SOME ISSUES IN RUSSIAN ADJECTIVE FORMATION
TIN-dag 2010, Utrecht, February 6, 2010

1. INTRODUCTION

DM (Halle and Marantz 1993, 1994): morphology is built on the basis of syntactic structures (Syntax All The Way Down).

Rarely discussed predictions:
(i) Derivation affixes should be able to combine not only with roots and stems, but also with maximal projections
(ii) Syntactic locality constraints must be observed in word-formation (e.g., binding cannot access the internal constituent of a word (Postal 1969), selection by a head is restricted to the head of its complement (Svenonius 1994, Matushansky 2006))
(iii) Morphs that are both semantically and syntactically empty are allowed to the same extent as in syntax (i.e., not at all, under usual assumptions)

Word-structure is obviously hierarchical.

Goals of this talk:
➢ assess the correctness of these predictions
➢ discuss ways of resolving some apparent counterexamples

2. XPS AS BASES FOR DERIVATION

Russian systematically uses PPs and NPs for adjective formation:

(1) a. trëx- nog -ij 
three leg - OP
three-legged
b. krasn -o- nos -yj 
red -CN-nose - ϕ
red-nosed
c. bez- koneč- n- yj 
without end ADJ - ϕ
endless

How do we know it’s a PP (or an NP) rather than just a combination of two morphemes?

(2) a. žizn -e- radost -n -yj 
life -CN-joy - ADJ - ϕ
joyous, full of joie de vivre
b. ogn -e- upor -n -yj 
fire -CN-persist -ADJ - ϕ
fire-resistant

In bare phrase structure what’s the difference?

NB: Semantic composition seems (at least) very similar – if word-external syntax is different, it has to be proven

3. C-SELECTION

As expected in a hierarchical structure, an affix can affect further derivation.

Feminine noun formation (still looking for real minimal pairs):
(3) a. skazi- tel’ (‘story-teller (archaic)’ → skazi- tel’-nic-a ‘female story-teller’
b. ras-skaz-čik (‘story-teller’ → ras-skaz-čik-a ‘female story-teller’
c. skaz-oš-nik (‘fairy-tale teller’ → skaz-oš-nič-a ‘fairy-tale teller’

Suffixes affect derivation – what about other material?

3.1. Property privation or possession

For adjectives denoting property privation or possession null-derivation is possible for a subclass of inalienable possession nouns: those denoting visible body parts

Note: Relational [+ human] nouns like mother, friend, member cannot form privation or possession adjectives, with children being only exception. The reason for this might be pragmatic, as comitative PPs (e.g., with two friends) also do not make good NP modifiers. There also exists the minimal pair žestokoserdyj ‘cold-hearted’ vs. besserdečnyj ‘heartless’, but internal organs do not easily form privation/possession adjectives.

(5) a. trëx- nog -ij
three leg - OP
three-legged
b. bez- nog -ij
without leg - ϕ
legless
c. trëx- koneč- n- yj
three- end ADJ - ϕ
endless

The suffix -en- surfacing as -n- or -en- might be the default one for APs containing cardinals.

This is not a problem: if a leg is a visible body part, so are three legs. Locality is observed.

3.2. Measure adjectives

Adjectives formed on the basis of measure NPs exhibit more variation, with the choice of the suffix determined by the stem:

(6) a. trëx- sekund-n-yj
three second-ADJ - ϕ
three-second
b. trëx- čas-ov-øj
three-hour-ADJ - ϕ
three-hour
c. trëx- mesjač-n- yj
three-month-ADJ - ϕ
three-meter

d. trëx- tysjač-n- yj
three-thousand-ADJ - ϕ
three-thousand
e. trëx- million-n- yj
three-million-ADJ - ϕ
three-million
f. trëx- kilogramm-ov-ıy
three-kilogram-ADJ - ϕ
three-kilogram

The choice of the suffix isn’t determined semantically. The meaning of the resulting adjective is not that of possession.

Acknowledgments: Many thanks to Ilya Itkin for helpful discussion and information and to Eddy Ruys for his usual insightful comments.

However, derivation from XPs does not behave as predicted with respect to c-selection.
3.3. Adjectives derived from PPs

Locative PPs can be adjectivized with the suffixes -îr, -ov (rare) and -îsk. The choice of the suffix is determined by the stem and is independent of the preposition.

(7) a. za-mor-sk-ij over-sea-ADJ-ϕ overseas
b. pri-mor-sk-ij by-sea-ADJ-ϕ seaside
(8) a. za-gorod-n-yj over-city-ADJ-ϕ country-side
b. mezhd-gorod-n-yj between-city-ADJ-ϕ intercity

Locative PPs can be adjectivized with the suffixes -îr, -ov (rare) and -îsk. The choice of the suffix is determined by the stem and is independent of the preposition.

