatibility task which tested the restrictions on interpretation resulting from the cardinality of the object NP.

3.2.3. End-state compatibility task

The *end-state compatibility* task was a multiple choice task in which the subjects were presented with a situation described by a verb marked with *po-* (in test items) or perfective preverb (in the filler items) and were required to select an appropriate end-state result that followed from that situation. The logical result of a given situation depended on the pofective, completive or perfective character of the VP, which had to be determined on the basis of cardinality of the object NP. The test consisted of 14 test items, 7 involving *po-* in its pofective interpretation, 7 involving *po-* in its completive interpretation, and 14 filler sentences involving verbs marked with perfective aspect preverbs. The test items contained activities. These verbs allowed for *po-* to yield both interpretations in appropriate cardinality and specificity of the object NP contexts. Each verb was used in both a completive context (where an object NP is [+PL][+SQA]) and a pofective context. The constructions tested were [po-V + NPsg], meaning 'to V NP for a while' and not 'to finish one after another', and [po-V + NPpl], meaning 'to finish one after another' and not 'to V NP for a while'. The perfective filler items used a random selection of verbs across all semantic groups and differed in the cardinality of the object NPs. Examples are shown in the Appedix.

3.2.3.1. End-state compatibility task - results

Table B presents results given as percentages of accurate responses, i.e. correct association between the targeted aspect (indicated in the ***'tested contrast'*** column) and the end-state result. For example, a '**completive** vs. pofective' contrast (B) requires an end-state implying a completion of plural sub-events, rather than an unfinished result. In the case of filler items the accuracy scores are, given for the correct answers.

TABLE B

Accuracy scores for the end-state compatibility task

tested contrast	**advanced**	**near-native**	**control**
A. **pofective**	**21.2%**	**48.9%**	**94.5%**
B. **completive**	**87.1%**	**74.2%**	**91.1%**
C. perfective	**74.1%**	**92.3%**	**98.6%**

The advanced group is systematically wrong with respect to the pofective vs. completive aspectual contrast A. Their low (21.2%) accuracy score for this condition indicates that they consistently and incorrectly associate a pofective situation with a finished result and an entirely affected object. This strongly supports the conclusions from the previous task that they do not distinguish between pofective and perfective, and the 'for a while' interpretation brought about by the pofective is not yet a part of their knowledge. Their performance on the completive (87.1%), contrast B, conditions is significantly different to the accuracy on the pofective condition (21.2%), contrast A, and the perfective (74%), contrast C (A vs. B comparison [$F(1,21)=68.65$, $p=0.0001$], A vs. C

comparison [F(1,21)=58.52, p=0.0001]). Interestingly, their scores on the completive and perfective conditions are only marginally different, B vs. C comparison [F(1,21)=4.04, p=0.576]. The question is whether this is a result of their knowledge of these two aspects or whether it suggests mere misinterpretation of the completive aspect as perfective in the completive condition.[15]

Although the near-native group appears better in assigning the appropriate end-state to the pofective situations (contrast A), their responses are clearly random. The 48.9% accuracy score for this condition might suggest that they do not recognize that a [po-V+NPsg] structure must mean 'to V NP for a while' and not 'to finish NP', but we return to the implications of this result in the discussion. Their score on the completive aspect (contrast B) is significantly higher (74.2%; A vs. B comparison [F(1,21)=6.11, p=0.022]). Their responses are highly accurate on the perfective condition (92.3%), which, unlike for the advanced group, significantly differs from the completive score (B vs. C comparison [F(1,21)=23.73, p=0.0001]. It seems clear that, unlike the advanced learners, they do distinguish between the completive and perfective aspects.

The control group performs as expected. Their scores on all conditions suggest that the distinctions in meaning are indeed identifiable on the basis of feature context, where a singular object for a *po*-marked activity verb yields a pofective interpretation (94.5%), while a plural and exhaustively specified in quantity object of the same verb yields a completive (or at least telic) interpretation (91.1%).

In the two tasks described so far, the *semantic compatibility* task and the *end-state compatibility* task, the focus was on the structures of verbs and their combinations with one of the preverbs. By associating the situations expressed through the use of one of these aspects with their logical semantic equivalents, either in the form of another situation or the end-result, subjects' competence in distinguishing these aspects and knowledge of impossible interpretations driven by the properties of the aspectually modified VPs was elicited. The third *grammaticality judgment* task addresses the issue of morphological composition and is designed to test the learners' knowledge of possible and impossible aspectual morphological structures.

3.2.4. Grammaticality judgment task

Morphological composition of aspects in Polish is constrained in two ways: by feature selection requirements and by syntactic domains. The completive aspect is the most specified for the feature context, selecting for a plural [+PL] and telic [+TELIC] VP; the pofective aspect selects for an atelic [-TELIC] VP but is not specified with respect to plurality; the perfective aspect shows no requirements for the features of the VP.

The *grammaticality judgment* task was designed to tap the speakers' intuitions with respect to the structural restrictions described above. The grammaticality/ungrammaticality of the test items was dependent on whether these requirements were satisfied or not. The test sentences were of two types: those in which violation resulted from unsatisfied feature selection (I will refer to this type as violation

[15] Note that, if the subjects treated completive as perfective, i.e. assign a wrong interpretation, their responses on the completive condition B would be still interpreted as correct leading to a high score comparable to the score on the perfective condition C.

1) and those in which the features provided were of the desired content but the grammatical vs. ungrammatical contrast resulted from compatibility vs. incompatibility of the class of features used for a tested aspectual structure (refered to as violation 2).

The judgments were elicited according to an acceptability scale ranging from 1 to 5, where 1 stands for unacceptable/impossible and 5 for a perfectly normal and grammatical Polish sentence.[16]

Violation 1 sentences involved composition of verbs with *po-*, where the resulting interpretation was that of the pofective aspect. This interpretation was possible for activities and states but impossible for achievements/accomplishments and 'plural achievements'.[17] The expected judgments were 'unacceptable/low acceptability' for achievements/accomplishments and 'plural achievements', and 'high' for activities and states. In the Appendix I provide an example of violation 1 and violation 2 from each tested verb group.

