Towards a syntactic analysis of Russian -sja

1. The Data

• /-sja/: one marker – many functions

(1) Passive:
  a. Rabočie strojat dom.  
     workers.build house
  b. Dom stroit-sja rabočimi.  
     house.builds-sja workers.inst
  ‘The workers are building a house.’  ‘The house is being built by the workers.’

(2) Antipassive:
  a. Sobaka kusaet mal’čika.  
     dog.bites boy
  b. Sobaka kusaet-sja.  
     dog.bites-sja
  ‘The dog bites the boy.’  ‘The dog is fierce.’

(3) Anticausative:
  a. Anton otkryl dver’.  
     Anton.opened door
  b. Dver’ otkryla-s’.  
     door.opened-sja
  ‘Anton opened the door.’  ‘The door opened.’

(4) Middle:
  a. Maša čitaet knigu.  
     Masha.reads book
  b. Kniga čitaet-sja legko.  
     book.reads-sja easily
  ‘Masha is reading the book.’  ‘The book reads easily.’

(5) Reflexive:
  a. Medsestra breet pacienta.  
     nurse.shaves patient
  b. Pacient breet-sja.  
     patient.shaves-sja
  ‘The nurse is shaving the patient.’  ‘The patient shaves.’

(6) Reciprocal:
  a. V anja obnimaet Olju.  
     V anja.hugs Olja
  b. Vanja i Olja obnimajut-sja.  
     Vanja and Olja.hug-sja
  ‘Vanja is hugging Olja.’  ‘Vanja and Olja are hugging each other.’

(7) Impersonal:
  a. Ja čitaju knigu.  
     I.read book
  b. Mne segodnja ne čitaet-sja.  
     I.dat today not.read-sja
  ‘I am reading the book.’  ‘I just cannot read today.’

2. Zooming in

2.1. The Passive

(8) a. Rabočie strojat školu.  
     workers.nom build.3p:pl school.acc
  b. Škola stroit-sja.  
     school.nom build.impf:3p:sg-sja
  ‘The workers are building a school.’  ‘The school is being built.’

• Passives in Russian are agentive. They have an implicit Agent argument.

(9) Ėti cigary kurili-s’ moim djadej vsju žizn’.  
    these cigars.smoked-sja my.inst uncle.inst whole life
  ‘My uncle used to smoke these cigars his entire life.’ (Timberlake 2004, 348)
Already in the eighth century, this superstition was spread on purpose.

‘If the match is stopped to card somebody for unfair behaviour […]’ (NKRJa)

The Russian Passive displays an aspectual restriction on morphological form.

The house was built by the workers.’

The door opened by Jura.’

Russian Anticausatives have an implicit argument which can be taken up by ot-PPs introducing causing events (causers and instruments are illicit), cf. also Piñón (2001) and Kallulli (2006) for similar claims with respect to English and Albanian.

‘Our house got destroyed by an earthquake.’ (Iordanškaja and Mel’čuk 1995, 176)

intended: ‘The door opened on purpose.’

intended: ‘The door opened in order to air the room.’

intended: ‘The door opened by Jura.’

The door opened-sja to air room
‘The door opened in order to air the room.’

Russian Anticausatives are not agentive. They have no implicit Agent argument.

Jura / The wind opened the door.’

b. Dver’ otkryla-s’.
door.nom open.pst:fem-sja
‘The door opened.’

‘The door was built by the workers.’

Jura.nom / wind.nom open.pst:masc door.acc
‘Jura / The wind opened the door.’

2.2 The Anticausative

The Anticausative

Jura / Veter otkryl dver’.
Jura.nom / wind.nom open.pst:masc door.acc
‘Jura / The wind opened the door.’

b. Dver’ otkryla-s’.
door.open.pst:fem-sja
‘The door opened.’

Juroj.
door.open-sja Jura.inst
intended: ‘The door opened by Jura.’

*Dom postroil-sja rabočimi.
house built.pf-sja workers.inst
‘The house was built by the workers.’

