



2010

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Leonard H. Babby

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### Recommended Citation

Babby, Leonard H. (2010) "À la Recherche du Temps Perdu: Russian ---SJA and ---EN--- in ASBMT," *Russian Language Journal*: Vol. 60: Iss. 1, Article 2.

Available at: <https://scholarsarchive.byu.edu/rlj/vol60/iss1/2>

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## À la Recherche du Temps Perdu: Russian -SJA and -EN- in ASBMT

*Leonard H. Babby*

### 1. Introduction

In 1973-74, Dick Brecht and I wrote an article entitled *The Syntax of Voice in Russian*, which appeared in *Language* in 1975 (hereafter B&B 1975). Since then Dick and I have gone off in different directions, but I have returned periodically to the rich vein of data and problems in our paper and return to them again here, this time within the framework of the argument-structure based theory of morphosyntax (ASBMT) proposed in Babby 2009, 2010a, 2010b, and 2011, which has enabled me, after the passage of 35 years, to pinpoint what was right in the *Syntax of Voice in Russian* and where we went wrong. Our argumentation against the existence of complex, construction-specific transformations like early versions of the passive transformation has stood the test of time. I will concentrate here on the most productive uses of the Russian **-sja** (*-sja* and *-s'* after vowels) and **-en-** (*-en-* ~ *-n-* ~ *-t-*) suffixes, which was the empirical focus of our 1975 paper.

We proposed that the different morphosyntactic properties of **-sja** and **-en-** follow from the fact that the former is introduced “transformationally”, i.e., by a *syntactic* rule, whereas the later is introduced “lexically”, i.e., that **-en-** is a participle-forming “derivational suffix” which is introduced pre-syntactically in what at the time was called the morphological component (see Halle 1973). I now reject this analysis.

It is demonstrated in Babby 2010a that in ASBMT there are *two* computational domains rather than the one syntactic computational domain posited in Principles & Parameters theory (P&P) and the Minimalist Program. They are the *argument structure* (presyntactic) domain (AS), where the verb stem **V** composes with one or more of the language’s productive bound morphemes, and the *syntactic domain*. This entails that, contra B&B 1975, the **-sja** and **-en-** suffixes in passive and middle (derived intransitive) derivations are *both* introduced presyntactically *in the AS domain* and, therefore, that their disparate morphosyntactic properties must be encoded in terms of their AS representations and featural composition; e.g., the **-en-** suffix has inherent adjectival features, whereas **-sja** has no categorial features of its own and, therefore, [**V-en-**] is a deverbal adjective (**-en-** participle) but **-sja** in [**V-sja**] does not determine **V**’s final category. Syntactic operations (rules) alter the sentence’s syntactic structure; they do not introduce suffixes and cannot affect the internal structure of the word. AS operations

(rules) typically alter **V**'s initial AS, and the derivation's final AS representation projects the sentence's core syntactic structure. Thus, syntactic operations do not have access to AS or the verb's internal morphological structure, but **V**'s final, derived AS determines (projects) the sentence's core syntactic structure, which is why ASBMT can be described as an *AS-based* theory of morphosyntax.

It was assumed in B&B 1975 and Babby 1975 that all the productive uses of **-sja** could be explained in terms of a single **-sja** suffix. I argue below that there is evidence in modern Russian for at least *two* different, homophonous **-sja** suffixes; this evidence is based on theta-role assignment, which did not play as significant a role in our 1975 analysis as it does in ASBMT.

This paper is organized as follows: Section 2 is an outline of the relevant tenets of ASBMT that differ from P&P theory and the Minimalist Program. Section 3 argues that **-en-**, unlike **-sja**, always derives unaccusative verb stems (**V**) in standard Russian. Section 4 treats **-en-** and **-sja** in passive and middle derivations in the ASBMT framework. In section 5, I present my main hypothesis, namely, there are at least two distinct, productive homophonous **-sja** suffixes in Russian. Section 6 briefly explores the function of **-sja** and **-en-** in impersonal sentences.

## 2. Argument Structure Based Morphosyntactic Theory

ASBMT is based on isolating (e.g., English), agglutinating (e.g., Turkish), inflectional (e.g., Russian), and polysynthetic (e.g., Mohawk) languages. The following are its most salient properties; empirical evidence for all aspects of ASBMT can be found in Babby 2009, 2010a, 2010b, and 2011.

- It is ASBMT's *two* tandem computational domains, with AS-domain operations preceding the syntactic-domain operations, that makes ASBMT a balanced, fully integrated, seamless derivational theory of morphosyntax. P&P theory is at heart a theory of syntax, not morphosyntax.
- AS in ASBMT is the presyntactic, hierarchically structured computational domain in which AS operations (rules) map **V**'s *initial* AS into final, *derived* AS. More specifically, the *initial* AS of **V**, which is 'stored' in **V**'s entry in the mental lexicon, and the AS of one or more of the language's productive affixes *compose* (amalgamate) to derive **V**'s *final* AS. The AS of each affix is responsible for a specific change in the AS it composes with. Languages differ with respect to their inventory of productive affixes (e.g., Russian has neither a causative nor applicative suffix) and to the AS and featural composition of these affixes (e.g., we see below that the AS of **-en-** in standard Russian is different from the AS of **-en-** in Ukrainian and northern Russian dialects). Thus each productive suffix has its own AS and the central AS-domain operation is composition (merger) of **V**'s AS with the AS one or more suffixes. The

symbol “+” denotes AS composition and “>” denotes the result of AS-domain operations; e.g.,  $V + Y > [{}_Y V-Y]$ , i.e.,  $V$  composes with  $Y$  to create  $[{}_Y V-Y]$ . See (6) for a specific AS-domain derivation (“>>” denotes an automatic, configurationally induced AS operation (see (6c) >> (6d)) and “=>” denotes projection of final AS to initial syntactic structure in non-polysynthetic languages). We see in (1) that “>” has a second function: when not coupled with “+”, it denotes “is realized as”, e.g.,  $c > -af-$  is read “ $c$  is realized as an affix”. Thus an AS-domain *operation* is typically an affix-driven ‘rule’ that alters  $V$ ’s initial or derived AS representation in highly specific ways (see below), which thus affects the projected sentence’s structure and grammatical relations.

- AS domain operations canonically involve the composition (AS merger) of  $V$ ’s AS with the AS of a productive affix. For example, the AS of the causative suffix in Turkish has its own external agentive argument, which projects as subject of the causative sentence, *displacing* the external argument in  $V$ ’s AS when the two ASs merge.  $V$ ’s displaced external argument occupies the left-most ‘unused’ position in  $V$ ’s initial AS and thus projects to syntax as an object (see below). The passive affix’s AS is responsible for the displacement (*dethematization*) of  $V$ ’s external (agent) theta role.
- AS-domain operations can thus alter the grammatical relations encoded in  $V$ ’s initial AS. In contrast, *syntactic operations* cannot alter the sentence’s projected-from-AS grammatical relations (see below). The primitives of AS-domain operations are thus morphemes, whereas the primitives of syntactic operations are words and the phrases they head. AS-domain derivations culminate in well-formed verbs (words) and their final ASs, whereas syntactic derivations culminate in sentences.
- In non-polysynthetic languages,  $V$ ’s *final, derived AS* projects the sentence’s *initial syntactic structure*, which is the second computational domain. Syntactic operations (rules) map the *initial syntactic structure* to the sentence’s *final syntactic structure*, which is the input into Information Structure, which is responsible for Russian’s discourse-sensitive final “free” word order. Only AS operations can alter grammatical relations; post-AS operations can thus be characterized as grammatical-relation-preserving. *Wh*-movement is thus a quintessential syntactic rule: the *wh*-word’s movement does not alter the sentence’s core grammatical relations or case.
- The ordered, tandem relation between the two computational domains derives the Lexicalist Hypothesis: syntactic rules cannot backtrack and introduce, rearrange, or extract the individual components of words, i.e., roots, stems, prefixes, suffixes, etc.
- $V$ ’s final AS in *polysynthetic* languages like Mohawk does *not* project core syntactic structure, where  $V$ ’s  $NP_q$  arguments occupy dedicated phrase-structure argument positions ( $\theta$  denotes theta role). The arguments in the Mohawk  $V$ ’s final AS project

as *verb-internal argument affixes* (prefixes) i.e., **-af<sub>v</sub>**- (see Babby 2010a); overt NPs in Mohawk are optional adjuncts, not arguments (see Baker 1996, 2009).

