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this handout and some of the references quoted at
www.unice.fr/dsl/tobias.htm

The Coda Mirror v2 (but not exactly 2.0)

(1) purpose
a. to revise the Coda Mirror (Ségéral & Scheer 2001)
b. under the pressure of arguments coming from the interface
==> shaping linguistic theory according to interface requirements is quite minimalist in spirit.

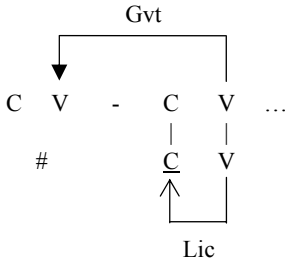
1. The Coda Mirror as it stands

(2) the five positions and their clustering

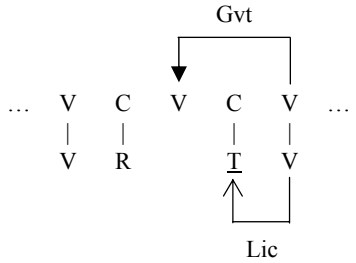
	position	usual name		
a.	#__V	word-initial	strong position	
b.	VC.__V	post-Coda		
c.	V__.CV	internal Coda	Coda	weak Positions
d.	V__#	final Coda		
e.	V__V	intervocalic		

(3) consonants in strong position: ungoverned but licensed

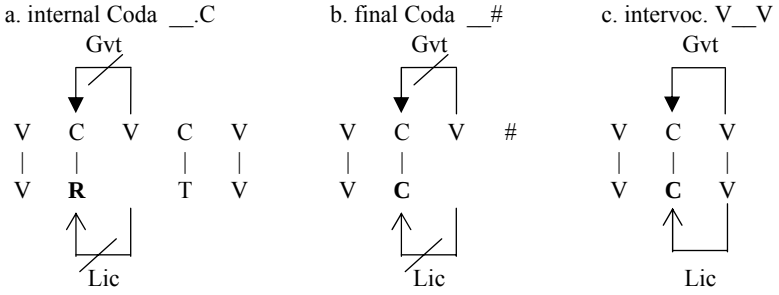
a. initial consonant #__



b. post-Coda consonant C.__



(4) consonants in Codas: ungoverned and unlicensed
intervocalic consonants: both governed and licensed



(5)

Licensing	Government	position	segmental health according to predictions
+	–	Coda Mirror	splendid
	+	V__V	unfavourable
–	–	Coda	unfavourable
	+	impossible	—

2. Right-edge variation and FEN

(6) two cases
- a. the pronunciation of FEN – FEN are subject to a lateral force
- b. FEN as the source of lateral relations

(7) empirical correlate: right-edge variation across languages
- a. consonant-final words do or do not exist
- b. extrasyllabicity
  1. C#: final consonants do or do not behave like codas.
  2. VC#: vowels preceding final consonants do or do not behave like vowels in closed syllables.

(8) pronunciation of FEN
- a. position in Scheer (2004) and subsequent work on the interface:
  FEN are "externally" governed, i.e. by morphology
- b. on the assumptions of Direct Interface (Scheer forth), this is impossible because
  1. lateral relations ARE the phonological computation, and computation itself cannot be modified by external influence. Only its application may be altered.
  2. hence lateral relations are not representational objects, and therefore cannot be inserted.
- c. Kaye (1990) was right: the pronunciation of FEN is governed by a parameter. More on this below.

(9) FEN as a source of lateral relations
   a. in GP, FEN have variable lateral abilities.
   b. In particular, FEN "can do more" than their internal peers.
      E.g. they are able to government-license preceding consonants (e.g. Charette 1991:139ff,1992): English *parkø*
   c. There is a universal implicational relationship between final and internal empty nuclei: the latter can do at least as much as the former.
      Cyran (2003)

(10) the locus of variation
   a. extrasyllabicity is a parametric variation:
      whether a final consonant is extrasyllabic or not does not depend on any property of the morpho-syntactic or the phonological derivation. Rather, the pattern is fixed and stable across all cases within a given language.
   b. occurs only with C-final words:
      - there are no extrasyllabic vowels
      - there is no parametric variation associated with V-final words
      - FEN are thus the locus of variation
      ==> why?
   c. answer below: because FEN are phase-initial

