On the Role of Experiencer in the Interaction of Aspect and Unaccusativity in Russian

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Abstract
In this paper I identify the factors that can skew the result of two standard unaccusativity diagnostics in Russian (distributive po-phrase and verb prefixation): (i) animacy of the subject (ii) verbal aspect. I introduce a new class of data, which reveals a contrast that is characteristic of all unaccusative predicates: Experiencer/Theme interaction. Unlike the well-known agentivity effects (Permutter and Postal (1984), Hoekstra and Mulder (1990), Zaenen (1993)), Experiencer/Theme interaction is linked to animacy, but not to volitionality. The connection between animacy and an Experiencer is formalized as an Experiencer condition: the Experiencer role must be assigned if the sole argument is animate. I propose a novel view of argument distribution whereby animate arguments can be base generated VP-externally. Variable applicability of unaccusative tests to telic/atelic verb forms results from the interaction between the Experiencer condition, the structural view of telicity (Folli and Harley (2005), Ramchand (2008)) and world knowledge.
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1 Introduction

One of the milestone diagnostics to detect positions of arguments is referred to as the phenomenon of Unaccusativity. According to the Unaccusativity Hypothesis (Perlmutter 1978), the sole argument of an intransitive verb can be generated internal (unaccusative pattern) or external (unergative pattern) to the verb phrase.

Consider one example of an unaccusativity diagnostic in Russian: the distributive po-phrase. The acceptability of distributive po-phrases follows a classic unaccusative distribution (Babby 1980, Pesetsky 1982, Babyonyshev 1996).¹ For transitive verbs, a po-phrase can be the object, but not the subject. For intransitives, a po-phrase may occur as the subject of an unaccusative predicate (see (1)), but cannot be the subject of an unergative one (see (2)).

(1) po jablukuroslo na každom derive
    po apple fell on each tree
    'A (different) apple grew on each tree.'

(2) ?? po sobake kusaetsja v každoj kletke Unaccusative
    po dog bites in every cage
    'A (different) dog bites in each cage'

There are two factors, however, that can skew the result of the po-phrase (and other standard unaccusativity diagnostics) in Russian: (i) animacy of the subject (ii) verbal aspect. As is shown in (3) below, (3)a and b are counterparts of (1) with an animate subject: the result of the diagnostic is exactly the opposite one would expect of a verb-internal subject distribution. At the same time, if one looks further at (3)c and (3)d, verbal aspect appears to be another variable that is of relevance to the outcome of the po-diagnostic.

(3) a. *po mal'čiku roсло v každom dvore unaccusative??
    po boy grew.ATEL in each yard
    'A boy was growing in each yard.'

b. *po malyšu vyrošlo v každom dvore unaccusative??
    po baby grew.TEL in each yard

c. *po žil'cu gorelo na každom etaže unaccusative??
    po tenant burned.ATEL on each floor
    'A tenant has was burning at each floor.'

d. po žil'cu sgorelo na každom etaže unaccusative??
    po tenant burned.TEL on each floor
    'A tenant burned to death at each floor.'

In this paper, I introduce a new class of data, which reveals a contrast that is characteristic of all unaccusative predicates: Experiencer/Theme interaction. Unlike agentivity effects made familiar to us by the work of Perlmutter and Postal 1984, Hoekstra and Mulder 1990, and Zaenen 1993, Experiencer/Theme interaction is linked to animacy, but not to volitionality. The connection between animacy and an Experiencer will be formalized as an Experiencer condition: the Experiencer role must be assigned if the sole argument is animate. A novel proposal on the distribution

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²For a literature review, as well as qualifications and discussion see Harves 2002.
of argument positions is provided based on the survey of unaccusativity diagnostics in Russian. Variable applicability of unaccusative tests in telic/atelic verb forms will follow from the structural view proposed. The account I suggest relies on a view of telicity where quantized (telic) predicates, unlike homogeneous (atelic) predicates, require an additional piece of structure which encodes the final state of the event (Small Clause/Result Phrase) (Folli and Harley 2005, Ramchand 2008). The variable results of unaccusative diagnostics obtained with telic/atelic verb forms in Russian as in (3) are argued to be the outcome of an interaction between the Experiencer Condition, the structural representation of telicity (Small Clause), and world knowledge.

2 Unaccusativity in Russian

There are five unaccusativity diagnostics that have been proposed in the literature for Russian: distributive po-phrases (Babby 1980, Pesetsky 1982, Babyonyshev 1996), verb prefixation (Borik 1995, Schoorlemmer 1995), Genitive of Negation (Gen of Neg) (Pesetsky 1982, Babyonyshev 1996, Pereltsvaig 1999), locative inversion (LI) (Babyonyshev 1996, Harves 2002) and first conjunct agreement (FCA) (Babyonyshev 1996, Harves 2002). For reasons of space, I limit my discussion here to the distributive po-phrase and verb prefixation diagnostics.

