Tobias Scheer
Université de Nice
CNRS 6039

Lublin, April 5th, 2002

There is no extrasyllabicity

1. Is Mercury extraplanetary ?

(1) how physicists behave
   a. there is something we do not understand
   b. we would like to understand
   c. either our data concerning Mercury are all wrong, or our theory that predicts that Mercury should not do what it does must be revised
   d. in the latter case, we must work to improve our theory in a way that it is not contradictory with the course of Mercury while assuring the present empirical coverage
   e. we are bothered by the "misbehaviour" of Mercury

2. Some elementary and consensual facts about syllabic theory

(2) since the avent of autosegmentalism, phonetic action is the result of the association of three distinct phonological objects
   a. a skeletal slot
   b. a melody
   c. an association-line
   hence: phonetic reality is only produced if a piece of melody is connected to a syllabic constituent

(3) nothing is heard if one of those is missing
   a. missing melody: empty Onsets (empty Nuclei)
   b. missing constituent: floating consonants, e.g. French or English a/ an = /an/
   c. h-aspiré in French, vowel-zero in CVCV

3. The facts that cannot be accommodated by the theory

(4) situations that give rise to extrasyllabic interpretations
   a. internal Codas react, but final Codas do not
      example: l-vocalization in French, cf. 3.1.
   b. vowels in internal closed syllables react, but they show no effect in final closed syllables, cf. 3.2.
      example: Icelandic Closed Syllable Shortening
   c. word-initial #RT-sequences
      example: Czech rty "lips", lhát "lie (verb)" etc.
   d. heavy word-final clusters
      example: English sixths, German Herbst "autumn"
   e. co-called "trapped" consonants in Polish
      example: t**r**vać "last (verb)", czos**n**ku "garlic GENsg"

4. How are extrasyllabic consonants identified? Reason 1: because they do not behave like Codas

4.1. Effects on Codas

4.1.1. Internal ≠ final Coda

French l-vocalization (synchronically inactive)

(5)

Onset						Coda			
#__		C__		V__V		__#		__C	
lamina	lame	plaga	plaie	vela	voile	sal	sel	alba	aube
levare	lever	flore	fleur	mula	mule	mel	miel	talpa	taupe
luna	lune	*implire	emplir	dolore	douleur	caball(u)	cheval	sol(i)dare	souder
lepore	lièvre	fab(u)la	fable	valere	valoir	fil(u)	fil	poll(i)ce	pouce

4.1.2. Internal = final Coda

Brazilian Protuguese

(6)

V__V			V__#			V__C		
Bras.	Europ.		Bras.	Europ.		Bras.	Europ.	
sa[ɬ]eiro	sa[ɬ]eiro	salt cellar	sa[w]	sa[ɬ]	salt (noun)	sa[w]-gar	sa[ɬ]-gar	to salt
ca[ɬ]adu	ca[ɬ]adu	who is silent	ca[w]	ca[ɬ]	lime	ca[w]sa	ca[ɬ]sa	trousers
ma[ɬ]a	ma[ɬ]a	suitcase	ma[w]	ma[ɬ]	badly	ma[w]-vado	ma[ɬ]-vado	nasty
mu[ɬ]a	mu[ɬ]a	mule	su[w]	su[ɬ]	South	su[w]co	su[ɬ]co	furrow
vi[ɬ]a	vi[ɬ]a	town	vi[w]	vi[ɬ]	mean	fi[w]tro	fi[ɬ]tro	filter

4.2. Effects on the vowel preceding Codas

4.2.1. Internal ≠ final Coda

Icelandic (from Gussmann 2001)

(7)

long VV		short V	
a. CVVCV	b. CVVTRV	c. CVVRTV	
staara	nɛɛp^{h}ja	kampʏr	stara "stare", nepja "bad weather", kambur "comb"
luuða	pɛɛt^{h}rɪ	haulvʏr	lúða "halibut", betri "better", hálfur "half"
fai:rɪ	aap^{h}ril	harka	færi "opportunity", apríl "April", harka "severity"

(8)

long VV			short V	
a. CVV#	b. CVVT#	c. CVVTR#	d. CVRT#	
puu	θaak^{h}	p^{h}ʏʏk^{h}r	sai̯̥lt	bú "estate", þak "roof", pukr "secretiveness", sælt "blessed neut."
t^{h}vɔɔ	hœi̯:s	sœœt^{h}r	pœlv	tvo "two, acc.masc.", haus "head", sötr "slumping", bölv "cursing"
fai̯:	k^{h}vœœl	snʏʏp^{h}r	k^{h}ʏmr	fæ "I get", kvöl "torment", snupr "rebuking", kumr "bleating"
	prjɛɛv			bréf "letter"

4.2.2. Internal = final Coda

(9) distribution of Czech vowel length in feminines and neuters

open syllable		closed syllable		
a. C__C-V	b. C__C-yer	c. C__C-ø	d. C__C-CV	gloss
ž**á**b-a	ž**a**bek-ø	ž**a**b-ø	ž**a**b-øk-a	frog NOMsg, dim. GENpl, GENpl, dim. NOMsg