- *Verb structure* in polysynthetic languages and *phrase structure* in non-polysynthetic languages are homologous projections of the universal core grammatical relations encoded in AS's hierarchically arranged positions. There do not appear to be any other kinds of AS projection in human language (see Babby 2010a).

- It is assumed in P&P and the Minimalist Program that AS consists of a hierarchically ordered set of theta roles, which are assigned to their NP arguments *in syntax*. But the existence of **-af<sub>v</sub>**- argument affixes entails that **V**'s theta roles must be *linked* to their categorical heads *in AS*, not assigned to NPs in syntax (see Babby 2009 and 2010a for extensive argumentation).

- It follows from this conception of AS that: (i) arguments in AS are *bipartite*, i.e., a theta role ( $\theta$ ) linked ( $\wedge$ ) to a categorical head (**c**), which is represented in ASBMT as  $\{\theta \wedge \mathbf{c}\}$ ; (ii) **c** in  $\{\theta \wedge \mathbf{c}\}$  has the *two* values represented in (1) (" $>$ " here denotes "is realized as"):

(1) **c**  $>$  **-af-** (bound morpheme) and  $\{\theta \wedge \mathbf{-af-}\}$  arguments project verb-internal *affix relations* in verb structure.  $\{\theta \wedge \mathbf{c}\} > \{\theta \wedge \mathbf{-af-}\}$  is obligatory in polysynthetic languages and optional in some non-polysynthetic languages (see below).

or

**c**  $>$  **N** (word) and  $\{\theta \wedge \mathbf{N}\}$  arguments project *syntactic relations* in phrase (syntactic) structure in non-polysynthetic languages.

We see in §5 that the distinction in (1) is the basis of my hypothesis that there are two productive **-sja** suffixes in Russian.

- ASBMT is a shift in focus from concentrating on syntactic computation to determining the proper interrelation and apportionment of computational operations between the AS and syntactic computational domains. This proposal is entirely consonant with the basic goals of the Minimalist Program since it effects an overall simplification of grammar's organization and computational operations.

- Given that **V** can have no more than three arguments, (2a) is the universal representation of a ditransitive **V**'s AS: **i** is **V**'s left-most, 'external' theta role, which projects the sentence's subject and is thus VP-external (**i** = *agent* if there is one); **j** and **k** are **V**'s internal, object theta roles (the *theme* and *affectee* in Bower's 2010 terminology); the sub-numbers in (2) have an expository function, enabling us to refer to AS's four positions; "-" denotes an unused slot (**V** itself is never linked to a theta role in *initial* AS (cf. *derived*  $\{\mathbf{i} \wedge [\mathbf{V-af-}]_4$  in passive AS). Thus AS has two *tiers* (the theta role selection tier and the categorical (**c**) selection tier), four *positions* (three

argument positions and *V*'s position), and, therefore, eight *slots* in all. All ASs, no matter what *V*'s valence may be (0, 1, 2, or 3), have the immutable 2x4 skeletal structure in (2). A crucial tenet of ASBMT is that *V*'s initial and final ASs always have 2x4 structure, i.e., rules cannot increase or decrease the number of *positions* in AS (but AS-level operations can introduce new arguments into *V*'s initial AS (e.g., see causativization below)). (2a-e) represent the cross-linguistically most common initial ASs in non-polysynthetic languages (see Babby 2009 for (2f)).

- (2)
- |    |   |                                    |
|----|---|------------------------------------|
| a. | $\{i^{\wedge}N\}_1 \{j^{\wedge}N\}_2 \{k^{\wedge}N\}_3 \{-^{\wedge}V\}_4$ | (ditransitive <i>V</i> )           |
| b. | $\{i^{\wedge}N\}_1 \{j^{\wedge}N\}_2 \{-^{\wedge}\}_3 \{-^{\wedge}V\}_4$  | (monotransitive <i>V</i> )         |
| c. | $\{i^{\wedge}N\}_1 \{-^{\wedge}\}_2 \{-^{\wedge}\}_3 \{-^{\wedge}V\}_4$   | (unergative <i>V</i> )             |
| d. | $\{-^{\wedge}\}_1 \{-^{\wedge}\}_2 \{-^{\wedge}\}_3 \{-^{\wedge}V\}_4$    | (impersonal/subjectless <i>V</i> ) |
| e. | $\{-^{\wedge}N\}_1 \{j^{\wedge}\}_2 \{-^{\wedge}\}_3 \{-^{\wedge}V\}_4$   | (unaccusative <i>V</i> )           |
| f. | $\{-^{\wedge}\}_1 \{j^{\wedge}N\}_2 \{-^{\wedge}\}_3 \{-^{\wedge}V\}_4$   | (transitive impersonal <i>V</i> )  |

The AS-to-syntactic-structure derivation of (2a) is schematically represented in (3); the AS-to-verb-structure derivation of a ditransitive in polysynthetic languages is represented in (4).

We see in (3) and (4) that the AS-encoded grammatical relations, the hierarchical positions of the projected arguments, and the theta-tiers are identical in the non-polysynthetic and polysynthetic projections. For example, [<sub>v</sub> [-afi- [ ... ]]] and [<sub>VP</sub> NP<sub>i</sub>.NOM [<sub>v'</sub> ... ]]] are homologous projections of *V*'s initial external argument and thus both **-afi-** and NP<sub>i</sub> are 'subjects'.

- (3)
- |   |                       |
|---|-----------------------|
| $\{i^{\wedge}c\}_1 \{j^{\wedge}c\}_2 \{k^{\wedge}c\}_3 \{-^{\wedge}V\}_4$   | >                     |
| $\{i^{\wedge}N\}_1 \{j^{\wedge}N\}_2 \{k^{\wedge}N\}_3 \{-^{\wedge}V\}_4$   | =>                    |
| [ <sub>vP</sub> NP <sub>i</sub> [ <sub>v'</sub> [V-v] [ <sub>VP</sub> NP <sub>j</sub> [ <sub>v'</sub> t <sub>v</sub> NP <sub>k</sub> ]]]] | (syntactic structure) |
- (4)
- |  |                  |
|--|------------------|
| $\{i^{\wedge}c\}_1 \{j^{\wedge}c\}_2 \{k^{\wedge}c\}_3 \{-^{\wedge}V\}_4$    | >                |
| $\{i^{\wedge}af\}_1 \{j^{\wedge}af\}_2 \{k^{\wedge}af\}_3 \{-^{\wedge}V\}_4$ | =>               |
| [ <sub>v</sub> [-afi- [-afj- [-afk- V ]]]]                                   | (verb structure) |

- The unused slots in *V*'s initial 2x4 structure we see in (2) play a crucial explanatory role in AS-level operations. For example, as we saw above, productive causative affixes have their own external  $\{i^{\wedge}N\}_1$  argument, which right-displaces *V*'s initial  $\{i^{\wedge}N\}_1$  external argument when the ASs of the causative affix and *V* compose: the

final AS position and, therefore, the syntactic projection, of **V**'s displaced external argument is exhaustively determined by the left-most unused {-^} position in **V**'s initial AS (see Babby 2009:45-54). For example, we see in (5) that when the monotransitive AS (2b) is *causativized* (i.e., the ASs of **V** and the causative affix compose), **V**'s left-most unused position is {-^}3, which correctly predicts that **V**'s displaced external argument {i^N}1 is displaced to {-^}3, giving {i^N}3, which projects as the sentence's dative 'indirect' agentive object; the causative affix's {i^N}1 argument becomes the external argument of the derived causative AS and projects as the sentence's nominative subject (see Babby 1983).