Violation 2 senetnces involved deriving an aspectual structure across syntactic domains. This type of derivation produces forms like [po-perf-√V]+$NP_{[+PL]}$ which are ungrammatical even though the feature combination ([+TELIC] of the perfective and [+PL] of the object) would, in principle, yield a completive interpretation. The ungrammaticality results from the incompatibility of the l-feature of the NP with the s-syntactic feature of the perfective preverb. The structure [po-perf-√V]+$NP_{[+PL]}$ was tested for achievements/accomplishments, 'plural achievements', and activities.

The (un)grammaticality contrast was a two-way contrast between an ungrammatical structure derived by means of s-syntactic and l-syntactic features *[po-perf-√V]+$NP_{[+PL]}$ vs. a grammatical s-syntactic composition of [po-perf-√V-freq], and a grammatical l-syntactic composition of [po-√V]+$NP_{[+PL][+SQA]}$ (the [+SQA] feature is required for activities only). These contrasts elicit the knowledge that the l-features ($NP_{[+PL][+SQA]}$ and V[+TELIC]) are only visible in an l-syntactic derivation and that s-features (frequentative [+PL] and perfective [+TELIC]) are only visible in an s-syntactic derivation. Verbs used for violation 2 sentences were the same as the ones used for violation 1 items, as were the sentence contexts. In the Appendix I show some examples.

Altogether, the task consisted of 39 test items plus 42 filler items. This large number of fillers was crucial because of the four-time repetition of a single verb for the test condition (one in violation 1 and three in violation 2). The filler sentences were designed to mimic the test sentences in such a way that their structure was apparently identical, i.e. [perf-V] as a counterpart of a [po-V] test structure and [perf-perf-V] as a counterpart of [po-perf-V] or [po-perf-V-freq] structures. There were 22 fillers of the [perf-V] form and 20 of the [perf-perf-V] form, half of each were ungrammatical. The ungrammaticality for the [perf-V] structures resulted in violation of certain compositional or interpretive requirements on the perfective composition in Polish. Some of the requirements and examples are listed in the Appendix.

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[16] To ensure an intuitive character of the responses and to control for a possible variation in the subjects' reading skills which could have affected the responses the test was carried out as an audio task. The subjects heard a recording of the instructions, both in Polish and in English, followed by an example and 4 practice sentences, all these were fillers, and then 81 test sentences.

[17] Recall that accomplishments/achievements marginally allowed for the pofective interpretation. Because contexts in which verbs like 'bake' where *po-bake* could mean 'to bake for a while without reaching the final state' cannot be ruled out, these structures may potentially be judged as passable. For this reason the judgments were elicited according to an acceptability scale rather than grammaticality.

3.2.4.1. Grammaticality judgment task - results

3.2.4.1.1. Violation 1 results

The contrasts between the ratings for the grammatical and ungrammatical sentences are statistically significant for all subject groups, as shown in Table C.

TABLE C
Mean acceptability values for violation 1

verb group	**advanced**	**near-native**	**control**
*achiev/accompl	3	2	1.6
*plural achiev	2.8	2.4	1.8
mean ungrammatical	***2.9***	***2.2***	***1.7***
activities	3.8	3.4	2.7
states	3.4	3.3	4
mean grammatical	***3.6***	***3.4***	***3.4***

Although the advanced group shows contrast between grammatical (average value = 3.6) vs. ungrammatical (average value =2.9) sentences, [$F(1,64)=4.63$, $p=0.035$], their scores for both converge around the mid value. This suggests that while the subjects accept the ungrammatical sentences to a lesser degree than the grammatical ones they do not conclusively reject them either. The results from the near-native group show a stronger contrast between grammatical (average value =3.4) and ungrammatical sentences (average value =2.2),[$F(1,64)=13.44$, $p<0.001$]. The control subjects manifest a clear-cut distinction between the grammatical and ungrammatical sentences [$F(1,64)=17.43$, $p<0.0001$].

3.2.4.1.2. Violation 2 results

The scores for two contrasts, s-syntactic and l-syntactic vs. ungrammatical structures, reveal varying levels of accuracy dependant on the domain of derivation. Table D presents results from the violation 2 sentences involving the contrast between the ungrammatical sentences with the *[po-perf-V]+NPpl structures and the grammatical s-syntactically derived [po-perf-V-freq] structures.

TABLE D
Mean ratings for violation 2 ungrammatical vs. grammatical s-syntactic structures
(*[po-perf-V]+NPpl vs. [po-perf-V-freq])

verb group	**advanced**		**near-native**		**control**	
	ungrammatical	*grammatical*	*ungrammatical*	*grammatical*	*ungrammatical*	*grammatical*

		s-syntactic		*s-syntactic*		*s-syntactic*
ach/acc.	2.8	3.1	2.6	2.9	1.2	4.3
pl ach.	3.6	4	3.7	3.7	1.3	4.3
activ.	3.1	2.8	2.5	2.8	1.3	3.8

Neither of the learner groups show a distinction between the grammaticality status of the two structures, the *[po-perf-V]+NPpl derived across domains and the s-syntactically derived [po-perf-V-freq], for any of the three verb groups, and the acceptance rates fall around the mid values. The controls clearly discriminate between the grammatical and ungrammatical structures, showing significant contrasts in all three verb groups.

Table E presents results from the violation 2 type sentences involving the grammaticality contrast between the ungrammatical sentences with the *[po-perf-V]+NPpl structures, and the grammatical l-syntactically derived [po-V]+NPpl structures.

