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How Semitic is Slavic?
Initial clusters and syllabic consonants

1. Setting the scene

(1) common approach to initial clusters
- a. blick - lbick
  1. neither is an actual English word.
  2. blick is an accidental gap: it does not violate grammar.
  3. lbick is a systematic gap: it does violate grammar.
  4. reason: lbick violates sonority sequencing.
  5. we know that sonority sequencing is part of the grammar of English because speakers bluntly reject lbick, but accept blick.
  6. blick could enter the language at any time if it acquires a meaning.
- b. conclusions
  1. the set of existing initial clusters in a language qualifies as a natural class.
  2. it is defined by grammar.
  3. natural class for English (and many other languages): "within initial clusters, sonority must increase" (s+C clusters lain aside).

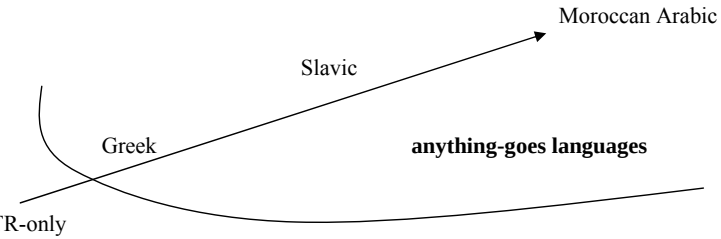
(2) typology of word-initial clusters
[T=Obstruent, R=Sonorant, "RT cluster" = RT, TT, RR]
e.g. Clements (1990)

		#TR	#RT	example
a.	no initial clusters	no	no	e.g. Ticuna (native Indian, Colombia)
b.	#TR-only	yes	no	English, French etc.
c.	anything-goes	yes	yes	modern occidental Semitic, Berber, Slavic
d.	#RT-only	no	yes	does not exist

(3) claim
- a. the blick - lbick analysis holds only for TR-only languages.
- b. in anything-goes languages
  - there are no systematic gaps
  - all gaps are accidental.
- c. Polish
  1. #rt: *rtęć* "quicksilver"
     #rp does not exist
  2. #rp is as well-formed as #rt.

- d. contrast between RT and TR (stop-liquid) clusters
  1. in both TR-only and anything-goes languages, all logically possible stop-liquid clusters exist (with the pervasive exception of #tl, #dl)
     pr pl tr kr kl
     br pl dr gr gl
  2. by contrast, anything-goes languages make an arbitrary and unpredictable choice among existing and non-existing #RT clusters.

(4) consequence: a binary typology
- a. the surface count suggests a gradient typology



#TR-only
English, German etc.
- b. Moroccan Arabic: all logically possible CCs occur word-initially
(e.g. Kaye 1990, Barkaoui 2000, Scheer 2004:§§383-385)

#TR	#RT	
brid	rbiT	cool down, bind
Drib	rDa	hit, accept
gliʕ	lga	remove, find
bka	kbir	cry, grow larger
nzil	zna	descend, commit adultery
dna	ndim	come near, regret
bqa	qbil	stay, accept

- c. Russian, Czech, Polish, Ukrainian
languages where quite some, but not all logically possible non-#TR clusters exist.
- d. (ancient) Greek
- a language where just a few non-#TR clusters exist:
- #pt, #kt and aspirated versions thereof, #mn
- systematic pattern that allows only for #TT and #RR (but not for #RT)?
- not really, since Greek is far from instantiating all #TTs and #RRs.
Seigneur-Froli (2003,2006), Sanoudaki (2007)
- e. contrary to this gradient surface impression, grammars make only a binary choice: TR-only or anything goes.
Anything beyond TR-only is anything-goes, with all gaps being accidental.
==> Greek is not just a little tolerant TR-only language. It has the same grammar as Moroccan Arabic.
- f. ==> Slavic anything-goes languages have a Semitic grammar.

(5) arguments in favour of this perspective
   a. new words (loans, acronyms) with non-occurring initial clusters may freely enter (Slavic) anything-goes languages.
   b. #RTs have anarchic distribution (to be demonstrated below)
      it is not true that either occurring or non-occurring #RT clusters constitute a natural class (in Slavic): looking at them from all possible angles, there is no principle that allows to characterise all and only those sequences which are (non-)existing.
   c. Slavic: **all** modern #RT clusters have been created by yer-loss: < #T-yer-R
      the two consonants of a Common Slavic #RyerT sequence were of course not subject to any co-occurrence restriction. Therefore their reunion through the loss of the yer creates a randomly structured sequence, both as far as its members and as gaps are concerned: #rp does not exist in any Slavic language simply because CS happened not to feature any lexical item that began with #r-yer-p (and has survived).

(6) consequences/goals
   a. show that CVCV predicts
      1. the binary typological perspective
      2. the fact that all gaps in anything-goes languages are accidental.
   b. the extrasyllabic approach to #RT clusters is wrong.
   c. [tentative]
      show that there is a correlation between the existence of #RT clusters and the existence of word-initial syllabic consonants: languages that have the former cannot have the latter.

2. #RT clusters in Slavic

(7) the corpus
   a. ambition:
      to establish an exhaustive record of all words that begin with a sonorant-obstruent cluster in 13 Slavic languages (hence **not** including #TT and #RR: too much work):

West	South	East
1. Czech	7. Bulgarian	11. Russian
2. Slovak	8. Macedonian	12. Ukrainian
3. Polish	9. Bosno-Serbo-Croatian	13. Belarusian
4. Upper Sorbian	10. Slovenian	
5. Lower Sorbian		
6. Kashubian		

   b. method:
      1. compilation of synchronic and etymological dictionaries
      2. control by native speakers
      3. "tolerant" policy regarding the quite numerous cases where dictionaries provide words that either are unknown to natives, or are ill-mastered: people may have heard that word from their grand mother, but are unable to inflect it, or do not really know what it means etc.
   c. result
      - a first version appeared in Scheer (2000)
      - the current record is available at www.unice.fr/dsl/tobweb/classes.htm#sldata
      - see the appendix for a sample.

