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this handout and some of the references quoted at  
[www.unice.fr/dsl/tobias.htm](http://www.unice.fr/dsl/tobias.htm)

## STUDENATA

- (1) outline
  - a. the studenAta pattern: why is there a vowel appearing in Gpl studenAta, but not before a zero case marker in Nsg student?
    - ==> if anything, the reverse is expected: A before zero and ø before -a.
    - ==> are BCS speakers masochistic?
  - b. how to go about it
    1. Czech: contrast between two zeros: -ø Nsg ≠ -ø Gpl
    2. Polish: contrast between two kinds of vowels that alternate with zero:
      - a) vowels that are lexically present (deletion in case of zero)
      - b) vowels that are lexically absent (epenthesis in case the vowel surfaces)

### 1. Masochistic presence of -A- in Gpl studenAt-a, masochistic absence in Nsg student

(2)

	open syllable		closed syllable	
	zero C__C-V	vowel C__C-yer Cø	vowel C__C-ø	vowel C__C-CV
Russian	dn'-á	d'en'-ók	d'én'	d'en'-øk-á
Czech	dom-øk-u	dom-eč-ek	dom-ek	dom-eč-øk-u
Slovak	kríd-øl-o	kríd-el-iec	kríd-el	kríd-el-øc-e
Polish	buł-øk-a	buł-ecz-ek	buł-ek	buł-ecz-øk-a
BCS	lakøt-a	lakat-an (lakat-øn-og Gsg)	lakat	—

N.B.: it is very hard to find examples of two alternating vowels in a row in BCS, it looks like there is a conspiracy against this pattern. Try for example to have a double diminutive with -ak: you'll never get -ak-ak (while this is common in other Slavic languages).

Example:

simple dim.: čvar-ak "crackling"

double dim.: čvar-č-íć

impossible: \*čvar-ač-ak

- (3) generalizations
- alternation sites are vocalized in closed syllables. lakat
  - alternation sites are not vocalized in open syllables. lakøt-a
  - EXCEPT if the following vowel alternates with zero itself. lakat-an

- (4) whether a vowel alternates with zero or not cannot be predicted from its quality:  
alternating and non-alternating vowels of the same quality

	alternating		non-alternating		gloss
	CvC	CøC-V	CvC	CvC-V	
Russian	kusók	kusøk-á	rabót	rabót-a	piece Nsg, Gsg; work Gpl, Nsg
Polish	pies	pøs-a	bies	bies-a	dog Nsg, Gsg; devil Nsg, Gsg
Czech	ret	røt-y	les	les-a	lip Npl, Gpl; forest Nsg, Gsg
BCS	tajac	tajøc-a	pajac	pajac-a	silence Nsg, Gsg, clown Nsg, Gsg

- (5) student pattern

	-nt-ø	-nt-V	-nAt-a
Nsg	student		
Gsg etc.		student-a	
Gpl			studenAt-a

- only a small number of words that follow this pattern
- all of them are fairly recent loans
- more on its behaviour below

- (6) student

- bears an alternation site in the middle of the final cluster nt#: Gpl studenAt-a
- therefore we expect
  - vocalization in closed syllable before C-ø lakat grrr student
  - non-vocalization in open syllable: Gsg lakøt-a ☺ student-a
  - vocalization before Gpl, a special case: lakat-a ☺ studenat-a
- the only evidence for the existence of the alternation site is Gpl.  
=> what kind of masochistic vocalization do we have in Gpl?
- => what is going on in Nsg ??  
=> what is going on in Gpl ??

## 2. Student in the BCS system

- (7) four relevant properties of BCS

- Gpl -a  
does not behave like a vowel.
- \*CC#: absence of word-final consonant clusters
- i allomorphy in Gpl that occurs with some CC-final stems:  
mačk-a - Gpl mačak-a "cat" vs. mečk-a - Gpl mečk-i "bear"
- 3 levels of loanword adaptation

(8) Gpl -a

- a. Gpl -a provokes the vocalization of preceding alternation sites.  
Phonetically identical Gsg -a and Gpl -a contrast.

Nsg	Gsg	Gpl	gloss
momak	momøk-a	momak-a	chum
šljunak	šljunøk-a	šljunak-a	pebble
kašalj	kašløj-a	kašlaj-a	cough
palac	paløc-a	palac-a	thumb
manjak	manjøk-a	manjak-a	deficit
pas	pøs-a	pas-a	dog
patak	patøk-a	patak-a	drake
lakat	lakøt-a	lakat-a	elbow
šapat	šapøt-a	šapat-a	whisper
konopac	konopøc-a	konopac-a	rope
žabac	žapøc-a	žabac-a	male frog

- b. only possible conclusion if the generaliations in (3) hold:
- (3)c alternation sites are vocalized in open syllables only if the following vowel alternates with zero itself (lakat-an - lakat-øn-og)
  - ==> Gpl -a is a yer, i.e. an alternating vowel
- c. it cannot be testes whether Gpl -a alternates with zero since there is no way to have it followed by another morpheme.
- d. but its interpretation as a yer is consistent with its diachronic identity:  
Common Slavic Gpl -ɤ  
> -ø in Slavic languages except in BCS  
> -a in BCS  
==> diachronic vocalization of CS Gpl -ɤ is irregular and mysterious
- e. Gpl -a  
- is a diachronic zero  
- behaves like a zero synchronically  
- is physically a non-zero

(9) \*CC#

- a. quite surprisingly for a Slavic language, there are no word-final clusters in BCS, except for
- s+C
  - in recent loans (rekord, student etc.), on which more below.
- b. s+C  
without surprise: s+C are phonological aliens also elsewhere
- c. s+C#

	Nsg	Gpl	gloss
-st	most	most-ov-a	bridge
	kost	kost-i	bone
-zd	bazd	bazd-ov-a	stench
	grozd	grozd-ov-a	berry
-št	plašt	plašt-ov-a	cloak
	prišt	prišt-ev-a	boil
-žd	dažd	dažd-ev-a	rain (arch.)

