

On Animacy and Unaccusativity in Russian^{*}

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1. Introduction

Unaccusativity as a linguistic phenomenon has been an important milestone of linguistic theory for a long time. Starting from Perlmutter's (1978) Unaccusativity Hypothesis, it has been assumed that two types of intransitive verbs need to be distinguished: unaccusative and unergative. In structural terms, the intransitive verb distinction has been understood as a deep structure position of a single argument with respect to the VP: unaccusative predicates select a single argument internal to the VP, while unergative verbs select a single argument external to the VP.

In this paper, I will argue for a finer-grained distinction, recognizing four distinct theta roles that intransitive subjects may have, and correspondingly four distinct base positions. The evidence for this view comes from the interaction of animacy and unaccusativity diagnostics in Russian.

Animacy and/or volitionality have long been known to interact with unaccusativity diagnostics. For example, so-called 'variable behaviour' verbs are compatible with both volitional and non-volitional interpretations, but behave as unergatives when the subject is volitional, and unaccusatives when not.

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 unaccusativity tests, such as the Genitive of Negation (Gen of Neg) only on the 'float' reading (Pesetsky (1982)).

(1) v basseine nikakogo mal'čika ne plavaet

in pool no boy_{Gen Sgl} not floats

'No boy is floating/??swimming in the pool'

Intransitive predicates with 'variable behavior' have also been noted for English (Perlmutter and Postal (1984), Zaenen (1993), Hoekstra and Mulder (1990)). As demonstrated by (2) and (3) below, while the verb 'slide' can combine with both

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animate and inanimate subjects, only an agentive (animate) counterpart of ‘slide’ passes the unergativity diagnostic (pseudo-passive) (Permuter and Postal, 1984:102).

- (2) a. Ted slid into the closet. (agentive or nonagentive)
 b. The soap slid into the closet. (only nonagentive)
 (3) a. The closet was slid into by Ted. (only agentive)
 b. *The closet was slid into by the soap.

In this paper, I will argue that animacy is a more important component of unaccusativity than has been generally assumed in the literature before. In particular, I will show that animacy of the NP matters for all valid unaccusativity diagnostics in Russian and that this generalization extends beyond classical examples of ‘variable behavior’ predicates.

To illustrate my key argument, consider the minimal pairs below. The data in (4) illustrates an unaccusativity test (only internal arguments may be expressed as *po*-NPs): the animate counterpart of the ‘fall’ predicate in (4)b fails the test independently of the volitionality of the verb, thus (4) is distinct from standard ‘variable behavior’ effects.

- (4) a. Po jabloku upalo s každygo dereva
 Po apple_{Dat} fell from each tree
 ‘An apple fell from each of the trees’
 b. *Po sportmenu upalo s každygo trenažera
 po sportman_{Dat} fell from each machine

Another piece of the puzzle is that the animacy effect in (4) has different effects for different unaccusativity diagnostics. Thus, while unergative subjects uniformly fail the *po*-test, regardless of animacy (see below), an animacy effect does arise among unergative subjects with other diagnostics. In (5), inanimate, but not animate, subjects pass the Genitive of Negation unaccusativity diagnostic.

- (5) a. na kuhne nikakih/ni odnogo holodilnikov/a ne rabotalo
 in kitchen no / not single fridge_{Gen} not works
 b. *na zavode nikakih ženščin ne rabotaet
 at factory no women_{Gen} not works

I will offer an account to these generalizations along the lines of Reinhart’s (2002) theta role decomposition analysis. I will argue that animacy effects are a result of an indirect interaction between animacy and deep structure positions. In my analysis, animacy effects with unaccusativity tests follow from distinct theta

role specifications assigned to animate and inanimate arguments. The full range of data are accounted for by positing that animacy and verb meaning interact in the determination of theta-roles. A more fine-grained array of theta-roles than the simple binary division of VP internal and external is proposed. I conclude that a standard two-way division of intransitive predicates does not suffice. Russian unaccusativity data makes a clean cut of four types of intransitive predicates listed in (6) below:

(6)

- I. True unaccusatives. Sole argument is Theme. Verbs of existence (e.g. 'be', 'appear' ...), 'die', and the existential reading of otherwise unergative predicates (see below).
- II. Experiencer unaccusatives. Sole argument is Experiencer if animate, otherwise Theme (e.g. 'arrive', 'fall', 'melt' 'burn', 'freeze', 'soak', 'redden' 'drown').
- III. Unergatives. Sole argument is Agent if animate, and Instrument if Inanimate (e.g. 'play', 'run', 'work', 'whistle', 'jump', 'sing', 'eat').
- IV. Variable behavior. Sole argument is Agent if volitional, and Theme if not (regardless of animacy) (e.g. 'plavat' (swim/float) 'stojat' (stand/be) in Russian).

