

Disjunctive Contexts

(1) Statement of the problem

- a. the Coda context $_\{ \#, C \}$ has played a major role in the evolution of modern phonology: in the 70s, it led to the abandon of the linear SPE-system, in favour of syllabic, hence autosegmental representations.
- b. everybody knows and agrees that the Coda context was important because of its disjunctive character: if the same causes produce identical effects, phonological theory must be able to describe both parts of the disjunctive context as a single and unique object.
- c. hence, it could be expected that the success of this reasoning has triggered a wide-spread search for other disjunctive contexts. No research of this kind was undertaken since the 70s.

(2) more disjunctive contexts

	identity of the context	name	
a.	$_\{ C, \# \}$	Coda	known
b.	$_\{ C, \# \} _\$	Coda Mirror	cf. handout nb 2
c.	$\{ \# _\, _\ V_{acc} \}$	word-initially and in tonic environments = "IT"	illustration hereafter
d.	$_\ C \left\{ \begin{array}{l} .CV \\ \text{ə} \end{array} \right\}$	in closed syllables and in open syllables that are followed by schwa = "F+schwa" In other words, schwa acts as if it were not there.	illustration hereafter

1. What happens word-initially and in tonic environments

(3) English voiceless stops are aspirated word-initially and before tonic vowels

#	$_\ V_{accent}$	comparez	#s
p ^h ut	p ^h olit ^h ician	p ^h ólitics, p ^h olítical	stríng
p ^h rint	p ^h rot ^h ést (verb)	p ^h rótest (noun)	splít
t ^h ip	rep ^h éat	repet ^h ition	scánty
t ^h rick	c ^h onc ^h órd (verb)	c ^h óncord (noun)	scúd
c ^h at			stánd
c ^h rime			stárt

(4) Italian Tonic Lengthening, e.g. Chierchia (1986), Larsen (1998)
vowels are long in stressed open syllables.

(5) Analysis by Larsen (1998)
The phonological identity of Stress in an empty [CV]-unit.

<p>a. communication between the target and the following Nucleus</p> <p style="text-align: center;">Gvt</p> <p>C V [C V]_{stress} C V</p> <p> </p> <p>f a t o</p> <p>[faato] "fate"</p> <p style="text-align: center;">Gvt</p> <p>C V [C V]_{stress} C V C V</p> <p> </p> <p>p i g r o</p> <p style="text-align: center;">GI</p> <p>[piigro] "lazy"</p>	<p>b. no communication between the target and the following Nucleus</p> <p style="text-align: center;">Gvt Gvt</p> <p>C V [C V]_{stress} C C V</p> <p> </p> <p>f a t o</p> <p>[fatto] "fact"</p> <p style="text-align: center;">Gvt Gvt</p> <p>C V [C V]_{stress} C V C V</p> <p> </p> <p>p a r k o</p> <p>[parko] "parc"</p>
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(6) Descriptive adequacy: English voiceless stops are aspirated iff preceded by an empty [CV]-unit.

<p>a. aspiration: presence of an empty [CV] before the aspirable consonant</p> <p>[C V] - C V C V</p> <p> </p> <p>p u t</p> <p>[p^hut] put</p> <p>C V [C V]_{accent} C V C V</p> <p> </p> <p>r i p i t</p> <p>[rɪp^hiit] repeat</p>	<p>b. no aspiration: absence of an empty [CV] before the aspirable consonant</p> <p>C V C V [C V]_{accent} C V C V C V</p> <p> </p> <p>r ε p ε t i ʃ ə n</p> <p>[rɛpɛt^hɪʃən] repetition</p>
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(7) Explanatory adequacy: English voiceless stops are aspirated because they are geminates	
<p>a. aspiration: gemination of the aspirable consonant on the empty [CV] unit provided by stress or the left margin.</p> <p>[C V] - C V C V ↙ p u t [p^hut] <i>put</i></p> <p>C V [C V]_{accent} C V C V r i p i t [rɪp^hɪt] <i>repeat</i></p>	<p>b. no aspiration: the aspirable consonant is not in a position to geminate because the target is missing</p> <p>C V C V C V p a r t i [partɪ] <i>party</i></p> <p>C V C V [C V]_{accent} C V C V C V r ε p ε t ɪ ʃ ə n [rɛpɛ^hɪʃən] <i>repetition</i></p>

(8) English aspirated stops are geminates.
 Aspiration is a consequence of gemination??

