BOUNDARY EXPRESSION IN VERBS AND GESTURE: DIFFERENCES BETWEEN L1 AND L2 SPEAKERS[1]

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The notion of event boundaries is closely connected with the category of aspect. Aspectual forms show different views of "internal temporal consistuency of a situation" (Comrie 1976:3) and, consequently, construals of events in different ways. Recently scholars have started looking into the core of the aspectual distinction through multimodality, considering hand gestures. On the basis of Russian and French oral narratives produced by native speakers, we conducted a study, testing our hypothesis about the existence of direct correlation between the expression of boundaries in verbs and in gestures. Means of boundary expression regarded for Russian on the verbal level were perfective (soveršennyj vid) and imperfective (nesoveršennyj vid) verbs, and for French—passé composé and imparfait. On the kinesthetic level we distinguished between bounded gestures (i.e., involving a pulse of movement) and unbounded gestures (i.e., smooth by nature). While for French L1 we found a direct correlation between gesture boundary schemas and aspectual forms, the results for Russian L1 did not support our hypothesis. With a view to these differences between the two languages, we studied the boundedness correlation in oral narratives produced by Russians speaking French as L2 (CEFR levels B2-C1). The comparison between L1 and L2 narratives revealed a certain change of gestural patterns: the Russian speakers of French L2 used almost the same number of unbounded and bounded gestures with the perfective verb forms and more unbounded gestures with the imperfective forms, thus moving closer towards French L1 speakers' verb-gesture patterns. The use of gestures can be accounted for by a series of noise factors related to language peculiarities, the cognitive mechanism of profiling and challenges of speaking in L2.

Key words: grammatical aspect, event construal, Russian, French L2, embodiment, gesture studies

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ВЫРАЖЕНИЕ ПРЕДЕЛЬНОСТИ В ГЛАГОЛАХ И ЖЕСТАХ: РАЗЛИЧИЯ МЕЖДУ ГОВОРЯЩИМИ НА РОДНОМ И НА ИНОСТРАННОМ ЯЗЫКЕ

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1. Introduction

The notion of aspect has long been controversial in linguistics. Aspectual forms are believed to express different ways of construing events [Langacker 2008], conveying a whole series of semantical components: the distribution of an event in time, the viewpoint of an event from "inside" or from "outside", integrity or processuality, as well as boundedness of events [Bondarko 1971]; [Comrie 1976]; [Maslov 2004].

In the present study we consider the way boundedness comes through in the Russian and French aspectual systems. The two systems have points of convergence as well as differences. In general, both systems are traditionally regarded as an opposition between perfective and imperfective forms. However, in Russian perfectivity and imperfectivity are expressed on the grammatical level in the infinitive of verbs and go through the whole Russian verbal paradigm, while in French the two opposed forms exist for each verb in terms of different past tenses for the verb.

Aspect in Russian is not a purely grammatical category. Aspectual differences are also expressed at the lexical level as the meaning of the verbs in context can carry certain characteristics that are traditionally related to boundedness [Padučeva 2010]. Although French aspect is considered to be a grammatical category, lexical features are sometimes also taken into account [Garey 1957].

Recently, researchers have started considering aspect in relation to co-speech gestures (e.g. [Becker et al. 2011]; [Duncan 2002]; [Parrill et al. 2013]). Building on [McNeill's 1992] idea of the growth point as a starting point for an idea that further unfolds into complexes of gestures and language forms, scholars usually analyze gestures that are synchronized in time with verbs. The most important result is the proof that aspectuality can be studied not only from the grammatical point of view, but as a broader cognitive phenomenon crucial for the construal of events.