*Dom byl postroen rabočimi.
house was built.perf workers.inst
‘The house was built by the workers.’

Dom postroil-sja rabočimi.
house built.pf-sja workers.inst
‘The house was built by the workers.’

Dom byl postroen rabočimi.
house was built.perf workers.inst
‘The house was built by the workers.’

• Russian Anticausatives have an implicit argument which can be taken up by ot-PPs introducing causing events (causers and instruments are illicit), cf. also Piñón (2001) and Kallulli (2006) for similar claims with respect to English and Albanian.
• The Russian Anticausative does not display an aspectual restriction on morphological form.

(18) a. Dver’ zakryvala-s’. b. Dver’ zakryla-s’.
   door closed.impf-sja door.nom closed.perf-sja
   (I.) ‘The door was closing.’
   (II.) ‘The door opened.’

2.3. The Antipassive

   dog.nom bite.3p:sg child.acc dog.nom bite.3p:sg-sja
   ‘The dog bites the child.’
   ‘The dog is fierce.’

(20) Sobaka kusaet-sja *rebenka / *rebenku / *rebenkom / *rebenke.
   dog.nom bite.3p:sg-sja
   *child.gen
   *child.dat
   *child.inst
   *child.prep

• There seems to be tentative evidence that Russian Antipassives possess an implicit argument as well.

(21) a. Mat’ rugaet detej.
   mother scolds children
   ‘The mother is scolding at the children.’
   b. Mat’ rugaet-sja na detej.
   mother scolds-sja on children
   ‘The mother is scolding at the children.’

(22) “Sja-verbs of this kind are intransitive verbs whose semantic representation incorporates the argument that can be used as the direct object of the corresponding transitive non-sja construction.” Say (2005, 262)

• Russian Antipassives contrast with optionally transitive verbs with respect to markedness by –sja.

   boy reads book boy reads
   ‘The boy is reading the book.’
   ‘The boy is reading.’

(24) *Sobaka kusaet.
    dog: bites
    intended: ‘The dog is fierce.’

2.4 Summary of the Data

<table>
<thead>
<tr>
<th></th>
<th>implicit argument</th>
<th>DP-Inst</th>
<th>ot-PP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passives</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Anticausatives</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Antipassives</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
3. Theoretical Framework of the Analysis

3.1. Distributed Morphology

- Distributed Morphology (DM), cf., e.g., Halle and Marantz (1993), Marantz (1997), Harley and Noyer (1999), Embick and Noyer (2007)

(26) Lexicon (functional heads, √)

Syntex

Morphology

Vocabulary Insertion

Phonological form Logical form

(PF) (LF)

- roots are category neutral in the lexicon (Embick and Marantz (2008))

- word formation is handled in syntax with the help of category-defining heads n, v or a respectively (Marantz 1997; Arad 2005)

- Roots do not have any argument structure that might drive a syntactic derivation. Instead arguments are introduced by functional structure, cf. Borer (2005), Acquaviva (2008) and Alexiadou (2009).

3.2 Building Verbs

- unprefixed intransitive activity predicates:

(27) čitat’ ‘read’

(28) \[[[v_{int}]] = \lambda e[\text{ROOT}(e)]\]

(Basilico (2008, 1724))

• transitive activity predicates:

(29) \[[[v_{trans}]] = \lambda x\lambda e[\text{ROOT}(e) \land \text{Theme}(x)(e)]\]

adapted from Basilico (2008, 1724)

(30) \[v_{trans}^P\]

(31) a. Ivan čital.  
Ian read

b. Ivan pročital *(knigu).
‘Ivan was reading.’ intended: ‘Ivan read.’ (Babko-Malaya 2003, 6)

\[v_{trans}^P\]

Russian internal/lexical prefixes can affect the argument structure of verbs as regards the obligatoriness of the internal argument or the selectional restrictions of the verb, cf. Babko-Malaya (2003); Romanova 2006)
(32) a. On pisal telefon.
    he wrote phone
    ‘He was writing down the telephone number.’

b. On zapisal telefon.
    he wrote phone
    ‘He wrote down the telephone number.’ (Babko-Malaya 2003, 6)

• I take such data as an indication that internal prefixes can introduce internal arguments in Russian as well. Following proposals by Romanova (2006), Ramchand (2004) and others, I assume that these internal prefixes are heads of a resultant state projection (RP) introducing a resultant state that is predicated of the internal argument.