5. Empirical and theoretical conclusions

(10) we thus identify the edge of the word as the reason for the "misbehaviour"

a. physicists would say
we do not know why Mercury does not behave according to the predictions of our theory. We are bothered by this fact, and will verify the data in any possible way so to make sure that we are not losing our time with a mirage. If it turns out that the data are real, our theory must be modified."

b. phonologists usually say:
"Mercury does not behave according to the predictions made by our theory. We will thus treat him according to its behaviour: our theory of syllabification applies everywhere in the universe but at the right edge of the word. There is no need to modify our theory: all word-final consonants are Codas, unless they are not syllabified at all. The laws of physics apply to all physical objects except Mercury. We shall call the special status of word-final consonants extraplanetary or extraphysical, and consider the problem solved. We are not bothered by the facts observed at the right edge of the word anymore, and we do not wait for any improvement of the theory that would explain why the right edge is so special."

c. various outgrowths thereof:
- the notion of extrametricality is in phonology since Liberman & Prince (1977)
- it was extended to syllabic analysis by Clements & Keyser (1983) on French floating consonants

d. extrasyylabic consonants
- simply stand astray (e.g. Hall 1992, Wiese 1996)
- are dominated by a constituent called "Appendix" (Halle & Vergnaud 1980, Kiparsky 1979)
- are dominated by a constituent called "Termination" (Fudge 1969)

6. How are extrasyllabic consonants identified? Reason 1: because they cannot be parsed

6.1. Interaction of unparsable consonants with other rules: typical serial solutions

6.1.1. Word-final extrasyllabicity

(11) Adjunction rules: to syllabic constituents

a. German (Hall 1992:122ss)
Jagd [jaakt] "hunt (noun)"
Jagd-en [jaakdən] "hunts"
the /–d/ is extrasyllabic, but undergoes final devoicing (=in Codas).
Hence, it is adjoined to the Coda **before** final devoicing applies.

b. Hall (2000:248): sonority sequencing governs "deeper", but not phonetic representations.

(12) Adjunction rules: to the phonological word
a. Rubach & Booij (1990)
Jędr [jɛntr] "Andy (first name)"
Jędrek [jɛndrɛk] "Andy diminutive"
thus /-d-/, /-r/ is transparent for final devoicing, i.e. is extrasyllabic

6.1.2. Word-initial extrasyllabicity

(13) word-initial extrasyllabic consonants are exotic in Indo-European.
IE languages on record: Slavic (massive), Greek (only [#pt-] and [#kt-])
non-IE languages: Modern occidental Arabic (e.g. Moroccan Arabic) and Berber

Other languages with initial #RT-clusters exist, but their distribution over the globe and according to genetic kinship appears to be erratic, cf. Clements (1990).

6.2. Reduction of extrasyllabic candidates by morphology

(14) Heavy word-final clusters are always heteromorphemic or dental in English and German
a. English
six-th-s [sɪks-θ-s], no such monomorphemic final (nor internal) clusters
interpretation in GP: domain-final empty Nuclei, [sɪksø[θø][sø]]
b. German, English
Herbst: "supernumerary" consonants are always dentals.

6.3. Initial and final extrasyllabicity are not the same: Rubach & Booij (1990)

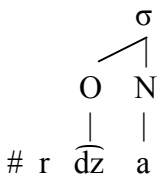
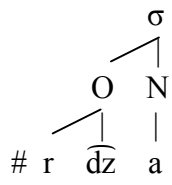
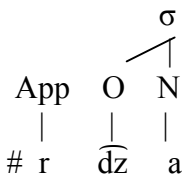
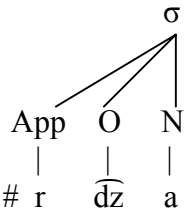
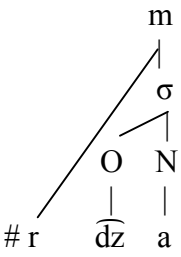
(15)
a. 1. teatr [tɛatr] – teatry [tɛatrɨ], hence /-t/
teatr wojenny [tɛa**d**r vɔjɛnnɨ] "war theatre"
voice-assimilation affects the /t/ across 1) a word-boundary and 2) a word-final extrasyllabic consonant
But so such assimilation across word-initial extrasyllabic consonants:
2. no devoicing
pod mchem [pɔd mxɛm] "under the nose"
od mszy [od mʃɨ] "since the mass"
3. no voicing
brak rdzy [brak r͡dzɨ]
b. 1. degemination = deletion of extrasyllabic consonants, i.e. the second part of a geminate is extrasyllabic in Coda-position
flotylla [flɔtɨlla] "fleet NOMsg" - flotyll [flɔtɨl] "fleet GENpl"
Sybilla [sɨbilla] "sibilla" - Sybilski [sɨbilski] "sibilla, adjective"
hence: Sybil<l>-ski, flotyl<l>
2. no initial degemination of extrasyllabic consonants
ssać [ssa͡tɕ] "suck"
na czczo [tt͡ʃɔ] "on empty stomach"
dżdżyst [d͡ʒd͡ʒɨst] "rainy"