- d. their behaviour in Gpl is difficult to test because they are all monosyllables which take the long plural suffix -ev-/-ov-.

- e. but fem -a nouns offer the opportunity to observe s+C-final roots before Gpl -a: typically

	Nsg	Gpl	gloss
-st	vrst-a	vrst-a	type
-št	pošt-a	pošt-a	post office
-žd	nužd-a	nužd-a	need

- f. except if the s+C is plurimorphemic: diminutive -ka. In this case s+C behave like regular clusters:

1. either Gpl -a plus epenthesis into the cluster

	Nsg	Gpl	gloss
-sk	das-k-a	dasak-a	plank
-šk	kruš-k-a	krušak-a	pear

2. or i-allomorphy

	Nsg	Gpl	gloss
-sk	kos-k-a	kos-k-i	little bone
-šk	kriš-k-a	kriš-k-i	slice
	kokoš-k-a	kokoš-k-i / kokoš-ak-a	little hen

==> (monomorphemic) s+C is never broken up, hence counts as one single consonant.

(10) -i allomorphy

- a. regular distribution of Gpl allomorphs:

1. -u: 3 items

	Nsg	Gpl	gloss
	ruk-a	ruk-u	hand
	nog-a	nog-u	leg
	slug	slug-u	servant

2. -i attaches to consonant-final feminine stems, i.e. a total of some 15 items

	Nsg	Gpl	gloss
	smrt	smrt-i	death
	čast	časti	honour
	vlast	vlasti	government
	kost	kosti	bone
	noć	noći	night
	bol	boli	pain
	misao	misli	thought
	pogibao	pogiblji	dying

3. -iju attaches to some 10 items, sometimes in concurrence with -i

	Nsg	Gpl	gloss
	oko	očiju	eye
	uho	ušiju	ear
	noć	noćiju	night
	–	prsiju	breast
	prst	prstiju	finger
	gost	gostiju	guest
	nokat	noktiju	nail

4. -a elsewhere

	Nsg	Gpl	gloss
masc.	udarac	udarac-a	hit
neut.	jezer-o	jezer-a	lake
fem.	krem-a	krem-a	cream

b. -i appears instead of regular -a with some CC-final stems:

	regular -a			-i allomorphy		
	Nsg	Gpl	gloss	Nsg	Gpl	gloss
-čk	mačk-a	mač <b>ak</b> -a	cat	mečk-a	mečk-i	bear
-ŋk	bank-a	ban <b>ak</b> -a	bank	šunk-a	šunk-i	ham
				trunk-a	trunk-i	shred
-sk	dask-a	das <b>ak</b> -a	plank	mask-a	mask-i	mask
-jk				dojk-a	dojk-i	teat
				majk-a	majk-i	mother
				bajk-a	bajk-i	fable
-ljk	biljk-a	bil <b>jak</b> -a	plant			
-tk	patk-a	pata <b>k</b> -a	duck	tvrtk-a	tvrtk-i	company
-šk	krušk-a	kruš <b>ak</b> -a	pear	njušk-a	njušk-i	snout
-pk	klupk-o	klup <b>ak</b> -o	bundle	šapk-a (Vojv.)	šapk-i	knitted cap
-zm	čizm-a	čiz <b>am</b> -a	boot	prizm-a	prizm-i	prism
-mk				zamk-a	zamk-i	trap
-pt				lopt-a	lopt-i	ball
-čm				kičm-a	kičm-i	spine
-vg				kavg-a	kavg-i	commotion
-čv				bačv-a	bačv-i	barrel
-rt				sort-a	sort-i	kind

c. like for s+C clusters (see (9)f), there seems to be a morphological bias:

1. monosyllabic -CCs take -i
2. heteromorphemic -CCs take -a

d. in other words:

1. if the -CC encloses an alternation site (or if speakers interpret the -CC as such: bank-a - banak-a), the alternating vowel regularly surfaces in Gpl like everywhere else:  
/pat-ak-a/ → pat-ak-a
2. if the -CC does not enclose any alternating vowel, nothing can surface, hence -a is impossible: a vowel would have to surface in the preceding cluster. Therefore the only solution is to have a real vowel silencing the cluster:  
/mask-a/ → mask-i

e. in all cases, what is strictly enforced is \*CC:

1. either by having a vowel surface in the cluster:  
mačak-a
2. or by having an allomorphic vowel silencing the cluster, something that -a is unable to do:  
mečk-i

f. for the analysis below, the predictability of the allomorphy is irrelevant: it is enough to know that some stems take allophonic -i, while others don't, and this may be a lexical property of every stem or predictable.

(11) different patterns in loanword adaptation = different nativization levels

a. level 1

full violation of native grammar:

1. Nsg: violation of \*CC
2. Gpl: violation of \*CC-a → -CC-a

	Nsg	Gpl	gloss
-rd	rekord	rekord-a	record
-ns	balans	balans-a	equilibrium
-nd	sekund	sekund-a	second
-nt	patent	patent-a	patent
-ŋg	parking	parking-a	parking lot
	haring-a	haring-a / haring-i	herring
-pt	Kopt	Kopt-a	Coptic person
-ks	indeks	indeks-a	index
	sufiks	sufiks-a	suffix

b. level 2

partial violation of native grammar:

1. Nsg: violation of \*CC
2. Gpl: \*CC-a is enforced by epenthesis

	Nsg	Gpl	gloss
-nt	student	studenat-a	student
	koeficijent	koeficijenat-a	coefficient
	opponent	opponenat-a	reviewer
	pacijent	pacijenat-a	patient

c. level 3

no violation of native grammar:

1. Nsg: \*CC is enforced either
  - by a the presence vocalic suffix (in which case there is also i-allomorphy)
  - by an epenthesis into the final cluster (in which case an a also appears in Gpl)
2. Gpl: \*CC-a enforced either
  - by epenthesis before or
  - by i-allomorphy

[i.e. exactly the same lexical split as in native words, cf. (10)b]  
distribution see above.