It follows from my analysis that it is more appropriate to treat agentivity effects with unaccusativity not as special property of listed verbs, but as contrasts resulting from distinct theta specifications of the subjects. Russian unaccusativity data allow us to show the full range of theta role specification possibilities and the distinctions between them.

2. Summary of the data

There are five unaccusativity diagnostics for Russian that have been discussed in the literature: distributive *po*-phrases, verb prefixation, Gen of Neg, Locative Inversion (LI) and first conjunct agreement (FCA)². In the following subsections, I will be looking at each of the diagnostics and investigating whether/how animacy of the argument interacts with the test outcome. The tests are applied to several verb types: apart from intransitive and transitive predicates, the results are compared to the group of existential predicates and

² Babyonyshev (1996) and Harves (2002) include First Conjunct Agreement (FCA) into the list of effective unaccusativity diagnostics in Russian. However, animacy matters in FCA for all verb classes including transitive predicates. Therefore, in Glushan (2008), I argue that the animacy effects with FCA lies outside of unaccusativity. I thus exclude FCA from the table (7).

‘variable behavior’ verbs. The results obtained for each of the tests in the following subsections are summarized in table (7) below³.

(7) Effects of Animacy by Verbs Class

	Verb types				
Diagnostics	Unaccus	Unerg	Trans	Exist	‘Variable behavior’
Distributive <i>po-</i> phrase	yes	no	no	no	no
Verb prefixaton	yes	no	no		no
Gen of Neg	yes	yes	no	no	no
Locative Inversion	yes	yes		no	no

The results summarized in table (7) appear to present a challenge to the standard theory of unaccusativity. In particular, the following questions require an explanation:

(8)

- (i) Why does animacy of the subject play a role in unaccusativity diagnostics?
- (ii) Why do animacy effects show different distribution with different diagnostics?
- (iii) Why do animacy effects arise with intransitive subjects but not with transitive objects?

The analysis laid out in section 3 of this paper provides an account of the data in table (7) as well as answers to the questions set out in (8).

3. Animacy and theta-roles

In this paper, I offer an account of animacy effects with unaccusativity in terms of theta decomposition analysis proposed in Reinhart (2000), (2002). Reinhart

³ The table is read as follows: ‘yes’ – animacy of the subject influences the test outcome; ‘no’- animacy of the subject does not influence the test outcome. Blank slot- the construction is unavailable with this type of predicate for an independent reason.

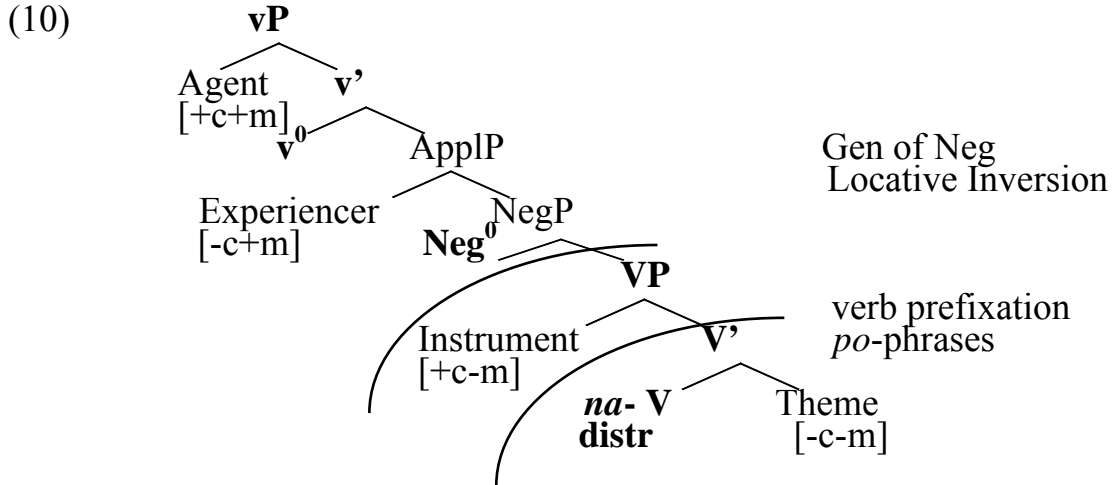
(2000) suggests a system of formal features that compose theta roles. Reinhart defines causal relationships in terms of two binary features: $[\pm c]$ = cause change, and $[\pm m]$ = mental state. The role of Agent and Cause share the feature value $[+c]$. Agency involves such properties as volition and intention, which Reinhart defines as $[+m]$. Note that $[\pm m]$ is to be understood as whether the mental state of the NP is relevant to the predicate. In this way, the positive value of $[m]$ entails animacy, but not conversely. By means of features $[+/-c]$ and $[+/-m]$ feature clusters are derived which directly correspond to theta-roles (Reinhart (2002: 232))⁴.