(9) a. do/pred- voen-n-yj until/ before-war-ADJ-ϕ pre-war
b. posle-voen-n-yj after-war-ADJ-ϕ post-war
(10) a. do-pukin-sk-ij until-Pushkin-ADJ-ϕ pre-Pushkin
b. posle-pukin-sk-ij after-Pushkin-ADJ-ϕ post-Pushkin
(11) a. pred- groz-ov-oj before-thunderstorm-ADJ-ϕ before the storm
b. protivo- bol-ev-oj against-pain-ADJ-ϕ analgesic
(12) a. po-štat-n-yj by-department/state-ADJ-ϕ distributed by department/state
b. sverx-štat-n-yj over-top-department-ADJ-ϕ supplementary (of workers)

Ilya Itkin, p.c.: in de-locative derivation -îsk- is used for proper names and non-Slavic roots; otherwise -îr- is used. -ov- is rare.

N.B.: More ‘sea’ is exceptional in taking -îsk-.

What is the role of such multiple suffixes?

N.B.: In (15b) the suffix -îsk- is probably inserted because the feminine suffix (detectable by the palatalization of [l]) would not be noticeable with the suffix-final [l’]. They are probably not semantically empty, as there clearly exist independently attested cases of apparent semantic haplology, most likely at work in Negative Concord (Zeijlstra 2004 and references therein) and Modal Concord (Geurts and Huitink 2006, Zeijlstra 2007, a. o.):

(15) a. katalog-iz-ir -ov -a ‘to catalog
b. greš -ov -n -yj (cf. grešnyj ‘sinful’)
c. greš -esk -yj ‘sinful’
d. pre-war

e. post-war

4. JUNK DNA IN AFFIXATION?

Are there affixes with no meaning? If yes, is their role purely formal?

Can meaningful affixes lose their meaning?

4.1. Suffix doubling

Russian derivation often involves suffix doubling:

(14) a. korič -n -ev -yj brown
c. greš -esk -yj ‘sinful’
d. pre-war

e. post-war

4.2. Derivational stem augmentation

Ilya Itkin 2007: Real interfixes appear in all derivational contexts.
• -in- (e.g., yalt-in-sk-ij ‘related to the city of Yalta’, cf. yalt-in-ec ‘inhabitant of the city of Yalta’)
• -an- (e.g., amerik-ian-sk-ij ‘American’)
• -ej- (e.g., put- ej-sk-ij ‘related to railway engineering’, evrop-ej-sk-ij ‘European’, cf. put-ej-ec ‘railway engineer’, evrop-ej-ec ‘a European’)

Itkin 2007: interfixes are thematic morphemes.

However, just like verbal “thematic morphemes” (Halle and Matushansky in prep.), interfixes are a heterogeneous group.

4.2.1. Word-internal case

Itkin 2007:68: the markers -ov-, -in-, -an-, -ej-, etc., are thematic morphemes, i.e., elements fulfilling the structural function of forming from certain roots a base for further derivation.

Nobody knows why thematic suffixes are necessary, as they do not seem to be motivated by phonology (or semantics).

Proposal: thematic suffixes are word-internal case-markers.

Observation: some denominal “interfixes” are homophonous with case endings:
• -ej- and -an- are genitive plural (II and III declension, II declension; note that -an- is also an allomorph for genitive plural)
• -in- is a possessive suffix (III declension; note that this is anomalous – declension classes do not normally affect derivation)
• -an- is unattested in inflection, but attaches to Latinate vocabulary

In adjectives derived from NPs containing cardinals, the cardinal is marked with genitive (or a reasonable approximation thereof).

Most simplex cardinals appear in NPs containing cardinals:

(17) a. pjati-nog-ij all III declension cardinals
five-GEN nog-ij five-legged
b. soroka-nog-ij unique
forty-GEN nog-ij four-legged
c. tres-nog-ij also four and two, though see below
three-GEN nog-ij three-legged

Several cardinals recognizably deviate from genitive.

Optional truncation (depending on the following word):

(18) a. dvu-nog-ij

two-GEN3 nog-ij
two-legged
b. dvux-os-n-yj

two-GEN axle ADJ
bi-axial

Graphic e and o corresponding to nominative neuter or the connecting morpheme, but which could potentially be due to the hypercorrection, respectively, of the genitive singular +r (I declension) or -I (II declension) due to Russian unstressed vowel neutralization rules:

(19) a. st-o-nog-ij hundred-GEN? leg φ hundred-legged
b. tysjač-e-nog-ij thousand-CN? leg φ thousand-legged
c. million-o-nog-ij million-CN? leg φ million-legged

Conclusion: all word-internal cardinals could be marked genitive.