(8) result
distribution of #RT clusters over Slavic languages
[no indication is given of the number of words/ roots that incarnate a particular cluster[1]]

		West						South				East		
		Cz	Sk	USo	LSo	Po	Ka	Bu	Ma	BSC	Sn	Bru	Uk	Rus
jT	jd	+												
	jh	+												
	js	+												
rT	rb									+				
	rt͡s	+				+								
	rt͡ʃ	+												
	rk, řk	+												
	rd, rd͡z, rd͡ʑ	+				+				+				+
	rz	+								+				
	rʒ	+		+	+	+							+	+
	rt	+				+				+			+	+
	rv, řv	+				+				+			+	+
lT	lb	+				+								+
	lg, lh	+				+	+						+	+
	lʒ	+	+			+								
	lz	+		+		+								
	lk	+	+			+								
	lp	+	+											
	ls, lɕ	+	+			+								+
	lʃ	+											+	
	lv	+				+							+	+
mT	md	+	+			+								
	mg, mh	+				+	+						+	+
	mʒ	+				+							+	+
	mz	+	+	+		+							+	+
	mx					+								+
	mʃ	+	+	+		+	+						+	+
	mk	+				+	+							+
	mt͡ʃ												+	+
	ms, mɕ	+	+			+							+	+
	mt	+												
	Total: 31	28	8	4	1	20	4			5			12	16

(9) the surface is gradient
   a. every Slavic language seems to make its own selection among #RT clusters, whose number may range from
      - "zero": Bulgarian, Macedonian, Slovenian, Belarusian
      - "almost none": Sorbian 1,4, Kashubian 4
      - "some": Slovak 8
      - "quite some": Ukrainian 12, Russian 16
      - "a whole lot": Polish 20, Czech 28

[1] It does not seem to make sense to distinguish #Rd and #Rđ or, for that matter, s,z and ś,ź as well as the corresponding affricates, ł [w] and l, g and h. All these pairs appear together in the same line. Even though there is reason to believe that Cz ř is not a sonorant, I continue mentioning it (together with r).

b. no language attests the full set of logically possible #RT clusters.
Even the most permissive systems are far from that:
1. Polish: 16%
20 attested out of 126 logically possible #RT sequences (6 sonorants, 21 obstruents).
2. Czech: 26%
28 attested combinations out of 108 logically possible #RT clusters (6 sonorants, 18 obstruents).

c. strong contrast with stop-liquid clusters, which systematically exhaust all logically possible combinations both in TR-only and in anything-goes languages.

(10) reasonable division of Slavic languages into three groups
a. #RT clusters are common
Czech, Slovak, Polish, Russian, Ukrainian
b. #RT clusters are absent
Bulgarian, Macedonian, Slovenian, Belarusian
c. #RT clusters are so rare that their synchronic status is dubious
Upper Sorbian, Lower Sorbian, Kashubian

(11) is the R of #RT syllabic?
a. #RT clusters are no sonority offenders at all if their R is syllabic: syllabic consonants have vocalic function (they are syllable peaks).
Hence #R̩T = #VT
==> we must control the syllabicity of R in #RT candidates.
b. Scheer (2004:§240, in press) establishes 4 diagnostics that allow to distinguish between syllabic and trapped consonants:
1. only syllabic consonants can bear stress: compare Po trwać with Cz trvat
2. only syllabic consonants count in poetry, and are counted by natives
3. only trapped consonants are transparent to voicing
4. in case of a preceding vowel-zero alternation, the alternation site is vocalized before trapped, but unvocalized before syllabic consonants.
c. BSC
#RT is always syllabic (only rT occurs), hence BSC has no #RT at all.
rvati se "to tussle"
rt "cape (in the sea)"
d. R in #RT is trapped in the five languages quoted: Czech, Slovak, Polish, Russian, Ukrainian.
1. the R is never stressed, wlthough it would if it could in Cz *rtut'*, Po *rtęć* "quicksilver"
2. other diagnostics for Russian and Ukrainian.

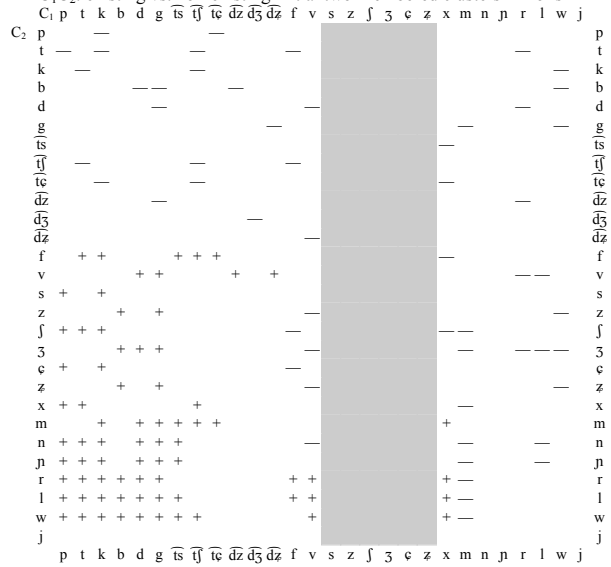
(12) #RTs are never a natural class
a. were #RTs controlled by grammar, both the occurring and the non-occurring clusters should form a natural class.
b. all attempts at parsing the #RT-set of any of the #RT-displaying languages into a natural class are vain.
Whatever the criterion or the feature or combination of features used (sonority, nasality, place etc.), the #RT-set of all languages will resist exhaustive assignment: some clusters that according to the natural class should exist are absent, and some that are outlawed do occur.