- | | | | |
|-----|--------------|-------------|-----------------------|
| (9) | a. $[+c +m]$ | agent | (Reinhart, 2002: 232) |
| | b. $[+c -m]$ | instrument | |
| | c. $[-c +m]$ | experiencer | |
| | d. $[-c -m]$ | patient | |

I suggest an extended version of Reinhart's (2002) theta decomposition where theta role specifications in (9) applied to intransitive subjects result in the following distinctions: animate subjects of unergative verbs bear a theta role of Agent $[+c+m]$; inanimate subjects of unergative verbs receive a theta role of Instrument $[+c-m]$; inanimate subjects of unaccusative verbs are Themes $[-c-m]$; while animate subjects of unaccusative verbs are Experiencers $[-c+m]$ wherever they are affected by the change of state/location denoted by the predicate. Thus, 'fall', 'arrive' take Experiencer arguments, but existence predicates select for Themes, regardless of animacy (see (10) below).

In my analysis, I will stick to the general view that the distributive *po*-phrases test, verb prefixation, and Gen of Neg diagnose the LF position of an argument while LI is a surface diagnostic which reveals VP internal arguments. In (10) I also indicate the scope of each of these diagnostics.

⁴ See Reinhart (2000), (2002) for more discussion on the empirical motivation for the feature specifications. The list in (9) excludes the theta roles which are not relevant for the purposes of my analysis.



Given the structure in (10), the animacy conflicts observed with unaccusative predicates for all diagnostics (see table (7)) are instances of the Experiencer/Theme role interaction: these tests give a grammatical result only if a single argument of the verb is a Theme [-c-m].

The absence of animacy effects with subjects of unergative verbs for some (distributive *po*-phrase, verb prefixation test) but not other diagnostics (Gen of Neg, LI) is explained by distinct domains of licensing/scopes for the diagnostics. The domain of licensing for Gen of Neg and LI is higher, thus it includes Instruments and Themes (see (10)) creating an additional contrast Agent/Instrument detected by these diagnostics. The domain of licensing for distributive *po*-phrases and verb prefixation tests excludes both Agent [+c+m] and Instrument [+c-m], thus no animacy conflicts arise with respect to these diagnostics.

‘Variable behavior’ verbs show no Experiencer/Theme interaction since these verbs allow animate Themes on non-agentive reading. Similarly, due to their semantics, verbs of existence can not take Experiencer [-c+m] subjects, thus they select for Theme [-c-m] arguments regardless of animacy.

For reasons of space, the discussion in this paper will be limited to the behavior of intransitives. In Glushan (2008) I argue that the difference between objects of transitives and unaccusatives is the result of an additional restriction that there be maximally one VP-internal and one VP-external argument for a transitive predicate (which could be stated as one theta-role per domain). This distinctness condition on theta roles entails that the object of a transitive predicate is always VP-internal (a Theme) regardless of animacy.

4. Data

4.1. Distributive *po*-phrase, Verb prefixation tests

Pesetsky (1982) argued that the acceptability of distributive *po*-phrases followed a classic unaccusative distribution. 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 (11)), but cannot be the subject of an unergative one (see (12)).

- | | | |
|--------|--|--------------|
| (11) | po jabloku upalo s kařdogo dereva
po apple _{Dat} fell from each tree
'An (different) apple fell from each tree' | Unaccusative |
| (12)?? | po sobake kusaetsja v kařdoj kletke
po dog bites in every cage
'A (different) dog bites in each cage' | Unergative |

The same distribution arises with quantificational subjects of verbs with certain quantificational prefixes, such as *na-*, *pere-* (Borik (1995), Schoorlemmer (1995), Harves (2002)). The data in (13) demonstrates the relevant contrast: the verb prefixed with a quantificational prefix *na-* can not occur with unergative predicates.