	Nsg > CC-V	Gpl > CC-i	gloss
-rm	farm-a	farm-i	farm
	larm-a	larm-i	noise
-ns	nijans-a	nijans-i	nuance
-nd	sekund-a	sekund-i	second
	verand-a	verand-i	porch
-nt	poent-a	poent-i	crux of the matter
	funt-a	funt-i	pound
-zm	prizm-a	prizm-i	prism

	Nsg > CaC	Gpl > CaC-a	gloss
-nt	dokumenat	dokumenat-a	document
	parlamenat	parlamenat-a	parliament
	elemenat	elemenat-a	element
	momenat	momenat-a	moment
-kt	fakat	fakat-a	fact
-zm	turizam	turizam-a	tourism

d. as may be expected, there are many doublets and hesitating words

Nsg	Gpl	gloss
sekund	sekund-i	second
sekund	sekund-a	second
dokument	dokument-a	document
dokumenat	dokumenat-a	document

e. summary and interpretation

		*CC#	Gpl *CC-a	analysis
level 1	rekord - rekord-a	violated	violated	different grammar
level 2	student - studenat-a	violated	ok	native grammar, Nsg violation
level 3	dokumenat - dokumenat-a farm-a - farm-i	ok	ok	completely nativized 1. lexical a present 2. lexical a absent

(12) overall summary

- a. we have an idea why the cluster is broken up in Gpl studenAt-a:  
 ==> because the Gpl -a is a yer  
 ==> regular behaviour
- b. Nsg is as mysterious as before:  
 1. the cluster should also be broken up: > studenAt  
 2. this is indeed what happens on the next level of nativization: dokumenAt  
 3. but still, student IS sensitive to, i.e. impacted by native grammar: cf. Gpl
- c. we propose a truly phonological account  
 ==> two questions

**what is the difference between  
student vs. dokumenAt ?  
==> Polish**

**what is the difference between  
Nsg vs. Gpl ?  
both are zero, but they do not behave alike  
==> Czech**

### 3. Analysis of vowel-zero alternations

- (13) recall: generalizations regarding vowel-zero alternations
- a. alternation sites are vocalized in closed syllables. lakat
  - b. alternation sites are not vocalized in open syllables. lakət-a
  - c. EXCEPT if the following vowel alternates with zero itself. lakat-an

- (14) classical formalization:

LOWER

- a. in linear SPE-type environments  
Lightner (1965), Gussmann (1980), Rubach (1984) etc.
- b. autosegmental  
Rubach (1986), Kenstowicz & Rubach (1987).
- c. insight:
  1. alternating vowels are lexically/underlyingly present (yers).
  2. they are floating melodies that associate to a syllabic constituent iff they are followed by another floating vowel (yer)

- (15) yers are floating pieces of melody: Rubach (1986)

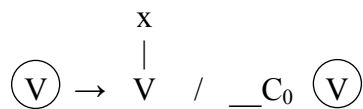
Cz loket "elbow"

- a. lokət-e Gsg      b. loket Nsg      c. loket-ní adjective

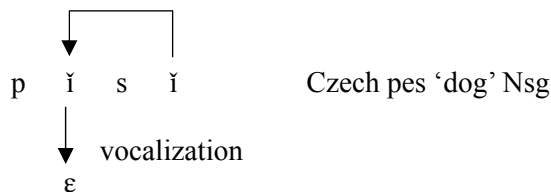
x	x	x		x	x	x	x		x	x	x		x	x	x				
l	o	k	e	t	e	l	o	k	e	t	e	l	o	k	e	t	e	n	í

- (16) autosegmentalized Lower (Rubach 1986)

"a floating vowel is associated iff followed by another floating vowel"



- (17) Lower describes a lateral and regressive relationship between vowels



- (18) government

- a. since Rubach (1986)

contrast between alternating and non-alternating vowels: the former are lexically floating, while the latter are lexically associated.

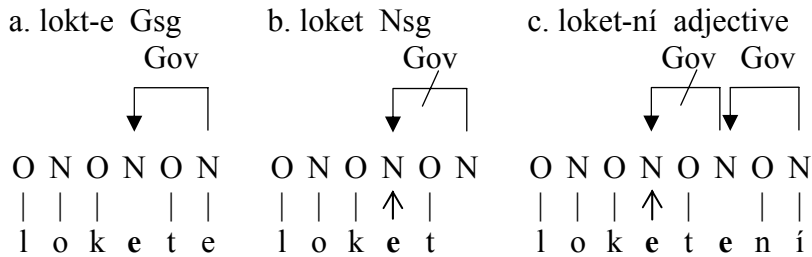
tajac - Gsg tajc-a

pajac - Gsg pajac-a

O	N	O	N	O	N		O	N	O	N	
t	a	j	a	c			p	a	j	a	c

- b. in Government Phonology, this lateral regressive relationship between two nuclei is called government.  
Scheer (2005), Scheer & Ziková (in press)
- c. assumption in GP (Kaye 1990): word-final consonant are onsets of degenerate syllables, i.e. followed by an empty nucleus.
- d. Lower is government: only contentful nuclei, i.e. those that have associated melody, are good governors.
- e. government is an association-inhibitor: floating melodies can only associate to ungoverned nuclei

government-based analysis of the Lower pattern  
Cz loket "elbow"