(33) \[[[R]] = \lambda x \lambda s[\text{ROOT}(s) \land \text{Theme}(x)(s)]\]
(34) \[
\begin{array}{c}
\text{DP} \\
\text{R'}
\end{array}
\]
\[
\begin{array}{c}
\text{R} \\
\checkmark
\end{array}
\]

• Change-of-state verbs decompose in syntax into a resultant state projection and a higher verbal projection realising the causing subevent, cf. von Stechow (1996).

(35) \[[[\text{cause}]] = \lambda P_{s,s'} \lambda e \exists s' [P(s') \land \text{CAUSE}(e,s')]\] (adapted from Pylkännen (2002, 76)

• internally prefixed change-of-state verbs:

(36) otkryt’ ‘open’

\[
\begin{array}{c}
\text{v}_{\text{cause}} P \\
\text{v}_{\text{cause}} \text{RP} \\
\text{DP} \\
\text{R'}
\end{array}
\]
\[
\begin{array}{c}
\text{R} \\
\checkmark
\end{array}
\]

• As regards external arguments, I follow Kratzer (1996) and Pylkkänen (2002) in her assumption that these are introduced by voice-heads.

(37) \[[[\text{voice}_{ag}]] = \lambda P_{s,t} \lambda x \lambda e [P(e) \land \text{Agent}(x)(e)]\]

(38) \[[[\text{voice}_{cause}]] = \lambda P_{s,t} \lambda x \lambda e [P(e) \land e = x]\] (Pylkkänen (2002, 85))

(39) \[
\lambda P_{s,s'} \lambda e_1 \lambda e \ [P(e) \land e = e_1]
\] (adapted from Solstad (2006, 207))
3.3. Interim Summary

(40) Transitive activity verbs such as čitat’ ‘read’ on their transitive use:
\[
[\text{voice-agP } \text{DP}_{\text{ext.arg.}}[\text{voice-ag' voice}_{\text{ag}}[\text{v-transP } \text{DP}_{\text{int.arg.}}[\text{v-trans' } \text{v}_{\text{trans}}\sqrt{\text{v}}]]]]
\]

(41) Transitive activity verbs such as čitat’ ‘read’ on their intransitive use:
\[
[\text{voice-agP } \text{DP}_{\text{ext.arg.}}[\text{voice-ag' voice}_{\text{ag}}[\text{v-intP } \text{v}_{\text{int}}\sqrt{\text{v}}]]]
\]

(42) Internally prefixed causative verbs with an agent as external argument:
\[
[\text{voice-agP } \text{DP}_{\text{ext.arg.}}[\text{voice-ag' voice}_{\text{ag}}[\text{v-causeP } \text{v}_{\text{cause}}[\text{RP } \text{DP}_{\text{int.arg.}}[\text{R' } \text{R}_{\sqrt{\text{v}}}]])]]
\]

(43) Internally prefixed causative verbs with a causing event as external argument:
\[
[\text{voice-causeP } \text{DP}_{\text{ext.arg.}}[\text{voice-cause' voice}_{\text{cause}}[\text{v-causeP } \text{v}_{\text{cause}}[\text{RP } \text{DP}_{\text{int.arg.}}[\text{R' } \text{R}_{\sqrt{\text{v}}}]])]]
\]

4. The analysis

4.1. The proposal

• short reminder:

The passive, the antipassive and the anticausative involve implicit arguments. Furthermore all three constructions involve the presence of -sja.

• Relying on these observations, I suggest that a unifying analysis of -sja should capture exactly this correlation. Consequently, I propose that -sja has two functions in the derivation:

(i) During the syntactic part of the derivation, -sja may saturate a selectional feature of an argument introducing voice-head, i.e voice_{ag} or voice_{cause}, or of v_{trans}.