(11) extrasyllabicity is driven by Licensing
this follows from its vocalic effects: long vowels need to be licensed

	object concerned	variation	parameter
a.	C# (extrasyll)	1. C# does not behave like a coda	FEN can license: it licenses C#
		2. C# behaves like a coda	FEN cannot license: C# remains unlicensed
b.	VC#	1. V in VC# behaves like in an open syllable	FEN can license: it licenses V in VC#
		2. V in VC# behaves like in a closed syllable	FEN cannot license: V in VC# remains unlicensed

3. Overgeneration with independent Gvt and Lic

(12) application of the Coda Mirror to the parameterized lateral abilities of FEN in Scheer (2004)
   a. default assumption:
      Government and Licensing are independent players that combine freely
   b. this opens a four-way typology that overgenerates
   c. the bad guy is Government: Government is responsible for this overgeneration.

(13) effects of the four-way parametric system of FEN in Scheer (2004:§545)

	FEN can	vowels in final closed syllables	word-final consonants are in
a.	+ license + govern	behave like in open syllables	intervocalic position
b.	+ license - govern		post-coda (strong) position
c.	- license + govern	behave like in closed syllables	nightmare position
d.	- license - govern		coda position

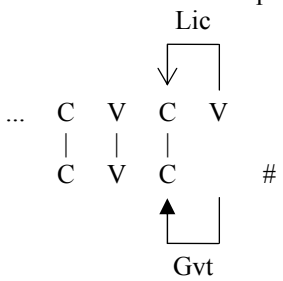
(14) the nightmare position
- a. has no empirical response: there are no super-weak consonants (which occur only in word-final position)
- b. falls foul of the overall generalisation that consonants and vowels in word-final closed syllables may be stronger, but never weaker than their internal peers
- c. this is correctly pointed out by Cyran (2006:539), who argues that phonological theory should not allow for the nightmare situation to exist.
- d. other candidate for overgeneration:
  Cyran also doubts that (13)b, i.e. where word-final consonants are strong, meets any empirical echo.

(15) only two of the four situations have an empirical echo
- a. we need to get rid of (13)b and (13)c
- b. C# are either
  1. both governed and licensed
     ==> intervocalic, that is extrasyllabic
     ==> preceding vowel in open syllable
  2. of neither governed nor licensed
     ==> true codas, that is non-extrasyllabic
     ==> preceding vowel in closed syllable

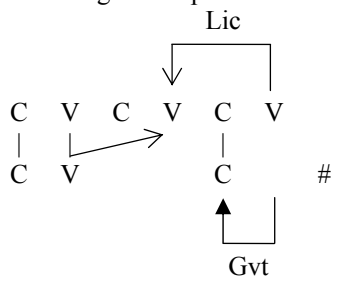
(16) nightmare position also elsewhere:
1. due to licensing duties of the FEN
2. word-internally: VV**C**V

extrasyllabic languages (i.e. where FEN can license and govern)
e.g. Icelandic

a. C# following a lexically short vowel: intervocalic position



b. C# following a lexically long vowel: nightmare position



variable consonantal strength according to whether the preceding vowel is long or short hardly meets any empirical echo.

4. Coda Mirror v2: Government and Licensing must not be equal-righted

(17) Unitary abilities of FEN cannot be the only answer
   a. solution for the right-edge overgeneration:
      lateral abilities of FEN reduce to an on/off setting: either FEN are lateral actors and can both govern and license, or they are not, in which case they can dispense neither lateral force.
      This prevents the system from generating word-final consonants in strong and in nightmare position.
   b. but what about word-internal nightmare positions?
   c. ==> the right edge is not the locus of the problem, it just reveals it.
      The real problem is in the theory itself, which must not be able to generate any nightmare position at all.