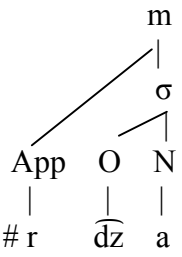
c. conclusion:
two different adjunction-rules that apply at different derivational levels
1. "Initial Adjunction" – early: before voice-assimilation and degemination
2. "Housekeeping Adjunction" – late: after voice-assimilation and degemination

6.4. Peripherality

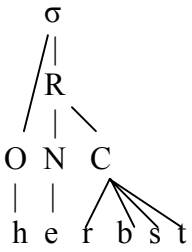
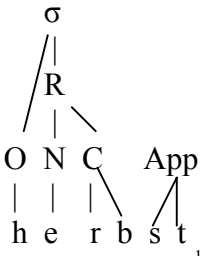
(16) Peripherality Condition
Extrametrical elements must be peripheral in their domain.

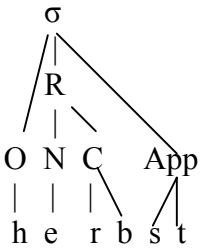
(17) a. initial extrasyllabic consonants: Polish *rdza* [rd͡za] "rust"

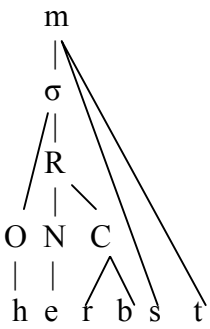
<table>
<tr>
<td>stray after syllabification
after syllabification</td>
<td>surface
adjoined to syllabic constituents</td>
<td>in Appendix after syllabification
after syllabification</td>
<td>surface
adjoined to syllabic constituents</td>
</tr>
<tr>
<td> 
</td>
<td> 
</td>
<td> 
</td>
<td> 
</td>
</tr>
<tr>
<td></td>
<td>adjoined to the phonological word
 

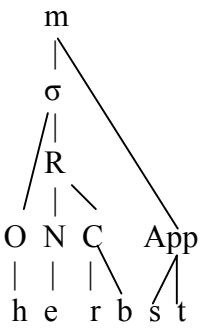
Rubach & Booij (1990)</td>
<td></td>
<td>adjoined to the phonological word
 
</td>
</tr>
</table>

b. final extrasyllabic consonants: German Herbst [hɛχpst] "autumn"

<table>
<tr>
<td colspan="2">stray after syllabification</td>
<td colspan="2">in Appendix after syllabification</td>
</tr>
<tr>
<td>after syllabification</td>
<td>surface
adjoined to syllabic constituents</td>
<td>after syllabification</td>
<td>surface
adjoined to syllabic constituents</td>
</tr>
<tr>
<td> 
</td>
<td> 
</td>
<td> 

Goldsmith (1990)[1]</td>
<td> 

Hall (1992), Wiese (1996)</td>
</tr>
<tr>
<td></td>
<td>adjoined to the phonological word
 

Rubach & Booij (1990)</td>
<td></td>
<td>adjoined to the phonological word
 
</td>
</tr>
</table>

[1] Goldsmith (1990:135ss) operates with a kind of Appendix he calls "Ω", and which is converted into a syllable on its own by rule at some derivational stage.

6.5. Word-medial extrasyllabicity

(18) internal extrasyllabicity: so-called trapped consonants in Polish
lexically trapped

a. unambiguous cases

Common Slavic	Polish	Czech	gloss (Polish)	gloss (Czech)
tъrvati	trwać, trwoga	trvat	to last, fear	
gъr-dlo	grdyka	hrdlo	Adamsapfel	Kehle, Gurgel
gъr-tanь	krtań	hrtan	larynx	
bъr-	brnąć	-	waten, stapfen	
dьrg-	drgnąć	drhnout	to vibrate	
dьrg-	drżeć	drhnout	to tremble	
brьd-	brdać	-		
bъr-lъ	brlok	?		
csl pluti, plovǫ	plwać	plout	to spit	
drъvo	drwa	drvo	Brennholz	id.
dvьri	drzwi	dveře	door	door
grьm-	grzmieć	hřmít	donnern	
chrьbьtъ	grzbiet	hřbet	back	
slъza	slza	łza < słza		

Total number: 14

b. unclear - no solid etymology

Common Slavic	Polish	Czech	gloss (Polish)	gloss (Czech)
?	drwić	-	verspotten	
?	trwonić	-	to waste	
?	krnąbrny	-	insubordinate	
?	klnąć	klnout	swear	verfluchen
onom. csl trepetъ	trzpiot	třepat		
onom.	trznadel	strnad	yellow-hammer	
?	grzdykać	?	to gobble	
?	brzdąkać	?	to strum	
?	brzmieć	brnět	to sound	
?	prztykać	?	to fillip	
stsl čьmel'ь	przmiel	čmel		
or csl *brьšl'anъ	przmiel	brslen		
csl *brьšl'anъ	trzmiel	brslen	bumble-bee	
?	krztusić się	rdousit, slov hrdúsit'	to choke	