- | | | |
|--------|--|--------------|
| (13)a. | Mnogo travy naroslo v parke
A lot grass grew in park
'A lot of grass grew in the park' | Unaccusative |
| b.* | Mnogo detej naigralo v parke
A lot of children played in park
'A lot of children played in park' | Unergative |

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. If, moreover, quantified expressions can occur at LF no lower than their theta position (whether by reconstruction or by remaining in situ throughout the derivation), then these tests serve indirectly to diagnose the base positions of different arguments. The classic unaccusative behavior in (11)-(12) and (13) is thus explained, if the relevant operators are positioned somewhere between the position of internal and external arguments.

My observation is that for a range of verbs typically listed as unaccusative, the animacy of the subject matters for the outcome of the *po*-phrase and the verb prefixation test. While an inanimate subject is indeed possible as a complement in a *po*-phrase (quantifier '*mnogo*' in the case of verb prefixation), an animate subject in the same frame is disallowed. The relevant

contrast is represented for the distributive po-phrase and verb prefixation test in (14)-(15).

- (14) a. Po jabloku upalo s kařdogo dereva
Po apple_{Dat} fell from each tree
'An apple fell from each of the trees'
b. *Po sportsmenu upalo s kařdogo trenařera
po sportman_{Dat} fell from each machine
'A sportsman fell from each of the machine'
- (15) a. Mnogo travy naroslo za vesnu
A lot of grass grew in spring
'A lot of grass has grown over the spring'
b. *Mnogo detei naroslo za vesnu
Many children grew in spring
'A lot of children has grown over the spring'

Animacy plays no role for unergative predicates (see (16)-(17) below). As expected, distributed *po*-phrases as well as verb prefixation are ungrammatical/degraded with unergative predicates⁵.

- (16) a. *Po mysli probežalo v každoi golove Unergatives
 po thought_{Dat} ran in each head *po*-phrase
 ‘A thought ran through each head’
- b. *Po malčiku probežalo v každyj komnate .
 Po boy ran in every room
 ‘A boy ran in each room’
- (17) a. *Mnogo plastinok naigralo v našem parke Unergative
 Many records played in our park *na*-prefix
 ‘Many discs have played in our park’
- b. *Mnogo detei naigralo v parke
 Many children played in park
 ‘Many children have played in our park’

5 Animacy also plays no role for animate/inanimate objects for both diagnostics. See Glushan (2008) for the full range of data and motivation of the analysis.

Puzzling on standard accounts of unaccusativity in Russian, animacy effects with unaccusative predicates for both of the diagnostics follow from the analysis in (10). Given that unaccusative verbs assign a Theme [-c-m] role to inanimate arguments, but Experiencer[-c+m] to animate ones, the tests detect the Theme/Experiencer interaction by virtue of the intermediate position of the licensing domain. For both tests this domain includes the Theme arguments, but excludes Experiencer arguments.

‘Variable behavior’ predicates such as ‘swim’, ‘roll’, ‘stand’⁶ show no animacy contrast on the surface as the tests are applied, i.e. they give a grammatical result with animate subjects. However, the relevant contrast is observed in terms of a shift in meaning of the predicate (non-agentive reading) (compare (14), (15) to (18)-(20))⁷.

- (18) a. po malčiku plavalo v každom bassejne ‘swim/float’
 po boy swim in each pool po-phrase
 ‘A boy was swimming/floating in each pool’
 b. po lodke plavalo v každom prudu
 po boat float in each pond
 ‘A boat was floating/sailing in each pond’
- (19) a. po milicioneru stojalo na každom vyhode ‘stand’
 po officer stood on each exit po-phrase
 ‘An officer was standing on each of the exists’
 b. po znaku stop stojalo na každom perekrestke
 po stop sign stood on each intersection
 ‘A stop sign was on each intersection’
- (20) a. Mnogo milicionerov perestojalo na etom postu ‘stand’
 many policemen stood at this post pere-prefix
 ‘Many policemen guarded (standing) this area’

6 See Pesetsky (1982), Babyonyshev (1996), Harves (2002) on discussion of variable behavior predicates in Russian

7 Not all ‘variable behavior’ verbs allow the attachment of the na- prefix. The prefix itself contributes special semantics that makes it incompatible with some verbs independently of transitivity. Roughly, the na- prefix requires reaching a result state in some sort of a countable, material form. Such a situation can not occur with verbs like ‘plavat’ (float/swim), verbs of existence and stative verbs. This is an interfering although an advantageous property of this test: it rules out an existential/stative interpretation of unergative predicates, which can interfere with the result of po-phrase and Gen of Neg test (see also fn 8).