c. strongest case strategy: Polish
1. Polish is by far the best studied Slavic language as far as phonology is concerned, and this is especially true for initial clusters.
2. starting with Kuryłowicz (1952), a traditional topic in Polish phonology has been to find the guiding principle which is able to tell occurring from non-occurring initial clusters.
3. The exhaustive inventory of Polish initial clusters on which all analytic work is based has been established by Sawicka (1974) (see also Rowicka 1999:309ss and Scheer 2004a:§§375,622).
4. Relevant analytic literature includes Rubach & Booij (1990), Gussmann (1991), Cyran & Gussmann (1998,1999) and Rowicka (1999).
5. result: frustration
"While it [Kuryłowicz' proposal] succeeds remarkably well in covering the existing forms by reducing the heavy consonant groups to simple one- or two-member sequences, it does so at the expense of predicting a massive number of forms which do not and cannot exist. […]. It is easy to think of numerous cases where the mirror-image situation [of existing #CC clusters] is not possible: although we find [kr, pr, gn, tn] […], no reversing of elements is possible *[rk, rp, ng, nt]." Cyran (1998:129)

"In fact [r] can only be followed by some obstruents and never by sonorants, while [n] cannot be followed by anything. Likewise [m] can be followed but not preceded by a sonorant. […]. Regularities of this sort fail to result from the licensing mechanism called PG. […] These complex issues are not fully understood at present." Cyran & Gussmann (1998:135)

d. detail of the Polish situation
1. "+" in a cell = clusters that respect sonority sequencing (according to the permissive interpretation "C_2 must be more sonorous than C_1").
2. "—" in a cell = clusters that violate sonority sequencing.
3. empty cell = cluster does not occur word-initially.

#C_1C_2: existing vs. non-existing initial two-membered clusters in Polish



(13) all Slavic #RTs are produced by the loss of a yer
- a. synchonically anarchic situation, but an obvious and absolutely exceptionless diachronic generalisation:
  all #RT-words in all Slavic languages have been produced by the loss of an intervening yer.
- b. all theories need to account for this hard distributional fact:
  there is a causal relation between the loss of yers and the particular #RTs that occur.
- c. this causal relation is immediately obvious:
  there was no co-occurrence restriction between C_1 and C_2 of a Common Slavic #C_1-V-C_2 sequence. In case V happened to be a yer, thus, a #C_1-C_2 cluster was "mechanically" created as the yer was lost.
- d. the resulting clusters
  - have no co-occurrence restrictions
  - the distribution of their members is random

(14) prediction
- a. all missing #RTs in modern languages are accidental gaps due to
  - the absence of a Common Slavic basis
  - to the fact that a relevant CS basis has not survived into the modern language

- b. confirmation: #nT clusters
  1. completely absent from all 13 languages
  2. while #mT clusters are common
  3. on markedness grounds, this is entirely unexpected: n is unmarked.
     If anything, #mT should be missing.
  4. etymological dictionaries (e.g. Havlová 1989-2006:557s, Holub & Kopečný 1952:241, Machek 1957:321) do not have a single CS #n-yer-T-V root on record.[2]

(15) overall diachronic scenario
- a. Common Slavic was a regular TR-only language
- b. until the loss of yers "blindly" created offending #RT sequences
- c. individual Slavic dialects had different responses to this new situation
  1. either they maintained the TR-only grammar
  2. or they switched to an anything-goes grammar.
- d. languages in the former case
  [Bulgarian, Macedonian, Slovenian, Belarusian, Upper Sorbian, Lower Sorbian, Kashubian]
  All kinds of "repairs" are attested in the corpus:
  metathesis, epenthesis, loss of C_1 or C_2)
  - metathesis: #RyerT > TR, compare Cz lžíce with Slovak žlíce
  - epenthesis: #RyerT > RVT
  - irregular vocalization of the yer: #RyerTV > #RVTV
  - loss of R or T: #RyerTV > RV, TV
- e. languages in the latter case did not show any reaction
- f. Slavic vs. (Moroccan) Arabic: same diachronic scenario, but
  - in Arabic ALL (short) vowels were lost
  - in Slavic, only two eleventh of the lexicon were concerned (those items that had a yer)

(16) new lexical items
- a. prediction
  if gaps are accidental, new words (loans, acronyms, nonce-words) with non-occurring #RT clusters can freely enter the language.
  If gaps are systematic, they cannot.
- b. borrowings of Georgian words with non-Russian #RT clusters into Russian

#RT		
#m$\widehat{ts}$	Mcyri	poem by Lermontov, and the corresponding character
#mt	Mtacminda	mountain in Tbilisi
#mz	Mziuri	Georgian dance band
#m$\widehat{ts}$	Mckheta	town in Georgia
#rk	rkaciteli	popular brand of wine
#rz	Rza	personal name

[2] The sequence #n-yer-T must be followed by a vowel since otherwise the yer will be regularly vocalised: in roots of the shape #n-yer-T-C it occurs in so-called strong position. Dictionaries actually offer one single item of this kind, CS *nьštvi "trough" (< IE *nigw "washing", e.g. gr νίζειν "to wash"), which indeed shows regular yer vocalisation in all modern reflexes: BSC naćve, Cz necky, Po niecka, Old Ru načvy.