(9) Verner's Law
 classical description ignoring word-initial consonants, e.g. Paul *et al.* (1989:123sq),
 Collinge (1985:205) "to believe that word-initial consonants are properly catered for
 in this ruling is anachronistic."

In Common Germanic, the fricatives produced by Grimm's Law plus [s] are voiced
 iff the preceding vowel was not voiced in IE. In all other cases, they are voiceless.

(10)	position	IE Germanic		Indo-Iranien		compare with
				preceding accent	following accent	
	initial	p	OE foeder			
		t	goth þreis			angl price
			goth þunnus		skr tanúh	
			goth þreis		skr trájah	angl three
		k	goth haiha			lat caecus
			goth hund		skr satám	angl hundred
		k ^w	OE hvaet			lat quod, angl what
		s	goth sibun			angl seven
	internal	p	OE hæfod			lat caput, angl head
		t	OE brōþar	véd bhrátar-		angl brother
		k	VHA svehur	skt śváśura-		
		k	goth taihun	gr δεκά		angl ten
		k ^w	ON ulfr	skt víka-		
		s	OE wesen			
		p	goth sibun		skr saptá-	angl seven
		t	OE fæder		véd pitár	angl father
		t	goth modar		skr matá	angl mother
		t	goth fidwor		skr catvárah	angl four
		t	goth wadi		skr otúm	"liar"
		k	OE sveger		skt śváśrú	
		k	goth tigus		gr δεκάς	
		k ^w	goth leihwan			lat lingere, all leihen
		k ^w	ON ylgr		skr víki	
	s	OE ēare < *auz-			lat auris	

- (11) a. in Common Germanic, all fricatives were affected by a lenition and became voiced.
- b. the only fricatives escaping this general voicing were those occurring in word-initial position and after tonic vowels.

<p>(12) a. resistance to voicing: gemination of the fricative on the empty [CV] that occurs to its left.</p> <p>[C V] - C V C V ↙ b r e i s</p> <p>got þreis</p> <p>C V [C V]_{accent} C V C V b r o p a r</p> <p>OE brōþar, cf. véd bhrátar-</p>	<p>b. no resistance to voicing: the fricative is not in a position to geminate because the target is missing</p> <p>C V C V [C V]_{accent} C V f æ d e r</p> <p>OE fæder, cf. véd pitár</p>
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(13) only initial and tonic latin syllables survived in French

	initial vowel #C__C...	tonic vowels ..._CVCV ...CV_CV	unstressed vowels		
			pretonic non-initial vowel #CVC__CVCV(CV)	post-tonic vowel #CVCVC__CV	final vowel ...C__
a	marítu mari valére valoir laváre laver	Alamánia Allemagne liberáre livrer silvátíu sauvage	ornaméntu ornament Alamánia Allemagne	cálamu chaume *cólápu coup	vita vie harpa harpe mūla mule
e	veníre venir leváre lever dēbére devoir	ornaméntu ornament	liberáre livrer	véndere vendre	nave nef valle val
i	filáre filer vīvétevivant	*pistūríre pétrir	sanítáte santé dormītóriu dortoir	víríde vert lárídu lard	heri hier
o	movére mouvoir rotáre rouer nōdára nouer	dormītóriu dortoir pelórida palourde	ancoráre ancrer	lépore lièvre	perdo perds
u	dūráre durer tūtáre tuer fūmára fumer	quadrifúrču carrefour	simuláre sembler *pistūríre pétrir	óculu œil tábula table	muru mur factu fait

(14) résumé

	initial vowel #C__C...	tonic vowels ..._CVCV ...CV_CV	unstressed vowels		
			pretonic non-initial vowel #CVC__CVCV(CV)	post-tonic vowel #CVCVC__CV	final vowel ...C__
a	a > a	a > a	a > ə	a > ø	a > ə
e	e > ə	e > e	e > ø	e > ø	e > ø
i	i > i	i > i	i > ø	i > ø	i > ø
o	o > u	o > oi/ u	o > ø	o > ø	o > ø
u	ū > y	u > u	u > ø	u > ø	u > ø

(15) a. resistance to reduction: initial and tonic vowel are called to govern.