(5) Causativized monotransitive Vs:

- a. Polis<sub>i</sub> Hasan-ai bütün paket-ler-in-i; aç-tır-dı.  
 Police-NOM Hasan-DAT all package-PL-POSS -ACC open-CAUS-PAST  
 'The police made/had Hasan open all his packages.' (Turkish)
- b. J'ai fait manger les pommes; a Pauli.  
 I-have made to-eat the apples-ACC to-Paul  
 'I made Paul eat the apples.' (cf. \*J'ai fait Paul manger les pommes.) (French)
- c. Tanaka-gai John-ni hono-o; yomi sase masu.  
 T-NOM J-DAT book-ACC read CAUS tense/aspect  
 'Tanaka makes John read the-book.' (Japanese)

- Since verbs are stored in the mental lexicon as stems (**V**) along with their ASs, when we select a specific **V**, presumably on the basis of its lexical meaning, we automatically select its initial AS. This means that the projected sentence's core syntactic structure is imposed on us by the grammatical relations encoded in **V**'s initial AS (in non-polysynthetic languages). Languages thus typically have a set of AS-bearing affixes that alter **V**'s initial AS and, therefore, the projected sentence's grammatical relations and morphosyntactic structure (e.g., applicative, antipassive, and causative sentences (see Xolodovič 1974)), which enables the speaker to adjust the sentence's *syntactic argument focus* (see the derivations of passive, middle, and impersonal sentences below). But none of these operations alter AS's skeletal 2x4 structure (see Babby 2009: chapter 1).

- There are two kinds of productive affixes that compose with **V** in the AS computational domain: those with their own ASs (e.g., the causative affix) and those like the {θ^af-} argument affixes, which do not themselves have ASs.

- There are no operations that convert one theta role into another, e.g., an agent into an experiencer. In sentence pairs like the following, the **k**-role in the first sentence does not change to an **i**-role when it becomes the subject in the second: *Vodoj<sub>k</sub>.INST napolnil<sub>oN</sub> jamu<sub>j</sub>.ACC ~ Voda<sub>k</sub>.NOM napolnila<sub>F</sub> jamu<sub>j</sub>.ACC* ‘Water filled the-pit’ (see §6 and Babby 1994b and 2010c).

### 3. The **-en-** suffix in Russian

**3.1 [V-en-] is always unaccusative.** The AS of the **-en-** suffix canonically composes with the AS of a perfective transitive **V**, deriving an unaccusative stative [**V-en-**] *participle stem*, as (6b) > (6c) >> (6d). A primary difference between **-en-** and **-sja** is that the former *always* derives an unaccusative stem in standard Russian, which accounts for the fact that **-en-** participles never have agentive subjects or direct objects, whereas the AS derived by the latter is not always unaccusative (see §5).

Since **-en-** is the *head* of the derived participle stem (see Di Sciullo and Williams 1987 for the notion “head of the word”) and since the **-en-** suffix has inherent adjectival features, i.e., [+V] and [+N], the [**V-en-**] participle stem inherits **-en-**’s categorial features and is morphosyntactically a *deverbal adjective* (cf. §4.3). A *stem*, which is a morphological primitive, becomes a *word*, which is a syntactic primitive, only when the stem composes with an inflectional suffix (see (6e) > (6f) below). Short form (SF) **-en-** participles (see (6f)), which are obligatorily predicates, must compose with a form of the copula, just as underived (lexical) SF adjectives must.

[**V-en-**] participle stems compose with either the predicate short form (SF) or the attributive long form (LF). Unlike lexical adjectives, **-en-** participle stems in their predicate function are not normally affixed with the LF (see §4.3).

**3.2 -en- passive sentences.** What happens to a perfective transitive **V**’s initial AS when it composes with the AS of **-en-** in a passive derivation? **V**’s initial internal {**j**<sup>^</sup>**N**}<sub>2</sub> argument is realized in the projected passive sentence as the subject of the SF **-en-** participle; **V**’s initial {**i**<sup>^</sup>**N**}<sub>1</sub> external argument is optionally realized as the *by*-phrase, which is an instrumental case adjunct NP in Russian, e.g.: *Viktor<sub>i</sub>.M.NOM bystro perevel<sub>M</sub> stat’ju<sub>j</sub>.F.ACC* ‘Viktor translated the-article quickly’ ~ *Stat’ja<sub>j</sub>.F.NOM byla<sub>F</sub> bystro perevedena<sub>SF</sub>* (*Viktorom<sub>INST</sub>*) ‘The-article was quickly translated (by-Viktor)’. The passive derivation of perfective **V** is schematically represented in (6); the ‘blank’ slots in { <sup>^</sup> }, which are common in the AS of affixes and auxiliaries, denote *inheritance*, i.e., a blank slot inherits the contents of the corresponding slot in the immediately preceding AS (e.g., see (6d) + (6e) > (6f)).

(6) Passive derivation of a perfective monotransitive verb in Russian:



a.	$\{i^{\wedge}N\}_1 \{j^{\wedge}N\}_2 \{-^{\wedge}\}_3 \{-^{\wedge}V\}_4$	(V's initial AS)
		+ (composes with)
b.	$\{-^{\wedge}\}_1 \{-^{\wedge}\}_2 \{-^{\wedge}\}_3 \{-^{\wedge}en\}_4$	(-en-'s unacc.-forming AS)
		> (a+b yields)
c.	$\{-^{\wedge}N\}_1 \{j^{\wedge}\}_2 \{-^{\wedge}\}_3 \{i^{\wedge}[V-en]\}_4$	(unacc. passive participle stem)
		>> (automatic operation)
d.	$\{j^{\wedge}N\}_1 \{-^{\wedge}\}_2 \{-^{\wedge}\}_3 \{i^{\wedge}[V-en]\}_4$	(unacc. passive participle stem)
		+ (composes with in AS)
e.	$\{-^{\wedge}\}_1 \{-^{\wedge}\}_2 \{-^{\wedge}\}_3 \{-^{\wedge}af_{SF}\}_4$	(AS of the SF inflectional suffix)
		> (d+e yields)
f.	$\{j^{\wedge}N\}_1 \{-^{\wedge}\}_2 \{-^{\wedge}\}_3 \{i^{\wedge}[[V-en]-af_{SF}]\}_4$	(final AS)
		=> (projects to syntax)

Since  $\{-^{\wedge}N\}_1$  and  $\{j^{\wedge}\}_2$  in (6c) do not project well-formed syntactic structures,  $j$  in  $\{j^{\wedge}\}_2$  obligatorily relinks (externalizes) to  $\{-^{\wedge}N\}_1$  (see (6c) >> (6d)), which yields the *derived unaccusative* AS in (6d).  $\{j^{\wedge}N\}_1$  projects the sentence's NP<sub>i</sub> thematic subject, which is the hallmark of unaccusative sentences (for case marking, see Babby 1994a and Woolford 2006). A natural question here is why N in  $\{-^{\wedge}N\}_1$  does not itself relink to  $\{j^{\wedge}\}_2$  instead. The reason is: (i) Unlinked theta roles can relink but there is no empirical evidence that unlinked categorical heads relink; (ii) The relinking of N<sub>1</sub> to  $\{-^{\wedge}j\}_2$  in (6c) would reprise the original  $\{j^{\wedge}N\}_2$  argument in (6a), which is an illicit operation; (iii) The relinking of N in  $\{-^{\wedge}N\}_1$  would yield  $\{-^{\wedge}\}_1$  (i.e.,  $\{-^{\wedge}N\}_1 \{j^{\wedge}\}_2 > \{-^{\wedge}\}_1 \{j^{\wedge}N\}_2$ ):  $\{-^{\wedge}\}_1$  is the external argument of impersonal (subjectless) sentences and Russian does not have  $\{-^{\wedge}\}_1 \{j^{\wedge}N\}_2 \{-^{\wedge}\}_3 \{i^{\wedge}[V-af -]\}_4$  impersonal transitive passive sentences (see §6 for details).

