Homophony and Russian copular constructions

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1 Overview

- Previously noted ban on consecutive homophonous wh-phrases in Russian – more widespread
- Distinctness-based analysis – these banned phrases would result in an unlinearizable pair $\langle \alpha, \alpha \rangle$
- Analysis has ramifications for the structure of Russian copular constructions
  - Overt copula introduces a phase head, null does not

2 Data

- Bošković (2002) notes – Russian is a multiple wh-fronting language, but multiple wh-fronting does not occur if it would result in adjacent homophonous wh-phrases

(1) Kto kogo ljubit?
who whom loves
'Who loves whom?'

(2) a. * Čto čto obuslovilo?
what what conditioned
b. Čto obuslovilo čto?
what conditioned what
'What conditioned what?'

- Bošković's solution – "...PF constraint against consecutive homophonous wh-phrases..." (Bošković 2002:365)
- But the data is more complicated than this

Q: What about the null copula, where failure to front one of the wh-phrases still results in adjacent homophonous wh-phrases?

A: Obligatory copula pronunciation.[1]

(3) a. * Kto kto?
who who
b. Kto est' kto?
who is who
'Who is who?'

- Note that typically the overt copula is dispreferred in present tense

(4) a. Kto (?est') Ivan?
who (is) Ivan
'Who is Ivan?'

[1] Some speakers find the sentences to still be ungrammatical with the insertion of *est'* and prefer instead *Vrač - éto vrač*, etc. The insertion of the emphatic *že* may be another repair strategy.

b. Ivan (?est') vrač.
Ivan (is) doctor
'Ivan is a/the doctor.'
c. Ivan (?est') bogatyj.
Ivan (is) rich
'Ivan is rich.'

- Constraint appears to apply beyond just wh phrases
  - *noun – noun (5)
  - *adj-noun – adj-noun (6) ← not just about adjacent words
  - adj – adj (7) ← not all adjacent homophonous phrases are bad
  - verb – verb (8)
  - verb phrase – verb phrase (9)

(5) **noun – noun*
a. * Vrač vrač.
doctor doctor
b. Vrač est' vrač.
doctor is doctor
'The/a doctor is the/a doctor.'

(6) **adj-noun – adj-noun*
a. * Bogatyj vrač bogatyj vrač.
rich doctor rich doctor
b. Bogatyj vrač est' bogatyj vrač.
rich doctor is rich doctor
'The rich doctor is a rich doctor.'

(7) *adj – adj*
a. Bogatyj bogatyj.
rich rich
'The rich person is rich.'
b. Bogatyj bogatyj vrač.
rich rich doctor
'The rich person is a rich doctor.'

(8) *verb – verb*

Emu nravitsja nravit'sja.
he like to-like

'He likes to be liked.'

(9) *adverb-verb – adverb-verb*

Emu umyšlenno nravitsja umyšlenno nravit'sja.
he deliberately like deliberately to-like

'He deliberately likes to be deliberately liked.'

Summary of data

good	bad	ex.
	wh – wh	(2), (3)
	noun phrase – noun phrase	(5), (6)
adj – adj		(7)
verb – verb		(8)
verb phrase – verb phrase		(9)

- This data is unusual
  - Prohibition is not purely phonological (homophony alone is not enough)
    - cf. (5) with ***noun – noun*** and (7) with *adj – adj*
  - Prohibition applies to relatively large syntactic units
    - e.g. (6) with no adjacent homophonous words, only adjacent homophonous phrases
- What generalizations can be gathered?
  - Starting from Bošković: "...PF constraint against consecutive homophonous wh-phrases..."
    - It's not just sequences of homophonous $\underline{wh}$-phrases which are banned.
      - In (5), sequences of homophonous nouns appear to be banned.
      - In (6), sequences of homophonous noun phrases appear to be banned.
  - So – constraint against consecutive homophonous noun phrases
- Is this the best solution?