Total number: 14

(19) internal extrasyllabicity: so-called trapped consonants in Polish
created by a vowel-zero alternation

Common Slavic	Polish		gloss
	NOMsg	GENsg	
	krew	krwi	blood
brъvь	brew	brwi	eyebrow
plet-je	płeć	płci	sex (Geschlecht)
	czosnek	czosnku	
	pierwiosnek	pierwiosnka	primroses
pě-snь	piosnka piosenka	piosnek GENpl	song

(20) Czech √CRC- = Polish √CVRC-

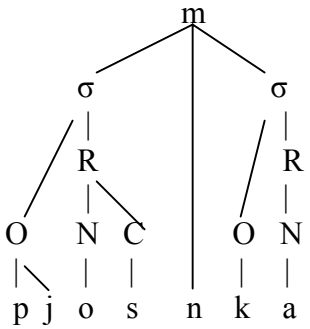
Polish reaction	Common Slavic	Czech	Polish	Czech gloss	Polish gloss
CaRC: 34	bьrdo	brdo	bardo		
	bъrgъ-lězъ	brhlík	bargieł		
	brьlogъ	brloh	barłóg		
	bьr-tь	brt'	barć		
	bъzъ	brzký	bardzo		
	dьr-	drn	darń		
	gъrbъ	hrb	garb		
	gъrn-ьcь	hrnec	garniec	pot	
	gъr-t	hrnout	garnąć		
	gъr-dlo	hrdlo	gardło	Kehle, Gurgel	id.
	csl grъdъ	hrdý	gardy	stolz	XXX
	gъrt-tь	hrst	garść		
	onom.	chrčet	charczeć		
	?	chrpa	charpa		
	chъrtъ	chrt	chart		
	kъrkь	krč	karczować		
	kъrkъ	krk	kark	Hals	Nacken, Genick, Hals
	kъrm-	krmit	karmić		
	kъrnь	krnět	karlik		dwarf
	?	mrhat	marhać		
	mъrk-ъvь	mrkev	marchew	carrot	id.
	mьr-	mrtvý	martvy	dead	
	onom.	prsk	parsk		
	pьrstъ	prst	parst		
	csl prъtъ	prták	part		
	csl srъkati	srkat	sarkać		
	sьr-na	srna	sarna		
	tьrgъ	trh	targ	market	marketplace
	?	strkat	utarczka		
	tьrnъ	trn	tarn		
	csl vrъčati	vrčet	warczeć		
	germ Wurfzabel	vrhcáb	warcab		
	vьrt-tva	vrstva	warstwa		
	zьr-no	zrno	ziarno		
CRąC: 2	onom.	chrčet	krząkać		
	onom.	chrchlat	chrząkać		
CieRC: 16	dьrg-eti	držet	dzierżyć		
	dьr-g-	drhnout	dziergać		
	mьr-va	mrva	mierzwa		
	mьrz-	mrzet	mierzyć		
	?	prdět	pierdzieć		
	pьrsi	prsa	piersi		
	pьrst-enь	prsten	pierścień		
	pьrch-	pršet	pierzchać		
	pьrvъ	prvý	pierwszy		
	sьrpъ	srp	sierp		
	sьr-s-tь	srst	sierść	Fell	
	tьrp-	trpět	cierpieć		
	vьrba	vrba	wierzba		
	vьrchъ	vrch	wierzch		
	vьrt-	vrtět	wiercieć		
	?	vrš	wiersz		
CiRC: 4	germ Bilch-maus	plch	pilch		
	pьlstь	plst	pilśń		
	vьlgь-	vlhký	wilgnąć		
	vьlkъ	vlk	wilk	wolf	id.

(20) Czech √CRC- = Polish √CVRC-

Polish reaction	Common Slavic	Czech	Polish	Czech gloss	Polish gloss
CeRC: 6	mьls	mlsat	arch. mełsnąć		
	pьlnъ	plný	pełny	full	id.
	sьrdь-ce	srdce	serce		
	sьr-ch-enь	sršeň	szerszeń		
	?	trčet	sterczeć		
	vьlna	vlna	wełna		
CReC: 1	krъtъ	krtek	kret	ça alterne?XXX	
CuRC: 1	kъrk-	krčit	kurczyć		
CRuC: 1	mьrk-	mrkat	mrugać		

Total: 65

(21) representation of piosnka "song" according to Rubach & Booij (1990)