TABLE E

Mean ratings for violation 2 ungrammatical vs. grammatical l-syntactic structures
(*[po-perf-V]+NPpl vs. [po-V]+NPpl)

verb group	**advanced**		**near-native**		**control**	
	ungrammatical	*grammatical l-syntactic*	*ungrammatical*	*grammatical l-syntactic*	*ungrammatical*	*grammatical l-syntactic*
acc/ach.	2.8	4.1	2.6	3.9	1.2	4.8
pl ach.	3.6	3.7	3.7	3.9	1.3	4
activ.	3.1	4	2.5	3.6	1.3	2.6

Generally speaking, these scores differ from the results for the previous contrast. The L2 groups show significant distinctions between the grammatical l-syntactic and ungrammatical structures in achievements/accomplishments and activities.[18] The controls make the expected distinction in (un)grammaticality, although, again they give low ratings to the grammatical sentences with activities. This suggests that the grammatical sentences involving activities were problematic altogether and the results for this group of verbs may not be fully reliable for any conclusive assessment of L2 subjects' grammar

3.2.4.2. Comparison of cross-syntactic, s- and l-syntactic structures

Overall, except for 'plural achievements', both L2 groups make a distinction between the ungrammatical structures derived across domains and the grammatical ones derived in l-syntax. This suggests that they detect the grammaticality, which must imply that in their grammar the l-structures have a different status to the cross-syntactic. However, no

[18] However, similarly to the results on the grammatical s-syntactic structures, here too, there is no significant difference in performance within 'plural achievement' sentences. The problem seems to lie in the inability of the subjects to detect ungrammaticality rather than accept grammatical sentences. This suggests that there is some property of these verbs (like plurality) that encourages higher values on the acceptability scale among the learners.

such contrast was found between cross- and s-syntactic structures. This suggests different status of l- and s-structures in the learners' competence and some problems in judging the grammaticality status for the grammatical s-structures and cross-syntactic structures. A comparison of mean values for the grammatical l- and s-structures is presented in Table F.

TABLE F

Mean values for violation 2: grammatical s-syntactic vs. l-syntactic structures
[po-perf-V-freq] vs. [po-V] + NPpl

verb group	***advanced***		***near-native***		***control***	
	grammatical s-syntactic	*grammatical l-syntactic*	*grammatical s-syntactic*	*grammatical l-syntactic*	*grammatical s-syntactic*	*grammatical l-syntactic*
ach/acc.	3.1	4.1	2.9	3.9	4.3	4.8
pl ach.	4	3.7	3.7	3.9	4.3	4
activ.	2.8	4	2.8	3.6	3.8	2.6

Except for activity verbs, which was in general anomalously high on ungrammatical and grammatical structures, the comparison of the scores indicates that, indeed, the L2 subjects are treating the grammatical l-syntactic and s-syntactic structures differently, where the latter are somewhat less accepted as grammatical (advanced group [$F(64,1)=5.64, p=0.02$]; near-native group [$F(64,1)=6.78, p=0.01$]). For the native speakers there is no such contrast (with the exception of activity verbs condition, which is again the lowest) [$F(64,1)= 1.04, p=0.31$]. Importantly, this lack of contrast for the controls was expected because, in principle, the s-syntactic and l-syntactic derivations are the same operations carried out in syntax by means of the same mechanism. Further, recall that all subject groups did make the expected grammaticality distinctions in the violation 1 condition. These involved sentences with only l-syntactic structures [po-V], which either satisfied feature selection for the pofective aspect by virtue of the properties of the base verb or not. This observation, firstly, confirms the above inference about a different status of the l-syntactic structures compared to the s-syntactic ones, and, secondly, suggests that the type of violation may have significantly affected the accuracy of responses. To see whether the status of the two types of violations differs, the values for ungrammatical sentences were compared between the two violation types.[19] The scores are presented in Table G.

TABLE G

Mean values for ungrammatical violation 1 vs. violation 2 sentences

	advanced		**near-native**		**control**	
	violation 1	*violation 2*	*violation 1*	*violation 2*	*violation 1*	*violation 2*
ungrammatical	2.9	3.2	2.2	3.1	1.7	1.3

[19] The comparison may be only made between ungrammatical structures because violation 1 did not contain grammatical counterparts of the Group A and B structures. Also, the comparison is impossible for Group C structures as this verb group was not tested in violation 1 in the ungrammatical condition.

ach/acc.&pl ach.

The results from the near-natives do confirm the speculation about violation 1 structures' acceptability being more accurately estimated than violation 2 structures. The near-native group is significantly more accurate [F(64,1)=8.5, p=0.005] at rejecting the ungrammatical l-structures of violation 1 than the structures involving the same verbs which were supplied with the required feature content but involving both an s-syntactic perfective prefix and an l-syntactic plural feature of the object NP (violation 2). In other words, violation 2 sentences, grammatical and ungrammatical, involved more complex structures containing two prefixes, *po-* and a perfective preverb, which was, most likely, the source of greater difficulty, as implied by the near-native's results. Neither advanced group nor controls show significant difference in the judgments between violation 1 and 2.

3.2.4.3. Filler sentences

The possibility of a scenario where the prefix doubling of violation 2 condition would influence the accuracy rates for the learners had been predicted in the test design. A set of filler sentences with verbs containing two perfective prefixes, was included to examine the status of double prefixation in the learners' grammar, outside of the issue of aspectual interpretation associated with *po-*.
The scores are shown in Table H which contrasts the structure types: grammatical vs. ungrammatical for [perf-V] (FI type) and grammatical vs. ungrammatical for [na-perf-V] vs. *[perf-na-V] (FII type).

TABLE H

Mean values on grammatical and ungrammatical filler sentences within violations

advanced		**near-native**		**control**	
FI	****FI***	***FI***	****FI***	***FI***	****FI***
4.3	3.3	4.7	2.8	5	1.4
FII	****FII***	***FII***	****FII***	***FII***	****FII***
3.2	2.7	2.9	2.5	3.4	1.3

The near-native group shows a contrast between the grammatical and ungrammatical FI structures, the grammatical ones being assigned values approaching the maximum on the acceptability scale, as in the control group. This suggests not only that they perceive a grammaticality contrast but also that the ungrammatical structures are indeed truly of lower acceptability for these subjects.