#### 4. The two mysteries

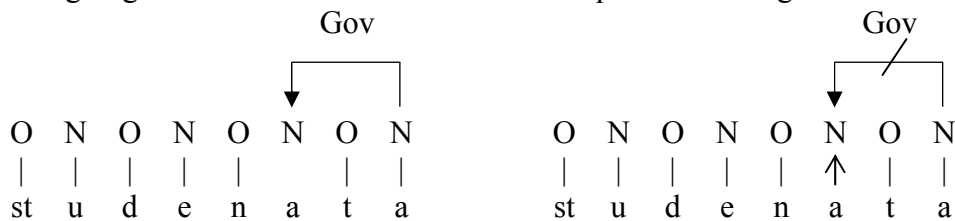
(19) translated into this formal vocabulary, the two mysteries identify as follows

(20) why is Gpl -a unable to govern?

a. problem

1. Gsg -a governs: student-a

2. Gpl -a does not govern: studenAt-a



b. classical solution

1. yer chains

reason why alternating vowels surface before other alternating vowels:

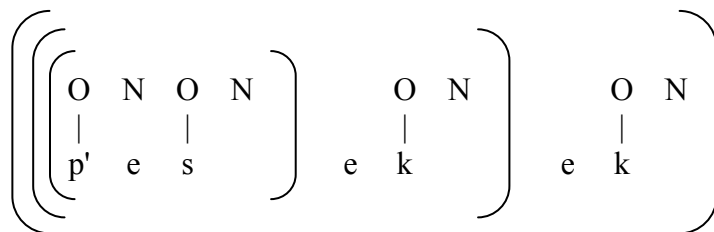
- cyclic derivation (Rubach 1984)

- today: derivation by phase: suffixes are phase-triggering (Ziková 2008)

2. e.g. Polish dim. -ek is cyclic/a phase head

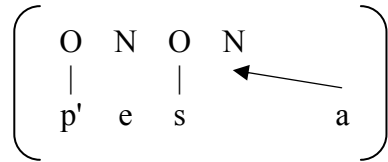
pies-ecz-ek "dog double diminutive Nsg"

/[[[[p'Es]Ek]Ek]E]/



3. cycle 1: vocalization before an empty nucleus (which is unable to govern)  
 $p'E\emptyset \rightarrow pies$   
 cycle 2: vocalization before an empty nucleus (which is unable to govern)  
 $p'esE\emptyset \rightarrow pies-ek$   
 cycle 3: vocalization before an empty nucleus (which is unable to govern)  
 $p'esekE\emptyset \rightarrow pies-ecz-ek$

4. as opposed to case markers, which are non-cyclic/not phase heads



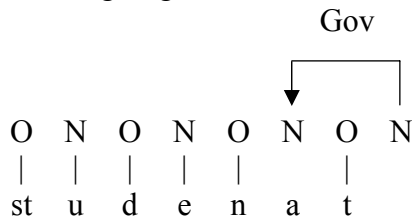
- c. this does not work for BCS:

1. Gsg would have to be non-cyclic: [studenat-a]
  2. against Gpl, which would be cyclic: [[studenat]-a]
- ==> there is no evidence for Gpl to have any distinct morpho-syntactic properties with respect to all other case markers.  
 Hence deriving a phonological effect from a non-existing morpho-syntactic contrast (phase head vs. non-phase head) is wrong.

**the difference between Gsg -a and Npl -a must be lexical, not morpho-syntactic.**

- (21) we know that there is a floating vowel enclosed in the final cluster of student.  
 Why does it not surface in Nsg?

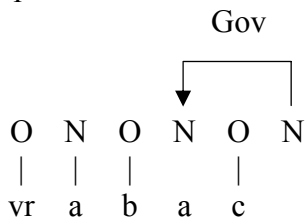
- a. does Nsg - $\emptyset$  govern ??



- b. certainly not: in this case alternating vowels would be absent in the Nsg of all words that have a preceding alternating vowel:

\*vrabc

\*ps



**what is it, then, that silences the floating A in Nsg /studenAt/ ??**

## 5. Polish: vowels that alternate with zero may or may not be lexically present

(22) Polish refuses to break up word-final clusters

Scheer (in press)

a. recall the regular pattern:

V / \_\_C {#,C} = in closed syllables

zero / \_\_CV = in open syllables

with the proviso that V also surfaces in open syllables if the following V alternates with zero itself.

b. Polish vocalizes in internal, but refuses to do so in final closed syllables.

Compare Czech and Polish below:

Czech			Polish		
CøC-V	CeC-C	CeC	CøC-V	CeC-C	CøC
form-a	ne-forem-n-ý	forem	form-a	forem-n-y	form
válek-a	váleč-n-ý	válek	walk-a	walecz-n-y	walk
pásm-o	pásem-n-í	pásem	pasm-o	pasem-k-o	pasm
služb-a	služ-eb-n-í	služ-eb	śluz-b-a	śluz-eb-n-y	śluzb

(23) the generalization that word-final clusters refuse to release alternating vowels is associated to two non-phonological provisos, and there are a handful of exceptions.

a. -CC# refuse to break up only in non-nominative forms. In Nsg they may or may not break up:

	Nsg	Gpl	gloss
cluster broken up	cukier	cukr-u	sugar
	koper	kopr-u	dill
	kumpel	kumpl-a	chum
	sweter	swetr-a	jumper
	puder	pudr-u	powder
stable cluster	cykl	cykl-u	cycle
	wiatr	wiatr-u	wind
	bóbr	bobr-a	beaver
	jesiotr	jesiotr-a	sturgeon

b. only mono-morphemic clusters refuse to break up.

the vocalization of hetero-morphemic clusters appears to be an individual property of every suffix:

		Nsg	Gpl	gloss
non-vocalizing suffixes	-eb	śluz-b-a	śluz-b	service
	-stw	świń-stw-o	świń-stw	mess
	-itw	modl-itw-a	modl-itw	prayer
vocalizing suffixes	-ek	kroc-ek	kroc-ek	step
	-ec	wzor-ec	wzor-c-a	pattern
	-ł-o/a	has-ł-o	has-ł	password
	-en	peł-n-y	peł-en	full

- c. there is also a number of exceptions in mono-morphemic clusters (i.e. which do break up in Gpl)  
 [the list below is about exhaustive, cf. Cyran (2003:176ff,188), see also Gussmann (2007:230ff)]

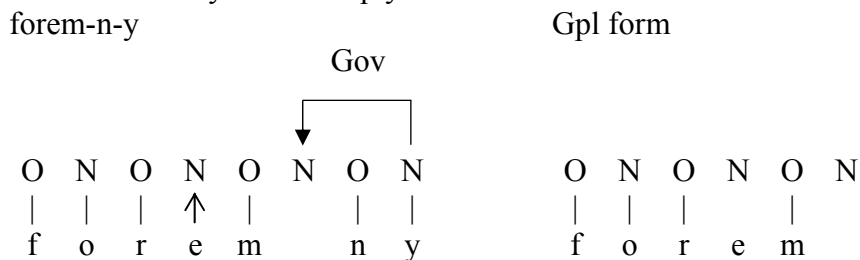
	Nsg	Gpl	gloss
TR#	wiadr-o	wiader	pail
	iskr-a	iskier	sparkle
	žebr-o	žeber	rib
RT#, RR#	torb-a	toreb	bag
	durni-a	dureń	fool
	sarn-a	saren / sarn	deer
	żarn-a	żaren / żarn	quern

(24) the trouble

- we know that there is a floating vowel present in the lexical representation of form-a because we see it in forem-n-y. So why don't we see it in \*forem?
- ==> same problem as with BCS student: we know there is a floating vowel, but it refuses to surface.
- as before, the solution "final empty nuclei (FEN) are able to govern" must be wrong: otherwise we would have \*ps "dog Nsg" instead of pies.
- temptation: a non-phonological solution
  - analogy
  - Gussmann (2007:230) "when the nouns become the input to further derivations, the floating vowel normally appears in them".

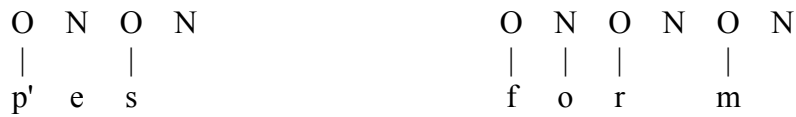
(25) solution

- what is the *phonological* difference between forem-n-y and form?
- the alternation site
  - is followed by an internal empty nucleus in forem-n-y
  - is followed by a final empty nucleus in form

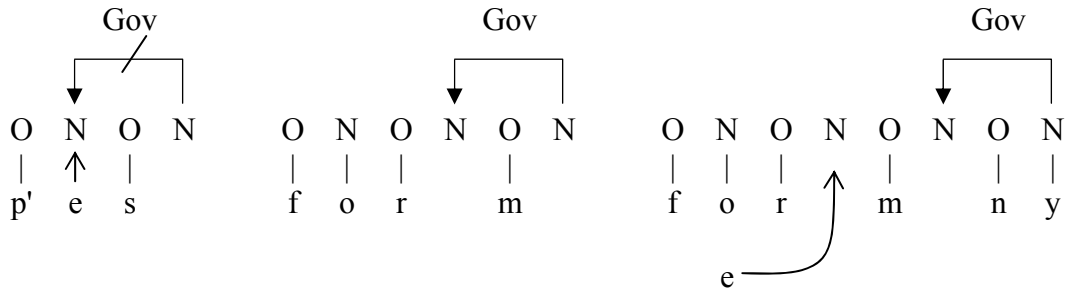


- we know that FEN "can do more" than internal empty nuclei.  
 The banned solution "FEN are able to govern" may be saved if the uniform lexical representation of alternating vowels is abandoned:
  - pies - ps-a  
 the alternating vowel is lexically present
  - form-a - forem-n-y  
 the alternating vowel is lexically absent: it is an epenthesis.

3. lexical representations



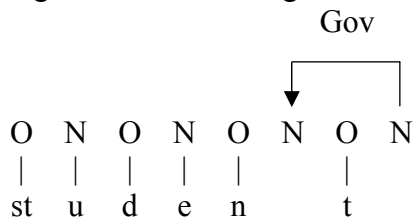
4. FEN can govern empty nuclei (i.e. which have no floating melody), but are unable to govern nuclei that are lexically provided with a (floating) melody  
Scheer (2004:§541)



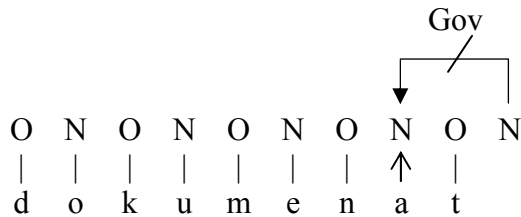
d. benefit: the "exceptions" disappear:  
the difference between  
wiadr-o - wiader  
and  
form-a - form  
is lexical: the former does, the latter does not possess a floating vowel in the lexicon.