3. The beginning of the word in CVCV

(17) CVCV
Lowenstamm (1996), Szigetvári (1999), Scheer (2004), Szigetvári & Scheer (2005)
syllable structure boils down to a strict sequence of non-branching Onsets and non-branching Nuclei. The following representations for basic phonological objects ensue:

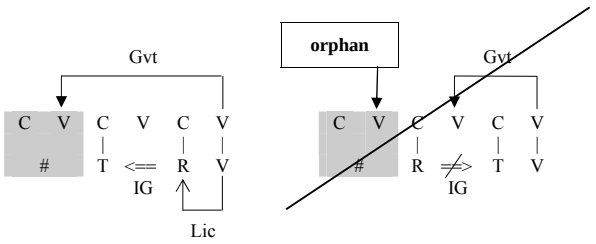
closed syllable	geminate	long vowel	[…C#]	branching Onset
O N O N	O N O N	O N O N	O N	O N O N
| | | |	\ / |	| / \ |	| |	| | | |
C V C ø	C V	C V	C ø #	T ø R V

(18) syllable structure
a. traditional: arboreal structure expresses co-occurrence restrictions and varying affinity among segments.
b. CVCV: this function is shifted onto **lateral relations** that are assumed to hold between constituents, **Government** and **Licensing**.
Effects that are usually attributed to the fact that a given segment belongs to this or that syllabic constituent are claimed to stem from the configuration regarding Government and Licensing that it is involved in.
c. the result is supposed not to be a null-sum game: The **lateralisation of structure and causality** buys you more than arboreal syllable structure.

(19) the phonological identity of the beginning of the word
= CV
a. the initial CV
Lowenstamm (1999)
Scheer (1999, 2004:§83), Ségéral & Scheer (2001,2005)
b. more generally speaking: Direct Interface
[Scheer 2005a,b 2006, forth a,b]
representation of extra-phonological information in phonology not through diacritics such as #, the Prosodic Hierarchy and the like, but through truly phonological objects. A truly phonological object is one that exists in the phonology independently of any issue related to the interface.

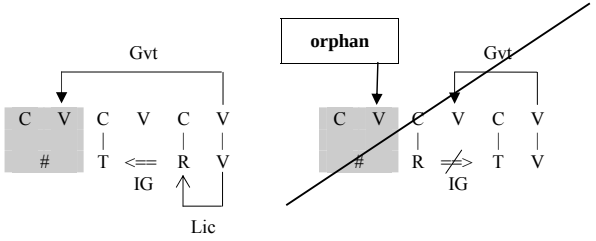
(20) branching Onsets in CVCV
a. [Scheer 1999,2004a:§102]
1. IG = Infrasegmental Government
2. sonorants govern obstruents, but need to be licensed to do so by a full vowel.
3. a Nucleus sandwiched within a domain of IG may remain empty.
b. - TR clusters may be preceded by an empty Nucleus.
- RT clusters may not: the intervening empty Nucleus requires Government.

well-formed structure: #TRV… ill-formed structure: #RTV…



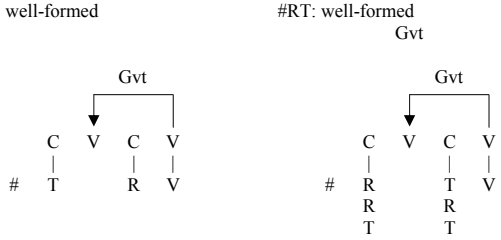
(21) typology of initial clusters
a. the presence vs. absence of the initial CV controls #CC clusters.
b. initial CV present = TR-only language
initial CV absent = anything-goes language
c. the theory does not allow for a third option:
the initial CV can only be present of absent.
1. languages that possess the initial CV

well-formed structure: #TRV… ill-formed structure: #RTV…



2. languages that **lack** the initial CV

#TR: well-formed #RT: well-formed



4. Benefits and predictions

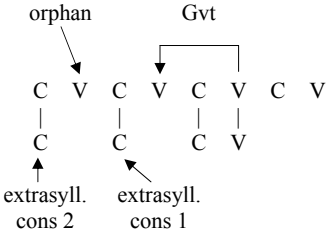
(22) benefit I
the binary parameterisation of the initial CV gets the overall typology right
a. #CV-only trivial: no clusters at all
b. #TR-only presence of the initial CV
c. #TR and #RT absence of the initial CV
d. #RT-only cannot exist because the existence of #RT implies the absence of the initial CV, which in turn allows for any possible cluster.

(23) non-trivial predictions
  a. initial CV present: concomitant properties
    1. #C is strong
    2. #RT impossible
    3. the first vowel of a word cannot alternate with zero (e.g. pes - psa)
  b. initial CV absent: concomitant properties
    1. #C is weak
    2. #RT possible
    3. the first vowel of a word may alternate with zero (e.g. pes - psa)
  c. empirical record: not so bad
    [it is hard to find diagnostics for all three parameters in the same language]
    1. Seigneur-Froli (2003,2006) shows that Greek
      1. has non-#TR clusters
      2. word-initial consonants are weak (they behave like intervocalic consonants)
    2. across Slavic:
      1. #RT present, the first vowel may alternate with zero: Cezch, Polish, etc.
      2. #RT absent, the first vowel may not alternate: Belarusian (lav - ilva), Bulgarian

      3. BSC and Slovenian appear to contravene, but the status of the pas - psa pattern is not clear: there are reasons to believe that it is synchronically inactive.
      Also: the status of these languages as anything-goes is dubious: only a few #TTs and #RRs, no #RTs.