The present study is the continuation of our L1 research based on the analysis of the narratives produced by Russian and French L1 speakers. At the L1 stage we considered the correlation between aspectual verb forms and some of the characteristics

of the co-verb gestures. On the verbal level, perfective and imperfective verbs were opposed, while on the kinesthetic level we investigated gestures that involved a clear pulse of effort (bounded gestures) and those with smooth movements, exhibiting controlled movement (unbounded gestures) [Laban, Lawrence 1974]. We hypothesized that perfective verb forms would more often co-occur (i.e. fully or partially synchronize) with bounded gestures (reflecting an event as a whole, "in one go"), while imperfective verb forms—with the unbounded ones (relating to the sustained focus on the internal constituency of the event).

The hypothesis was tested on oral narratives about personal experience produced by native speakers of Russian and French. The quantitative results of the French L1 narratives confirmed the initial hypothesis: 105 imperfective verbs out of 177 were used with unbounded gestures, 107 out of 150 perfective verbs—with bounded gestures. The difference is significant for both, imperfective ($X^2 = 17.89$, df = 1, $p < 0.01$, $p = 0.3$) and perfective verbs ($X^2 = 27.31$, df = 1, $p < 0.01$). The Russian speakers used significantly more bounded gestures with both aspectual forms. 149 out of 237 imperfective verbs ($X^2 = 15.7$, df = 1, $p < 0.01$) and 130 out of 178 perfective verbs ($X^2 = 37.78$, df = 1, $p < 0.01$) were used with bounded gestures (see Cienki, Iriskhanova (in press) for detail). Quantitative results obtained from L1 narratives were explained by the difference between the Russian and French aspectual systems as in the Russian language aspect is closely related to lexical semantic characteristics of the verbs and is often sensitive to factors other than the grammatical opposition of perfectivity/imperfectivity.

The difference between Russian L1 and French L1 suggests that advanced French L2 speakers whose native language is Russian will gesture in a distinctive way. On the one hand, they have probably adopted the image of events expressed by verbs in *passé composé* as bounded complete entities and associate *imparfait* with ongoing and incomplete events. On the other hand, they may still follow the aspectual differences in Russian in which lexical meanings of verbs play an important role and in some contexts outweigh the neat division between grammatical perfectivity and imperfectivity.

1.1. Methodology

Relying on the results of the L1 study, we conducted a similar study for L2 speakers: 22 Russians who had acquired French to an advanced level (B2-C1, CEFR) produced oral narratives of personal experiences, using the protocol of [Becker et al. 2011]. The narratives were videotaped and annotated for aspectual forms and gesture characteristics. The participants took part in the experiment in pairs. Each pair sat opposite a camera and a laptop, with the assignments for the experiment displayed on the screen. The subjects were asked to tell stories to each other on certain topics. All the topics from the list were displayed on the screen and encouraged the participants to produce a story about a real event, in which they had either participated or which they had witnessed themselves. The length of each video was approximately 12 minutes. Each video contained at least six narratives on the proposed topics.

2. Analysis of the narratives

For the quantitative analysis we considered the number of perfective and imperfective verbs that co-occurred with bounded and unbounded gestures in the L2 data. The data displayed the following results (see Fig. 1).
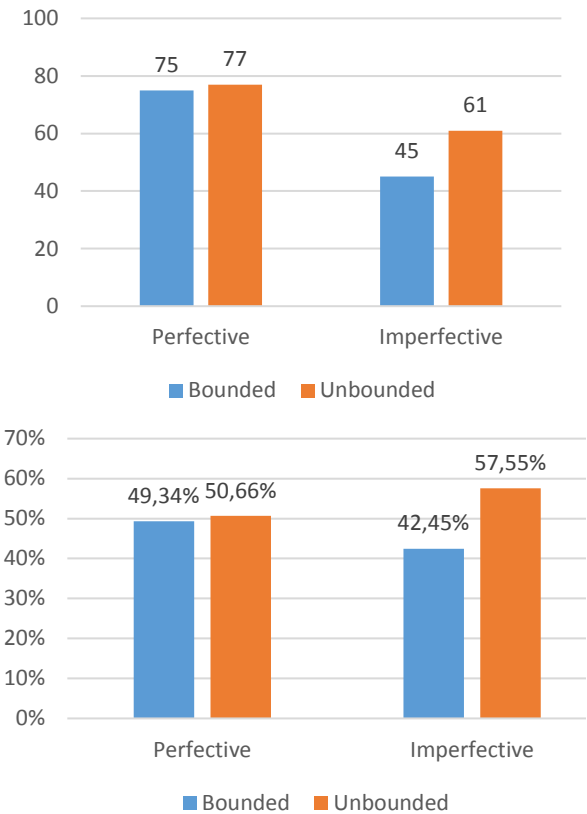