3 Distinctness

- This issue is widespread, repetition avoidance of different kinds seen in phonology, syntax, discourse, etc. (Walter 2007)
- Examples
  - OCP, e.g. lack of successive occurrences of [+lab] segments in certain language (Fukazawa 1999)
  - double *-ing* filter in English – ****It's continuing raining*** (Ross 1972)
- Parsimony → unified theory behind these avoidances
- Walter (2007): three different reasons to avoid repetition
  - Physiological
  - Perceptual
  - **Distinctness**

3.1 Richards (2006) on Distinctness

- Seeks to provide unified account for syntactic repetition avoidance

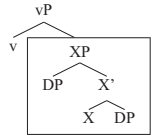
Pattern - multiple objects of the same type cannot occur too close together

Solution - well-formedness condition on linearization s.t. multiple syntactic nodes of the same kind cannot be linearized if they are too close together, *Distinctness*

(10) Distinctness: If a linearization statement $\langle \alpha, \alpha \rangle$ is generated the derivation crashes (Richards 2006)

- Assumptions
  - LCA (Kayne 1994), $\langle \alpha, \beta \rangle$ determined by asymmetric c-command
  - Linearization proceeds in phases
  - Strong phases include CP, transitive vP, PP, and KP[2]
  - Only (features that percolate up from) functional heads give rise to distinctness violations
- Example – (11)
  - Sister of v spelled out
  - DP asymmetrically c-commands DP
  - $\langle DP, DP \rangle \leftarrow$ CRASH

(11)



- Russian example – (12), (13)
  - Relevant features (gender, case) determine identity
  - Fronted DPs[3] are spelled out together
  - DP asymmetrically c-commands DP
  - If DPs match in relevant features, CRASH

(12) Multiple wh fronting (Richards 2006)

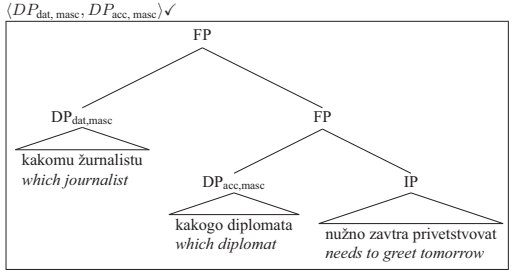
a. Kakomu žurnalistu kakogo diplomata nužno zavtra privetstvovat'?
which$_{dat}$ journalist$_{dat}$ which$_{acc}$ diplomat$_{acc}$ must tomorrow greet?
'Which journalist needs to greet which diplomat tomorrow?'

b. ?? Kakomu žurnalistu kakomu diplomatu nužno zavtra zvonit'?
which$_{dat}$ journalist$_{dat}$ which$_{dat}$ diplomat$_{dat}$ must tomorrow call?
'Which journalist needs to call which diplomat tomorrow?'

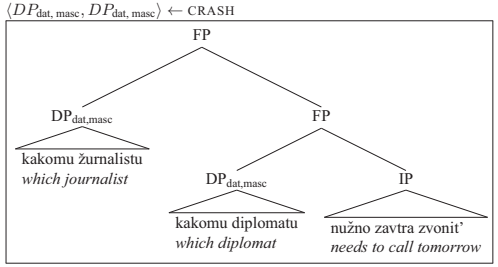
c. Kakomu žurnalistu kakoj ženščine nužno zavtra zvonit'?
which$_{dat}$ journalist$_{dat}$ which$_{dat}$ woman$_{dat}$ must tomorrow call?
'Which journalist needs to call which woman tomorrow?'

[2] I will ignore KP (Kase Phrase) as it seems irrelevant for this data.
[3] Without taking a firm stance on the matter, I will assume that these are in [spec,FP].

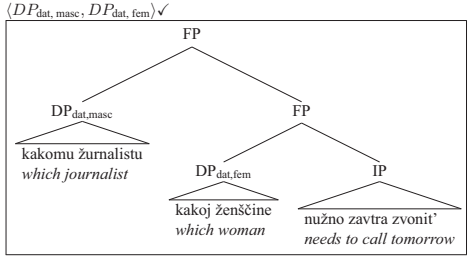
(13) a. $\langle DP_{\text{dat, masc}}, DP_{\text{acc, masc}} \rangle$✓



b. $\langle DP_{\text{dat, masc}}, DP_{\text{dat, masc}} \rangle \leftarrow$ CRASH