[C V] - C V C V

 | | | |

 m a r í tu

 marítu

C V [C V]_{stress} C V C V

 | | | | | |

 lib e r a r e

 liberáre

b. no resistance to reduction: the vowel is not called to govern.

C V C V [C V]_{stress} C V C V

 | | | | | | | |

 l i b e r a r e

 liberáre

(16) final and non-initial pretonic vowels whose regular fate is to disappear survive as a schwa iff they are preceded by a branching Onset.

	...TRV#	...T(V)RV#	...TRVCV́CV(CV)#		
duplu	double	lep(o)re	lièvre	quadrifürcu	carre four
patre	père	vend(e)re	vendre	*merc(u)ri-die	mercredi
febre	fièvre	as(i)nu	âne		
info	enfle	tep(i)du	tiède		

(17) Distribution of the glottal stop in German

a. word-initial before vowels

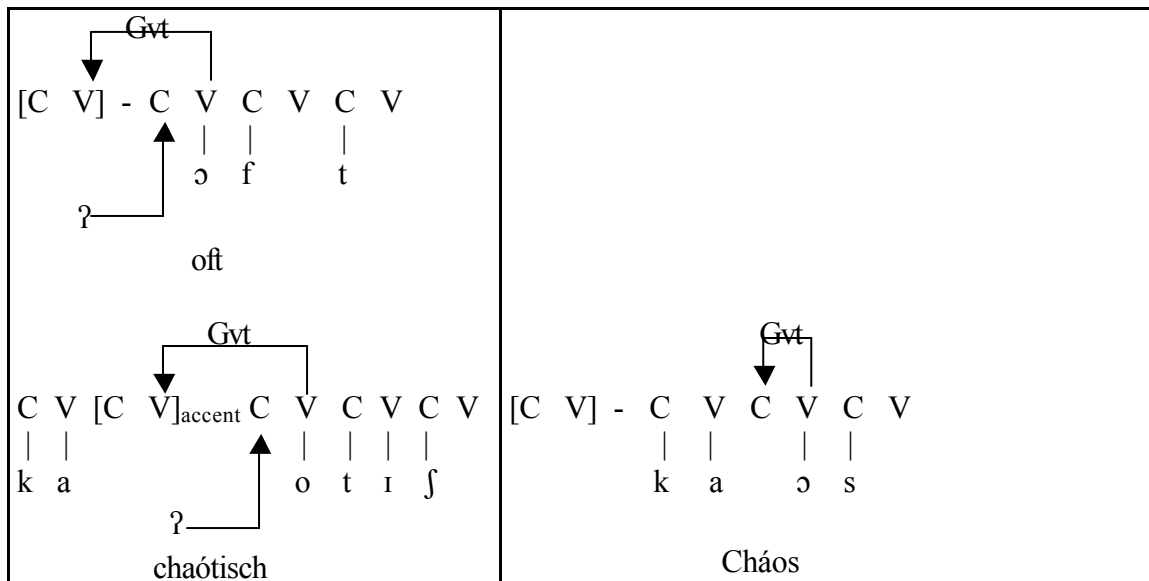
/awtoo/	[ʔawtoo]	Auto	"auto"
/insəl/	[ʔinsəl]	Insel	"île"
/yybən/	[ʔyybən]	üben	"s'exercer"
/ɔft/	[ʔɔft]	oft	"souvent"
/øøl/	[ʔøøl]	Öl	"huile"
/ʊnd/	[ʔʊnt]	und	"et"
/εçt/	[ʔεçt]	echt	"authentique"