Fig. 1. Quantitative results for L2 data

This result differs from the Russian and French L1 results. The French L1 speakers tend to use more bounded gestures with perfective verbs and more unbounded with imperfective ones; the Russian L1 speakers tend to use more bounded gestures with both types of verbs. However, the Russian speakers of French used almost the same number of unbounded and bounded gestures with the perfective verbs and insignificantly ($X^2 = 2,415$, df = 1; $p = 0,12$) more unbounded gestures with the imperfective ones.

A closer look at the L2 data revealed a series of noise factors that influence the overall results for L1 and L2 speakers, which can help to explain some cases for French L1 and most cases for Russian L1 and French L2 that were inconsistent with the initial hypothesis.

2.1. Specific gesture types

Building on McNeil's growth point theory, we annotated all the gestures that co-occured with verbs, thus our datasets contained rhythmical gestures that mark the rhythm of speech, discursive gestures that mark the structure of communication, and representational gestures that illustrate the thing or the action they refer to.

The preliminary results for the Russian L1 data suggested that boundedness of events was expressed simultaneously on verbal and kinesthetic levels when gestures were representational, i.e., when they represented the semantics of verbs. It is worth mentioning that the tight link between the category of aspect and the lexical meaning of the verb in Russian has been repeatedly highlighted by numerous scholars [Bondarko 1971]; [Maslov 2004]; [Padučeva 2010].

Further analysis showed that 36 perfective verbs out of 52 co-occurred with bounded representational gestures ($X^2 = 7,6$, df = 1; $p = 0.008$), while 60 imperfective verbs out of 94 were used with unbounded representational gestures ($X^2 = 7,1$, df=1; $p = 0.007$). Thus, the results for the Russian L1 data confirmed that most representational gestures followed the initial hypothesis of the research.

The French L1 results for representational gestures follow the hypothesis with a higher statistical index than the result for all the gestures in French L1: 36 perfective verbs out of 47 were used with bounded gestures ($X^2 = 13,2$, df = 1; $p = 0.0003$) and 44 imperfective out of 66 were used with unbounded ($X^2 = 7,3$, df = 1; $p = 0.006$).

Proceeding from the results for L1 data, we assumed that representational gestures of L2 speakers will also be consistent with the initial hypothesis, and will show the direct correlation in terms of (un)boundedness in verbs and gestures. Besides, the L2 narratives were produced by Russian native speakers who might be influenced by a tighter connection between grammatical aspect and verbal semantics in their native language. In addition, most French grammar books present *imparfait* as an incomplete and ongoing action as opposed to complete and bounded *passé composé*. All these facts suggested that Russian speakers would tend to express boundedness on both verbal and kinesthetic levels when they use representational gestures to express the form of an object or embody an action.

In order to test this assumption we annotated all the representational gestures that illustrate the verbs they co-occurred with ("representational-verb" gestures). The results revealed that although there were few gestures of this type (17), practically all of them (16) confirmed our hypothesis. The small number of instances with representational gesture does not allow us to make generalized statements, nevertheless, the data indicates that in most cases the expression of boundedness in the verbs correlated with its expression in the representational-verb gestures.

2.2. Noise factors influencing the overall data

The cases when boundedness expressed in gestures did not correlate with boundedness expressed in aspectual forms present quite a controversial issue. We conducted a qualitative analysis of such cases and grouped them according to the reasons for which the correlation was absent.