The grammaticality contrast within the FII condition is rather intriguing. The near-natives make no significant distinction between the two [F(64,1)=2.10, p = 0.1518], while the controls do make the expected distinction, they accept the grammatical structures with double prefixation at a lower rate [F(64,1)=54.39, p < 0.0001]. Importantly, all three groups score significantly higher on FI type than FII type

grammatical sentences. This parallels the configuration of scores between violation 1 (po-√V) structures vs. violation 2 (po-perf-√V-freq) structures (Table A, above), suggesting that the double prefixation was indeed problematic for the L2 learners, as well as controls[20], and negatively biased the results on the test items.

In total, the observations made above, particularly for the near-native subjects lead to the following conjecture. On the one hand, the learners do not distinguish between s-syntactic and cross-syntactic structures or between the ungrammatical and grammatical double (perfective) prefixation type structures. All of these structures involve, according to the theoretical analysis presented above in section 2.0. s-features, which further suggests that they do not distinguish among s-structures. On the other hand, they do show a contrast between l-synatctic and s-syntactic structures. What may be the case at hand is that near-native competence includes both s- and l-features, and a contrast between them, but does not have the constraint on cross-syntactic derivations, i.e. involving both feature classes, or the constraints on the combinations of s-features, i.e. involving double-prefixation cases. However, as was in fact implied by the results from controls for the structures contrasting in domains of derivation, l- and s-syntactic, and in constraints on perfective affixation, the latter may be a reflection of another type of knowledge than that required for the mapping of aspectual interpretations.

4.0. Discussion

4.1. Native speakers' knowledge of Polish aspects

The system manifested by the native Polish-speaking adults reflects fully developed knowledge of aspectual interactions, resulting in fixed and determinate interpretations. The system operates with a set of lexical and syntactic formal features contributed by means of elements introduced in the computation of the individual aspects. These aspects, however, seem to have a different status within the system, as the perfective and imperfective aspects stand in contrast to the pofective and completive aspects. This dichotomy is most likely a result of two factors. The first factor is the level of complexity involved in generating interpretations, where the perfective/imperfective require just one element to be aspectually defined, while the pofective/completive aspects involve computation of a number of elements. The second factor is how categorical the choice between possible interpretations is. The perfective vs. imperfective opposition is unequivocally determined by presence vs. absence of a perfective preverb, while the pofective and completive aspects both provide potential interpretations for the same verb or the same preverb or the same object type. It is the aggregation of these components that determines an ultimate outcome. This effect of a kind of a hierarchical architecture of interpretations is very interesting because the system seems like a rigid base of points of reference such as verbs, preverbs, objects, syntactic domains, which through their internal properties and requirements give interpretive options. These options are determinable to varied degrees depending on how many of the points of reference are involved in a derivation.

[20] Note that for derivation types, i.e. l- vs. s-syntactic, the controls showed no contrast, while they do so for the fillers with one- vs. double-preverb structures. This is consistent with the analysis that the former contrast was between two structures of the same status in native grammar, while the latter contrast was between two grammatical structures whose acceptibility status is different.

This in fact is not really surprising. Recall that one of the differences between the pofective/completeve and the perfective preverbs is the degree to which these preverbs require the VP they attach to to be specified. Perfective aspect has virtually no requirements and can attach to a verb of any aspectual class complemented by an NP of nonspecific cardinality.[21] What is more, these perfective structures always imply one type of event, always single and finished, regardless of the verb classes and objects. In consequence the sole requirement of the perfective VPs is compatibility with time-span rather than durative adverbials. The pofective/completive preverb *po-* is different. When functioning as a pofective aspectual marker, it requires the VP to be atelic but shows no requirement with respect to the object. As a completive aspectual marker, on the other hand, it requires a telic VP and a plural object. This hierarchy of specification of the context in which the three aspects may be yielded reflects the hierarchy of availability of these interpretations among the native speakers. Such convergence of the experimental test results and the proposed theoretical account validates the theory of aspectual interactions in Polish, since it provides adequate in predicting possible interpretive patterns which result from the suggested mental representations.

The implications of the native subjects' responses for validity of the theoretical account go further. *Po-* was analyzed as a multifunctional element. Although not all the properties of *po-* as a multifunctional prefix were tested in this study, those that were provide sufficient evidence to uphold its proposed multifunctional character. The two aspectual interpretations that are possible for the preverb *po-* are conditioned by required context in which these aspects may be yielded. Knowledge of these contexts and the resulting aspects, achieved through the properties of the verb and the object, was elicited in three of the tests. Furthermore, knowledge of impossibility of aspectual interpretation of pofective/completive due to unfulfilled selectional requirements and knowledge of its multifunctional nature (it being able to attach to both l-syntactic and s-syntactic derivations) were tested in the *grammaticality judgment* task. Furthermore, this last property also required that the learners detect ungrammaticality of the structures that were illicitly derived across syntactic domains of s- and l-syntax, i.e. structures whose composition involved both l- and s-features. The native speakers gave responses confirming this distinction, accepting the l-structures and s-structures but rejecting the cross-syntactic structures. In my opinion, these results validate the account in two ways. First, they confirm that such a distinction exists, i.e. that certain compositions are possible others are not, despite the fact that logically and conceptually both types of structures carry equivalent potential for interpretations. Second, the native speakers accept the grammatical l-structures and s-structures at the same rate, in other words, there is no difference between the classes of derivation in the mental representation for these structures. Under the current assumption that these structures are indeed results of composition within two separate domains of syntax, l-syntax and s-syntax, and that these derivations must belong in either one domain or the other but not in both, what we expect from experimental results is a contrast between one-domain vs. two-domain constructions but no contrast between grammatical one-domain constructions, even if the domain is not the same. Both l-structures and s-structures are derivations of syntax, therefore they should have the same status in the grammar. The judgments of native speakers confirm these predictions, and hence, they constitute indirect evidence for the original assumption

[21] This concerns the perfective aspectual interpretation. As was noted above, lexical selection resulting in different meanings within the perfective aspect is quite complex.

that the source of the grammaticality contrast between one-domain and two-domain forms lies in the suggested contrast between the syntactic vs. lexical class of features involved in the derivations. Overall, the adult control group's behavior suggests that all the tested properties of aspects are represented in the native grammar of Polish.