Since the SF of adjectives and participles in contemporary Russian always occurs with a form of the copula, *byt'* 'be'-introduction is required by the SF and is not a unique property of Russian -en- passive sentences, e.g., *Stat'ja<sub>i,F,NOM}</sub> dolžna<sub>SF,F}</sub> byla<sub>AF}</sub> byt' perevedena<sub>SF,F}</sub> včera<sub>ADV}</sub> 'The-article was supposed to have been translated yesterday': *byla* 'was' is the past tense copula of the SF modal adjective *dolžna* and the infinitive 'byt' 'to-be' is the obligatory copula required by the SF participle *perevedena* (see Babby 2009: chapter 2 and 2010d); *perevedena<sub>SF,F}</sub>*'s copula is the infinitive *byt'* because *dolžna* selects an infinitive complement (cf. \**Stat'ja dolžna byla perevedena* and the active *Viktor dolžen byl perevesti stat'ju včera* 'Viktor was supposed to translate the article yesterday': here *perevesti* is the infinitive complement of *dolžen*).*

While not all unaccusative verbs in Russian are passive, all passivized verbs are unaccusative, which means that deriving the unaccusative AS in (6d) from (6a) is only half the story. Passivization per se universally involves the right-displacement of V's *i* theta role from its initial slot in  $\{i^{\wedge}N\}_1$  (which is why initial unaccusative Vs can't pas-

sivize: they do not have an external *i*). More specifically, **-en-**'s external argument  $\{-^{\wedge}j_1\}$  in (6b) has the following effect when it composes with **V**'s external  $\{i^{\wedge}N\}_1$  argument: **V**'s external **N** is *inherited*, whereas **V**'s external *i* theta role is right-displaced (it *deletes* in middle derivations (see below)). Thus what is "special" about passive derivations is that **V**'s dethematized *i* is *displaced*, relinking to the left-most  $\{-^{\wedge}X\}$  theta receptor, where  $X = N$  or **V** (see (6b) > (6c)). The only theta receptor in passive ASs is  $\{-^{\wedge}[V-af-]\}_4$  (**-af-** = **-en-** or **-sja**), yielding  $\{i^{\wedge}[V-en-]\}_4$  (or  $\{i^{\wedge}[[V]-sja]\}_4$  when **V** is imperfective). Speaking in general terms, whenever a theta role (e.g., *i* in passive derivations) or bipartite argument (e.g.,  $\{i^{\wedge}N\}_1$  in causative derivations) is *displaced* as the result of composition with the AS of an affix, the displaced element must occupy a vacant slot or position, or the derivation "crashes", i.e., the resulting AS cannot project to syntax. Displaced theta roles must relink to the first, left-most  $\{-^{\wedge}X\}$  and displaced bipartite arguments canonically occupy the first, left-most  $\{-^{\wedge}-\}$  position in **V**'s AS.  $\{-^{\wedge}[V-af-]\}_4$  is the only  $\{-^{\wedge}X\}$  in the passive derivation: in (6c),  $\{j^{\wedge}-\}_2$  and  $\{-^{\wedge}-\}_3$  are not theta receptors. *i* in  $\{i^{\wedge}[V-af-]\}_4$  in (6) is referred to as an *implicit* theta role (see Brody and Manzini 1990), which licenses the optional adjunct *by*-phrase.

This derivation of passive sentences explains why the AS of passivized unergative **V**s project impersonal sentences: As we see in (2c), unergative **V** does not have an internal *j* to externalize and thus no external argument to project a subject (e.g., see German *Sonntags wird nicht gearbeitet* 'One does not work on Sundays' (see Roberts 1987:512)). Russian does not have impersonal passives; sentences like the following are not passive (see §6.2): *Emudat ne rabotaetsja* 'He doesn't feel like working' ~ *Onnom ne rabotaet* 'He is not working'.

Since the SF inflectional suffix **-a** in *Stat'ja perevedena* 'The-article (has been) translated' does not have inherent categorical features, **-en-** is the head of the participle, i.e.:  $\{i^{\wedge}[_{en}[pereved-en-]-a]\}_4$  (see the notion of "relativized head" in Di Sciullo and Williams 1987).  $\{i^{\wedge}[_{en}...]\}_4$  is by definition an *argument affix* (see (4)). As noted above, all Mohawk's arguments are  $\{\theta^{\wedge}-af-\}$  argument affixes and, as demonstrated in Baker 2001, all Mohawk's overt NPs are optional adjuncts ("argument adjuncts" in Grimshaw's 1990 terminology), which, I claim, are licensed by the corresponding  $\{\theta^{\wedge}-af-\}$  argument affixes. Thus the optional *by*-phrase in non-polysynthetic languages and the optional NP argument adjuncts in Mohawk are essentially the same phenomenon: both are licensed by "implicit"  $\{\theta^{\wedge}-af-\}$  theta roles. The crucial difference is that *all* Mohawk's arguments are *obligatorily verb-internal argument affixes*, whereas the adjunct *by*-phrase that passive  $\{i^{\wedge}[_{en}[pereved-en-]-a]\}_4$  licenses in non-polysynthetic languages is *optional*.

Ukrainian impersonal transitive passives like *Zapruž-en-oimpersonal ričku<sub>j</sub>acc* 'The-river is dammed-up' illustrate that the Ukrainian **-en-** suffix also derives a stative

participle, but, unlike its Russian counterpart, it is not *always* unaccusative (see Lavine 2000 and Babby 2002:367 for discussion).

#### 4. Middle and passive sentences

The derivation of **-en-** passive sentences in (6) simplifies the task of accounting for the derivation and properties of ‘middle’ verbs (i.e., derived intransitives) and of *imperfective* passive sentences (where **-sja** is the unaccusative-forming suffix).

**4.1 Russian imperfective passive sentences.** **-sja** is used instead in **-en-** in passive derivations when **V** is imperfective (see (7) below): all we have to do in (6) is replace the **-en-** suffix with **-sja** and bear the following facts in mind: (i) unlike **-en-**, **-sja** has no categorial features and is thus not the head of the verb despite its obligatory verb-final position; (ii) **-sja** in passive derivations is an unaccusative-forming affix, just as **-en-** is; (iii) since **-sja** and **-en-** are both unaccusative-forming suffixes in standard Russian, they cannot both occur in the same derivation (but see dialect forms like *U ego prostuž-en-o-s’* ‘He caught cold’ in B&B 1975:347; here, as in the case of the Ukrainian transitive impersonal passive above, **-en-** does *not* derive an unaccusative **V**); (iv) **-sja** in modern Russian is a word-internal enclitic suffix, which means that it always occurs at the end of the verb no matter where in the derivation it is introduced. This can be represented as follows: **V + -sja** > {... [[**V-**] **sja**]...}, which indicates that all subsequent suffixes compose with [**V-**], not **-sja**, thereby deriving the correct order of suffixes (see (25)). In contrast, **V + -en-** > {...[[**V-en-**]...}, which encodes the fact that all subsequent suffixes must follow **-en-** (see Babby 2009 for details).

- (7) a. Rabočie strojat dom. ‘The-workers are-building a-house.’  
b. Dom stroitsja rabočimi. ‘A-house is-being-built by-the-workers.’

The fact that syntactic rules in ASBMT do not operate on affixes and do not alter the grammatical relations encoded in **V**’s AS eliminates from contention any analysis in which **-sja** is merged *in syntax* (as in B&B 1975).

**4.2 Russian middle sentences.** **-sja** is used in the derivation of middle (derived intransitive) verbs of both aspects. The following are typical imperfective middle sentences:

- (8) a. Etot otryvok ego knigi legko perevoditsja  
‘This excerpt of his book translates easily.’  
b. Metally rasširjajutsja pri nagrevanii.  
‘Metals expand when heated (lit. widen upon heating).’

- c. Eta tkan' xorošo stiraetsja.  
 'This material washes well.'
- d. Cyplenok legko perevarivaetsja.  
 'Chicken is easily digested (lit. digests easily).'

Middle sentences are derived-unaccusative sentences in which **V**'s initial external theta role **i** is *deleted* rather than *displaced* when **V**'s external  $\{i^{\wedge}N\}_1$  argument and the external  $\{-^{\wedge}\}_1$  argument of the unaccusative-forming suffix (**-en-** or **-sja**) compose (see (6)). Passive and middle sentences in Russian are thus both derived unaccusative sentences; they differ with respect to the fate of **i**, which is made *implicit* in passive sentences and is deleted in middle sentences. This explains why passive verbs license *by*-phrases and middle verbs do not.