The first group of factors is related to the language specific features. Inconsistencies in Russian L1 data often occurred because of the fact that some of the imperfective verbs bear the idea of boundedness within themselves, for example, *ja tuda ezdilaImperf mnogo raz (I went there many times).* Another controversial issue for Russian consists in the use of infinitive constructions, containing 2 different aspectual forms, for instance, *načaliPerf krutitsjaImperf Inf (started spinning).* In French, the perfective form (*passé composé*) is an analytical one, as it is built up out of two components: the verb *avoir* (*to have*) or *être* (*to be*) and past participle of a notional verb. Moreover, some types of adverbs are placed between the two parts of the form, e.g. *j'ai toujours pensé* (*I always thought*). Consequently, the two parts of a single form were sometimes synchronized with different gestures that might also be of different types in terms of boundedness.

The second group of factors is related to the cases in which gestures clearly represented or referred to an object, and not to the action expressed in the verb. For instance, one of the participants of the L2 study used the phrase *nous avons dessiné de grands lettres (we drew big letters)* that synchronized with a representational gesture, illustrating how big the letters were. The speaker made a broad gesture with her arms moving in opposite directions (see Fig. 2). Thus, the gesture illustrates *de grands lettres (big letters)*, even though it partially correlates with the verbal form *avons dessiné (drew).*
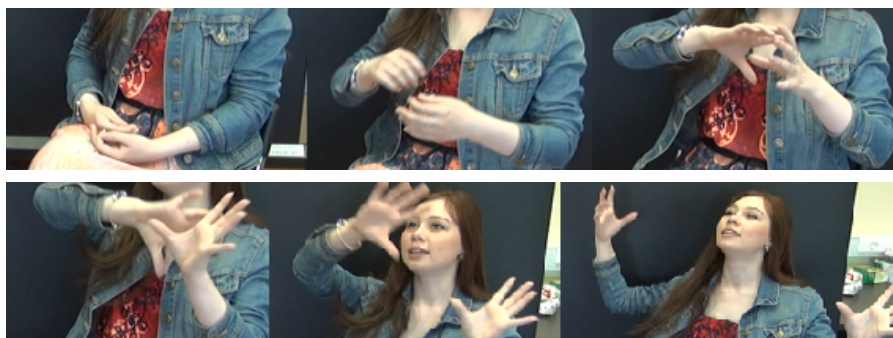

Fig. 2. Representational-other gesture

In another narrative a participant interrupted her interlocutor with the phrase *tu as choisi une table (you chose a table).* The phrase co-occurred with a pointing gesture, so the speaker highlighted the participant of the event through the gesture produced (see Fig. 3).
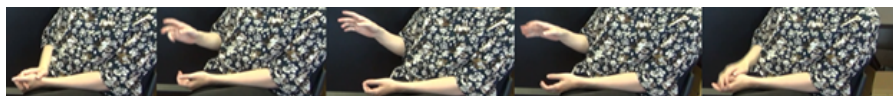

Fig. 3. Pointing gesture

Another example concerns the notion of negation. In numerous cases when a verb was used in the negative form, the negation was marked in the form of a gesture that primarily highlighted the idea of negation [Calbris 2011]. Talking about the challenges of making an order in a foreign restaurant, one of the participants said *elle ne m'a compris…du tout (she didn't understand me… at all).* The verb phrase synchronized with a hand movement that went from left to right, reminding in path of a head shaking in negation (see Fig. 4).
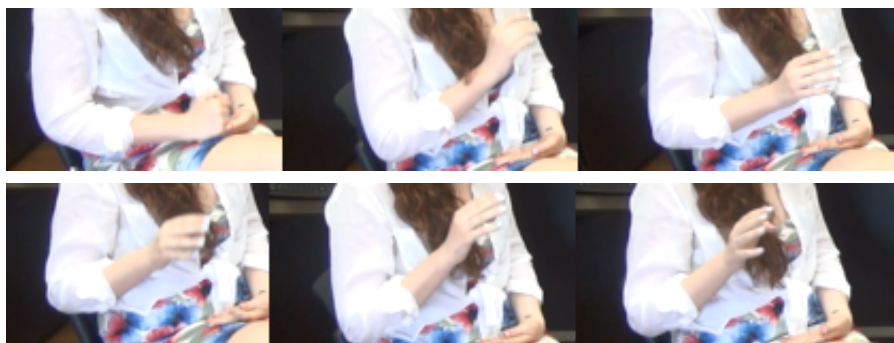