4.2. Near-native system

The responses from the near-native group reveal not a stable system of knowledge but a system which nevertheless appears as complex as the native one. Overall, all preverbs are represented in the near-native grammar and define internal temporal constituency of a situation i.e. are markers of distinct aspects. Crucially, preverbs are not a homogenous group, and, consequently, the preverb *po-* has a status distinct from the rest of the preverbs. Preverbs contribute different syntactic and lexical properties and not only idiosyncratic lexical meanings, like means or manner typical of perfective preverbs. They are components of structure-building and their contribution depends on and is restricted by other required elements of aspectual composition. While for the advanced speakers cardinality of objects or (un)boundedness are merely auxiliary meanings of the perfective aspect, in the system of the near-natives these constitute distinctive aspectual features. Telicity is a property of the perfective aspect, as are all the lexical shades of meaning related to perfective preverbs, boundedness of the pofective, plurality of the completive etc. All these properties, along with other elements of VPs, determine the final aspectual interpretations, and all the tested interpretations are part of the system.

As was observed for the native speakers, also within the near-native system the aspects seem to be hierarchically ordered with respect to how transparent their interpretations are, reflecting feature context requirements for each aspect. The perfective is easily determined, while the pofective and completive aspects seem more taxing. Although the source of this contrast ma differ for natve speakers, the results reflected the near-natives' use of the elements of aspectual computations may be accounted for in terms of interpretive operations of native grammar. The near-native grammar seemed to suffer at the level of mapping from aspectual composition to meanings, which was not categorical and resulted in varying levels of success in determining the final aspectual interpretations (as was indicated from the results on the end-state task). Another point that needs to be addressed in the context of the different rates of accuracy mentioned above, is how they should be interpreted with respect to the overall near-native competence. Assuming that determinacy of responses is a major criterion in choosing between complete or divergent grammar, the near-natives' variability of behavior would suggest their system of knowledge to be incomplete. However, it has been demonstrated that on certain tasks the subjects' performance is not just determinate but also native-like, suggesting that the required mental representations are available. None of the interpretive elements appears to be missing from the system. Rather, the problem seems to lie in the mapping from the computations that these elements are part of to their interpretations.

As a matter of fact, a phenomenon described as a "mapping problem" has been observed in L2 acquisition research in other domains of language. Cases of variability in suppliance of verbal or nominal inflectional morphology by learners who, at the same time, demonstrate knowledge of abstract syntactic properties like case requirements on subjects or verb placement, have been accounted for in theories like the *missing (surface) inflection hypothesis* (MSIH) (Prévost & White 2000; Lardiere 1998; Haznedar &

Schwartz, 1997; Haznedar 2001; Ionin & Wexler, to appear) or the *failed functional feature hypothesis* (FFH) (Hawkins & Chan 1997, Liszka 2000, Hawkins 2000). Specifically, MSIH proposes that variability in use of inflectional morphology, or its absence, is not a reflection of grammatical competence but rather a result of a breakdown in the relationship between the unimpaired abstract functional domain and its incomplete representation in inflectional morphology.

The nature of the insufficiencies manifested by the near-natives acquiring the Polish aspects seems to be best described as a "mapping problem", i.e. a problem within the computational domain, rather than a problem of unavailable representations. In the spirit of the MSIH, absence of consistently correct interpretations (or surface manifestations) is not taken as evidence for the absence of knowledge of the elements that build these interpretations. In other words, I believe that drawing conclusions uniquely from learners' linguistic performance would underrepresent their linguistic competence

However, as much as it seems appropriate not to equate variability in linguistic behavior with the lack of underlying knowledge when there is evidence of this knowledge in surface manifestations, the conclusions must be different in cases when the linguistic behavior is ambiguous, i.e. provides evidence neither for nor against the existence of underlying knowledge. In Sorace's account such behavior implies an incomplete grammar, which, by lacking a property is unable to assess target structures in a determinate fashion. The near-natives' performance on the *grammaticality judgment* task with respect to the Polish s-syntactic grammatical and ungrammatical aspectual structures was of this type. Their responses on these constructions must be interpreted in the context of the entire system.

Knowledge of the multifunctionality of *po-*, and associated constraints of aspectual composition driven by a distinction between two domains of syntax, was required in order to make appropriate assessment of sentences of the *grammaticality judgment* task. For this task it was not enough to have (i) the representations of features involved in the aspectual composition but it was also crucial to have (ii) the distinction between the l- and s-features and the requirement that the pofective and completive aspects select for either s-syntactic or l-syntactic feature composition but not a cross-syntactic one. While the near-native subjects are capable of distinguishing between grammatical and ungrammatical l-syntactic structures and reject the ungrammatical ones resulting from feature incompatibility (i.e. they manifest knowledge in (i) above), it is difficult to decide whether they distinguish between the classes of features. Even though there was a contrast between their acceptability rates for the l- vs. s-syntactic grammatical structures, the subjects were unable to distinguish between the grammatical s-structures and the ungrammatical cross-syntactic structures. The contrast between the l- and s-structures could simply be a contrast between interpretable structures (l-structures) and those that they were unable to interpret. It appears that in their analysis the interpretable structures were those whose eventuality was determined in the Event Phrase (EP) but not higher. Hence all the l-structures, those involving *po-* and perfective preverbs (of the FI type filler sentences), were interpreted and correctly assessed, but those that involved the s-syntactic positions and s-syntactic computations seem to have no representation in their grammar. If this is the case, then one is to conclude that the grammar of near-natives does

not provide the means of aspectual composition/interpretation above EP, i.e. it is incomplete.[22]

The evidence available from this study suggests that there is some kind of breakdown in interpretation resulting from computations above the projection of EP, the most that can be concluded is that the near-natives' interpretive competence with respect to aspects is native-like in the l-syntactic domain but not within the s-syntactic one. Consequently, if *po-* is a multifunctional element, generated within both domains of syntax, then the near-native grammar has either an incomplete representation of this prefix or an incomplete representation of the phrase structure in which *po-* would be generated for s-syntactic composition. Given the evidence from the double perfective preverb test sentences in the *grammaticality judgment* task, which the near-natives were unable to assess, it appears that the problem of interpretation is more structural than lexical or semantic. Aspectual nterpretations beyond the boundary between the l- and s-syntax, EP, are unavailable. On the other, hand, all the faucets of multifunctionality of *po-* seem to have been acquired by the near-natives, i.e. interpretive distinctions, selectional requirements and its semantic character.