b.Mnogo znakov perestojalo na etom perekrestke

Many signs stood on this intersection

‘Many signs have been changed at this intersection’

The absence of animacy effects with ‘variable behavior’ predicates in (18)-(20) above, as well as a puzzling contrast between these data and the rest of intransitive predicates (see (14)-(17) above) can be explained by the analysis in (10). Unlike other intransitive predicates, ‘variable behavior’ verbs can take animate Theme arguments, i.e. these predicates are ‘special’ in the sense that they can treat their sole animate argument as inanimate. The shift in the interpretation of a sole argument is reflected by means of a non-agentive interpretation of such predicates.

Apart from the ‘variable behavior verbs’, verbs of existence and the verb ‘die’ also pass the *po*-phrase test regardless of animacy of the subject. The Verb prefixation test is not available for this type of predicate (see fn 7).

(21) a.v každoj gruppe bylo po-učastniku

in each group were po- participant

b.v každoj korobke bylo po knige

in each box was po book_{Dat}

(22) a.po žil’cu umerlo v každoj kvartire

po-phrase

po tenant_{Dat} died in every apartment

b.Mnogo mužikov poumiralo v derevnjah.

verb prefix

Many men died in villages

‘Many men have died in the villages’

The absence of animacy effects with verbs of existence and ‘die’ can be explained if these verbs can not take Experiencer subjects, but allow animate Theme arguments and create no animacy conflicts with respect to unaccusativity diagnostics. A similar explanation extends to the verb ‘die’: this verb being a special type unaccusative predicate which does not take Experiencer subjects.

4.2 Gen of Neg, Locative Inversion

Genitive of Negation (Gen of Neg) test is a standard unaccusativity diagnostic for Russian. Pesetsky (1982) observed that the distribution of this construction in Russian is limited to transitive objects and subjects of unaccusative predicates.

- (23) Otveta iz polka ne prišlo (Pesetsky, 1982:43)
 answer_{Gen} from regiment not come
 ‘The answer from regiment did not arrive’ Unaccusative
- (24)* Na zavode nikakih ženščin ne rabotaet Unergative
 at factory no women_{Gen} not works
 ‘Women don’t work at a factory’

Various analyses of Gen of Neg have been suggested in the literature (Pesetsky (1982), Pereltsvaig (1999), Babyonyshev (1996), Babby (2001), Partee (2008), Partee and Borschev (2007) among many others). For many of the analyses the Gen NP is required to occupy a position within the scope of Neg⁰ at LF (or another level). The NPs where Gen of Neg is disallowed fall outside of the scope of Neg⁰.

Locative Inversion has been argued to be an effective unaccusativity diagnostic in Russian (Babyonyshev (1996)). Babyonyshev (1996) observed that under a discourse neutral interpretation, the locative inversion construction in Russian is allowed only with unaccusative predicates. LI is thus a surface unaccusativity diagnostic which is sensitive to VP internal arguments.

- (25) V sadu rosli tri rozy Unaccusatives
 in garden grew three roses (Babyonyshev, 1996:40)
 ‘There grew three roses in the garden’
- (26) * Sebe pod nos svistit Petja Unergatives
 self under nose whistles Petja
 ‘To himself sang Petja’

My observation is that, similar to the distr. po-phrases and the verb prefixation diagnostics discussed above, animacy effects arise with unaccusative verbs for both Gen of Neg and LI diagnostics.

- (27)a. nikakih gribov zdes’ ne rastet Gen of Neg
 no kind mushrooms_{Gen} here not grow
 b.*Nikakogo/*ni odnogo rebenka ne roslo/rastet
 No kind not single child not grow
- (28) a. Na dereve krasnelo jabloko Loc Inv
 on tree reddened apple
 b.*V saune krasnel mužik
 in sauna got red (from steam) man

The surprising part is that, unlike with the previous tests, animacy effects are observed with these diagnostics for unergative predicates as well. In other words, when intransitive verbs are tested in animate/inanimate subject pairs, no clear distinction between unaccusative/ unergative predicates can be made with Gen of Neg or LI⁸.