(24) benefit II
  a better solution for extrasyllabicity
  [Scheer 2004a:§339,2004b]
  a. the regular extrasyllabic analysis (e.g. Rubach & Booij 1990) predicts that there can be a random number of extrasyllabic consonants.
  b. this is because any number of unsyllabifyable initial consonants will be left unparsed by the syllabification algorithm (or equivalent constraints). They are then reintegrated into the Prosodic Hierarchy (adjunction) at a later derivational stage.
    Depending on the analysis, they
    1. either simply stand astray (Hall 1992, Wiese 1996)
    2. or are adjoined to the Onset, and Onsets are then said to be able to violate Sonority Sequencing at the surface (but not when core syllabification takes place) [e.g. Hall 1992:122ss, 2000:248]
    3. or are directly adjoined to some constituent of the Prosodic Hierarchy, e.g. the prosodic word, the phonological word (e.g. Rubach & Booij 1990, Rubach 1997).
  c. in any case there is no restriction defined regarding the number of extrasyllabic consonants that can be adjoined: how many consonants and of which sonority slope can Prosodic Word contain? On the grounds of which co-occurrence restrictions?

  d. by contrast, CVCV predicts that there can be one "extrasyllabic" consonant at most: any additional consonant implies an additional empty Nucleus, and two empty Nuclei in a row are ill-formed.
    This appears to be a true statement, even for a "wild" language like Polish, cf. the detailed demonstration in Scheer (2004a:§373).



5. What kind of animal is a syllabic consonant ?

(25) what kind of animal is a syllabic consonant?
  [Scheer 2004:§240,in press]
  a. idea
    a syllabic consonant is a hermaphrodite:
    - it is a consonant because it sits in an onset
    - it behaves like a vowel because it branches on a nucleus
  b. does it branch on the preceding or on the following nucleus?
    Right-branching structure
    Yoshida (1990), Rowicka (1999:261ss), Blaho (2001,2004), Rennison (1999:333ss).
    Left-branching structure
    Harris (1994:224s), Hall (1992:35s), Wiese (1986,1996) and Toft (2002).

(26) there are several arguments to be made – here is one from Slavic diachronics, which supports the identification of syllabic consonants as left-branching structures.
  [Scheer 2004:§277]

a.	syllabic consonants were **preceded** by a yer in Common Slavic.
b.	trapped consonants were **followed** by a yer in Common Slavic.

  c. CьRC > syllabic CR̩C
    CRьC > trapped CRC
  d. yers "ь", "ъ" were schwas that faded away in late Common Slavic.

(27) **Equation 1**

Czech √CRC- syllabic = Polish √CRC- trapped

	Common Slavic	Polish	Czech	gloss (Polish)	gloss (Czech)
CrC	trъvati	trwać	trvat	last	last
CrzC	dvьri	drzwi	dveře	door	door
	grьměti	grzmieć	hřmět	to thunder	to thunder
	brьněti	brzmieć	brnět	sound	tickle
	chrьbьtъ	grzbiet	hřbet	back	back
	trъstina	trzcina	trstina	reed (plant)	reed (plant)
ClC	slьza	łza < słza	slza	tear	tear
	klьn-	klnę	klnout	I curse	curse
	plьv-	plwocina	arch plvat > plivat	sputum	spit
	blъcha	pchła	old Cz blcha > blecha	flea	flea

(28) **Equation 2**

Czech √CRC- syllabic = Polish √CVRC- pre-vocalized[3]

Polish reaction	Common Slavic	Czech	Polish	Czech gloss	Polish gloss
CaRC: 34	gъr-dlo	hrdlo	gardło	throat	throat
	gъrt-tь	hrst	garść	(cupped) hand	(cupped) hand
	pьrstъ	prst	parst	finger	
	sьr-na	srna	sarna	roe	roe
CieRC: 16	pьrsi	prsa	pierś	breast	breast
	sьrpъ	srp	sierp	sickle	sickle
CiRC: 4	vьlkъ	vlk	wilk	wolf	wolf
CeRC: 6	vьlna	vlna	wełna	wool	wool
	sьrdь-ce	srdce	serce	heart	heart
	pьlnъ	plný	pełny	full	full

Total: 60

(29) conclusion

a. can it be predicted whether the Polish response to a Czech syllabic consonant is a vocalized or a trapped sonorant ?
YES:
Polish trapped CRC < following yer CRьC Czech √CRC- = Polish √CRC-
Polish prevocalised CVRC < preceding yer Czech √CRC- = Polish √CVRC-

b. ==> trapped consonants come from postvocalised CRVC structures

(30) questions

a. why does Czech not reproduce the Common Slavic opposition tьrt vs. trьt in the way Polish does ? Both origins are merged and appear as syllabic consonants.
==> answer: the merger is a modern phenomenon – Old Czech distinguished between trapped and syllabic consonants.

b. how is the Common Slavic opposition between tьrt and trьt established ?
==> answer: by balto-slavic comparatism: Baltic and Eastern Slavic consistently distinguish pre- and post-vocalized sonorants.

[3] With one exception that does not bear on the generalization, i.e. CluC- vocalizations such as in pol tłusty = cz tlustý = slk tlstý "thick".