The acceptability of distributive po-phrase subjects as well as quantificational subjects of verbs with certain quantificational prefixes, such as na- and pere-, follow a VP-internal distribution (Borik 1995, Schoorlemmer 1995, Harves 2002). The data in (1–2) and (4–5) demonstrates the relevant contrast for the po-phrase and the na-prefixation tests respectively.

(4) *Mnogo travy na roslo v parke Unaccusative
  A lot grass QUANT.grew in park
  ‘A lot of grass grew in the park.’

(5) Mnogo detej naiagralo v parke Unergative
  A lot children QUANT.played in park
  ‘A lot of children played in the park.’

The standard account of these diagnostics is that they show a scope effect: the po-phrase or quantificational NP must be in the scope of an operator (a prefix, or a distributive operator in the case of the po-phrase) at the relevant level. If we assume that quantificational licensing obtains at LF, then these diagnostics indicate the LF position of the quantified arguments. Quantified expressions can occur at LF no lower than their theta position (whether by reconstruction or by remaining in situ throughout the derivation), thus these tests serve indirectly to diagnose the base positions of arguments. The classic unaccusative behavior in (1–2) and (4–5) is thus explained, if the relevant operators are positioned between the position of internal and external arguments. Following some existing proposals in the literature (Junghans and Zybatow 1997, Strahov 2000), I assume that clause-internal word order variability is discourse-driven (A’) and therefore I abstract away from surface word order. The structure in (6) represents the LF of examples like (1–2): Themes, but not Agents, may reconstruct to a position within the scope of the distributive operator.

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(6)
```

```
Agent

\[ VP \]

\[ vp \]

\[ v' \]

\[ v' \]

\[ pp \]

\[ s \] každej

\[ 'from every' \]

\[ na- \]

\[ distr \]

\[ po-NP \]