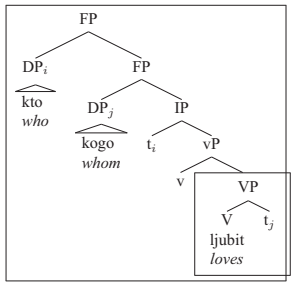
c. $\langle DP_{\text{dat, masc}}, DP_{\text{dat, fem}} \rangle$✓



3.2 Applied to Russian above

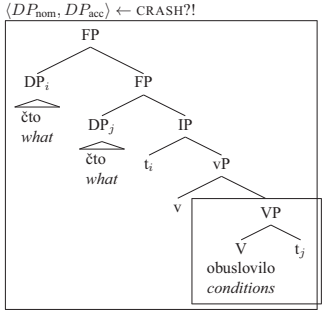
- Applying a Distinctness analysis to the data discussed above...

(14) $\langle DP_{\text{nom}}, DP_{\text{acc}} \rangle$✓ (1)

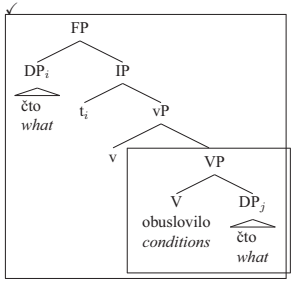


- Here we see (as suggested by Richards) that case syncretism seems to play a role (note that the nominative and accusative forms are identical)

(15) a. $\langle DP_{\text{nom}}, DP_{\text{acc}} \rangle \leftarrow$ CRASH?! (2)

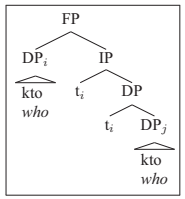


b. ✓

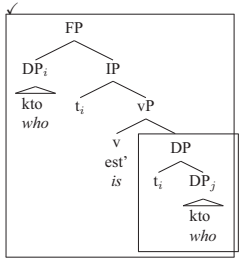


- For now I assume, as suggested by the data, that the overt copula is a light verb (to be discussed below)

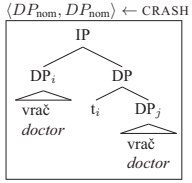
(16) a. $\langle DP_{\text{nom}}, DP_{\text{nom}} \rangle \leftarrow$ CRASH (3)



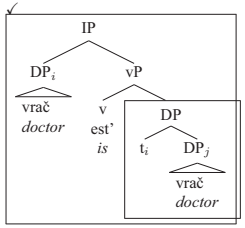
b. ✓



(17) a. $\langle DP_{\text{nom}}, DP_{\text{nom}} \rangle \leftarrow$ CRASH (5)

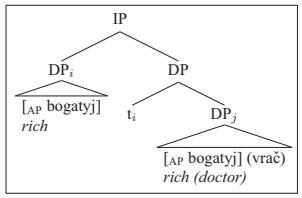


b. ✓



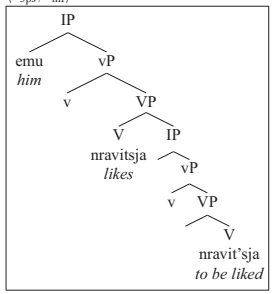
- At first blush, the analysis fares less well with adjectives

(18) $\langle DP_{\text{nom}}, DP_{\text{nom}} \rangle \leftarrow$ CRASH?? (7)



- Possible solutions (see also below)
  - *Bogatyj* alone is an AP, not DP, so it does not pose problems for linearization
  - The two *bogatyj*s differ with respect to some relevant features, making them linearizable
- For verbs, suggests sensitivity to person/number features (or perhaps an intervening CP)
  - Note lack of syncretism

(19) $\langle v_{3\text{ps}}, v_{\text{inf}} \rangle$✓ (8)



3.3 Complicating data

- Problems
  - Bare adjectives need to be linearizable
  - Account for (4) where copula is dispreferred
  - Semantic contrasts make copula no longer obligatory

(20) Vrač vrač.
doctor doctor
'The doctor's name is Vrač.' cf. (5)

(21) Bogatyj vrač bogatyj vrač.
rich doctor rich doctor
'The (financially) rich doctor is a rich doctor (in that he has many wonderful friends).' cf. (6)

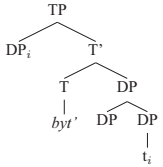
- Possible solutions

- Reanalyze structure (adjectives)
- Make linearization sensitive to more features
  - Semantic? Phonological??