(31) CS CRьC = consistently **postvocalised** in Baltic and Eastern Slavic
trapped in Polish: Baltic CRi/uC = ESl CRe/oC = Czech CRC = Polish CRC

	other IE	Baltic (lith)	Common Slavic	Estern Slavic (rus)	Polish	Czech
CrC	skr dhruva, lat durua		trъvati	ukr tryvaty	trwać	trvat
		kraujas	krъvь	krov', krovi	krew, krwi	krev, krve
CrzC	skr dvaaras	dvaras	dvьri	dver'	drzwi	dveře
	germ Gram, gr khromos	grumenti	grьměti	gremet'	grzmieć	hřmět
	lat fremo, germ Bremse, skr bhramaras		brьněti	ukr brenity	brzmieć	brnět
			chrьbьtъ	chrebet	grzbiet	hřbet
		trušis	trъstina	trostina	trzcina	trstina
	< germ krist		krьstъ	krest, kresta	chrzest, chrztu	křest, křtu
ClC	germ schlucken	žliukti	slьza	sleza	łza < słza	slza
			klьn-	kljanu	klnę	klnout
	lat glutire		glьtati	glotat'	old p kłtać	hltat
			plьv-	plevat'	plwać	arch plvat > plivat
	skr plutas, gr plytos	latv pluts	plъtь	plot', ploti	płeć, płci	plt', plti
	germ Floh	blusa	blъcha	blocha	pchła	old Cz blcha > blecha

(32) CS CьRC = consistently **prevocalised** in Baltic and Eastern Slavic
vocalized in Polish: Baltic Ci/uRC = ESl Ce/oRC = Czech CRC = Polish CVRC

other IE	Baltic (lith)	Common Slavic	Estern Slavic (rus)	Polish	Czech
lat gurgulio, germ Gurgel	gurklis	gъr-dlo	gorlo	gardło	hrdlo
gr a-gortos	gurste	gъrt-tь	gorst'	garść	hrst
skr prštiš, oiran paršti, germ Fürst	pirštas	pьrstъ	arch perst	parst	prst
lat cervus, gr keras, skr śiras	latv sirnas, oldpr sirvis, lit stirna	sьr-na	serna	sarna	srna
skr paršu	piršis	pьrsi	persi	pierś	prsa
lat sarpio, gr harpee,	latv sirpe	sьrpъ	serp	sierp	srp
skr vrkas, got wulfs, alb ulk	vilkas	vьlkъ	volk	wilk	vlk
oiran varna, got wulla	vilna, oprus vilna	vьlna	volna	wełna	vlna
arm sirt, lat cordis, got herto, gr kardia	širdis	sьrdь-ce	serdce	serce	srdce
got fuls, skr purnas, but lat plenus, gr pleios	pilnas	pьlnъ	polnyi	pełny	plný

(33) summary of the comparatistic situation
Polish vocalized vs. trapped consonants continue CS tьrt vs. trьt

		hence: CS	Baltic	ESl	Pol
a.	Polish trapped sonorants	CRь/ъC	CRi/uC	CRe/oC	CRC
b.	Polish vocalized sonorants	Cь/ъRT	Ci/uRC	Ce/oRC	CVRC

(34) OCS has the yer "on the wrong side"
- a. CS yerR > OCS Ryer
  CS Ryer > OCS Ryer
- b. OCS script indicates merger of both origins. This is not the case for sure:
  1. Eastern Slavic consistently distinguishes them
  2. Polish consistently distinguishes them
- c. OCS <rь, rъ, lь, lъ> is simply a way of transcribing syllabic consonants: [r̥', r̥, l̥', l̥] (Rospond 1979:94, Vondrák 1924:181, Carlton 1991:152, van Wijk 1949-50).

(35) but what has happened to Czech (and Slovak) trapped consonants ?
- a. CS pre- and postvocalised sonorants have merged in Czech: they are both syllabic.
- b. this merger is recent:
  Old Czech faithfully distinguishes syllabic and trapped consonants exactly along the lines expected:
  CS yerR > OCz syllabic R
  CS Ryer > OCz trapped R
  1. older sources (13th - late 14th century):
     - CrC < CS trьt do not count in poetry: they are trapped
     - OCz CRC < CS tьrt count in verse
  2. later OCz (from late 14th century on)
     CrC < CS trьt start to count in verse as well

(36) Old Czech
- a. poetry obeys typical Old Czech Alexandrine verse, counting eight syllables.[4]
- b. literature on the change from trapped to syllabic consonants in OCz texts:
  Smetánka (1940) (much raw material, datation and counts for individual texts), Lehr-Spławiński & Stieber (1957:97), Komárek (1969:128s).
- c. general literature on the merger
  Trávníček (1935:57s, 111ss, 226ss), Lehr-Spławiński & Stieber (1957:97ss), Komárek (1969:60s, 82, 97ss, 127ss), Liewehr (1933:93s, 162s).

(37) examples of older sources

a.	C__C within a root	CrC < trьt		
	1 2 3 4 5 6 7 8 we krwi jakžto vodě kalé	krwi < krъve	AlxB.	verse 3,18, late 13th, early 14th cent.
	1 2 3 4 5 6 7 8 a z jich srdce krwe utočie	krwe < krъve srdce < sьrdьce	AlxV.	verse 1517, late 13th, early 14th cent.
	1 2 3 4 5 6 7 8 Mezi oči jemu plvali	plvati < plьvati	Hrad.	60s of the 14th century
b.	C__C outside a root			
	1 2 3 4 5 6 7 8 a ty zlaté jablko jmiechu	jablko < jablъko	AlxV.	late 13th, early 14th cent.
	1 2 3 4 5 6 7 8 v cyprskéj zemi v dobrém slově	cyprský < cyprьský	Kat.	early 14th century

[4] Hrad. = Hradecký rukopis, collection of versified compositions from the 60s of the 14th century. Alx. = Alexandreida, epic poems on Alexander the Great dated end of 13th, beginning of 14th century, AlxV. is a fragment of a later copy thereof dated beginning 15th century, AlxB. and AlxH. are fragments of a later copy dated beginning 14th century. Kat = Katonovy mravní průpovědi, versified translation of the collection of aphorisms by Catonis Distich, dated beginning 14th century.