The following question naturally arises: How is this optionality of **i** encoded in **V**'s initial AS? It could be represented as  $\{(i^{\wedge}N)\}_1$  for verbs that have both a passive and middle. Something along these lines is needed to encode the fact that **V**'s like *položít'* 'to put' have a passive (*Kniga byla položena na stol (Ivanom)* 'The book was put on the table (by Ivan)' but do not have a middle counterpart, i.e., *Kniga položilas' na stol* '\*The book put on the table', *Kniga legko kladetsja na stol* '\*The-book easily puts in the table' (NB: the form *položít'sja* exists, but is the perfective of *polagat'sja* 'to rely on'). Thus the external argument of *položít'* ~ *klast'* 'put' would be  $\{i^{\wedge}N\}_1$ , indicating that **i** cannot be deleted. But this is an area where further research is needed: the fact that *položít'* does not form the middle may be predictable in terms of its lexical semantics and thus may not have to be encoded in its AS.

Perfective middle sentences canonically denote a completed action without reference to **V**'s agent (i.e., **i** in  $\{i^{\wedge}N\}_1$ ). In middle sentences of both aspects, **V**'s agent is semantically *dissociated* from the action denoted by **V**, as in (9b), whereas in passive sentences like (9c), the agent is merely *defocused*. "Unagentive" (natural-force adversity) impersonal sentences like (9d) are used when the speaker needs to explicitly assert that no agent is involved in the event (see Babby 1994b, 2010c):

- (9) a.  $My_{i,PL,NOM}$  perevernuli $_{PL}$  lodku $_{j,F,ACC}$  'We turned the-boat over.' (active)  
 b.  $Lodka_{j,F,NOM}$  perevernulas' $_F$ . 'The-boat turned-over.' (middle)  
 c. *Lodka byla perevernuta (nami).* 'The-boat was turned over (by us).'  
 (passive)  
 d.  $Lodka_{j,F,ACC}$  perevernulon. 'The-boat got turned over.' (impersonal)

The [**V-en-**] participle can be the predicate of *stative middle sentence*, as in (10) - (12): a passive interpretation is either unlikely, as in (10), or semantically excluded, as in

(11); (12a-b) are both middle sentences (cf. *Frukty isportilis'/isporčeny* 'The fruit spoiled/is spoiled'):

- (10) a. Rebenok prostudilsja. 'The child caught cold.' (non-stative middle)  
b. Rebenok prostužen. 'The child has a cold.' (stative middle)
- (11) a. U nego ruki smorščilis'. 'His hands became wrinkled.'  
b. U nego ruki smorščeny. 'His hands are (have become) wrinkled.'
- (12) a. Ee telo pokrylos' jazvami 'Her body became-covered with (\*by) sores.'  
b. Ee telo pokryto jazvami 'Her body is covered with (\*by) sores.'

The derivation of **-en-** stative middle sentences is basically the same as the derivation of **-en-** passive sentences represented in (6) above. The only significant difference is that instead of being made implicit, as in passive derivations, **V**'s external **i** is *deleted*, just as in the derivation of **-sja** middle sentences in (8) and (10a), (11a), and (12a).

**4.3 -en- participles and -enn- adjectives.** It is common in Russian for LF **-en-** participles to be *reanalyzed* as lexical adjectives, which have their own entries in the mental lexicon and have meanings that differ from **V**; thus, unlike **-en-** participles, the **-enn-** adjective is not a member of **V**'s paradigm (i.e., stem + productive suffixes), i.e., is not a morphosyntactic form created from **V** in AS-to-sentence derivation. This reanalysis creates homophonous **-en-** participle ~ **-enn-** adjective pairs like the participle *rassejannyj* 'scatter' from *rassejat* 'to scatter' and the adjective *rassejannyj* 'absentminded, scatterbrained'; see Babby 1993 for details. The following are the distinctive morphosyntactic differences between the **-en-** participle and the corresponding **-enn-** adjective: (i) In the SF non-masculine singular forms, the adjectives have **-nn-** whereas the participle has **-n-** (participles have **-enn-** only in their LFs), e.g., the SF feminine singular of the **-en-** participle of *rassejat* is *rassejana* 'scattered', whereas the SF of the **-enn-** adjective *rassejannaja* 'absentminded, scatterbrained' is *rassejanna*. (ii) **-enn-** adjectives, unlike the corresponding participles, can form the comparative (*rassejannee*, but *\*rassejane*). (iii) **-enn-** adjectives have manner adverbs in **-o**: *rassejanno*, but *\*rassejano*. (iv) **-enn-o** is also the predicate of impersonal sentences (and of "personal" sentences with a neuter subject), see (13).

This brings us to the examples in (13), (14), and (15) (= (14c), (15), and (16) in B&B 1975), which we thought were problematic since the **-enn-o** forms were erroneously identified as participles rather than adjectives (see B&B 1975: footnote 5):

- (13) V nomere bylo teplo and i otgoroženno ot vnešnego mira.

‘The room was warm and cut-off (isolated) from the outside world.’

(14) Anna smotrela na nego razočarovanno.

‘Anna looked at him dissapointedly.’

(15) \* Vanja rastroenno ženoj smotrel na menja.

\*‘Vanja agitatedly by-his-wife looked at me.’

These sentences cease to be problematic once it is recognized that the **-enn-o** forms are derived from **-enn-** adjective stems, not from **-en-** participle stems. Adjective stems affixed with **-o** are common in impersonal sentences: *teplo* and *otgoroženno* in (13) are both impersonal SFs of the adjective; *razočarovanno* in (14) is a manner adverb formed from the adjective *razočarovannyj* (SF = *razočarovanna*) not the participle *razočarovannyj* (SF = *razočarovana*). (15) is ill-formed because *adjectives* do not have implicit **i** and thus do not license *by*-phrases.

The difference between **-en-** participles and **-enn-** adjectives is this: **-en-** participles are *deverbal adjectives*, i.e., derived from **V**'s AS: the **-en-** suffix's AS composes with **V**'s AS in AS-to-sentence derivations and, therefore, the **-en-** participle is a *hybrid* verbal category, i.e., it retains **V**'s AS and is thus ‘internally’ verbal and ‘externally’ adjectival (see Babby 2009: chapter 3 for discussion of hybrid verbal categories in Russian). In contrast, **-enn-** adjectives are *departicipial adjectives*, i.e., they are the result of reanalysis, which is a diachronic phenomenon. Unlike **-en-** participles, they are not hybrid categories (i.e., do not encapsulate **V**'s AS): they have the same properties as basic, underived adjectives (e.g., form comparatives and manner adverbs). In other words, **-enn-** adjectives are the result of *word formation*, whereas **-en-** participles are formed in the AS domain as a phase of sentence formation (derivation) and, therefore, do not have their own lexical entries in the mental lexicon (and are thus not normally listed separately in dictionaries of Russian). This analysis correctly predicts that not all **-en-** participles have corresponding **-enn-** adjectives and the shifts in meaning under participle-to-adjective reanalysis are not predictable.

## 5. Unaccusative-forming **-sja** and argument affix **-sja<sub>q</sub>** in Russian

We saw above that when the ASs of **V** and **-en-** compose, the AS of the resulting [**V-en-**] participle stem is *always* unaccusative in standard Russian; **-sja** in passive and middle sentences is also an unaccusative-deriving suffix. But, unlike **-en-**, there are relatively productive uses of **-sja** that patently do *not* derive unaccusative AS (see below). This fact was the impetus of my hypothesis that there are two productive **-sja** suffixes in Russian, whose disparate properties correspond exactly to the two types of productive suffix posited in ASBMT to account for other phenomena in (1); see (16).

(16) The two types of morphosyntactic affixes:

- a. Affixes which have their own argument structures and compose with other ASs, e.g., the **-en-** and **-sja** unaccusative-forming suffixes discussed above.
- b. *Argument affixes*, which are the selected value of **c** in  $\{\theta^c\}$  (see (3) and (4));  
e.g., verb-internal arguments in Mohawk, where  $\{\theta^c\} > \{\theta^{af}\}_2 \Rightarrow -af_2$ .