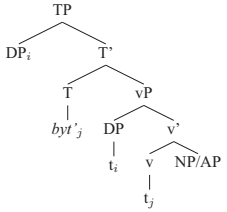
3.4 Consequences for copular constructions

- Copular constructions – quite complex, usually get more semantic than syntactic attention
- Pereltsvaig for Russian copular constructions

(22) a. **Bare Copular Sentences** (nominative) (Pereltsvaig 2001:46)

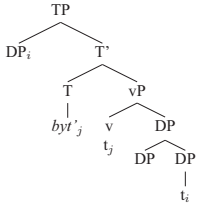


b. Rich Copular Sentences (instrumental)

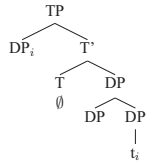


- Distinctness is about neither string adjacency nor homophony
- This analysis suggests that overt and null copula constructs are not of the same form, and that overt introduces a phase head (here I assumed v)

(23) a. Overt copula



b. Null copula



4 Some undiscussed items

- Role of prosody
- Role of tautology – true in virtue of its form (e.g. Gajewski 2002)
  - The ungrammatical examples here are not L-analytic, so tautological explanation does not fit
- Extension to other languages showing a similar ban on adjacent homophonous wh-phrases

5 Summary

- Ban on adjacent homophonous wh-phrases extended to adjacent homophonous noun phrases
- Pattern reexplained through a general constraint on linearization, Distinctness
  - Note that Distinctness in not about homophony but can explain the ungrammatical examples above as extreme cases of $\langle \alpha, \alpha \rangle$
- Distinctness suggests that the overt copula introduces a phase head absent with the null copula
- A case of obligatory copula pronunciation!
- See below for alternative analyses

6 Acknowledgments

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A An OT analysis

- This can be given a fairly typical OCP-type analysis - appeal to phonological and featural similarity
  - what differentiates the good from the bad?
    - They are bad only when two nominal categories are involved
    - This difference can be captured with category features (Baker 2003)
      - Noun: +N
      - Verb: +V
      - Adjective: -N,-V
      - They are bad only when two +N categories are involved

good	bad	ex.
	$wh_{[+N]}$ $wh_{[+N]}$	(2)
	$N_{[+N]}/NP_{[+N]}$ $N_{[+N]}/NP_{[+N]}$	(5)
	$NP_{[+N]}$ $NP_{[+N]}$	(6)
$A_{[-N,-V]}/NP_{[+N]}$ $A_{[-N,-V]}$		(7)
$V_{[+V]}$ $V_{[+V]}$		(8)

- Constraints
  - DEP - violated when an element in the output does not have a corresponding element in the input
  - SEQ(PHON) - violated when elements sharing the same phonological form occur adjacently
  - SEQ([+N]) - violated when elements sharing the feature [+N] occur adjacently
  - (SEQ(PHON),SEQ([+N])) - violated when both SEQ(PHON) and SEQ([+N]) are violated
- The tableau in (24) depicts the contrast in (5), where an overt copula is required.
- The tableau in (25) depicts the data in (7a), where an overt copula is not required.[4]

(24)

vrač$_{[+N]}$ vrač$_{[+N]}$	(SEQ(PHON),SEQ([+N]))	DEP	SEQ(PHON)	SEQ([+N])
a. vrač$_{[+N]}$ vrač$_{[+N]}$	*!		*	*
b. ☞ vrač$_{[+N]}$ est' vrač$_{[+N]}$		*		

(25)

bogatyj$_{[+N]}$ bogatyj$_{[-N]}$	(SEQ(PHON),SEQ([+N]))	DEP	SEQ(PHON)	SEQ([+N])
a. ☞ bogatyj$_{[+N]}$ bogatyj$_{[-N]}$			*	
b. bogatyj$_{[+N]}$ est' bogatyj$_{[-N]}$		*!		