If the nature of the incompleteness of the near-native system is indeed structural, a reliable theory of aspectual composition in the s-syntactic domain of Polish would be crucial, in order to establish what elements of the structure need to be acquired. Such a theory, to my knowledge, is still unavailable.

4.3. Advanced system

The advanced learners' behavior reflects a very underdeveloped system which generates responses on the basis of a binary aspectual contrast between perfective vs. imperfective disitnction. This opposition is marked by presence vs. absence of preverbs. Preverbs constitute a homogenous set of perfective aspectual markers which define finished eventualities and carry individual meanings. Some imply manner or means of execution of situations, and some, like preverb *po-*, plurality or boundedness. It appears that (a)telicity is the only semantically salient property in their aspectual system, while notions like (un)boundedness, cardinality, specified quantity of the object etc., are lexical meanings of verb phrases. Pofective and completive interpretations seem to be yet two other interpretive options of the perfective aspect. Compared to the target grammar, this learner system differs in terms of its content and the level of analysis for the purposes of interpretation, the content being two contrasting results (finished vs. unfinished) and the level of analysis being confined between them, i.e. variations in meaning within the bounds of perfective and imperfective results. This rather unrefined system does not show formal restrictions in terms of which of the preverb properties may combine and yield grammatical/acceptable aspectual structures in the manner that was tested in this study, i.e. by feature selection. The composition of an interpretation reflects the sum of a perfective preverb and its meaning. Such an interpretive system does not distinguish on the grounds of features, which generate grammatically distinct structures, but on the grounds of the sum of lexical information. Therefore, it is the lexical distinctions rather

[22] . This claim would only be substantiated if the subjects were tested for their ability not only to judge the acceptability but, crucially, to assign interpretations to s-structures (this knowledge could be elicited in tests like semantic compatibility, end-state compatibility or picture selection tasks).

than syntactic-semantic ones that are involved in deriving meanings of perfective preverbs in the advanced grammar.

Since the system operates with lexical terms, it is capable of assigning interpretations to the grammatical l-syntactic structures but offers no criteria to assess the s-syntactic and the illicit across-domain structures involving semantic features of both l- and s-syntactic types. However, although their inability to make judgments about s-syntactic constructions may resemble the state of grammar of near-native speakers, I think the basis for the lack of s-syntactic distinctions for the advanced group is different. Their behavior on all the tasks suggests that they operate with a different sort of system, not a system of features and structural constraints of composition but a system of combinations of meaning. This looks more like purely lexical and not even l-syntactic knowledge. It would seem wrong to interpret their competence in terms of the distinction between l- and s-syntactic domains.

In Sorace's terminology, the advanced speakers' knowledge of aspects in Polish must be looked upon as a separate and divergent system of knowledge. Moreover, this system is not just divergent but also it is severely impoverished, i.e. incomplete. As it is not clear whether the classification she proposes allows for these two definitions applied to a single system, I will return to this issue in the next section and suggest why defining a single grammar as either incomplete or divergent but not both is inadequate.

4.4. Divergent vs. incomplete domains of knowledge

From the above discussion there emerges a certain configuration of the types of knowledge within the system of aspects, i.e. knowledge of the lexical, semantic and morpho-syntactic domains. The competence in these domains differs between the learner groups and it differs for each learner group between the domains.

At the **lexical level**, involving meanings, both advanced and near-native speakers manifest a complete range of lexical information carried by the Polish preverbs, i.e. both groups allow for different meanings to be contributed by individual preverbs. What differs between these learners is the character of this contribution of meaning. While for the near-natives the meaning of a preverb appears to be one part in a composition of meaning of a situation, i.e. a preverb is one of the elements in the computation of meaning, for the advanced learners preverbs seem to be elements defining a situation. They demarcate a point, the onset or the end, of a situation as well as a manner in which this point is achieved within the situation, i.e. they mark an end of a *plural* situation, mark an end of a *process*, pick an *interval*, etc. In this sense, in the advanced grammar, preverbs change meaning rather than contribute meaning, as they do in the native and, in fact, near-native grammars. While in the target grammar the lexical level is the domain where the initial phase of the computation takes place. i.e. computation of meaning, the advanced grammar carries out some kind of computation in the lexical domain that involves meaning and certain of the aspectual properties (most probably telicity). The advanced learners have knowledge of preverbs which is divergent from native knowledge, as the role of preverbs in this grammar does not exactly correspond to the role of preverbs in the target system. Overall, while the near-native system has complete native-like representation of preverbs in meaning and function, the advanced grammar is a complete system of lexical meanings of preverbs with divergent functions.