More specifically, in addition to the AS-bearing, unaccusative-inducing **-sja** suffix we encountered above in passive and middle sentences (see (16a)), Russian has a second, homophonous **-sja** suffix whose properties demonstrate that it is an **-sja<sub>i</sub>** *argument affix* (i.e.,  $\{\theta^c\}_2 > \{j^{sja}\}_2 \Rightarrow -sja_i$ ), which, like all argument affixes, does not itself have an AS (see (16b)). Thus the argument affix **-sja<sub>i</sub>** is optionally linked to transitive **V**'s **j** theta role in AS and does not have its own AS, whereas unaccusative **-sja** is just the opposite: it is not linked to a theta role and does have its own AS. The following is a useful rule of thumb: **-sja** affixed to a transitive **V** is an argument affix (**-sja<sub>i</sub>**) if the sentence's subject is NP<sub>i</sub> (i.e., the projection-to-syntax of **V**'s initial external argument). Both unaccusative **-sja** and argument suffix **-sja<sub>i</sub>** developed from Old Russian *sja*, which was a sentence-level accusative enclitic pronoun.

Under certain conditions, which are related to ease of recoverability, **-sja** can optionally be linked to **j** in a transitive **V**'s initial AS instead of to **N**, thereby deriving an AS whose projection is syntactically *intransitive* (only **V**'s external  $\{i^N\}_1$  argument projects to syntax as an NP<sub>i</sub> argument), but is *thematically transitive* since it still has **V**'s initial **i** and **j** theta roles, which are projected from their initial theta-tier positions, i.e.:  $\{i^N\}_1 \{j^{sja}\}_2 \dots \Rightarrow [{}_{VP} NP_i [{}_{V'} [{}_{V'} V-sja_i] \dots]]$ . Russian direct object **-sja<sub>i</sub>** projects *verb-internal structure* because it is a bound morpheme in modern Russian. However, unlike the obligatory argument affixes in Mohawk, optional  $\{j^{sja}\}_2$  in Russian does not license an NP argument adjunct (see Babby 2010a: §9). This **sja<sub>i</sub>** ~ **N<sub>j</sub>** alternation is schematically represented in (17).

- (17) a.  $\{\{i^c\}_1 \{j^c\}_2 \{-^-\}_3 \{-^V\}_4\} >$   
 $\{\{i^N\}_1 \{j^{sja}\}_2 \{-^-\}_3 \{-^V\}_4\} \Rightarrow$   
 $[{}_{VP} NP_i [{}_{V'} \dots [{}_{V'} V-sja_i] \dots]]$  (argument affix)
- b.  $\{\{i^c\}_1 \{j^c\}_2 \{-^-\}_3 \{-^V\}_4\} >$   
 $\{\{i^N\}_1 \{j^N\}_2 \{-^-\}_3 \{-^V\}_4\} \Rightarrow$   
 $[{}_{VP} NP_i [{}_{V'} \dots [{}_{VP} V NP_j] \dots]]$  (argument NP)

Since the **-sja<sub>i</sub>** suffix in (17a) is linked to a theta role in AS and does not have its own AS, it is by definition an *argument affix*. Given that grammatical relations are encoded in AS and realized as either *syntactic relations* in phrase structure ((17b)) or as affixal relations in verb structure ((17a)), the optional selection of  $\{j^{sja}\}_2$  rather than  $\{j^N\}_2$  does not affect the projected sentence's grammatical relations: In (17a), NP<sub>i</sub> is the syn-

tactic subject and **-sja<sub>j</sub>** is the verb-internal direct object, whereas in (17b), NP<sub>j</sub> is the syntactic direct object.

For example, **-sja<sub>j</sub>** can optionally be used in place of the accusative direct object reflexive pronoun *sebja<sub>j</sub>* '(one's)self' to realize a transitive V's initial {j^c}<sub>2</sub> argument when i and j are coreferential. See (18a-b) ((18c) is ill-formed as a translation of *He washed himself* because it violates the Projection Principle: {j^c}<sub>2</sub> is not projected):

- (18) a. On<sub>i</sub> myl [NP *sebja<sub>j</sub>*]. 'He<sub>NOM</sub> washed himself<sub>ACC</sub>.'  
 b. On<sub>i</sub> [v myl-sja<sub>j</sub>]. 'He washed himself.'  
 c. \*On<sub>i</sub> myl. 'He washed himself.'  
 d. Sobaka<sub>i</sub> ližet *sebja<sub>j</sub>* / ližetsja<sub>j</sub>. 'The dog licks itself.'

The lexical restrictions on **-sja<sub>j</sub>** ~ *sebja<sub>j</sub>* are too complex to go into here. Suffice it to say that the restrictions on **-sja<sub>j</sub>** are far more numerous than those on unaccusative **-sja** and, therefore, the former is less productive than the latter. Examples like the following suggest that **-sja<sub>j</sub>** ~ reciprocal *drug druga<sub>j</sub>* 'each other' is the same phenomenon: *Oni redko obnimajutsja<sub>j</sub>* ~ *Oni redko obnimajut drug druga<sub>j</sub>* 'They rarely hug each other'.

**-sja<sub>j</sub>** also occurs in non-reflexive derivations. When V selects a specific noun as its direct object rather than the variable N, this noun is completely recoverable (semantically redundant) and is thus easily replaced by **-sja<sub>j</sub>** without changing the projected sentence's basic meaning or grammatical relations. For example, the direct object of *vysmorkat* 'to blow' can only be *nos* 'nose' and its initial AS is: {θ^c}<sub>1</sub> {θ^c}<sub>2</sub> {-^}<sub>3</sub> {-^V<sub>4</sub>} > {i^N}<sub>1</sub> {j^nos}<sub>2</sub> {-^}<sub>3</sub> {-^vysmorkaj-}<sub>4</sub>. This AS predicts that j can be optionally linked to **-sja<sub>j</sub>**, giving {{i^N}<sub>1</sub> {j^sja}<sub>2</sub> {-^}<sub>3</sub> {-^vysmorkaj-}<sub>4</sub>}: *vysmorkat' nos<sub>j</sub>* and *vysmorkat'sja<sub>j</sub>* both mean 'blow (your) nose'. See also *skalit' zuby<sub>j</sub>* ~ *skalit'sja<sub>j</sub>* 'to bare (one's) teeth'; *nesti jajco<sub>j</sub>* ~ *nestis'<sub>j</sub>* 'to lay an egg'; *nasupit' brovi<sub>j</sub>* ~ *nasupit'sja<sub>j</sub>* 'to knit one's brow'; *namorščit' lob<sub>j</sub>* ~ *namorščit'sja<sub>j</sub>* 'to wrinkle one's forehead'; *tratit' den'g<sub>i</sub>* ~ *tratit'sja<sub>j</sub>* 'to spend money'; *parkovat'sja<sub>j</sub>* 'to park the car'.

In the following examples illustrate another, a semi-productive use of **-sja<sub>j</sub>**: *Sobaka<sub>i</sub> kusaetsja<sub>j</sub>* 'The dog bites (people, not himself)'; *Moja koška ne carapaetsja<sub>j</sub>* 'My cat doesn't scratch'; *Mal'čik lžagaetsja<sub>j</sub> i tolkaetsja<sub>j</sub>* 'The-child kicks and pushes (others)'; *Krapiva žžetsja<sub>j</sub>* 'Nettles sting'.