(ii) During the semantic interpretation of the syntactic structure, -sja existentially quantifies over the argument variable that has been introduced by the head whose selectional feature -sja has saturated.

(44) a. \([-\text{sja}]=\lambda R_{\leq, \leq, >, >, >}\lambda e\exists x[R(x)(e)]\]

b. \([-\text{sja}]=\lambda R_{\leq, \leq, >, >, >}\lambda e\exists v_{\leq, >, >}[R(v_{\leq, >, >})(e)], \text{ where } D_{\sigma}=\{e,s\}\]

4.2. The Passive

• the imperfective Passive

(45) Dom stroit-sja.
  house builds-sja
  ‘The house is being built.’
- The perfective Passive

   house rebuilt-sja

b. Dom byl perestroen rabočimi.
   house was rebuilt workers.inst
   ‘The house has been rebuilt by the workers.’

I assume that the verb moves at least as high as Asp, cf. Gribanova (2008).

(50) Fusion:

[...] fusion takes two terminal nodes that are sisters under a single category node and fuses them into a single terminal node. Only one Vocabulary item may now be inserted, an item that must have a subset of the morphosyntactic features of the fused node, including the features from both input terminal nodes. Unlike merger, fusion reduces the number of independent morphemes in a tree. Since both head-to-head movement and merger form structures in which two terminal nodes are sisters under a single category node, both may feed fusion. (Halle and Marantz 1993, 116)
(51) [-sja] [Asp:+perf] → [-sja, Asp:+perf] / [voice\textsubscript{ag}]

(52) [-sja, Asp:+perf] ↔ -t/-n-

4.3. The Anticausative

(53) Dver’ otkryla-s’.

\begin{center}
\begin{tabular}{l}
\text{door} \text{opened-sja} \\
\text{‘The door opened.’}
\end{tabular}
\end{center}

(54) 
\begin{center}
\begin{tikzpicture}
  \node (Sja-P) {Sja-P};
  \node (voice\textsubscript{cause}P) [below left of=Sja-P] {voice\textsubscript{cause}P};
  \node (v\textsubscript{cause}P) [below right of=voice\textsubscript{cause}P] {v\textsubscript{cause}P};
  \node (dver’) [below of=v\textsubscript{cause}] {dver’};
  \node (ot-) [left of=dver’] {ot-};
  \node (R’) [right of=dver’] {R'};
  \node (\kry) [above right of=R’, anchor=south west] {\kry};
  \draw (Sja-P) -- (voice\textsubscript{cause}P);
  \draw (voice\textsubscript{cause}P) -- (v\textsubscript{cause}P);
  \draw (v\textsubscript{cause}P) -- (R);
  \draw (R) -- (R');
  \draw (dver’) -- (ot-); \draw (dver’) -- (R'); \draw (ot-) -- (\kry);
\end{tikzpicture}
\end{center}

(55) 
\lambda e \exists x \exists s' [\text{Close}(s') \land \text{Theme}(\text{door})(s') \land \text{Cause}(e,s') \land e = x]

(56) 
\lambda e \exists v_{s<e} s' [\text{Close}(s') \land \text{Theme}(\text{door})(s') \land \text{Cause}(e,s') \land e = v_{s<e}]

(57) 
\lambda e \exists v_{s<e} s' [\text{Close}(s') \land \text{Theme}(\text{door})(s') \land \text{Cause}(e,s') \land e = e_{1}]

(58) 
\lambda e \exists s' [\text{Close}(s') \land \text{Theme}(\text{door})(s') \land \text{Cause}(e,s')]
Anticausatives are not affected by the fusion rule in (51) as they do not display voice$_{ag}$.

(57) a. Dver’ zakryvala-s’. b. Dver’ zakryla-s’.
   door closed.impf-sja door.nom closed.perf-sja
   (I.) ‘The door was closing.’ (II.) ‘The door opened.’

4.4. The Antipassive

(58) Sobaka kusaet-sja.
   dog bites-sja
   ‘The dog is fierce.’