Fig. 4. Negation gesture

Such cases can be explained through profiling, a cognitive mechanism of construal introduced by [Langacker 2008]. In the examples mentioned above the gestures profile certain event characteristics which might not correlate with the features profiled by the verb that co-occurs with the gesture.

2.3. Challenges of L2 data

The L2 data is expected to differ from the L1 data due to the fact that L2 speakers might make mistakes, forget some collocations or grammar patterns. The participants of our study acquired French on the level which was high enough for the kind of task they were given. That is why there were few mistakes in their use of grammatical forms, however, in some cases the speakers could not recall a word for several seconds and while thinking they used cyclic movements that are traditionally called *search for word gestures* [Ladewig 2011]. Such cycling movements often co-occured with self-correction or a prolonged hesitation sound *erm* (*erm…on était…avait [erm …he was… he had]; j'ai commencé…erm… j'ai commencé [I started…erm…I started).*

In another example the same verb was used twice with hesitation pauses and in both cases it was accompanied by two different gestures. The participant produced the phrase *elle faisait…elle faisait le ménage (she was doing...doing the cleaning).* The verb *faire (to do)* was used two times in the form of *imparfait*, each time with a different gesture: in the first case—with an unbounded gesture, in the second case—with a bounded one. Both gestures were cyclic, with a small pause between them (see Fig. 5).

Fig. 5. Search for word gestures

The second feature that occurred in L2 data was a small number of representational gestures produced by the speakers, while in L1 data the gestures of this kind appeared to be more widespread. The fact that representational gestures were not abundant in our data can be due to the cognitive overload of L2 speakers, who tend to use non-representational gestures to facilitate lexical retrieval in L2, rather than actually illustrate the verbs with gestures to make their speech more expressive [Gullberg 1998]. Overall, representational gestures of L2 speakers reveal results similar to the ones of L1 speakers of Russian. Thus, it seems that when an event that is concisely transmitted through a verb form is illustrated by a representational gesture, its (un)boundedness is also expressed on both levels (kinesthetic and verbal).

3. Discussion

The results obtained from the L1 speakers revealed that the French L1 speakers tend to use bounded gestures with perfective verbs and unbounded with imperfective verbs, while the Russian L1 speakers tend to use more bounded gestures for both aspects. The L2 speakers demonstrated a mix of French and Russian gesture patterns. As the quantitative analysis showed, there was no direct correlation between boundary expression on the verbal and gestural levels in the Russian L1 and in the French L2 data obtained from the Russian speakers.

A possible explanation is that for the Russian L2 speakers the construal of events was not necessarily centered around the verb, but could be conceptualized holistically in the whole phrase, thus often profiling some characteristics that were expressed in some other words related to the event as a complex entity. Further investigation is needed to determine whether this feature is characteristic of other (non-Russian) L2 speakers.

Overall, the study indicates how events are construed and expressed by Russians speaking French in simulated oral narratives, so the results are applicable to a specific type of discourse and to a particular group of people. The significance of noise factors needs to be tested on a bigger corpus. However, this kind of research demonstrates that a multimodal approach to event construal in different languages can reveal the subtle nature of gesture-verb correlation in the transition from L1 to L2.

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