(26) same problem, same solution for BCS

- a. the contrast between student and dokumenat (=vrabac) is LEXICAL:
  - 1. dokumenat = /dokumenAt/ has a lexicalized floating A
  - 2. student = /student/ has no lexical floating A: the one we see in Gpl studenat-a is an epenthesis
- b. Nsg student: the FEN governs an *empty* nucleus



c. Nsg dokumenat: the FEN cannot govern a nucleus with a floating melody



- d. this is consistent with the nativization process (11)e:
  1. dokumenat is more advanced than student
  2. being adapted to the native environment is lexicalizing floating melodies
  3. student has not (yet) incorporated a floating melody.
- e. the question why an A appears in Gpl studenAt-a remains.  
 ==> Czech

## 6. Czech: Nsg -ø ≠ Gpl -ø

### (27) trapped vs. syllabic consonants

- a. compare
  - Polish *trwać* monosyllabic ==> trapped r
  - Czech *trvat* bisyllabic ==> syllabic r
- b. four criteria to tell trapped from syllabic consonants  
 Scheer (2004:§214, 2008, 2009, Ziková 2008, in press)

	syllabic C	trapped C
counted by poetry (and by speakers)	yes	no
can bear stress	yes	no
are transparent to voicing	no	yes
provoke the vocalization of a preceding alternation site	no	yes

- c. syllabicity and stress
  1. Cz *trvat, krve, slza* "to last, blood Gsg, tear"  
 are bisyllabic and bear stress on the sonorant.
  2. Po *trwać, krwi, bóbr, wiatr* "to last, blood GENsg, beaver, wind"  
 are monosyllabic and not stressed on the sonorant.  
 Were trapped consonants able to bear stress, they surely would in *trwać*: stress is penultimate in Polish.  
 Stress placement ignores trapped consonants: the word *jésiotr* "sturgeon" (bisyllabic) is stressed on the first vowel. Were the final trapped consonant counted, the <o> would be penultimate and hence tonic.
- d. transparency for voicing
  1. Po *krew* - *kr[f]-i* (*krew-ny*) "blood Nsg, Gsg" ("relative": the [f] is a /w/)  
 ==> Gsg *kr[f]-i* is monosyllabic and stressed on the -i  
 ==> progressive assimilation: the cluster /krw/ takes the voice value of the leftmost member (Rubach 1997).
  2. Cz *krev* - *kr[v]-e* "blood Nsg, Gsg"  
 ==> Gsg *kr[v]-e* is bisyllabic and stressed on the r  
 ==> the /v/ remains voiced after a syllabic consonant.
- e. influence on a preceding alternation site  
 [but see the detail of the Polish situation in the literature mentioned]
  1. Po *roze-brnąć* "to flounder (pf)"  
 ==> the prefix is vocalized
  2. Cz *roz-drtit* "to crush"  
 ==> the prefix is unvocalized

(28) situation in Old Czech:  
trapped and syllabic consonants coexist and are in opposition

- a. OCz trapped < CS following yer  
OCz syllabic < CS preceding yer

C<sub>ɔ</sub>RC > syllabic CR<sub>ɔ</sub>C

CR<sub>ɔ</sub>C > trapped CRC

- b. whether sonorants in CRC and CR# are trapped or syllabic is controlled by their behaviour in poetry: typical Old Czech Alexandrine verse, i.e. counting eight syllables.  
c. 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.

Old Czech minimal pair držěti "hold" vs. držěti "tremble, shake"

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

- d. illustration in verse  
Old Czech držěti vs. držěti

držěti = 3 syllables

1 2 3 4 5 6 7 8

to jmě drzal takým kmenem

Kat. verse 24

držěti = 2 syllables

1 2 3 4 5 6 7 8

všecko pohanstvo drzezalo

Kat. verse 2803

(29) further evolution

- a. trapped > syllabic consonants

i.e. merger with original syllabic consonants

Written testimony from Old Czech is available since the second half of the 13th century A.D. For about hundred years, CrC clusters from CS trъt do not count in poetry and thereby identify as trapped, whereas the reflexes of CS trъt > OCz CrC weigh in versification. By the end of the 14th century, however, trapped CrC < CS trъt start to count as well.

e.g. Trávníček (1935:57f, 111f, 226ff), Lehr-Splawiński & Stieber (1957:97ff), Komárek (1969:60f, 82, 97ff, 127ff), Liewehr (1933:93s, 162f), Ziková (in press).

- b. except

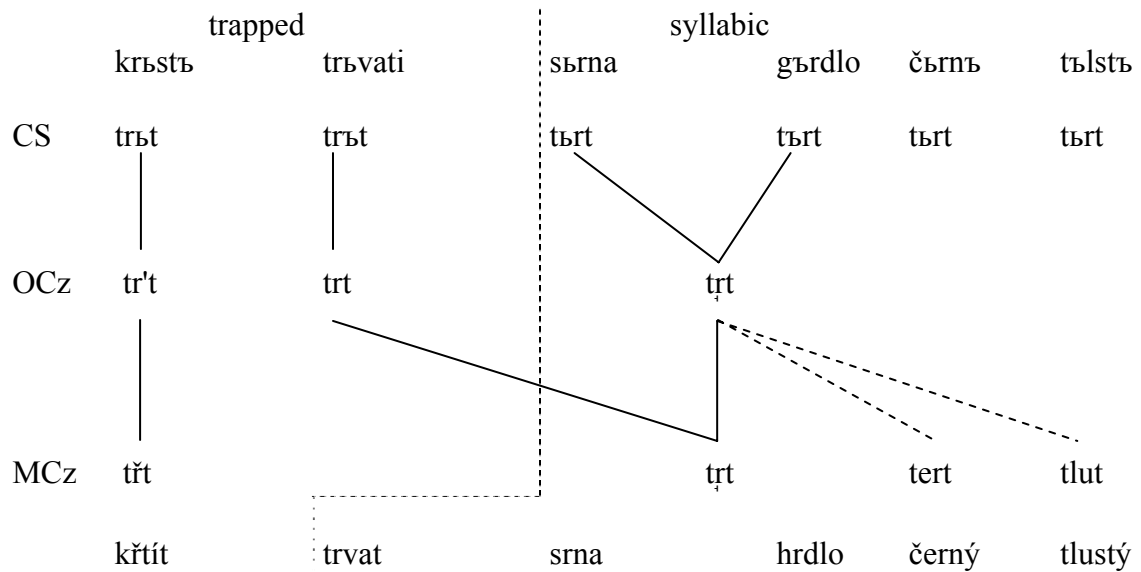
1. in word-initial position:

CS lъgati > OCz lháti (trapped) > Mod. Cz lhát (trapped)

2. when palatal: ř

CS krъstъ > kr'st (trapped) > křtít (trapped)

c. evolution of Common Slavic  $\text{trьt}$  and  $\text{trьt}$  in Czech



(30) BUT deviant treatment in Gpl:

OCz trapped CR# > CeR# epenthesis, i.e. "non-etymological yers"

a. contrast between

1. Nsg -ø	OCz CR# > MCz CR#	==> syllabic R
-----------	-------------------	----------------

2. Gpl -ø	OCz CR# > MCz CeR#	==> epenthesis
-----------	--------------------	----------------

b. below,

- CS data are from Kopečný (1981) and Slovník jazyka staroslověnského (1966-1997)

- OCz data are excerpts from electronically available corpora of OCz texts and OCz dictionaries; <http://vokabular.ujc.cas.cz>.

(31) -C + r

a. Nsg -ø: -Cr# > -Cr# = regular evolution: syllabic r

CS	OCz	MCz	gloss
vichr-ь	vichr	vichr	windstorm
větr-ь	vietr	vítr	wind
bratr-ь	bratr	bratr	brother
grabr-ь	habr	habr	hornbeam
bobr-ь	bobr	bobr	beaver
zabr-ь	zubr	zubr	wisent
chorbr-ь	chrabr	chrabr	valiant
kopr-ь	kopr	kopr	dill

b. Gpl -ø: -Cr# > -Cer# = epenthesis

CS	OCz	MCz	gloss
vydr-ъ	vydr	vyder	otter
sestr-ъ	sestr	sester	sister
rebr-ъ	žebr	žeber	rib
jutr-ъ	jitr	jiter	morning
bedr-ъ	bedr	beder	shoulder
mędr-a	(unattested)	mázder	membrane
nozdr-a	(unattested)	nozder	nostril
igr-a	(unattested)	her	play
jъskr-a	(unattested)	jisker	spark
rebr-o	(unattested)	žeber	rib
sъrebr-o	(unattested)	stříber	silver
vedr-o	(unattested)	veder	heat
jędr-o	(unattested)	jader	core
vędr-o	(unattested)	věder	tub

(32) -C + 1

a. lack of good evidence:

- it seems there is only one case of OCz -Cl# in Nsg

- systematic epenthesis in Gpl

b. Nsg -ø: -Cl# > -Cl# = regular evolution: syllabic l

CS	OCz	MCz	gloss
tepl-ъ	tepl	---	warm, adj.
mysl-ъ	mysl	mysl	mind

c. Gpl -ø: -Cl# > -Cel# = epenthesis

CS	OCz	MCz	gloss
stъbl-ъ	stébl	stébel	blade
křidl-ъ	křidl	křídel	wing
bydl-ъ	bydl	bydel	livelihood
modl-ъ	modl	model	idol
osidl-ъ	osidl	osidel	snare
žezl-ъ	žezl	žezel	sceptre
vesl-ъ	vesl	vesel	oar
svѣtl-ъ	svetl	světel	light
čersl-ъ	třiesl	třísel	tan
šidl-o	(unattested)	šídel	bodkin
ordl-o	(unattested)	rádel	wooden plough
gъrdl-o	(unattested)	hrdel	throat
mydl-o	(unattested)	mýdel	soap
rydl-o	(unattested)	rydel	stylus
stъkl-o	(unattested)	skel	glass
masl-o	(unattested)	másel	butter
vesl-o	(unattested)	vesel	oar
křesl-o	(unattested)	křesel	armchair
čisl-o	(unattested)	čísel	number
žezl-o	(unattested)	žezel	sceptre
???	kúzl	kouzel	magic

(33) C + n

- a. no difference between Nsg and Gpl

==> epenthesis everywhere

==> reason: nasals cannot be syllabic

[two exceptions in MCz: the numerals *osm*, *sedm* "seven, eight", but their forms with a syllabic nasal are hypercorrect, in standard use they are vocalized, i.e. *osum*, *sedum*]

- b. Nsg -ø: -Cn# > -Cen# = epenthesis

	CS	OCz	MCz	gloss
fem.	pěsn-ь	piesn	píseň	song
	basn-ь	básn, básň	báseň	poem
	bojazn-ь	bázn, bážň	bázeň	fear
	děsn-a	dásn, dásň	dáseň	gum
	kazn-ь	kázn, kázň	kázeň	discipline
	???	lázn	lázeň	bath
	těsn-ь	tiesň	tíseň	oppression
	prъjazn-ь	přiezn	přízeň	favour
	plěsn-ь	plěsn	plíseň	mould
	???	strázn	strázeň	suffering
	žizn-ь	žizn	žízeň	thirst
masc.	огнь	(unattested)	oheň	fire
	???	blázn	blázen	fool
	???	hrozn	hrozen	bunch

- c. Gpl -ø: -Cn# > -Cen# = epenthesis

	CS	OCz	MCz	gloss
	pasm-o	(unattested)	pásem	belt
	stegn-o	(unattested)	stehen	thigh
	volkn-o	(unattested)	vláken	fibre
	blizn-a	(unattested)	blizen	stigma