c.	C__# 1 2 3 4 5 6 7 8 bratr Filotóv, jenž boj bráše	bratr < bratrъ	AlxV.	late 13th, early 14th cent.
	1 2 3 4 5 6 7 8 vňuž by sě třásl svět i moře	třásl < tręslъ	AlxH.	late 13th, early 14th cent.
	1 2 3 4 5 6 7 8 matko pro tvých sedm radostí	sedm < sedmь	Hrad.	60s of the 14th century

Texts from the 15th century and younger systematically do count liquids in CrC < CS trьt. On the other hand, CrC from CS tьrt have always contributed to metric weight since the earliest Old Czech sources until the present day. This is also evident from the second verse under **Erreur ! Source du renvoi introuvable.**a where the liquid in the word "heart" srdce < CS sьrdьce does count in presence of the metrical irrelevance of its mate in "blood GENsg" krwe < CS krъve.

(38) there is an OCz minimal pair syllabic vs. trapped consonant.
This was identified by Trubetzkoy (1939:199), who consequently establishes a "correlation of syllabicity". Cf. Komárek (1969:82) and Liewehr (1933:94) on the minimal pair.

	syllabic "hold"	trapped "tremble, shake"
Common Slavic	dьržati	drъžati
Polish	dzierżyć	drżeć
Russian	deržat'	drožat'
Old Czech	dr̥žěti	držěti
Modern Czech	držet	—

(39) illustration in verse
Old Czech dr̥žěti vs. držěti
- a. dr̥žěti = 3 syllables
  1 2 3 4 5 6 7 8
  to jmě drzal takým kmenem — Kat. verse 24
- b. držěti = 2 syllables
  1 2 3 4 5 6 7 8
  všecko pohanstvo drzezalo — Kat. verse 2803

(40) summary
Western Slavic reflexes of Common Slavic tьrt and trьt

					example
Common Slavic	tьrt		trьt		sьrna - trьvati
OCS	tr̥t		trt	trapped (?)	sr̥na - trvati
Old Czech	tr̥t	syllabic	trt	trapped	sr̥na - trvati
Modern Czech, Slovak	tr̥t	syllabic	tr̥t	syllabic	sr̥na - tr̥vat
Polish	tVrt	vocalized	trt	trapped	sarna - trwać

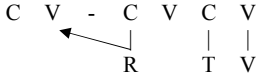
6. No initial syllabic consonants in anything-goes languages ?

(41) conclusion (from the Slavic evidence)
syllabic consonants are left-branching
trapped consonants are right-branching

e.g. Czech trvat "to last"
syllabic consonant

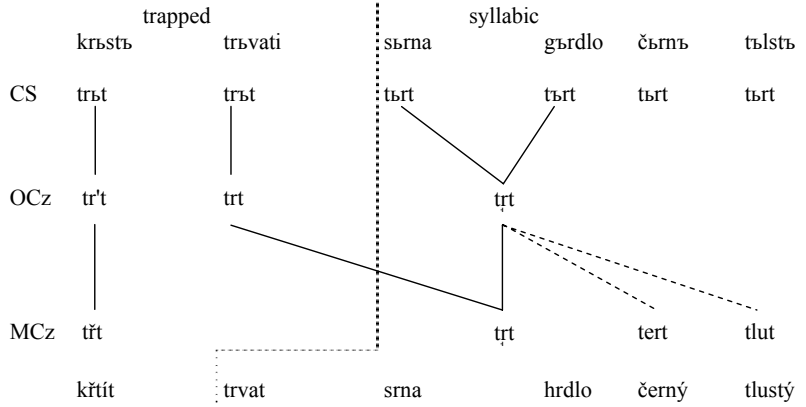
e.g. Polish trwać "to last"
trapped consonant

(42) impact of the beginning of the word on syllabic/ trapped consonants
a. hence in an anything-goes language where the initial CV is absent, a word-initial sonorant has nothing to branch on to its left: it cannot become syllabic.
b. it can, however, become trapped, since this requires an empty nucleus to its right, which is always available.
c. TR-only language



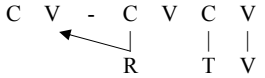
anything-goes language

(43) evolution of Common Slavic tьrt and trьt in Czech

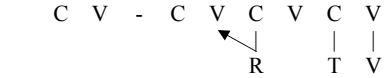


(44) question
a. why did ALL trapped sonorants spontaneously become syllabic, except in word-initial position?
b. something prevented them from becoming syllabic in this position.
c. answer: because initial trapped sonorants had nothing they could have branched on.
d. [ř is not a candidate for becoming syllabic because it is not a sonorant (it has voiced and voiceless versions and participates in final devoicing) – only sonorants can be syllabic (in Slavic, perhaps universally).]

(45) prediction
a. correlation
1. word-initial trapped sonorants that "want" to become syllabic in TR-only languages (that possess the initial CV) may become syllabic.
2. word-initial trapped sonorants that "want" to become syllabic in anything-goes languages (that lack the initial CV) may not.
b. how can that be tested?
the existence of word-initial syllabic consonants in anything-goes languages is not enough to falsify the prediction: sonorants may branch lexically, rather than on the initial CV. It is their genesis that is important.
c. initial syllabic consonant in a TR-only language



initial syllabic consonant in an anything-goes language



d. possible testing ground: South Slavic
1. there are initial syllabic consonants in (some versions of) BSC.
2. but are BSC/Slovenian representatives of the TR-only or the anything-goes pattern?

