

Building Intensive Resultatives

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Overview. In this paper, I want to make explicit parallelism between reflexive resultatives in (1) in English (as opposed to bare resultatives, Levin, Rappaport Hovav 2001, 2004) and what Shvedova (ed.) 1980: §1434 calls Intensive-Resultative Aktionsart (IRA) in Russian, exemplified in (2). I propose an analysis where both classes of expressions possess the same underlying structure, hence their similarities, but differ as to the later stages of semantic derivation.

Data. The main observation suggesting that (1) and (2) are alike has to do with their semantic interpretation. (1) and (2) differ from their non-derived counterparts, *Tourists walked* and *Tyristy (po)guljali* ‘Tourists walked’, in much the same way. Both indicate that there is a property of the subject that gradually changes in the course of the walking event. When the subject acquires this property to a certain degree, the event culminates, and the subject enters the result state.

A significant evidence supporting parallelism between IRA verbs and reflexive resultatives is their lexical distribution: both tend to be licensed for the same classes of non-derived verbs, intransitive unergatives like (2) or transitive manner verbs in terms of Rappaport Hovav and Levin (1998 and elsewhere) like (3a), not for unaccusatives like (3b) and transitive result verbs like (3c).

Given this parallelism, however, three characteristics make IRA verbs significantly different from English reflexive resultatives. First, in (1) the result state must but in (2) cannot be specified by an overt XP, cf. **The tourists walked themselves* and *#Tyristy naguljalis’ ustalyje/ustalymi* ‘Tourists walked themselves tired_{NOM/INSTR}’. In (2), the descriptive properties of the result state are underspecified. While out of the blue (2) tends to be interpreted as involving a state of satisfaction, examples like (4), where the adjunct PP refers to a state of being exhausted, suggest that ‘satisfaction’ is a cancelable implicature. Secondly, in IRA but not in reflexive resultatives, the argument of the result state must be identical to that of the activity, cf. (5) and (6). In Russian thus there are no verbs like *napet’* in (6), at least with the relevant meaning. Thirdly, unlike reflexive resultatives, IRA verbs must contain a piece of telic/perfective morphology, a prefix *na-*, as (7) demonstrates. There are no non-prefixed verbs like *guljat’sja* either.

Analysis. I only provide a derivation of IRA predicates based on intransitives like (2); extending it to transitives like (3a) only requires minor technical adjustments.

As a point of departure, I take Rothstein’s (2004) theory, where the semantic derivation of intransitive resultatives involves two steps: an activity verb undergoes accomplishment shift, (8a), then the resultative structure is built by summing the derived accomplishment and a result state. This yields (8b) as a semantic representation of (5); the relevant summing operation is underlined.

For (2), I propose a derivation along similar lines. We start with the denotation of unergative atelic stems like *gulja-* ‘walk’ in (9). The shifting operation in (10) introduces a new argument and a change of state it undergoes. Unlike Rothstein, I represent the change of state through degrees along the lines of Hay at al. 1999, rather than through a separate subevent standing in the incremental relation to the agent’s activity (cf. Rothstein 2004: 127-129). The intuition behind this move is that sentences like (2) do not involve two distinct subevents: the event is simplex, but a certain identifiable property of an argument undergoes change. In (10), the property is underspecified: the free variable over gradable properties *D* is interpreted contextually. Note that the new argument, *y*, does not stand in a thematic relation to the event, and that is the reason why SHIFT(\parallel *gulja* \parallel) does not exist as a lexical transitive verb ‘make someone exhausted/satisfied by singing’, cf. (6).

Up to this point, resultatives in English and IRA in Russian are alike. I suggest, then, that Russian is crucially different from English in that it does not allow semantic composition through summing, and (10) cannot combine with a state description and its argument in a way English resultatives do. Instead, Russian introduces a result state by means of a verbal prefix, and identifies the argument of that state with the agent through reflexivization. First, the reflexivization in (12) occurs, where the reflexive *-sja* morpheme in (11) applies to (10), yielding a relation between events, individuals and degrees. Now there is no argument in (12) that does not stand in a thematic relation to the event. But there is another problem with (12) that prevents *guljat’sja* in (7) from being a possible verb in Russian: its degree argument is not bound. I suggest that this is done at the final state of derivation by the *na-* prefix, (13). The prefix introduces a result state with underspecified descriptive properties, its argument being identical to the agent of the event, and bounds existentially the degree argument. (Apparently, the latter function should independently be assigned to a certain class of prefixes, e.g., to those deriving telic verbs from gradable adjectives, e.g., *u-glub-i-t’* ‘deepen’).

After saturation of the argument position and existential closure we get a formula in (14). The formula says that there is a walking event in which Vasja is an agent and some of his gradable properties, contextually determined, increases by some degree. The event leads Vasja to a new state, whose descriptive properties are determined contextually as well. This seems to be exactly what we need to capture the meaning of IRA verbs like (1). Main advantages of the proposed analysis are summed up in (15).