(18) b. optional in the middle of hiatuses whose second member is tonic

second member of the hiatus unstressed	second member of the hiatus stressed		
bóoa *bóoʔa bóøø *bóøʔø	bəʔám̩tə bəám̩tə bəʔɔ̃d̩d̩n bəɔ̃d̩d̩n	Beamter beordern Boa Böe	"fonctionnaire" "ordonner de se rendre quelque part" "boa" "rafale (vent)"
káos *káʔos	kaʔóotɪʃ kaóotɪʃ	Chaos chaotisch	"chaos" "chaotique"
teeatχáalɪʃ *teeʔatχáalɪʃ	teeʔát̩ teeát̩	Theater theatralisch	"théâtre" "théâtral"
d̩uweɫiɪβ̩ən *d̩uʔeɫiɪβ̩ən	d̩uʔél̩ d̩uweɫ̩	Duell duellieren	"duel" "se battre en duel"
d̩iɪjætét̩ɪk̩ə *d̩iɪʔætét̩ɪk̩ə	d̩iɪʔæt̩ d̩iɪjæt̩	Diät Diätetiker	"diète" "diététicien"
ʔaɪɪd̩áɪʃ *ʔaʔɪɪd̩áɪʃ	ʔaʔáɪda ʔaáɪda	Aida aidaisch	"Aïda" "comme Aida"
pooeetɪz̩iɪk̩ənt̩ *pooʔeetɪz̩iɪk̩ənt̩	pooʔéet̩ pooéet̩	Poet poetisierend	"poète" "poétisant"
ʔíʃk̩aɛɛl *ʔíʃk̩aʔeɛl	ʔíʃk̩aʔéɛlii ʔíʃk̩aéɛlii	Israeli Israel	"israélien (pers)" "Israel"

(19) [ʔ] occurs at the left margin of vowel-initial words and before the second vowel of a hiatus if this vowel is stressed.

(20)



(21) Generalisation
Empty ungoverned Onsets are filled with a glottal stop in German

(22) Résumé
What happens in IT

	IT bears on	segmental effect (triggered or prevented)	position of the accentual [CV] in regard of the tonic vowel
English	consonne	aspiration	left
Germanic	consonne	voisement	right
Latin	voyelle	amuïssement	left
Dutch	consonne	amuïssement	?
German	consonne	épenthèse	left
Italian	—	—	right

2. What happens in closed syllables and in open syllables that are followed by schwa

(23) [ɛ] – schwa alternation in French

closed syllable εC#	open syllable		
	εCə	əCV	
mɔχsɛ l	mɔχsɛ lə mã	mɔχsə lɔ̃, mɔχsə le	1) je, tu, il, ils morcèle(s)(nt), 2) morcèlement, 3) nous morcelons, 4) inf./ part./ vous morceler/ -é/ -ez j'appelle, appellera, appellation j'ensorcèle etc., ensorcèlement, ensorceler etc. je harcèle etc., harcèlement, harseler etc. j'achève etc., achèvement, achever etc. elle sèvre, sévrera, sevrer, sevrage
apɛ l	apɛ lə ra	apə le	
ãsɔχsɛ l	ãsɔχsɛ lə mã	ãsɔχsə le	
aχsɛ l	aχsɛ lə mã	aχsə le	
aʃɛ v	aʃɛ və mã	aʃə ve	
sɛ vʁ	sɛ vʁə ʁa	sə vʁe sə vʁaʒ	

(24) Distribution of ATR in French mid vowels (southern variety)

	closed syllables	open syllables		
		__Cə	__CV	
e	fɛt	sɛləki	fɛtɛ	je fête, céleri, fêter
	pɛʁdy	bɛtəʁav	pɛʁiʁ	perdu, betterave, périr
	səʁɛn	səʁɛnəmã	sɛʁɛnite	sereine, sereinement, sérénité
o	kɔd	mɔkəki	kɔdɛ	code, moquerie, coder
	rɔz	rɔzəʁɛ	rɔzje	rose, roseraie, rosier
	sɔbɛ	sɔbɛmã	sɔbrijɛtɛ	sobre, sobrement, sobriété
ø	øʁœz	øʁœzãmã	apøʁɛ	heureuse, heureusement, apeuré
	œvɛ	bœvəki	øvʁɛ	œuvre, beuverie, œuvrer
	ʒœn	vœləri	ʒœnɛs	jeune, veulerie, jeunesse