7. Doubts on extrasyllabicity and an alternative view

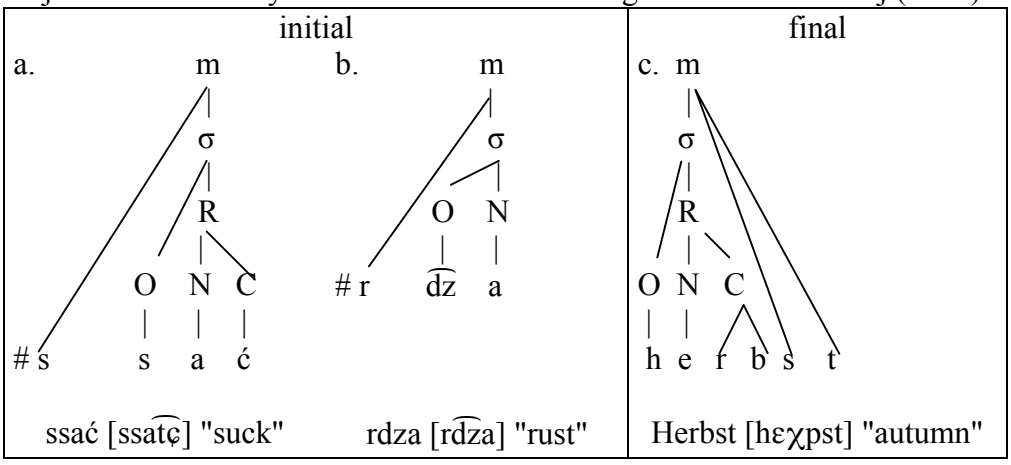
7.1. There is no extrasyllabicity without serialism and syllabification algorithm

7.2. Extrasyllabic once, extrasyllabic forever

7.3. What is a syllabic constituent ?

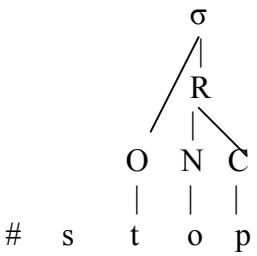
7.4. Extrasyllabic consonants adjoined to the phonological word

(22) adjunction of extrasyllabic consonants according to Rubach & Booij (1990)



7.5. There are initial and internal s+C-effects, but there are only initial extrasyllabic consonants

(23) extrasyllabicity of [s] in initial s+C clusters



(24) Czech vowel-zero alternations

C__C-V	C__C-ø	C__C-CV	gloss
lok**ø**t-e	lok**e**t-ø	lok**e**t-ní	"elbow" GENsg, NOMsg, adj.

(25)

NOMsg	GENsg	
lest	løst-i	"cunning"
křest	křøt-u	"baptism"
čest	cøt-i	"honour"

7.6. Why are there no words with two, nine or twenty extrasyllabic consonants ?
7.6.1. The only definition of extrasyllabicity is negative

7.6.2. Wild Polish initial clusters are less wild than their reputation

(26) two-membered monomorphemic word-initial consonant clusters in stressable Polish roots

disobeying Sonority Sequencing				obeying Sonority Sequencing			
		example	gloss			example	gloss
TT	db	dbać	to care	TN	dm	dmuchać	to blow
	gb	gbur	yokel		dn	dna	gout
	gd	gderać	to nag		dɲ	dniówka	day's wage
	pt	ptak	bird		gm	gmatwać	to tangle up
	tk	tkać	to weave		gn	gnębić	to oppress
	kp	kpić	to mock		gɲ	gniazdo	nest
	kt	kto	who		pn	pnącze	creeper
TA	gd͡ʑ	gdzie	where		pɲ	pnie	tree trunks
	t͡ʈʃ	Tczew	place name		tn	tnący	cutting
	kt͡ɕ	kciuk	thumb		tɲ	tniak	chisel
AT	d͡zb	dzban	jug		km	kmotr	crony
	d͡ʑg	dźgać	to stab		kn	knocić	to bungle
	t͡ʃk	czkać	to hiccup		kɲ	knicja	forest
	t͡ʃt	cztery	four	FN	xm	chmura	cloud
	t͡ɕp	ćpać	to use grugs	TF	bz	bzykać	to hum
xxx	d͡ʒd͡ʒ	dżdżysty	rainy		bʑ	bzik	craze
xxx	t͡ʃt͡ʃ	czczy	empty		bʒ	brzoza	birch
	t͡ʃt͡ɕ	czcionka	letter type		dʒ	drzewo	tree
FT	xt͡s	chcenie	wanting		gz	gzyms	moulding
	xt͡ɕ	chcieć	to want		gʑ	gzić się	to run wild

(26) two-membered monomorphemic word-initial consonant clusters in stressable Polish roots