(34) reflexes of the contrast between Nsg -ø and Gpl -ø in Modern Czech

- a. same root lexicalized in two different ways, same meaning

Nsg		Nsg	Gpl	gloss
hadr		hadr-a	hader	rag
krekr		krekr-a	kreker	cracker
kmotr		kmotr-a	kmoter	godfather
magistr	<b>VS.</b>	magistr-a	magister	MA
Petr		Petr-a	Peter	proper noun
Alexandr		Alexandr-a	Alexander	proper noun

- b. same, but with different meaning (diachronic drift)

Nsg		Nsg	Gpl	gloss
centr		centr-um	center	centre pass, (city) centre
metr		metr-o	meter	meter, underground
čudl	<b>VS.</b>	čudl-a	čudel	knob, little fish (expres.)
intr		intr-o	inter	hostel, introduction
kvádr		kvádr-o	kváder	block, suit

(35) analysis

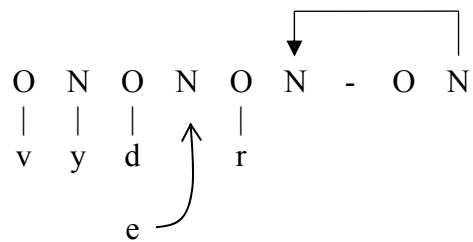
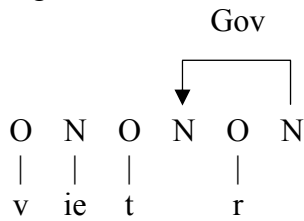
- a. Gpl behaves as if the final cluster were **not** final  
 ==> recall the Polish contrast between  
 Gpl form  
 adj. forem-n-y
- b. identity of the two zero morphemes  
 Nsg: literally nothing                      Gpl: an empty CV unit

O N

- c. Final Empty Nuclei (FEN) can, internal empty cannot govern  
 ==> epenthesis into ungoverned empty nucleus

Nsg: OCz vietr > MCz vítr

Gpl: OCz vydr > MCz vyder



## 7. Conclusion

(36) answer to the two questions

- a. the difference between student and dokumenAt is lexical:
  - dokumenAt has a lexicalized A    /dokumenAt/
  - student does not                      /student/
- b. the difference between Nsg and Gpl is also lexical:
  - Nsg is literally nothing
  - Gpl -a is a piece of melody, a, attached to a CV unit
  - Gsg -a is a floating piece of melody, i.e. without syllabic material

(37) identity of Gpl in BCS

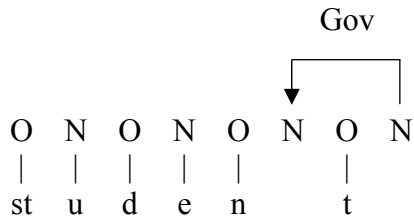
Nsg  
literally nothing

Gsg  
(and all other case markers  
except Gpl):  
a floating piece of melody

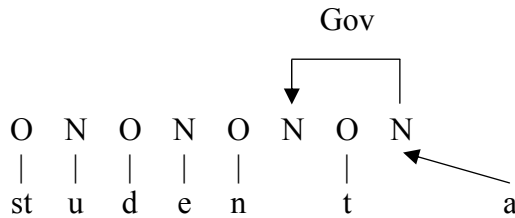
Gpl  
an piece of melody  
associated to a CV unit

O N  
|  
a

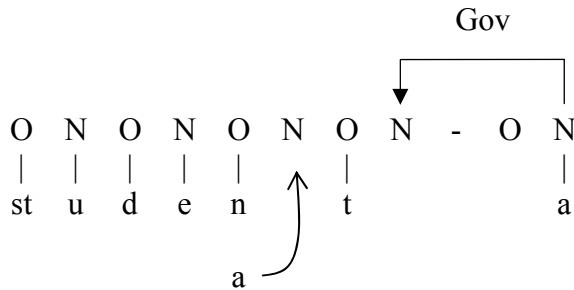
(38) effects upon concatenation I  
student = /student/



Nsg student  
the FEN is able to govern an empty nucleus



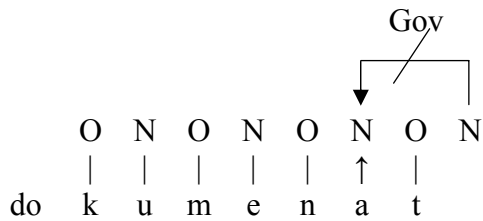
Gsg student-a



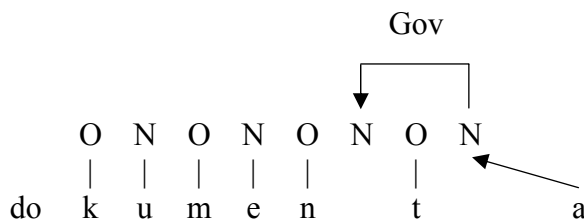
Gpl studenAt-a

N.B.: our initial hypothesis that Gpl -a is a yer turns out to be wrong: it is a regular vowel, and the contrast with other vowel is the fact that it is lexically provided with syllabic material.

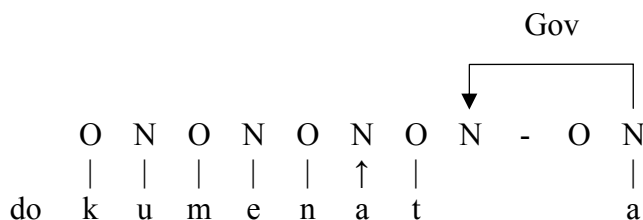
(39) effects upon concatenation II  
dokumenat = /dokumenAt/



Nsg dokumenAt  
the FEN is unable to govern a nucleus with a floating piece of melody



Gsg dokument-a



Gpl dokumenat-a

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