The derivation of **-sja<sub>j</sub>** is schematically represented in (19); since it is a word-level enclitic suffix, **-sja<sub>j</sub>** always occupies the right edge of the verb, i.e., [v [V-...] sja], not \*[V-sja<sub>j</sub>-af-]. Compare (19) with (20), which is the derivation of unaccusative **-sja** in middle and passive derivations:

- (19) The derivation of [V-sja<sub>j</sub>] argument affixes:



- (a)  $\{\{i^{\wedge}c\}_1 \{j^{\wedge}c\}_2 \{-^{\wedge}\}_3 \{-^{\wedge}V\}_4\}$  >  
 (b)  $\{\{i^{\wedge}N\}_1 \{j^{\wedge}sja\}_2 \{-^{\wedge}\}_3 \{-^{\wedge}V\}_4\}$  +  
 (c)  $\{\{^{\wedge}\}_1 \{^{\wedge}\}_2 \{^{\wedge}\}_3 \{^{\wedge}\text{-afINFLECTION}\}_4\}$  >  
 (d)  $\{\{i^{\wedge}N\}_1 \{j^{\wedge}\text{-sja}\}_2 \{-^{\wedge}\}_3 \{-^{\wedge}[V\text{-afINFLECTION}]\}_4\}$  =>  
 (e)  $[_{VP} NP_i [_{V'} [V [V\text{-afINFLEC}]\text{sja}]] VP]$

(20) The passive and middle derivation of imperfective Vs in Russian:

- (a)  $\{i^{\wedge}c\}_1 \{j^{\wedge}c\}_2 \{-^{\wedge}\}_3 \{-^{\wedge}V\}_4$  >  
 (b)  $\{i^{\wedge}N\}_1 \{j^{\wedge}N\}_2 \{-^{\wedge}\}_3 \{-^{\wedge}V\}_4$  +  
 (c)  $\{-^{\wedge}\}_1 \{-^{\wedge}\}_2 \{^{\wedge}\}_3 \{^{\wedge}\text{-sja}\}_4$  >  
 (d)  $\{-^{\wedge}N\}_1 \{j^{\wedge}\text{-}\}_2 \{-^{\wedge}\}_3 \{(i)^{\wedge}[[V\text{-}]\text{sja}]\}_4$  >>  
 (e)  $\{j^{\wedge}N\}_1 \{-^{\wedge}\}_2 \{-^{\wedge}\}_3 \{(i)^{\wedge}[[V]\text{-sja}]\}_4$  +  
 (f)  $\{^{\wedge}\}_1 \{^{\wedge}\}_2 \{^{\wedge}\}_3 \{^{\wedge}\text{-afINFLECTION-}\}_4$  >  
 (g)  $\{j^{\wedge}N\}_1 \{-^{\wedge}\}_2 \{-^{\wedge}\}_3 \{(i)^{\wedge}[[V\text{-afINFLECTION}]\text{sja}]\}_4$  =>  
 (h)  $[_{VP} NP_j [_{V'} [V [V\text{-afINFLEC}]\text{sja}]] VP]$

## 6. The function of -sja and -en- in impersonal sentences

This last section is devoted to the most productive uses of **-sja** and **-en-** in impersonal (subjectless) sentences and to argumentation that **-sja** in impersonal sentences is *not* a third **-sja** suffix (see Babby 2010c).

**6.1 Derived-unaccusative impersonal sentences.** **-sja** in impersonal sentences like (21) - (24) is the unaccusative-stem deriving suffix, not **-sja** or an impersonalizing suffix; it is the **-o** suffix that is responsible for the impersonalization (see Babby 1996). The verbs in (21) - (24) are initially monotransitive, i.e.,  $\{i^{\wedge}N\}_1 \{j^{\wedge}N\}_2 \{-^{\wedge}\}_3 \{-^{\wedge}V\}_4$  and both arguments are deleted in the course of the derivation.

- (21) My vygnali stado na baxču, gde s dovoennoj pory ne paxalos' i ne sejalos'.  
 'We drove the herd onto a field where there had been no plowing or sowing done since before the war.' (*paxat'* 'to plow,' *sejat'* 'to sow.')
- (22) (about a *p'esaf* 'play') Sam ne veril, kogda napisalos'. (Trusinovskaja)  
 'I didn't believe (it) myself when (it = play) (somehow) got-written<sub>N</sub>.'  
 (*napisat'* 'to write')
- (23) Ona pytalas' ob''edinit' etix dvux v odnu kompaniju, no u nee ne ob''edinilos'.  
 (*ob''edinit'* 'to unite') (Tokareva).

'She tried to combine these two (people) into a couple (= get them together), but it didn't work out ((lit.) at her (it )didn't combine/unite).'

(24) V golove zakružilos'. V živote u nego sžalos'.

'(His) head began to spin (lit. in-head began--spinning). His stomach tightened (lit. in stomach (there) was-contracting)' (*zakružít'* 'to spin', *sžat'* 'to squeeze').

Impersonalization canonically involves deleting **V**'s agentive external  $\{i^{\wedge}N\}_1$  argument (e.g., (9d); [<sub>NPj</sub> *Oblomki*<sub>ACC</sub> *korablja*<sub>GEN</sub>] *vyneslon* [<sub>PP</sub> *na bereg*] 'Pieces of-the-ship (got) washed-up on shore'). But in (21)-(24), **V**'s initial agent **i** is deleted during the middle-formation phase and it is the derived unaccusative AS's externalized  $\{j^{\wedge}N\}_1$  argument that is deleted by impersonalizing **-o** (see the derivation (25)).

The basic semantic function of middle voice is to *dissociate* the agent (**i**) from the action/event denoted by the verb and to focus on the relation between the initially internal  $\{j^{\wedge}N\}_2$  argument and the verb's lexical meaning (see (8)). When a middle sentence is impersonalized, its derived  $\{j^{\wedge}N\}_1$  external argument is deleted and thus also dissociated from the action denoted by **V**, the result being maximal focus on the action/state denoted by verb, abstracted away from its arguments, both of which have been deleted (see the notion of "thetic judgement" in Kuroda 1972).

For example, consider the initial monotransitive AS of *ob"edinit'* 'to unite, unify' in (25a). But *ne ob"ediniilos'* (i.e., **ob"edini**<sub>stem</sub>-**l**<sub>past</sub>-**o**<sub>impersonal</sub>-**s'**<sub>unacc-sja</sub>) in (23) has no arguments and means: *no unification took place* or *there was no unification*. The [<sub>PP</sub> *u nee*] adjunct, which is not projected from AS and not licensed by an implicit theta role, identifies a human affectee and is not confined to impersonal sentences (e.g., *U nee často menjaetsja nastroenienom* '(lit.) At her often changes mood'). The derivation of the *impersonalized middle sentence* in (23) is schematically represented in (25); **V = ob"edini-**.

- (25) a.  $\{i^{\wedge}N\}_1 \{j^{\wedge}N\}_2 \{-^{\wedge}-\}_3 \{-^{\wedge}V\}_4$  + (monotransitive **V**)  
 b.  $\{-^{\wedge}\}_1 \{-^{\wedge}-\}_2 \{-^{\wedge}\}_3 \{-^{\wedge}-sja\}_4$  > (unaccusative **-sja**)  
 c.  $\{-^{\wedge}N\}_1 \{j^{\wedge}-\}_2 \{-^{\wedge}-\}_3 \{-^{\wedge}[[V-] sja]\}_4$  >> (a & b compose)  
 d.  $\{j^{\wedge}N\}_1 \{-^{\wedge}-\}_2 \{-^{\wedge}-\}_3 \{-^{\wedge}[[V-] sja]\}_4$  + (middle AS)  
 e.  $\{-^{\wedge}\}_1 \{-^{\wedge}\}_2 \{-^{\wedge}\}_3 \{-^{\wedge}-l_{past}-\}_4$  > (inflectional suffix)  
 f.  $\{j^{\wedge}N\}_1 \{-^{\wedge}-\}_2 \{-^{\wedge}-\}_3 \{-^{\wedge}[[V-l-] sja]\}_4$  + (d & e compose)  
 g.  $\{-^{\wedge}-\}_1 \{-^{\wedge}\}_2 \{-^{\wedge}\}_3 \{-^{\wedge}-o_{impersonal}\}_4$  > (impersonalizing **-o**)  
 h.  $\{-^{\wedge}-\}_1 \{-^{\wedge}-\}_2 \{-^{\wedge}-\}_3 \{-^{\wedge}[[V-l-o-] sja]\}_4$  => *ob"edini-l-o-s'*

6.2 *Emu ne rabotaetsja*. The following sentences, in which **V** is intransitive (unaccusative and unergative), illustrate another type of productive impersonal sentence involving

unaccusative **-sja**: *On*<sub>NOM.M</sub> *ne rabotal*<sub>M</sub> ‘He wasn’t working’ ~ *Emu*<sub>DAT.M</sub> *ne rabotalos*<sub>N</sub> ‘He didn’t feel like working. I argue that *Emu ne rabotalos*’ is not derived from *On ne rabotal*. The following are additional examples: *Emu ne igralos* ‘He didn’t feel like playing’; *Emu ne ležalos v posteli* ‘He didn’t feel like lying in bed’; see also: *guljalos* ‘stroll’, *xodilos* ‘walk’, *sidelos (doma)* ‘sit (home)’, *spalos* ‘sleep’, *tancovalos* ‘dance’, *xotelos* + infinitive ‘feel like doing something’, *Raz nenaviditsja - nenavid* ‘If you feel like hating, go ahead and hate’. The AS-level derivation of this type of impersonal sentence is schematically represented in (26).