disobeying Sonority Sequencing				obeying Sonority Sequencing			
		example	gloss			example	gloss
NT	mg	mgiełka	mist, dimin.		gʒ	grzech	sin
	mʒ	mżawka	drizzle		ps	psota	prank
	mʃ	mszyca	plant louse		pɕ	psikus	prank
	mx	mchy	moss, pl.		pʃ	pszenica	wheat
NN	mn	mnożyć	to multiply		px	pchać	to push
	mɲ	mniej	less		tʃ	trzy	three
NG	mw	młody	young		tx	tchórz	coward
NL	ml	mleko	milk		ks	Ksawery	male name
	mr	mrugać	to wink		kɕ	książka	book
GT	wb	łby	animal head		kʃ	krzyk	shout
	wg	łgać	to lie		dv	dwa	two
	wz	łza	tear		gv	gwara	dialect
	wʒ	łżeć	to lie	xxx	tf	twardy	hard
	wʑ	łzie	tear LOCsg	xxx	kf	kwaśny	sour
	wk	łkać	to sob	AF	t͡ʃx	czchać	to scamper
LT	lʒ	lżyć	to insult		d͡zv	dzwonić	to ring
	rd	rdest	knot grass		d͡ʑv	dźwięk	sound
xxx	rd͡z	rdza	rust	xxx	t͡sf	cwany	cunning
	rʒ	rżysko	stubble	xxx	t͡ʃf	czwarty	fourth
	rt	rtęć	mercury	xxx	t͡ɕf	ćwierć	quater
LN	ln	lnu	linnen GENsg	TG	bw	błoto	mud
	lɲ	lnica	toad-flax		dw	długi	long
LF	lv	lwy	lions		gw	głowa	head
	rv	rwetes	hubbub		pw	pływać	to swim
FF	xʃ	chrzan	horseradish		tw	tłumaczyć	to explain
xxx	xf	chwalić	to praise		kw	kłaść	to put down
	vʒ	wrzask	scream	AG	t͡sw	cło	duty
FT	vd	wdowa	widow		t͡ʃw	człowiek	person
	vz	wzór	pattern	TL	bl	blady	pale
	vʑ	wziąć	to take		br	broda	beard
	vd͡ʑ	wdzięk	charm		dl	dlaczego	why
	ft	wtorek	Tuesday		dr	droga	road
	fɕ	wsie	villages		gl	ględzić	to prate
	fʃ	wszak	yet		gr	granica	border
FA	ft͡ʃ	wczoraj	yesterday		pl	plama	stain
FN	vn	wnuk	grandchild		pr	prawy	right
					tl	tlić się	to glow
					tr	trawa	grass
					kl	klatka	cage
					kr	krowa	cow
				AL	t͡sl	clić	to raise duty
				FG	xw	chłopak	boy
					vw	włosy	hair
				FL	fl	flaki	tripe
					fr	fruwać	to fly
					vl	wlec	to drag

(26) two-membered monomorphemic word-initial consonant clusters in stressable Polish roots

disobeying Sonority Sequencing				obeying Sonority Sequencing			
		example	gloss			example	gloss
					vr	wrona	crow
					xl	chlapać	to splash
					xr	chrapać	to snore
				AN	t͡sm	cmokać	to smack
					t͡sn	cnota	virtue
					t͡sɲ	cnić (się)	to hanker
					t͡ʃm	czmychnąć	to flee
					t͡ɕm	ćma	moth

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

C1 / C2	p	t	k	b	d	g	t͡s	t͡ʃ	t͡ɕ	d͡z	d͡ʒ	d͡ʑ	f	v	s	z	ʃ	ʒ	ɕ	ʑ	x	m	n	ɲ	r	l	w	j
p			—						—																			
t	—		—					—					—												—		—	
k		—						—																			—	
b					—	—					—																—	
d						—								—											—			
g												—										—			—		—	
t͡s																					—							
t͡ʃ		—						—					—															
t͡ɕ			—					—													—							
d͡z						—																			—			
d͡ʒ											—																	
d͡ʑ														—														
f		+	+				+	+	+												—							
v					+	+				+		+													—	—		
s	+		+																									
z				+		+								—													—	
ʃ	+	+	+										—								—	—			—			
ʒ				+	+	+								—								—			—	—	—	
ɕ	+		+										—															
ʑ				+		+								—													—	
x	+	+						+													—							
m			+		+	+	+	+	+												+							
n	+	+	+		+	+	+							—								—				—		
ɲ	+	+	+		+	+	+															—				—		
r	+	+	+	+	+	+							+	+							+	—						
l	+	+	+	+	+	+	+						+	+							+	—						
w	+	+	+	+	+	+	+	+						+							+	—						
j																												

(28) three-membered monomorphemic word-initial consonant clusters in stressable Polish roots

final branching Onset				the second member is an s-sound			
		example	gloss			example	gloss
T-TL	tkl	tkliwy	tender	TsA	pʃt͡ʃ	pszczoła	bee
T-TF	tkv	tkwić	to stick		bʒd͡ʒ	bżdżenie	farting
T-TN	tkn	tknąć	to touch		bʒd͡ʑ	bździć	to fart
	tkɲ	tknięcie	touch	TsT	kʃt	kształt	form
T-FN	txn	tchnąć	to breathe		bzd	bzdura	nonsense
	txɲ	tchnienie	breath	TsG	gzw	gzło	cloth
	pxn	pchnąć	to push	FsT	xʃt	chrztu	baptism, GENsg
	pxɲ	pchnięcie	push		xʃt͡ʃ	chrzczony	baptized
T-FG	pxw	pchła	flea		xʃt͡ɕ	chrzcić	to baptize
T-FL	pxl	pchli	flea, adj.	NsA	mʃt͡ʃ	mszczenie się	vengeance
A-TN	t͡skɲ	cknić się	to miss		mɕt͡ɕ	mścić się	to avenge
	t͡skl	ckliwy	sickening	LsN	rʒɲ	rżniączka	cock's-foot
A-FN	t͡ʃxn	czchnąć	to scamper		lɕɲ	lśnić	to sparkle