\[ Theme \]
```
3 Variable Behavior: Agentivity Effects and Other?

Agentivity effects with ‘variable behavior’ verbs have been a debated issue in unaccusativity since the day of the discovery of the phenomenon (Permutter and Postal 1984, Hoekstra and Mulder 1990, Zaenen 1993). Formally, the agentivity alternations have been represented in terms of argument structure distinctions; the gaps in the alternation patterns have been attributed to lexical properties of selected types of predicates. ‘Variable behavior’ verbs have been treated as ‘special’ in permitting more than one type of argument distribution and the availability of more than one corresponding interpretation. The list of these verbs generally includes manner of motion verbs, change of state verbs, verbs of sound emission, and ‘roll’ type verbs (Levin and Rappaport 1995).

An example of an agentivity effect is given in (7). The English verb ‘slide’ is ambiguous between an agentive and nonagentive interpretation when the subject is animate, and unambiguously nonagentive when the subject is inanimate (see (7)).

(7) a. Ted slid into the closet. (agentive or nonagentive)
   b. The soap slid into the closet. (only nonagentive)

While an animate subject in (7)a retains its grammaticality under passivization (see (8)a), the inanimate counterpart in (7)b doesn’t (see (8)b). The non-agentive interpretation initially available in (7)a also disappears in (8)a. Given that passivization requires the presence of an external argument, the ungrammatical result in (8)b is explained by the VP-internal distribution of a sole argument bearing a Theme theta role correlating with the non-agentive interpretation.

(8) a. The closet was slid into by Ted. (only agentive)
   b. *The closet was slid into by the soap.

For Russian, the most famous example of a ‘variable behavior’ predicate is the verb *plavat’ which can have the interpretation 'float' (non-volitional) or 'swim' (volitional). Crucially, the verb passes the Genitive of Negation (Gen of Neg) unaccusativity test only on the 'float' reading (Pesetsky 1982, Babyonyshev 1996).

(9) v basseine nikakogo mal’čika ne plavet
    in pool no boy. GEN.SG not floats
    ‘No boy is floating/??swimming in the pool.’

An instance of animacy-related effects that are different from a regular agentivity effect has been pointed out in Harves 2002:312. She observes that de-adjectival change-of-state predicates in Russian pass the unaccusativity diagnostics only when combined with inanimate subjects. The observation she finds puzzling about this set of data is that these arguments, while not agentive, are nevertheless ‘active’ in achieving the result state. The suggested analysis in Harves 2002 is to list these predicates along with other ‘variable behavior’ verbs.

(10) a. *Ni odnogo studenta ne poglupele za semester (Harves 2002:311)
    not single student. GEN not became-stupid in semester
    ‘Not a single student became stupid over the course of the semester.’
   b. Vo vremja experimenta ni odnoj lakmusovoj bumažki ne posinelo
    in time experiment not single litmus paper. GEN not became-blue
    ‘During our experiment, not a single litmus paper turned blue.’

4 Animacy and Unaccusativity in Russian

Based on empirical grounds, I argue that animacy of the NP matters for all valid unaccusativity diagnostics in Russian; this generalization is not limited to a small group of predicates and extends
beyond the classical examples of ‘variable behavior’ predicates.\textsuperscript{2} The data in (3) illustrates the point with more data of the distributive \textit{po}-phrase and \textit{na}-prefixation tests: the animate subject of the ‘\textit{redden}’ predicate in (11)b is incompatible with the distributive \textit{po}-phrase. This can not possibly be linked to volitionality of the verb: the verb ‘\textit{blush}’ is non-volitional.

\begin{enumerate}
\item[(11)] a. \textit{Po jabloku krasnelo na každom derše}  
\hspace{1cm} \textit{Po apple reddened on each tree}  
\hspace{1cm} ‘An apple reddened on each of the trees.’  
\item b. \textit{*Po studentu krasnelo v každoi gruppe}  
\hspace{1cm} \textit{po student blushed in each group}  
\hspace{1cm} ‘A student blushed in each of the groups.’
\end{enumerate}

A similar point is illustrated in (12) below by means of the \textit{na}-prefixation test. While ‘\textit{fall}’ can not be characterized or interpreted here as volitional, (12)b is an example where an animate NP fails an inaccusativity diagnostic, although it is neither agentive nor volitional.

\begin{enumerate}
\item[(12)] a. \textit{Mnogo listjev napadalo na kryljco.}  
\hspace{1cm} \textit{Lots of leaves fell on the porch}  
\hspace{1cm} ‘A lot of leaves have fallen (collected) on the porch.’  
\item b. \textit{*Mnogo studentov napadalo na etu stupenku.}  
\hspace{1cm} \textit{Many students fell on this step}  
\hspace{1cm} ‘A lot of students have fallen (collected) on this step.’
\end{enumerate}

Animacy contrasts with unaccusativity diagnostics are uniformly absent with verbs of existence and the verb ‘\textit{die}’.

\begin{enumerate}
\item[(13)] a. \textit{v každoj gruppe bylo po-učastniku}  
\hspace{1cm} \textit{in each group were po-participant}  
\item b. \textit{v každoj korobke bylo po knige}  
\hspace{1cm} \textit{in each box was po book}
\end{enumerate}

Effects analogous to the ones demonstrated in (11–13) above are also observed with the Gen of Neg and Locative Inversion diagnostics.\textsuperscript{3}

\section*{4.1 Animacy and Argument Structure}

I propose that what underlies animate/inanimate distinction with unaccusative verbs is the condition in (14) (\textit{Experiencer Condition}) (compare to Reinhart 2000, Reinhart 2002).\textsuperscript{4}

\begin{enumerate}
\item[14)] Animate subjects of unaccusative verbs are potential Experiencers. The potential must be realized if possible (see below for details).
\end{enumerate}