At the **semantic level** the meanings described above are encoded and contributed by features. The computations of aspectual interpretations are carried out by means of feature composition. The near-native speakers seem to operate with a complete inventory of structurally relevant semantic features, as the aspectual composition in their grammar is restricted by feature selection and feature composition[23]. The advanced learners, on the other hand, seem to operate with one property of preverbs, telicity. Properties like plurality and boundedness are just extra meanings, and do not seem to impose any restrictions or requirements on the ultimate computations of meanings, and therefore are not structurally relevant in the sense that semantic features are. Even the feature status of telicity itself is rather dubious considering that the [-TELIC] feature of states or activities does not seem relevant in the subjects' interpretation of eventualities (all that matters for them are the perfective preverbs). I will go further and suggest that the advanced grammar cannot be qualitatively compared to the native system. The interpretations elicited in the present study must have been yielded by means other than posited for the aspectual composition system of Polish. In particular, the advanced system yields meanings but not grammatical aspects. Recall that in the discussion of the lexical level, above, it was suggested that the advanced learners manifest a complete range of meanings associated with Polish preverbs, including the pofective and completive meanings of *po-*. The way this statement must be understood is that they allow for a preverb to mark two points in an eventuality/select an interval, i.e. allow for 'pofective' meaning, or mark end point on plural eventualities, i.e. allow for 'completive' meaning, but this is not equivalent to distinguishing between the pofective and completive aspects. These aspectual interpretations could only be possible as a result of feature composition, but the means for such composition do not seem to be available in the advanced grammar. In fact, I believe this is where a possible characterization of the advanced learner grammar in terms of completeness or divergence stops being applicable. Because of the divergence in the initial component of the system, the lexical domain, the rest of the system will necessarily be different, regardless of what interpretations the subjects allow or disallow, and regardless of the nature of their behavior, determinate or not.

The last domain of knowledge of the aspectual system, the **morpho-syntactic** realization of the semantic and lexical components, is, in a sense, entailed by the knowledge of the two components. The composition of syntactic elements like preverbs, verbs and objects is a composition of the semantic and lexical properties, i.e. features. However, while the near-native knowledge of lexical-semantic interface seems in place, it is not the case that the syntactic computations or the syntax-semantics interface are complete. The mapping from feature composition, in essence, morpho-syntactic composition, in the near-native system is not entirely determined. In terms of Sorace's classification, indeterminate judgments are indicative of incomplete grammar, yet, the near-native judgments, paradoxically, arise from within a complete system. As I suggested above in section 5.3., I do not take this failure to imply breakdown in the system but some partial insufficiency of the computational capacity.

However, a much more severe breakdown in the near-native system surfaces in the domain of syntax. The near-natives' inability to interpret compositions involving structure above the boundary between l-syntax and s-syntax, EP, suggests a state of grammar with no interpretive resources, i.e. necessary structure, within s-syntax. The

[23] By semantic features that are syntactically relevant I consider those that not only contribute meaning but define and constrain internal structure of events.

syntax-semantics level of aspectual analysis points to elements missing in the near-native grammar, implicating an incomplete type of competence at the structural level.

In sum, the above distinction among the three domains of knowledge strongly suggests that each of them must be considered separately when defining competence. While divergence or incompleteness at the lowest levels of analysis may most likely affect knowledge at the higher levels, the opposite is not necessarily the case. Hence, for a reliable and most representative description and classification of non-native grammar, one must, if possible, access all relevant levels of competence. In turn, absence of knowledge in one domain must be accounted for from the perspective of the entire system. Recall, that when addressing the knowledge of the advanced learners, the present investigation remained limited to those preverbs which behave in a canonical 'perfective' manner. Their system would have to be classified as "incomplete" at worst, even when allowing for some likely computational shortcomings. However, their grammar, as has been demonstrated, is so far removed from the target system that calling it incomplete is a significant understatement. It is only the lexical domain of knowledge of preverb meanings that bears characteristics of completeness, and even then it diverges qualitatively with respect to the function of preverbs. Conversely, viewing their competence entirely from the higher level of analysis would suggest a failure in acquisition of a system, implying that the advanced grammar encodes a purely binary distinction between perfective and imperfective aspects. This would not be an accurate description of their competence either. Note that even at the lowest lexical level of interpretation a very intricate computational mechanism must be already in place. This is because many of the preverbs or possible meanings they contribute are restricted with respect to the verb and object properties. Recall that most of the filler items of all the tests, involving perfective preverbs, did not only elicit knowledge of telicity yielded by these preverbs but required knowledge of their lexical meanings which must be combined with the properties of the verbs and sometimes NP objects[24]. The advanced group's accuracy on these items was high, suggesting that this level of computation of meaning is represented in the advanced grammar.

This last observation leads to a more general issue of acquirability of preverbs and aspects. Acquisition of Slavic aspect has always been known for being extremely problematic for L2 learners. Slabakova (2002) takes up this fact in an attempt to reveal reasons behind this problem. She examines the knowledge of the perfective preverbs among English speakers acquiring Russian (a language of similar complexity with respect to aspectual interpretations as Polish). She suggests, that the source of difficulty in acquiring the Russian aspect lies in the nature of the preverbs, which are both inflectional and derivational, i.e. they carry grammatical information in form of telicity and contribute new meanings. While the grammatical property of preverbs is the same for all, the lexical meanings differ. Thus, she concludes, "...each prefix-root combination has to be learned on a one-by-one basis". While this observation adequately describes the problem, it seems to me that the present analysis of the acquisition of the Polish aspects identifies another level of complexity of the acquisition task, which perhaps, extends to other Slavic languages.[25] In consideration of the analysis of advanced and near-native states of competence, it appears that there are three major thresholds in the acquisition sequence of the aspectual system. The first, being the lexical domain, where mapping

[24] Kipka (1998) gives a very thorough review of the types of combinations of these properties in Polish.
[25] I am aware that the Polish system shares many but not all aspectual properties with other Slavic systems.

from morphological form to interpretation is highly idiosyncratic, and, therefore, must be approached on a "one-by-one basis", as suggested by Slabakova, although some computational generalizable mechanism must already be in place. The second is the domain of semantic composition of features, which entails knowledge of grammatical aspects, like the Polish pofective, completive and perfective. The third, is the combination of the aspects themselves, where the level of analysis expands beyond the lexical domain of syntactic structure. The mapping from morphological form to interpretation is most likely uniform at all levels but the complexity of the information carried by the elements of the composition increases, while the nature of the constraints on the composition becomes more regular and productive.