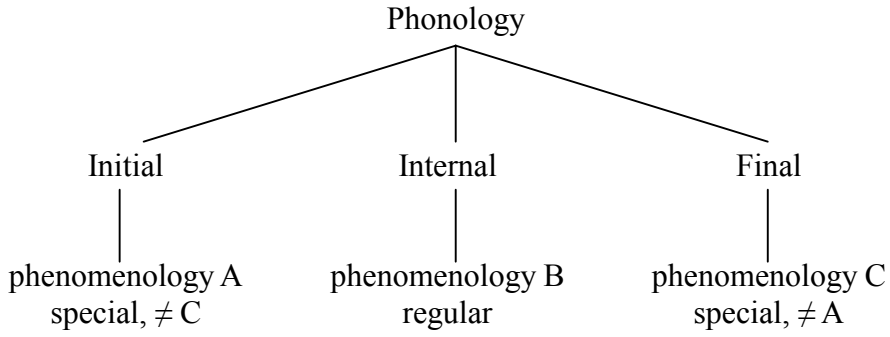
(28) three-membered monomorphemic word-initial consonant clusters in stressable Polish roots

final branching Onset		example	gloss	the second member is an s-sound example	gloss
(s)A-TG	(ʑ)d͡ʑbw	źdźbło	blade of grass		
N-TG	mdw	mdły	insipid		
	mgw	mgła	mist		
N-TL	mdl	mdleć	to faint		
	mgl	mglisty	misty		
N-TN	mkn	mknąć	to speed		
	mgɲ	mgnienie	twinkling		
L-TN	lgn	lgnąć	to cling		
F-TL	vbr	wbrew	against		

7.7. Confusion of causalities: there are not two, but three phonologies

(29) contrasting properties of initial and final extrasyllabicity
- a. Polish: final extrasyllabic consonants degeminate, initial ones do not (Rubach & Booij 1990).
- b. Polish: final extrasyllabic are transparent to voicing, initial ones are not (Rubach & Booij 1990).
- c. final extrasyllabicity exists for both reasons: 1) a final consonant cannot be parsed, 2) it can be parsed but does not behave as a Coda. Initial extrasyllabic consonants exist exclusively because they cannot be parsed. There is no case where an initial consonant would be assigned extrasyllabic status because it does not behave like an Onset.

(30)

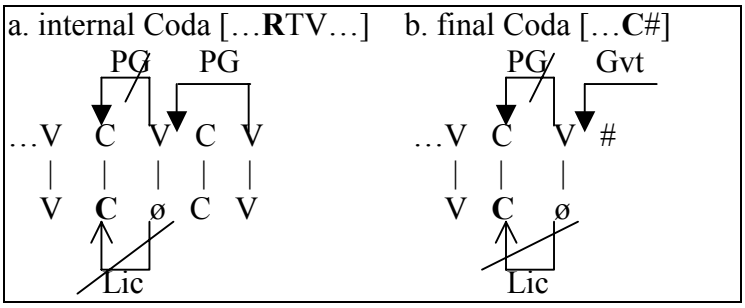


8. Alternative: final empty Nuclei and the initial CV
8.1. How can you have your cake and eat it ?

8.2. How you can have your cake and eat it

8.2.1. Codas and Final empty Nuclei

(31)



8.2.2. Parametrized lateral actorship of Final empty Nuclei - part I

(32)

version 1		
	consequences	
FEN can	existence of …RT#	final and internal Codas
a. + license + govern	yes	contrast final Coda = intervocalic
b. + licence - govern	no	contrast final Coda = post-Coda
c. - licence + govern	yes	behave alike
d. - licence - govern	no	behave alike

(33)

	consequences
FEN can	final and internal Codas
a. + licence	contrast final Coda = post-Coda
b. - licence	behave alike

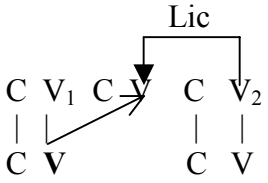
(34)

version 2		
	consequences	
FEN can	existence of …RT#	final and internal Codas
a. + license + govern	yes	contrast final Coda = post Coda
b. + licence - govern	no	
c. - licence + govern	yes	behave alike
d. - licence - govern	no	

8.2.3. Vowels in closed syllables and final empty Nuclei

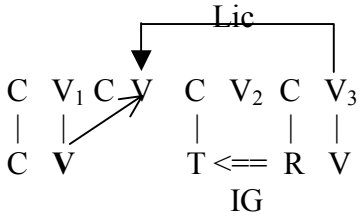
(35) left-headed long vowel in an open syllable

a. before a single consonant



[CVVCV]

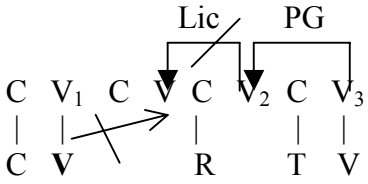
b. before a branching Onset



[CVVTRV]

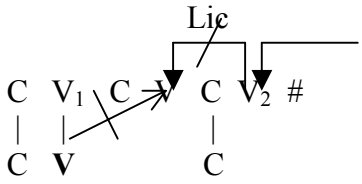
left-headed long vowel in a closed syllable

c. internal



[CVRTV]

d. final



[CVC#]

8.2.4. Parametrized lateral actorship of Final empty Nuclei - part II

We can thus complete the table under (34) in the following way.