(25) Vowel – zero alternations in Slavic¹

	open syll: zero		closed syllable: vowel		gloss
	C	C-V	C__C-ø	C__C-CV	
Moroccan Arabic	kitøb-u		køtib-ø	kittib-ø	écrire perf.act.3pl, 3sg, 3sg causatif
German (optional elision)	innøʀ-e		inner-ø	inner-lich	intérieur+infl, intérieur, intérieurement
Tangale (Chadic)	dobø-go		dobe	dobu-n-go	appelé, appelle, il m'a appelé
Somali (Coushitic)	nirøg-o		nirig-ø	nirig-ta	bébé-chamelle pl, sg indéf, sg déf
Turcish	devøʀ-i		devir-ø	devir-den	transfert ACC, NOM, ABL
Slavic (e.g. Czech)	lokøt-e		loket-ø	loket-ní	coude GEN, NOM, adj.
Hungarian	majøm-on		majøm-ø	majøm-ra	singe superessif, NOM, sublatif

(26) generalisation: an alternation site is unexpressed iff

- a. it is followed by a vowel:
øC-V vs. vC-ø
- b. it is not preceded nor followed by more than one single consonant
VCøC-V vs. VCCvC-V, VCvC-CV

¹ Cf. Scheer (1997) pour une présentation générale des alternances voyelle-zéro. Le détail concernant les données des langues particulières mentionnées est fourni dans Scheer (1996) pour le tchèque, Gussmann&Kaye (1993) pour le polonais, Nikiema (1989) pour le tangale, Kaye (1990) pour l'arabe marocain, Barillot (1997) pour le somali, Törkenczy (1992) pour le hongrois et Wiese (1995), Noske (1993) pour l'allemand.

(27) Slavic follows this pattern, only exceptions:

a.	Czech	Slovak	
	dům	dúm	house
	dom-ek	dom-ek	id., diminutive NOMsg
	dom-øk-u	dom-øk-u	id., diminutive GENsg
	dom-eč-ek	dom-øč-ek	id., double diminutive NOMsg
	dom-eč-øk-u	dom-eč-øk-u	id., double diminutive GENsg
b.	serbo-croate		
	vrabac		sparrow NOMsg
	vrapøc-a		id., GENsg
	vrabac-a		id., GENpl
c.	slovaque		
	krídøl-o	krídel	wing NOMsg, GENpl
	krídel-øc-e	krídel-iec	id., diminutive NOMsg, GENpl
	vedør-o	vedier	bucket NOMsg, GENpl
	vedier-øc-e	vedier-ec	id., diminutive NOMsg, GENpl

(28) generalisations

- a. in a sequence CV₁CV₂ where V₁ alternates with zero but is phonetically expressed in spite of the presence of V₂, V₂ alternates with zero itself.
- b. an alternation site is vocalised if it occurs in a closed syllable, or if the next vowel is a schwa.
(schwa in a phonological sense: that alternates with zero or that is phonetically schwa)

(29) More illustration, independent of the disjunctive context at stake, of the special behaviour of schwa:

Schwa acts as if it were not there.

a.	Czech		
	[kuɯɲ]	[kɔŋ-ɛ]	horse NOMsg, GENsg
	[duum]	[dɔm-ɯ]	house, id.
	[nuuɟ]	[nɔʒ-ɛ]	knife, id.
	[nuuɟ-k-y]	[nuuʒ-ek-ø]	scissors, NOMpl, GENpl
b.	serbo-croate		
	prozor	prozor-i	window NOMsg, NOMpl
	učitelj	učitelj-i	teacher, id.
	most	most-ov-i	bridge, id.
	broj	broj-ev-i	number, id.
	toranj	torønj-ev-i	tower, id.
	mozak	mozøg-ov-i	brain, id.

(30)	Résumé		
	What happens in closed syllables and before schwa.	"in closed syllables and before schwa" bears on	segmental effect (triggered or prevented)
	French [ə]-[ɛ]	vowel	disqualifies schwa
	French ATR	vowel	inhibits ATRity
	Czech V-zero	vowel	inhibits zéro
	Serbo-Croatian V-zero	vowel	inhibits zéro
	Slovak V-zero	vowel	inhibits zéro
	Italian diphthongisation	vowel	inhibits diphthongisation

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