(18) goal
   a. to modify the rule of the game so to get rid of the nightmare position while not losing any of the generalisations regarding syllable structure and the Coda Mirror. Touching any piece of the puzzle impacts the mechanics elsewhere. This is of course warranted, but severely restricts the room for modifications.
   b. guide:
      Government and Licensing do not act independently of one another; rather, they obey a natural hierarchy that determines their behaviour when they could in principle apply simultaneously.
      Cyran (2006:534)

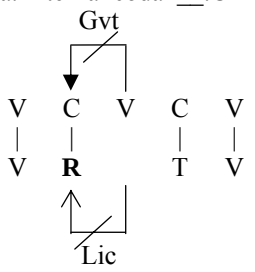
(19) **Government over Licensing**
   no constituent can be governed and licensed at the same time. In case a constituent can potentially be subject to both lateral forces, it will be governed.

4.1. Impact on consonants

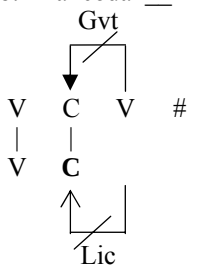
(20) direct impact on the identity of intervocalic consonants
   a. while they were both governed and licensed before, they are now only governed.
   b. critique that has sometimes been voiced in regard of the Coda Mirror (among others by Cyran 2006:530ff,537): how could the reaction of an onset be calculated if its melodic expression is simultaneously inhibited and enhanced?
   c. Intuitively, opposite forces cancel each other out.
   d. The Coda Mirror has always been explicitly agnostic:
      The only thing that was important was the ability of the theory to formally distinguish two weak positions, intervocalic and the coda ("two ways of being weak", cf. Scheer 2004:§131), while assuring that both of them are weaker than the Strong Position.
   e. the relative strength of both weak positions remained an open question.
      Now: intervocalic Cs are governed, i.e. damaged, while coda consonants are not.
      ==> prediction: intervocalic Cs are weaker than coda consonants.

(21) Coda Mirror v2
consonants in codas: ungoverned and unlicensed
intervocalic consonants: governed but unlicensed

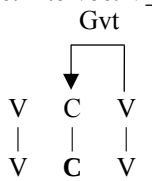
a. internal coda __.C



b. final coda __#

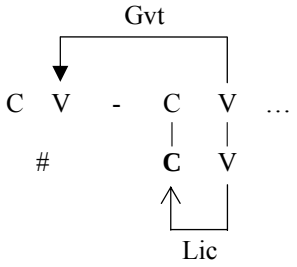


c. intervoc. V__V

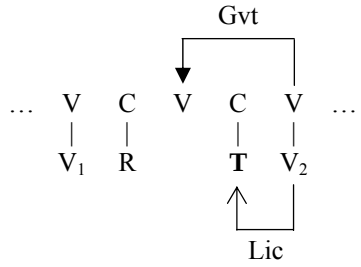


(22) consonants in the Coda Mirror: ungoverned but licensed

a. initial consonant #__



b. post-coda consonant C.__



(23) Coda Mirror v2

	position		definition in terms of lateral relations
a.	Strong Position	{#,C}__	licensed but ungoverned
b.	coda	__{#,C}	unlicensed and ungoverned
c.	intervocalic	V__V	governed (but unlicensed)

(24) benefits

a. The fourth logical possibility, i.e. a constituent that is both governed and licensed, is ruled out by (19).
b. the configuration "governed but unlicensed" characterised the nightmare position before, but now describes regular intervocalic onsets.
==> the system is unable to produce a situation where a consonant is weaker than both codas and intervocalic onsets.
c. (19) kills two birds with one stone: the equal-rightedness of Government and Licensing is done away with, and the nightmare position is eliminated.

4.2. Impact on vowels

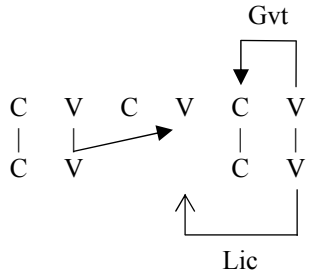
(25) ground rules:
origin and application of lateral relations

a. nuclei exhaust their lateral potential: nuclei which are enabled to govern do govern, nuclei which are enabled to license do license (Vol.1:§148).
b. by default, nuclei target their own onset, i.e. "choose" the shortest move.
c. they target other nuclei in two situations:
   1. when they are called to either govern or license a preceding empty nucleus.
   2. when they govern their onset and hence cannot license it simultaneously.