- (26) a.  $\{i^{\wedge}N\}_1 \{-^{\wedge}-\}_2 \{-^{\wedge}-\}_3 \{-^{\wedge}V\}_4$  +  
 b.  $\{-^{\wedge}\}_1 \{-^{\wedge}-\}_2 \{\wedge\}_3 \{-^{\wedge}\text{-sja}\}_4$  >  
 c.  $\{-^{\wedge}N\}_1 \{-^{\wedge}-\}_2 \{-^{\wedge}-\}_3 \{-^{\wedge}[[V-] \text{sja}]\}_4$  +  
 d.  $\{\wedge\}_1 \{\wedge\}_2 \{\wedge\}_3 \{-^{\wedge}\text{-I}_{\text{past}}\}_4$  >  
 f.  $\{-^{\wedge}N\}_1 \{-^{\wedge}-\}_2 \{-^{\wedge}-\}_3 \{-^{\wedge}[[V\text{-I}] \text{sja}]\}_4$  +  
 g.  $\{-^{\wedge}-\}_1 \{\wedge\}_2 \{\wedge\}_3 \{-^{\wedge}\text{-O}_{\text{impersonal}}\}_4$  >  
 h.  $\{-^{\wedge}-\}_1 \{-^{\wedge}-\}_2 \{-^{\wedge}-\}_3 \{-^{\wedge}[[V\text{-I-o}] \text{sja}]\}_4$  =>  
 i. (Emu ne) *rabota-l-o-s* ‘He did feel like working, etc.’

A basic tenet of ASBMT is that there are no operations of any kind in any domain that change the value of the theta roles specified in **V**’s initial AS. This entails that the agent *on* in *On*<sub>NOM.M</sub> *ne rabotal*<sub>M</sub> ‘He wasn’t working’ is not converted into the dative experiencer *emu* in *Emu*<sub>DAT</sub> *ne rabotalos* ‘He didn’t feel like working’. My analysis is that an unergative **V**’s initial external  $\{i^{\wedge}N\}_1$  and an unaccusative **V**’s externalized  $\{j^{\wedge}N\}_1$  are *deleted* by the sequence of middle-formation and impersonalization, just as in the derivation of the impersonal sentences in (21) - (24). The difference between the derivations in (25) and (26) is this: unaccusative **-sja**’s AS in (26b) deletes only **V**’s external **i** because there is no *internal N* linked to **j** here for it to delete and, therefore, the  $\{j^{\wedge}N\}_2 > \{j^{\wedge}-\}_2$  component of **-sja**’s unaccusativizing AS applies vacuously, i.e.  $\{-^{\wedge}-\}_2$  in (26a) +  $\{-^{\wedge}-\}_2$  in (26b) >  $\{-^{\wedge}-\}_2$  in (26c).

The optional dative experiencer in sentences like *Emu ne rabotalos*’ has essentially the same status as [PP<sub>u</sub> + NP<sub>GEN</sub>] in (23), i.e., it is an optional *adjunct*, which is merged in syntax, not projected from AS, and is found in many other kinds of impersonal sentences, e.g.: *Učenu*<sub>M.DAT</sub> (*emu*<sub>M.DAT</sub>) *otrezal*<sub>ON,impersonal</sub> *palec*<sub>CM.ACC</sub> ‘The student (he) got (his) finger cut-off’; *Emu tam skučn-o* ‘He is bored there (experiences boredom)’ (cf. *On skučen* ‘He is boring (others are bored by him)’; see Babby 1994b. See also *Ja nastupil emu na nogu* (\*...*na emu nogu*) ‘I stepped on his foot (lit. \*I stepped him on the foot)’.

My guess is that the ungrammatical nature of sentences like \**Emu ne rabotalo*, etc. has a *semantic* explanation: impersonal sentences like *Emu otrezalo palec* are *anti-agentive*, i.e., they assert that no human agent is involved. This construction is naturally limited to verbs denoting actions that can occur with or without the participation of an agent (see (9)), whereas the verbs in the *Emu (ne) rabotalos'* construction cannot make such an assertion since they all involve actions whose *lexical-semantic* meaning is *inherently* human (animate) and thus describe an event that lexically precludes deagentification; cf. *Emu otrezelo palec* 'His finger got severed' vs. \**Emu amputirovalo palec* 'His finger got amputated'.

**6.3 [V-en-] in impersonal sentences.** The analysis of the impersonal sentences in (21) - (24) correctly predicts that the same type of impersonal sentence should be possible with [**V-en-**] stems. We see in (27) that this prediction is correct, although this construction is lexically limited (see Babby 2010c: 33). The derivation of sentences like (27a-d) is schematically represented in (28). Compare (25) and (28): the only significant difference is the introduction of the tense suffix in (25): SF lexical adjectives and **-en-** participles express tense by means of the copula, which I argue in Babby 2011 is merged in AS not syntax.

- (27) a. Ob etom vo vsech učebnikax napisano. (< napisa-(e)n-o)  
 'This has been written about in all the textbooks (lit. About this (has been) written in all textbooks)' cf. (22)
- b. On dejstvoval, kak bylo obgovoreno. (< obgovor(i)-en-o)  
 'He acted as was agreed-upon'
- c. K razbiratel'stvu bylo pristupleno nemedlenno.  
 'The-investigation was undertaken immediately (lit. To the-investigation was undertaken immediately)'
- d. Ob etom uže rasskazano.  
 'This has already been related (lit. About this already told)'

- (28) a. {i^N}\_1 {j^N}\_2 {-^-}\_3 {-^V}\_4 +
- b. {-^}\_1 {-^}\_2 {-^}\_3 {-^en-}\_4 >
- c. {-^N}\_1 {j^}\_2 {-^-}\_3 {-^-[V-en-]}\_4 >>
- d. {j^N}\_1 {-^-}\_2 {-^-}\_3 {-^-[V-en-]}\_4 +
- e. {-^-}\_1 {-^}\_2 {-^}\_3 {-^Oimpersonal}\_4 >
- f. {-^-}\_1 {-^-}\_2 {-^-}\_3 {-^-[V-en-o-]}\_4 => napisano, etc.

The fact that the **-en-** suffix always derives an unaccusative AS automatically explains why impersonal transitive sentences like (29) are not possible in standard Russian:

- (29) \*U Salindžera<sub>GEN</sub> (\*Salindžerom<sub>INST</sub>) bylo<sub>ON</sub> napisan<sub>ON</sub> vsego odin roman<sub>ACC</sub>.  
'Only one novel was written by Salinger.'

Since **-en-** always derives an unaccusative [**V-en-**] stem in standard Russian, **V**'s initial **j** in {**j**<sup>^</sup>**N**}<sub>2</sub> always externalizes, giving {**j**<sup>^</sup>**N**}<sub>1</sub>, which may subsequently be deleted if impersonal **-o**'s AS is merged (see (28a-f)). Thus **-en-** participles in standard Russian can never project a direct object or an agentive subject in any type of sentence, including sentences like (30a):

- (30) a. V pogrebe ne bylo obnaružen<sub>ON</sub> [<sub>NPj</sub> nikakix dokumentov<sub>GEN.PL</sub>].  
'There were no documents found in the basement'  
b. \*V pogrebe bylo obnaružen<sub>ON</sub> [<sub>NPj</sub> dokumenty<sub>ACC.PL</sub>].  
'Documents were found in the basement.'  
c. V pogrebe byli<sub>PL</sub> obnaruženy<sub>PL</sub> [<sub>NPj</sub> dokumenty<sub>NOM.PL</sub>].  
'Documents were found in the basement'.

Evidence is presented in Babby 2006 and 1980 that *nikakix dokumentov* in (30a) is the *genitive subject*, not the direct object (cf. (30b-c)). It follows from this that in nonstandard (dialect) Russian, which allows transitive **-en-** participles, **-en-** has a different AS and derivation, and *u* + NP<sub>GEN</sub> has a different function (see Timberlake 1976).

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