(36)

	consequences on preceding Nuclei		consequences on preceding Onsets
FEN can	existence of …RT#	vowels in final and internal closed syllables	final and internal Codas
a. + license + govern	yes	contrast vowel in final closed syllable = vowel in open syllable	contrast final Coda = post-Coda
b. + licence - govern	no		
c. - licence + govern	yes	behave alike	behave alike
d. - licence - govern	no		

8.2.5. Why only final Codas and final closed syllables may misbehave

(37)

	governs	licenses
a. expressed Nucleus	always	always
b. FEN	language-specific	language-specific
c. internal empty Nuclei (under PG or enclosed with a domain of IG)	never	never

8.3. The fourth object: schwa
8.3.1. What a schwa can do

(38)

	consequences		
	on preceding Nuclei		on preceding Onsets
schwa can	vowel-zero alternations	Closed Syllable Shortening	effects on clusters
a. + license + govern	Havlík	long vowels do occur before schwa	cluster unaffected
b. + licence - govern	Lower		
c. - licence + govern	Havlík	long vowels do not occur before schwa	cluster affected
d. - licence - govern	Lower		

8.3.2. The four primary nuclear objects and their lateral activity

(39) four primary nuclear objects

	ex-pressed Nuclei	internal empty Nuclei (cause: PG or IG)	FEN		schwa	
a. + license + govern	always	never	1. …VVC# is possible 2. word-final consonants do not behave like Codas but like consonants in post-Coda position	…RT# possible	CSS: VV before schwa	1. vowel-zero = Havlík 2. C before schwa = intervocalic
b. + licence - govern	never	never		…RT# impo-ssible		1. vowel-zero = Lower 2. C before schwa = post-Coda
c. - licence + govern	never	never	1. …VVC# does not exist 2. word-final consonants behave like word-internal Codas	…RT# possible	CSS: no VV before schwa	1. vowel-zero = Havlík 2. C before schwa = weak
d. - licence - govern	never	always		…RT# impo-ssible		1. vowel-zero = Lower 2. C before schwa = Coda

(40) lateral actorship of FEN and schwa in some languages

	FEN			schwa			conclusion			
	…RT#	final = internal Coda	CSS in __C#	CSS in __Cə	V-ø in __Cə	C in Cə behaves like	FEN gvt	FEN lic	schwa gvt	schwa lic
Old French	yes	no	?				+	+		
Mod. French	yes	?	yes[2]	yes	ø	?	+	-	+	-
Icelandic	yes	?	no				+	+		
German	yes	yes[3]	?	?	ø	a Coda	+	+	+	-
Braz. Port.	XXX	yes	?					-		
Czech	yes	?	yes	yes	V	?	+	-	-	-

References

Clements, George N., Jay Keyser 1983. CV Phonology. MIT monographs.

Clements, George N. 1990. The role of the sonority cycle in core syllabification. Papers in Laboratory Phonology I, edited by J.Kingston and M.Beckmann, 283-333. Cambridge: Cambridge University Press.

Fudge, Erik 1969. Syllables. Journal of Linguistics **5**, 253-86.

Goldsmith, John 1990. Autsegmental & Metrical Phonology. Oxford: Blackwell.

Gussmann, Edmund 2001. Phonology: Analysis and Theory. Cambridge: CUP.

Hall, Tracy A. 1992. Syllable Structure and Syllable-Related Processes in German. Tübingen: Niemeyer.

Hall, Tracy A. 2000. Phonologie. Eine Einführung. Berlin & New York: de Gruyter.

Halle, Morris and Jean-Roger Vergnaud 1980. Three-dimensional phonology. Journal of Linguistic Research **1**, 83-105.

Kiparsky, Paul 1979. Metrical structure is cyclic. Linguistic Inquiry **8**, 421-442.

Liberman, Mark and Alan Prince 1977. On Stress and Linguistic Rhythm. Linguistic Inquiry **8**, 249-336.

Rubach, Jerzy and Geert Booij 1990. Edge of constituent effects in Polish. Natural Language and Linguistic Theory **8**, 427-463.

Wiese, Richard 1996. The Phonology of German. Oxford: Oxford University Press.

[2] The value of this cell follows the analysis of Rizzolo (forth) who interpretes the ATR-alternations of mid-vowels discussed in sect ion 5.3 as a contrast in vowel-length: long vowels are +ATR on the surfacce, while shortness comes out as -ATR. If this analysis is correct, Closed Syllable Shortening is active in Modern French.

[3] As was shown above, /g/ in /Ng/ is lost in both internal and final Codas. Final devoicing could be another case in point: it seems to affect both internal and final Codas alike, see for instance Brockhaus XXX.