In line with the Experiencer Condition (14), the contrast in (11a–11b) above arises as a result of a distinct theta role assigned to a single argument: the verb in (11)a selects for a Theme argument,

\footnotetext[2]{I exclude First Conjunct Agreement from the list of effective unaccusativity diagnostics. In Glushan (in preparation), I argue against the standard view that FCA is an unaccusativity diagnostic. When one controls for animacy of the subjects in a consistent manner, it is animacy of the subject but not the nature of the predicate which determines the possibility of FCA in Russian. This conclusion replicates the results of a corpus study (Corbett 1982) where he notes that there are two controller factors for agreement with conjoined noun phrases in Russian: precedence and animacy.

\footnotetext[3]{For reasons of space I do not include a complete range of data that covers all four of the diagnostics to illustrate this point. The reader is referred to Glushan (in preparation) for a complete range of data.

\footnotetext[4]{Reinhart (2000, 2002) proposes a theta role classification in terms of features [c] (cause) and [m] (mental state). Single arguments of unaccusative verbs bear a theta role specification [-c +m] similar to subject experiencers (see also Horvath and Siloni (to appear) and Levin and Rappaport 2011 for further implementations of this idea).}
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while the verb in (11)b selects for an Experiencer argument. I assume that Experiencers are base-generated in a position higher than Themes, as shown in (15) (Pesetsky 1995, Belletti and Rizzi 1988).

The *po*-phrase and verb prefixation diagnostics target VP-internal arguments, which undergo optional reconstruction to a theta position at LF. The single argument in the ungrammatical examples is assumed to occur outside the domain of licensing of a given test at LF (see (15) below). The animacy conflicts observed with unaccusative predicates are instances of the Experiencer/Theme role interaction: the unaccusativity test gives a grammatical result only if the single argument of the verb is a Theme.

As implied by the formulation of the Experiencer Condition in (14), animate subjects of unaccusative verbs are Experiencers if possible. One situation where assignment of an Experiencer role to an animate argument is impossible is when the lexical semantics of the verb does not allow it. Existential predicates, for example, due to their special nature, do not assign an Experiencer role: animate arguments of existential predicates are therefore invariably Themes (see (13) above). Single arguments of ‘variable behavior’ verbs do not select an Experiencer; they can optionally select for animate Themes. This option correlates with an obligatory non-agentive interpretation of an argument.

(15)

<table>
<thead>
<tr>
<th>vP</th>
<th>ApplP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiencer</td>
<td>Appl'</td>
</tr>
<tr>
<td></td>
<td>Appl'</td>
</tr>
<tr>
<td>V'</td>
<td>Vp</td>
</tr>
<tr>
<td>na-</td>
<td>distr</td>
</tr>
<tr>
<td>Theme</td>
<td>po-NP</td>
</tr>
</tbody>
</table>

5 Telicity Component

In this paper, I also explore the pattern of data that arises from the interaction of telicity and animacy with unaccusativity diagnostics. In particular, I attempt to apply unaccusativity diagnostics to telic/atelic verbs with animate/inanimate subjects. The data are demonstrated here by means of the distributive *po*-phrase diagnostic. The pattern, however, is more general and extends to the Gen of Neg and LI tests. The observations are as follows: (i) animate subjects of atelic predicates are ungrammatical with a distributive *po*-phrase (see (16)d, (17)d); (ii) animate subjects of telic predicates, however, vary in their grammaticality with the distributive *po*-phrase (see the contrast (16)c and (17)c). This effect is unexpected under the Experiencer Condition. None of the contrasts described above are observed with inanimate subjects of telic/atelic predicates (see (16)a,b and (17)a,b).

Verbs that pattern similarly: ‘fall’, ‘drown’, ‘redden’, etc.

(16) a. *po vetke sgorelov každom kостre* telic
   po branch.DAT burned.TEL in each campfire
b. *po vetke gorelo v každom kостre* atelic
   po branch.DAT burned.ATEL in each campfire
   ‘A branch was burned.TEL/burning.ATEL in each of the campfires.’

5The *na*-prefixation test cannot be included in this survey: the *na*-prefix is a measure prefix incompatible with an atelic interpretation (see Filip 2003 on measure prefixes in Slavic).

6I exclude the iterative interpretation which is grammatical. I will return to the absence of the effects with iterative interpretation in my analysis.
single intransitive predicates, unlike homogeneous (atelic) predicates, select for a Small Clause complement denoted by the subject can not experience the event through its end point.

The absence of animacy contrasts with the verb 'die' also follow from (18) and (19): the entity in (17c) and (19c) can not experience the event through its end point.

5.1 Solving the Puzzle: Result and Experience

I propose that the variable application of unaccusative tests to telic/atelic verb forms is the result of an interaction between (i) the Experiencer condition, (ii) telicity, and (iii) world knowledge. I argue that the basis for the atelic/telic verb distinction with respect to unaccusativity diagnostics lies in an additional restriction on the Experiencer Condition formulated in (14).

(18) In order to qualify as an Experiencer the entity must experience the event through its end point.

Given that atelic verb forms, by assumption, can not express delimited events, the restriction in (18) is relevant only for telic verb forms. The animate/inanimate distinctions with atelic verb forms (see contrasts (16)b,d and (17)b, d) are explained by the application of the Experiencer Condition: animate subjects are Experiencers, thus, outside the licensing domain of the distributive po-phrase; inanimate subjects are Themes, thus within the licensing domain of the distributive po-phrase and grammatical.