Pesetsky 2008: in Russian genitive is the default case assigned to NPs in the absence of other structure.

Thus the “interfixes”/“thematic suffixes” -ov-, -in-, -an- and -ej- could be word-internal case-markers, assigned by derivational morphology. The surface realization of such case is then not unexpectedly dependent on the given stem.

NB: Some derivation from proper names (elizavet-in-skij ‘Elizabethan’) with subsequent locative affixation to a genitive NP.

Problem: “interfixes” and “thematic morphemes” do not appear only in denominal derivation. But does case have to be nominal?

4.2.2. -t-truncation

The “interfix” -at- appears in denominal derivation from nouns in -ma borrowed from Greek (Yanko-Trinickaja 1969, Itkin 2007)

(20) a. tema ‘theme’ → tematica ‘theme range’, tematičeskij ‘thematic’, tematizirovat’ ‘to distribute theme-wise’

b. problema ‘problem’ → problematika ‘problem range’, problematichnyj ‘problematic’, problematicheskij ‘problematic’

c. luna ‘moon’ → lunatik ‘somnambulism’, lunatizm ‘somnambulism’ (exceptional, only for this semantic range)

Hypothesis: in synchronic Russian these roots actually contain the final [t] in the underlying representation. The nominalizing suffix n is a truncating morph, deleting the last consonant of the stem. The now-final [a] is then removed by Jakobson’s vowel-before-vowel truncation rule (Jakobson 1948).

Confirmation: alternation -izm/-ist-:

(21) a. ideazlizm ‘idealism’ vs. idealizist ‘idealistic’

b. realizm ‘realism’ vs. realizist ‘realistic’

c. kommunizm vs. kommunizist ‘communist’

Semantically the abstract noun in -izm- is clearly the source for both the [+ human] noun and the adjective in -ist-.

NB: This may not be correct for English, where, as noted by Dressman 1985, there exist [+human] nouns in -ist (e.g., violinist).
Hypothesis: the underlying form of the morpheme is -imn-. [m] is deleted before a consonant by Jakobson’s glide-truncation rule (Jakobson 1948), yielding [ir] (which then undergoes voicing assimilation), except in the abstract noun, where the same truncating n is used as for nouns in -at-, yielding [izm].

This means that the agentive suffix can be realized as a phonological zero.

Confirmation:

(22) a. iskusstv-o-ved-o ‘art historian’ (cf. iskusstvo‘ hedenie ‘art history’)
  b. ěkksurs-o-vod-o ‘tour guide’
  c. led-o-kol ‘ice-breaker’

This hypothesis partially resolves another bracketing paradox (Pesetsky 1979:22)

(23) a. muč-i-t’ ‘to torture’
  b. muč-i-tel’ ‘torturer’
  c. muč-i-tel’-n-yj ‘excru ciating, agonizing’
  d. muč-i-tel’-sk-ij ‘of a torturer’

Pesetsky 1979:22: “In general, the meaning of adjectives in -in- seems to be derivable, when not idiosyncratic, from the meaning -in- and of the innermost, root morpheme, with a total disregard of what meaning may be associated with intervening suffixes.”

If the agentive suffix is 0, -tel- has a different role (possibly related to the presence of the infinitival suffix -i-) and the paradox disappears: -in- attaches after -tel-, -isks- attaches after the zero agentive suffix:

(24) a. stara-t’-sja ‘to try’
  b. stara-tel’ ‘prospector’
  c. stara-tel’-n-yj ‘assiduous, painstaking’
  d. stara-tel’-sk-ij ‘of a prospector’

Therefore, -at- need not be an interfix.

4.3. Summary

Three cases of the meaning/form mismatch:
(i) Theme morphemes: hopefully, a grab-bag that reduces to (ii) and (iii)
(ii) Affix doubling: can be resolved by appealing to semantic haplology
(iii) Word-internal case: to investigate

Ns: The list is probably incomplete. For example, the fact that singular/plural forms may contain extra suffixes (e.g., angličanin ‘Englishman’ vs. angličane ‘Englishmen’, syn ‘son’ vs. synovja ‘sons’) or different suffixes (e.g., kotjonok ‘kitten’ vs. kotjata ‘kittens’, etc.) does not readily fit into the three cases above.

5. Conclusion

The hypothesis of “Syntax All The Way Down”, while correctly predicting that items larger than roots or stems can serve as input to derivation, doesn’t explain the apparent linearity of c-selection, affix multiplication or the existence of bound forms.

Conversely, some idiosyncrasies of morphological derivation (OT effects in affix choice, see Itkin 2005, 2007) are actually predicted to exist: just like in syntactic composition, pragmatic and phonological (phonotactic) factors affect the “wording”.

REFERENCES