Examples

- (1) The tourists walked themselves tired.
- (2) Turisty na-gulja-l-i-s'.
tourists NA-walk-PST-PL-REFL
'By walking, the tourists achieved a state of being satisfied.'
- (3) a. Vasja na-podmeta-l-sja
V. NA-sweep-PST-REFL
'By sweeping, Vasja achieved a state of being satisfied.'
- b. *Odežda na-suši-l-a-s'
clothes NA-dry-PST-F-REFL
- c. *Vasja na-razbiva-l-sja
V. NA-break-PST-FERL
- (4) Turisty na-gulja-l-i-s' do iznemoženij-a.
tourists NA-walk-PST-PL-REFL to exhaustion-GEN
'By walking, the tourists achieved a state of being exhausted.'
- (5) John sang the baby asleep (Rothstein 2004)
- (6) *Vasja na-pe-l Petju (do iznemoženij-a)
V. NA-sing-PST-PL-REFL P.-ACC to exhaustion-GEN
'By singing, Vasja made Petja acquire a state of being exhausted.'
- (7) *Turisty gulja-l-i-s'.
tourists walk-PST-PL-REFL
'By walking, the tourists were acquiring a state of being satisfied/exhausted.'
- (8) a. $\text{SHIFT}(\lambda e.\text{ACTIVITY}(e) \wedge \text{AG}(e)=x) = \lambda y \lambda e \exists e_1 \exists e_2 [e = {}^S(e_1 \oplus e_2) \wedge \text{SING}(e_1) \wedge \text{AG}(e)=x \wedge \text{TH}(e_1) = y \wedge \text{BECOME}(e_2) \wedge \text{ARG}(e_2)=\text{TH}(e_1) \wedge \text{INCR}(e_1, e_2, C(e_2))]$
- b. $\exists e \exists e_1 \exists e_2 \exists e_3 \exists e_4 [e = {}^S(e_1 \oplus e_2) \wedge e_1 = {}^S(e_3 \oplus e_4) \wedge \text{SING}(e_3) \wedge \text{AG}(e_3)=\text{John} \wedge \text{TH}(e_3) = \text{the baby} \wedge \text{BECOME}(e_4) \wedge \text{ARG}(e_4)=\text{TH}(e_3) \wedge \text{INCR}(e_3, e_4, C(e_4)) \wedge \text{ASLEEP}(e_2) \wedge \text{ARG}(e_2)=\text{the baby} \wedge \text{TPCONNECT}(\text{Cul}(e_1), e_2, \text{the baby})]$
- (9) $\| \text{gulja} \| = \lambda x \lambda e. \text{WALK}(e) \wedge \text{AG}(e)=x$
- (10) $\text{SHIFT}(\| \text{gulja} \|) = \lambda d \lambda y \lambda x \lambda e [\text{WALK}(e) \wedge \text{AG}(e)=x \wedge \text{INCREASE}(D)(d)(y)(e)]$
where $\text{INCREASE}(D)(y)(d)(e) = 1$ iff the degree to which y possesses a property D increases by d in e
- (11) $\| \text{sja} \| = \lambda T_{\langle d, \langle e, \langle e, \langle v, \langle \rangle \rangle \rangle \rangle} \lambda d \lambda x \lambda e. T(d)(x)(x)(e)$
- (12) $\| \text{sja} \| (\text{SHIFT}(\| \text{gulja} \|)) = \lambda d \lambda x \lambda e [\text{WALK}(e) \wedge \text{AG}(e)=x \wedge \text{INCREASE}(D)(x)(d)(e)]$
- (13) $\| \text{na} \| = \lambda S_{\langle d, \langle e, \langle v, \langle \rangle \rangle \rangle} \lambda x \lambda e \exists d \exists s [S(d)(x)(e) \wedge \text{CAUSE}(s)(e) \wedge \alpha(s) \wedge \text{ARG}(s)=x]$
- (14) $\| \text{Vasja naguljalsja} \| = \exists e \exists d \exists s [\text{WALK}(e) \wedge \text{AG}(e)=\text{Vasja} \wedge \text{INCREASE}(D)(\text{Vasja})(d)(e) \wedge \text{CAUSE}(s)(e) \wedge \alpha(s) \wedge \text{ARG}(s)=\text{Vasja}]$
- (15) The analysis outlined above seems to have a number of advantages.
- It captures both similarities and differences between IRA verbs and reflexive resultatives.
 - It makes explicit the role of the reflexive postfix *-sja-* and the prefix *na-* in the semantic derivation of IRA verbs, and excludes derivations of non-existent verbs in (6) and (7).
 - It predicts, correctly, that the descriptive properties of the result state in examples like (2) are underspecified and determined contextually.

References

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