The variable applicability of the distributive po-test to telic verbs is an outcome of the restriction in (18): while some animate subjects of telic verbs meet the restriction in (18) (see ‘grow’ in (17c) and are assigned an Experiencer role, other animate subjects do not meet the restriction in (18) (see ‘burn’ in (16)c), and thus, are assigned a Theme role. The fact that animate subjects of ‘grow’ but not ‘burn’ can meet the condition in (18) follows from an additional extra-linguistic component: world knowledge. The relevant change in the argument interpretation observed in a situation when an animate argument of a telic verb does not meet a condition in (18) is spelled out in (19) below.

(19) Deanimatization: losing the potential of being an Experiencer as a result of the event expressed by the predicate (i.e., ¬ Experiencer or ‘dead’ at the event end point).

The absence of animacy contrasts with the verb ‘die’ also follow from (18) and (19): the entity denoted by the subject can not experience the event through its end point.

Following ideas of Ramchand (2008) and Svenonius (2004), I assume that quantized (telic) intransitive predicates, unlike homogeneous (atelic) predicates, select for a Small Clause complement (SC) (ResultP (Ramchand 2008), whereby the SC encodes the final state of the event, the single argument being the subject of the SC (see also Spencer and Zaretskaya 1998, Žaucer 2002, Žaucer 2005, and Gehrke 2008) for motivation of a parallel analysis for resultative prefixed verbs.
in Slavic and resultative constructions in Germanic). The tree diagram in (20) demonstrates the account.

(20)

The iterative interpretation which can arise with some atelic predicates (see (16)d) provides additional evidence in favor of the analysis in (20). The phenomenon of iterativity is generally described as a contextually determined (world knowledge or semantics of the predicate) possibility of dividing a single atelic event (see (16)d) into a succession of telic sub-events and distributing them over a number of contextually relevant points of time (Dowty 1979, Krifka 1992, Ramchand 1997). The observation that the distributive po-phrase is grammatical on the iterative interpretation in (10)d but not in (11)d is expected since the telic nature of sub-events provides the endpoint to the event required for the facilitation of Deanimatization (selection of an animate Theme).

6 Link between Aspect and Unaccusativity in Other Languages

The link between verbal aspect and unaccusativity has also been discussed with respect to other languages. In particular, Hoekstra and Mulder (1990) point to a correlation between the auxiliary selection in Dutch and the aspectual interpretation of a prepositional phrase. Auxiliary selection is used as a diagnostic in various Romance and Germanic languages: when a BE verb is selected, the verb is argued to be unaccusative, while a HAVE verb, in contrast, is assumed to be a sign of an unergative predicate. Hoekstra and Mulder (1990) notice that unergative verbs can show unaccusative or unergative behavior depending on the interpretation of a prepositional phrase modifying the verb. The example (21) below demonstrates ‘variable behavior’ of the verb gesprongen: the verb can select either a BE or a HAVE auxiliary depending on the aspectual interpretation of the prepositional phrase.

(21) a. dat Jan in de sloot gesprongen is dat Jan in the ditch jumped is
b. dat Jan in de sloot gesprongen heeft dat Jan in the ditch gesprongen has
      loc PP (Hoekstra and Mulder 1990:9)

The following two interpretations can be observed in (21): (i) the directed motion PP denotes an endpoint that is arrived at as a result of the activity (e.g., John jumped into the ditch), (ii) a locative PP provides a location where the activity occurs (e.g., John is jumping around in the ditch). The quantized (telic) interpretation of a predicate correlates with unaccusative behavior ((21)a), while homogeneous (atelic) predicate interpretation correlates with unergative behavior ((21)b).

Similar observations have been pointed out for auxiliary selection in Italian (Moro 1997, Mailing and Calabrese 2009). In Italian the auxiliary avere is used with activity verbs of agentive semantics, while the auxiliary essere is used with states or telic change of states. A standard telicity test is applied in (22) and (23) (Dowty 1991). Telic interpretation of the verb correre ‘run’ correlates with the use of essere, thus an unaccusative pattern, while the atelic interpretation is matched to avere, thus an unergative behavior.
7 Conclusion

In this paper I have argued that there are several factors that can influence unaccusativity of a verb. Among them are (i) the animacy of an argument, (ii) the aspectual form of the verb, (iii) the lexical semantics of a given verb, as well as (iv) world knowledge. Based on the data from Russian, I have shown the relevance of a contrast Experiencer/Theme for unaccusative predicates. I proposed that, in contrast to inanimate arguments, which are invariably Themes with VP-internal distribution, animate arguments can be Experiencers and can be base generated VP-externally. The variable results of unaccusative diagnostics obtained with telic/atelic verb forms are argued to be the outcome of an interaction between Experiencer/Theme contrast, the structural representation of telicity and world knowledge.

References


(22) Luisa ha corso nel parco per/*in un’ora atelic
Luisa has run in-the park for/*in an hour
‘Luisa ran in the park for/*in an hour.’
(23) Luisa è corsa a casa *per/*in un’ora telic
Luisa is run to house *for/*in an hour
‘Luisa ran home *for/*in an hour.’ (Mailing and Calabrese 2009:8)

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