7. Conclusion

(46) conclusion
a. binary typology
languages may have no, some, quite some, a lot or all possible #RT clusters.
This surface gradation is irrelevant. It instantiates just two possible grammatical situations:
- either grammar imposes #TR-only: initial CV present
- or grammar imposes no restrictions at all: initial CV absent
b. in anything-goes languages, all gaps are accidental.
c. arguments:
1. the set of #RT clusters is always random (while the set of #TR clusters is not)
2. Slavic: #RT are always the result of yer-loss
3. Sanoudaki (2007): evidence from the acquisition of Greek: infants of any anything-goes language go with anything, while infants of TR-only languages do not.
d. benefits
1. explanation of the distributional situation in anything-goes languages
2. explanation why there can be only one "extrasyllabic" consonant in a row
3. explanation why OCz initial trapped consonants refused to become syllabic.

Appendix 1
Slavic word-initial lateral-obstruent clusters
[full corpus at www.unice.fr/dsl/tobweb/classes.htm#sldata]

	Root	#CC	Common Slavic (Old Church Slavonic)	IE and comparatistic evidence	gloss CS	West						South				East		
						Czech	Slovak	Upper Sorbian	Lower Sorbian	Polish	Kashubian	Bulgarian	Macedonian	Bosno-Serbo-Croatian	Slovenian	Belarusian	Ukrainian	Russian
1	lъb-	lb	lъbъ	IE leubh-	skull GENsg	lbi				lba								lba
					NOMsg	leb, lebi, lebka	lebka			leb		lob (arch)		Cr lubanja, Srb lobanja	lobanja	lob, ilba	lob, GEN loba	lob
2	lъg-ati	lg	lъgati, lъg-jo	NHG lügen	lie inf, 1sg	lhát, lžu				łgać, łże	łgac						łhaty	łgać', łgu, łgun
						lež	ľuhať	ľahký	dgaś			lъga	laže	lagati	lagati	ilhać		
		lž	lъž-a		lie GENsg	lži	lži, lživý											łži (Gsg)
					lie NOMsg	lež	ložь	bža, bže	dža, dży			lъža	laže	laž	laž		ložь, olža	ložь
3	lъg-	lg	lъg-ьkъ, lъgo-stajь	IE legwh-u-, skr laghú-, gr elakhys, lat levis, NHG leicht	light	lhostejný				łgi (arch)								
						lehký	ľahký, ľaho-stajný	ľochki	ležki	lekki	letk'i	lek	lek	lak, lagan, laknuti	lahek, lahak	ľochki	lehkyi	ľohkij
					respite, deadline	lhůta, lhůtník, Lhota (topo)											ľhota	ľgota, ľga (arch)
						lehký	lehota								odlog	il'hota		
		lz	lъdza		it is suitable to	lze				lza, lza (arch)								ľzja (arch)
							neľza								lahko	il'ha	neľha	neľzja
4	lъk	lk	lъk	onom (s)luug-, NHG schlucken	mourn	lkát (poet)	lkať (poet), lkanie			łkać								
						po-lykat		lunk		połykać			ľoka					
5	lъp-	lp	lъp-	NHG bleiben, leben	cling, stick	lpět, lpít, lnout	lpieť (arch), lnúť			łgnąć								
						lepit	lepiť	lèpić	lipaś	lepić	lnanc	lepilo	lepak, lepi	lepiti, lijepiti	lepiti	il'nuć, lipnuć	ľnuty	ľnuť
6	lъsk-, lъšč-	ls, lš	lъšč-ati (sę) lъsk-ati, lъsk-ati	IE leuk-, gr leukhos, lat	shine, twinkle	lsknouti se (arch), lštiti se				lsknąć się, lsnąć się, lśnić							ľšce	

	Root	#CC	Common Slavic (Old Church Slavonic)	IE and comparatistic evidence	gloss CS	West						South				East		
						Czech	Slovak	Upper Sorbian	Lower Sorbian	Polish	Kashubian	Bulgarian	Macedonian	Bosno-Serbo-Croatian	Slovenian	Belarusian	Ukrainian	Russian
				lux, OHG lioht (> NHG Licht), skr ročate		lesk, lesku	lesk, lesku, lesknut' se	ščany (arch)	ščaś se, ščiś	ślnić (arch)		lъskav, lъštja	leskot	laštiti se	lesk, leskетati, leščati se (arch)	il'šnicca	il'šce	losnit' sa
7	lъstь	ls	lъstь < OHG listiz (> NHG List)		cunning, ruse	lsti (Gsg), lstivost, lstivý, lstný	ľsti (Gsg), ľstivosť			ślsci (arch), ślciwy								ľstiť
						lest	lesť, lesti	lesć	lasć	leść (arch)		lъst (arch)		last (arch), lastan	lest (arch)	lestь (arch), lislivić	ľest'	ľest' (noun)
8	lъvъ	lv	lъvъ	< CGerm *liuwaz (> NHG Löwe), cf. lat leo, gr leon	lion Gsg	lva, lvi, lvíče, lvice, lvoun				lwa								l'va (Gsg)
					lion Nsg	lev	lev, leva	law	law	lew	lev	lъv	lav	lav	lev, GENsg leva	leu, il'va (Gsg)	lev	lev
9	slъz-	lz	slъza, slъza	*lugiō, NHG schlucken	tear													
						slza	slza	sylza	dza	łez (Gpl)		sъlza	solza	suza	solza		sílza	slezа
10	lъž-	lž	lъžica, lъžъka	lat ligula	spoon	žlice		łzica										
						žlice (dial)	lyžica		žyca	łyżka		lъžica	lažica	Cr žlica	žlica	łyżka	łožka, łyžka	ložka

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