(59)

(60)

• Is there a look-ahead effect in the derivation?

(61) a. V Balaxne primerno kusaet-sja sobakami okolo
in Balakhna roughly bites-sja dogs.inst about
   400 čelovek každyj god.
   400 people.gen every year
   ‘Roughly 400 people are bitten by dogs in Balakhna every year.’ (google)

b. 2,5% naselenija Ameriki kusaet-sja sobakami
   2,5% population.gen America.gen bites-sja dogs.inst
   každyj god.
   every year
   ‘2,5% of the population of America get bitten by dogs every year.’ (google)
4.5 Restricting overgeneralization

- not all verbs that easily passivize, do allow for Anticausative formation

\[(62)\] \textit{otkryt’} ‘open’
- a. Dver’ byla otkryta Antonom.
- b. Dver’ otkryla-s’.
  ‘The door was opened by Anton.’
  ‘The door opened.’

\[(63)\] \textit{rasstreljat’} ‘shoot dead’:
- a. On byl rasstreljan soldatami.
- b. *On rasstreljal-s’.
  ‘He was shot by the soldiers.’

- licensing (cf. Harley and Noyer (1999)):
  Licensers are typically functional morphemes that stand in certain structural relations to the root.
  If a root is to be inserted into a structure, the licensing conditions of the root need to be compatible with the functional structure that it is inserted into.

- As the data in (62) and (63) shows, \textit{rasstreljat’} belongs to the class of agentive roots (cf. Levin and Rappaport Hovav (1995) and Padučevá (2001), whereas \textit{otkryt’} does not.

- diacritic features on Roots (cf. Harley and Noyer (1999))

\[(64)\]
- a. \(\sqrt{[+\text{voice}_{ag}]}\)
- b. \(\sqrt{[+\text{voice}]}\)

- classes of Roots (Alexiadou et al. (2006)) mediated by the encyclopaedic semantics of the root in question

\[(65)\]
- a. \(\sqrt{\text{agentive}}\) (murder, assassinate, cut)
- b. \(\sqrt{\text{internally caused}}\) (blossom, wilt, grow)
- c. \(\sqrt{\text{externally caused}}\) (destroy, kill)
- d. \(\sqrt{\text{cause unspecified}}\) (break, open)

- Why do Roots that from Antipassives not appear under \(v_{int}\)?

\[(66)\] \(\sqrt{[+v_{trans}]}\)

- Why do optionally transitive verbs not form Antipassives?

\[(67)\]
- b. On čitaet.
  ‘He is reading.’
  ‘He is reading.’
Another problem: obligatorily transitive activity verbs that do not allow for Antipassive formation.

(70) a. On breet pacienta.  
   he shave patient  
   ‘He is shaving the patient.’  
 b. *On breet.  
   he shave  
   ‘He is shaving the patient.’  
 c. On breet-sja.  
   he shaves-sja  
   ‘He is shaving.’

Hypothesis: Antipassives and Reflexives are derived the same way.

(71) *Ne pomylo-s’ studentov.  
    not washed-sja students.gen  
    ‘No student has washed themselves.’ (Reinhart and Siloni 2004, 175)

Hypothesis: Depending on the semantics of the root and the semantics of the external argument the conceptual system would either (a) posit an identity relation between the agent and the existentially bound theme argument yielding a reflexive interpretation or (b) leave the LF representation unchanged yielding an antipassive interpretation.

(72) λe∃x[ROOT(e) ∧ Theme(x)(e) ∧ Agent(DP_{ext.Arg.})(e)]

Prediction: there should be only three kinds of activity verbs in Russian

(i) optionally transitive activity verbs such as čitat’ ‘read’

(ii) obligatorily transitive verbs such as kusat’ ‘bite’ that give an antipassive or passive interpretation when affixed with -sja

(iii) obligatorily transitive verbs such as brit’ ‘shave’ that give a reflexive or passive interpretation when affixed with -sja
5. References


NKRJa Nacional’nyj korpus russkogo jazyka, available at ruscorpora.ru