[4] I'm predicting that *bogatyj bogatyj* "the rich person is the rich person" should be bad, and I don't know if that's the case.

- A violation of SEQ([+N]) or SEQ(PHON) alone is not enough to prompt copula insertion, it is only the conjunction of these constraints, which outranks DEP, that leads to the pronunciation of the copula.
  - It's not all SEQ([+N]) - adjacent non-homophonous nouns are common in Russian copular constructions
  - It's not all SEQ(PHON) - adjacent homophonous items are sometimes allowed, as seen in (7).
- This type of analysis also works for the wh data, using PARSE([Q]), which is violated when a wh-feature is left unchecked

(26)

čto$_{[+N]}$ čto$_{[+N]}$ obuslovilo	(SEQ(PHON),SEQ([V]))	PARSE([Q])	SEQ(PHON)	SEQ([+N])
a. čto$_{[+N]}$ čto$_{[+N]}$ obuslovilo	*!		*	*
b. ☞ čto$_{[+N]}$ obuslovilo čto$_{[+N]}$		*		

Summary

- This analysis demonstrates how a phonological-syntactic OCP effect on a phrasal level can be accounted for by defining similarity in terms of features and using familiar OT machinery (cf. Ackema 2001).
- To account for additional data (20)-(21), additional features will be needed.
- See Zaroukian (2010) for further details.

Leftovers

- Is there independent reason to believe SEQ([+N]) exists?
- Do phrases have lexical features?
  - Seems reasonable in Baker's analysis where +V = 'has a specifier', +N = 'has a referential index'
- Might weighted constraints make more sense than local conjunction?

B A Bošković-style Minimalist analysis

- Tools
  - PF constraint against consecutive homophonous ~~*wh*-words~~ DPs
  - copy theory of movement - head-deletion preference (cite Franks 1998)
- Bošković's data

(27) a. N={čto$_2$, obuslovilo$_1$, V_1, v_1 T_1, C_1}

[$_{VP}$ obuslovilo čto$_j$]	merge V, *obuslovilo*, and *čto*
[$_{vP}$ čto$_i$ čto$_j$ [$_{v'}$ čto$_i$ obuslovilo [$_{VP}$ obuslovilo čto$_j$]]]	merge v and *čto*
spellout: [$_{vP}$ čto$_i$ ~~čto$_j$~~ [$_{v'}$ ~~čto$_i$~~ obuslovilo [$_{VP}$ ~~obuslovilo~~ čto$_j$]]]	
[$_{TP}$ [$_{vP}$ čto$_i$ ~~čto$_j$~~ [$_{v'}$ ~~čto$_i$~~ obuslovilo VP]]]	merge T
[$_{TP}$ čto$_i$ [$_{vP}$ čto$_i$ ~~čto$_j$~~ [$_{v'}$ ~~čto$_i$~~ obuslovilo VP]]]	check T's ϕ, case agreement
[$_{CP}$[$_{TP}$ ~~čto$_i$~~ [$_{vP}$ čto$_i$ ~~čto$_j$~~ [$_{v'}$ ~~čto$_i$~~ obuslovilo VP]]]]	merge C
[$_{CP}$ čto$_i$ ~~čto$_j$~~[$_{TP}$ ~~čto$_i$~~ [$_{vP}$ čto$_i$ ~~čto$_j$~~ [$_{v'}$ ~~čto$_i$~~ obuslovilo VP]]]]	check C's wh
spellout: [$_{CP}$ čto$_i$ ~~čto$_j$~~[$_{TP}$ ~~čto$_i$~~ [$_{vP}$ čto$_i$ ~~čto$_j$~~ [$_{v'}$ ~~čto$_i$~~ obuslovilo VP]]]]	

b. converges: [$_{CP}$ čto$_i$ ~~čto$_j$~~[$_{TP}$ ~~čto$_i$~~ [$_{vP}$ ~~čto$_i$~~ ~~čto$_j$~~ [$_{v'}$ ~~čto$_i$~~ obuslovilo [$_{VP}$ ~~obuslovilo~~ čto$_j$]]]]]