(29) a. na kuhne nikakih/ni odnogo holodilnika/a ne rabotalo Gen of Neg

in kitchen no /not single fridge_{Gen} not works

b. *na zavode nikakih ženščin ne rabotaet

at factory no women_{Gen} not works

(30) a. V krane bežit voda

Loc Inv

in tap runs water

b. ??V parke bežit sportsmen

in park runs sportman

On the theta decomposition analysis outlined above (see (10) above) animacy distinction with the Gen of Neg and LI can be captured in the following way. Given the contrast of Gen of Neg and LI data with the two diagnostics discussed above, I assume that the licenser for Gen of Neg and LI is higher than the licenser of the distributive *po*-phrases and verb prefixation. It is on the basis of the Gen of Neg facts that I establish the relative order between Experiencer and Instrument: Experiencer arguments are disallowed with Gen of Neg, unlike Instruments, thus Experiencers are higher. Inanimate unaccusative subjects and inanimate unergative subjects are allowed with the Gen of Neg since they bear a Theme and an Instrument theta role respectively. The same reasoning applies to inanimate subjects of intransitive verbs in LI structures. Animate subjects of unaccusatives (Experiencers), animate transitive subjects (Agents) are correctly excluded since they fall out of the domain of licensing for both diagnostics.

8 Babby (2001) argues against the standard analysis of Gen of Neg on the basis of the data where unergative subjects can receive Gen of Neg (see (i)).

Context: Na zabrošenom zavode upal i razbilsja Saša. (Babby, 2001: 50-51)

‘Sasha fell and was badly hurt at the abandoned factory’

(i) Tam bolše ne igraet nikakih detej (ii) *detej ne igralo na bajane
there more not play no children children_{Gen} not played bajan

‘There are no longer any children playing there’

Importantly, Babby’s (2001) analysis relies on the assumption that Gen of Neg can be assigned only when the sentence is *existential*. The special context provided in (i) forces the existential reading of an unergative predicate. Only on the existential reading, animate subjects are allowed with Gen of Neg (compare (i) and (ii)). In my account, I treat such unergative predicates as verbs of existence (see also Calabrese and Maling (2009) on similar effects in Italian).

Verbs of existence create no animacy effects with Gen of Neg and LI as demonstrated in (31), (32).

- (31) a. *zdes' horoših ljudei ne suščestvuet* (Pesetsky, 1982:43)
 here good people_{Gen} not exist Gen of Neg
 b. *nikakih dokladčikov ne pojavilos'*
 no speakers_{Gen} not appeared
 c. *rebenka na skamejke ne bylo*
 child_{Gen} on bench not was
- (32) a. *v derevne byl vrač* Loc Inv
 in village was doctor
 b. *na katke pojavilsja sudja*
 on skating ring appeared referee

Gen of Neg and LI are allowed with animate subjects of ambiguous verbs 'swim', 'stand' 'roll' on the non agentive reading, as well as the verb 'die'.

- (33) a. *v basseine nikakogo mal'čika ne plavaet* Gen of Neg
 in pool no boy_{Gen Sgl} not floats
 'No boy is floating/??swimming in the pool'
 b. *v basseine plaval malčik* Loc Inv
 in pool ??swim/float boy
 'There was a boy floating/??swimming in the pool'
- (34) a. *Nikakogo/ni odnogo starika ne umerlo v našem dome* Gen of Neg
 no not single old man not dies in our house
 b. *V derevne umer vrač* Loc Inv
 In the village died doctor

Following the line of analysis laid out in (10), the exceptional behavior with ambiguous predicates, existential verbs as well as the verb 'die' is explained in the way analogous to the po-phrase and verb prefixation diagnostics. These verbs are special in that they can take animate Theme arguments on non-agentive reading (variable behavior) or in general they take a Theme argument regardless of animacy.

5. Conclusions and Implications

In this paper, I have shown that animacy plays a crucial role in unaccusativity. In particular, on the basis of Russian data I have argued that when animacy is

taken into consideration standard unaccusativity tests do not give a consistent result. I have proposed an analysis of animacy effects observed with unaccusativity diagnostics in terms of distinct theta role specifications along the lines of Reinhart (2002) theta decomposition analysis. The data contributes an important missing piece to the theory of unaccusativity in Russian and cross-linguistically. In particular, in the light of the Russian data, the standard two-way division of intransitive predicates is not sufficient. Russian unaccusativity data makes a clean cut of four types of intransitive predicates based on the type of theta role assigned to a single argument.

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