It has been shown in this study that progression from one level of complexity to another is possible. Because the near-native system is in most respects like the target system, the necessary changes in the grammar of the advanced speakers must presumably follow. In fact, in my opinion, a number of signs of change can already be observed. Firstly, semantic properties like boundedness, plurality and specificity, used as idiosyncratic properties of preverbs, are already a part of the interpretive system. It appears that these properties will evolve into semantic features which will compute new aspectual contrasts, like pofective and completive, for example. The use of these properties in determining meaning was already observable in the *semantic compatibility* task, in which the boundedness of the pofective and the plurality of the completive aspects guided the subjects' responses. The big question remains, with respect to the grammar of the near-natives of the present study, namely, if their system is structurally incomplete at the s-syntactic level providing no resources for compositions among the aspects, is one to conclude that this level of interpretation may never be represented in the learner grammar? There is no possible way to answer this question at present, but a thorough investigation aimed at these properties might reveal some clues. Research of this kind would have to work with a very strong theory of aspectual structure above EP and test this knowledge among speakers whose native-like quality of Polish would have to be very diligently ascertained.

4.5. Summing up and concluding remarks

The present study has investigated the nature of near-native competence in terms of its completeness or divergence with respect to the target grammar. The object of the investigation was the system of aspectual interactions in Polish as the target language. The idea behind looking at a system rather than some single property, was to achieve an approximation of complexity of language as a whole, where individual elements of the system can be addressed separately but must be analyzed with respect to the other elements and, ultimately, with respect to the entire system. This approach has turned out particularly useful in the final attempt to define the two non-native systems of grammar. The elements of these systems, representing distinct types of knowledge, showed different characteristics with respect to divergence and completeness. It has been suggested that the terminology proposed by Sorace is effective when applied a given sub-domain, and should not be generalized over the entire grammar.

I believe, that this study has provided some further evidence for a view of the structure of aspect as a composition of lexical, semantic and syntactic information, and has shown that the projection of Polish aspectual structure onto the the two domains of

syntax, l-syntax and s-syntax, accounts for the descriptive language facts, predicts linguistic behavior of native speakers, and allows one to identify the domains of knowledge in which certain learnability problems may arise for L2 learners. However, for a more informative and reliable identification of the loci of these problems and a better insight into their nature, a more elaborate and formalized account of the aspectual system is crucial. In particular, one needs a theory of the lowest level (lexical within l-syntax) of composition and the properties of its components, i.e. the preverbs, as well as a theory of the highest level (s-syntactic), i.e. a theory of aspectual structure and interpretation above EP.

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perf-olden table that (it) looks interestingly
I will make the table look older to make it look interesting.

The ungrammaticality for the [perf-perf-V] structures was due to the wrong order of the preverbs. Polish has a restriction concerning preverb doubling. In fact, apart from *po-*, only one other preverb, accumulative *na-*, allows for such doubling (Kipka, 1990). This is important with respect to the test items of violation 2. The rejection of the ungrammatical [po-perf-√V]+NP_{pl} structures could be driven by a hypothesis of no multiple prefixation in Polish. The results for this set of fillers should either confirm or discount such a possibility. The filler sentences of this type included [na-perf-V] structures. The ungrammatical items had the order of the preverbs switched as is shown in the examples below.[26]

(19) Ojciec na-przy-wozil dzieciom wiele prezentow.
Father accum-perf-brought many presents for children.

(20) *Przy-na-wozil dzieciom wiele prezentow.
(He) perf-accum-brought many presents for children.

(7) Agata poplacila przez chwile rachunek
Agata po-payed a bill for a while.

In (7) a *po*-V combination is unacceptable when followed by a singular NP object, which is only compatible with a pofective aspect interpretation, and by an adverbial expression *przez chwile* 'for a while'. Importantly, the adverb is fully compatible with the pofective aspect but the pofective aspect is incompatible with the [+TELIC] feature of the base verb. This is the source of ungrammaticality targeted in the violation 1 test items.

(8) Dzieci posmiecily przez chwile swoj pokoj.
Children po-littered their room for a while.

In (8), the ungrammaticality results from the combination of *po-* as a marker of the pofective aspect with 'plural achievements'. These are inherently [+PL] and [+TELIC], hence the only interpretation possible is completive.

(9) Janek popil czerwonego wina.
Janek po-drank some red wine.

(10) Po kolacji pobolal mnie troche brzuch.
After supper I had a stomach ache for a while/a little.

[26] Because *po-*, the only other morpheme that allows for preverb doubling, appears in each of the test items I decided to use only prefix *na-* for these filler items.

Both sentences (9) and (10) are grammatical. The activity verb in (9) is followed by a singular NP object and the state verb in (10) combined with *po-* both obtain pofective interpretation and form fully acceptable Polish sentences.

(11) Stopniowo Agata pozaplacala rachunki za mieszkanie.
Gradually Agata po-perf-payed-freq the apartment bills.

In (11) the verb structure [po-perf-V-freq] is an s-syntactic composition with a completive interpretation. The features are supplied by the s-syntactic markers, perfective [+TELIC] and frequentative [+PL] morphemes, hence the sentence is fully grammatical.[27]

(12) Agata poplacila rachunki za mieszkanie.
Agata po-payed the apartment bills.

In (12) the verb structure [po-V]+NPpl is an l-syntactic composition with a completive interpretation. The l-features are supplied by the verb root [+TELIC] and the object NP [+PL], and the sentence is fully grammatical. The last example (14) contains an ungrammatical aspectual structure.

(14) Stopniowo Agata pozaplacila rachunki za mieszkanie.
Gradually Agata po-perf-payed the apartment bills.

Hypothetically, the verb of a [po-perf-V]+NPpl form as in (14) would, too, obtain a completive meaning. However, because of the incompatibility of the s-syntactic [+TELIC] feature and the l-syntactic [+PL] feature, the sentence is ruled out.

[27] Even though the [+PL] feature is s-syntactically provided by the frequentative marker, I decided to use plural objects for reasons of semantic plausibility. A singular object would mean that the same thing was affected each time the situation occurred, i.e. the same bill would be paid on a number of occasions, the same ship sunk etc.