- Obligatory *est'*[5]
  - Derivation without *est'* in (28) crashes, derivation with *est'* in (29) converges

(28) a. N={kto$_2$, T$_1$, C$_1$}

[$_{DP}$ kto$_i$ kto$_j$]	merge kto and kto
[$_{TP}$ [$_{DP}$ kto$_i$ kto$_j$]]	merge T
[$_{TP}$ kto$_i$ [$_{DP}$ kto$_i$ kto$_j$]]	check T's ϕ, case agreement
[$_{CP}$[$_{TP}$ kto$_i$ [$_{DP}$ kto$_i$ kto$_j$]]]	merge C
[$_{CP}$ kto$_i$ kto$_j$[$_{TP}$ kto$_i$ [$_{DP}$ kto$_i$ kto$_j$]]]	check C's wh

b. CRASHES: [$_{CP}$ kto$_i$ kto$_j$[$_{TP}$ ~~kto$_T$~~ [$_{DP}$ ~~kto$_T$~~ ~~kto$_T$~~]]]

(29) a. N={kto$_2$, est'$_1$, T$_1$, C$_1$}

[$_{DP}$ kto$_i$ kto$_j$]	merge *kto* and *kto*
[$_{TP}$ est' [$_{DP}$ kto$_i$ kto$_j$]]	merge T and *est'*
[$_{TP}$ kto$_i$ est' [$_{DP}$ kto$_i$ kto$_j$]]	check T's ϕ, case agreement
[$_{CP}$[$_{TP}$ kto$_i$ est' [$_{DP}$ kto$_i$ kto$_j$]]]	merge C
[$_{CP}$ kto$_i$ kto$_j$[$_{TP}$ kto$_i$ est' [$_{DP}$ kto$_i$ kto$_j$]]]	check C's wh

b. converges: [$_{CP}$ kto$_i$ ~~kto$_j$~~[$_{TP}$ ~~kto$_T$~~ est' [$_{DP}$ ~~kto$_T$~~ kto$_j$]]]

- With phrases
  - Again, derivation without *est'* in (30) crashes, derivation with *est'* in (31) converges

(30) a. N={bogatyj$_2$, vrač$_2$, T$_1$, C$_1$}

[$_{DP}$ [$_{DP}$ bogatyj vrač]$_i$ [$_{DP}$ bogatyj vrač]$_j$]	merge *bogatyj vrač*
[$_{TP}$ [$_{DP}$ [$_{DP}$ bogatyj vrač]$_i$ [$_{DP}$ bogatyj vrač]$_j$]]	merge T
[$_{TP}$ [$_{DP}$ bogatyj vrač]$_i$ [$_{DP}$ [$_{DP}$ bogatyj vrač]$_i$ [$_{DP}$ bogatyj vrač]$_j$]]	check T's ϕ, case agreement

b. CRASHES: [$_{TP}$ [$_{DP}$ bogatyj vrač]$_i$ [$_{DP}$ ~~[$_{DP}$ bogatyj vrač]$_T$~~ [$_{DP}$ bogatyj vrač]$_j$]]

(31) a. N={bogatyj$_2$, vrač$_2$, est' T$_1$, C$_1$}

[$_{DP}$ [$_{DP}$ bogatyj vrač]$_i$ [$_{DP}$ bogatyj vrač]$_j$]	merge *bogatyj vrač*
[$_{TP}$ est' [$_{DP}$ [$_{DP}$ bogatyj vrač]$_i$ [$_{DP}$ bogatyj vrač]$_j$]]	merge T and *est'*
[$_{TP}$ [$_{DP}$ bogatyj vrač]$_i$ est' [$_{DP}$ [$_{DP}$ bogatyj vrač]$_i$ [$_{DP}$ bogatyj vrač]$_j$]]	check T's ϕ, case agreement

b. converges: [$_{TP}$ [$_{DP}$ bogatyj vrač]$_i$ est' [$_{DP}$ ~~[$_{DP}$ bogatyj vrač]$_T$~~ [$_{DP}$ bogatyj vrač]$_j$]]

[5] I utilize the structure provided by Pereltsvaig (2001).