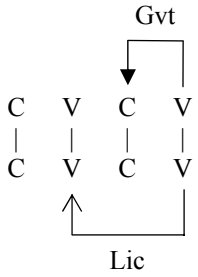
(26) nuclei do not target their own onset when
  a. they are called to govern: ==> strong position
  b. they are called to license: ==> long vowels
     N.B.: only alternating long vowels (i.e. that may also be short and are left-headed) need to be licensed. There are also long vowels that are lexically long (i.e. right-headed) and insensitive to their righthand context. Both types may also cohabitate in the same language (e.g. Czech, cf. Ziková 2008).

(27) intervocalic Licensing

a. long vowels



b. intervocalic consonants

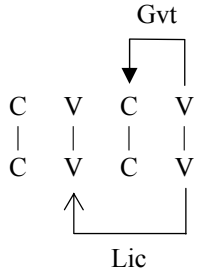


(28) uniformity of intervocalic consonants
unlike in the old system, intervocalic consonants after long and short vowels experience the same conditions: they are governed (and unlicensed).

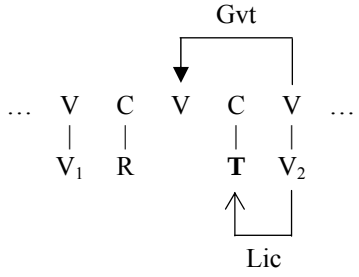
(29) definition of open vs. closed syllables
  a. vowels in open syllables are licensed.
  b. vowels in closed syllables are unlicensed.

(30) vowels in open and closed syllables

a. vowel in an open syllable



b. vowel in a closed syllable

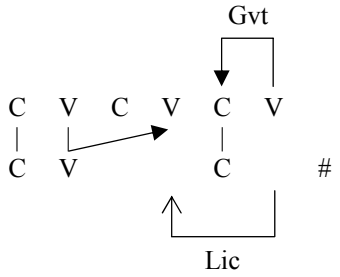


4.3. Impact on the right edge

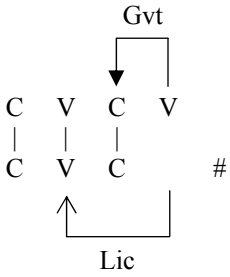
(31) recall that FEN can
  a. either govern and licence
  b. or neither govern nor licence

(32) extrasyllabicity in [+Gvt, +Lic] languages:
uniformity after long and short vowels

a. /VVC#/ are long, C# after long vowels is in intervocalic position

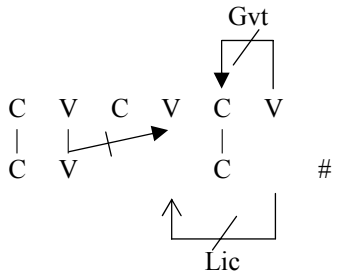


b. C# after short vowels is in intervocalic position

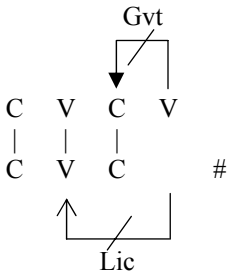


(33) extrasyllabicity in [-Gvt, -Lic] languages

a. /VVC#/ is short, C# is in coda position



b. C# is in coda position



5. Domain-final is phase-initial

(34) what happens when a phase-defined string arrives in phonology?
On the account of CVCV, two properties of phonological interpretation are hard-wired

a. all strings end in a nucleus
b. strings are parsed from right to left, hence starting with the last nucleus

(35) Regressive interpretation follows from

a. the fact that all lateral relations (and – almost – all phonological processes) are head-final. That is, phonological computation in CVCV consists of the application of Government and Licensing to a string that is made of onsets, nuclei and (eventually) associated melodic material.
b. Given that lateral relations are head-final, the lateral status of constituents (i.e. whether they are governed and/or licensed, and in turn whether they can govern and/or license) is always determined by the lateral status of a constituent to their right.
c. This means, in turn, that the computation of constituent n supposes that the phonological status constituent n+1 is already determined.
==> phonological computation parses the string from right to left.
d. FEN are thus the last item in the string (from the point of view of Western spelling), but they are the first item to be processed by phonological computation.

(36) why are there are no extrasyllabic vowels?
   a. because contentful nuclei come with full lateral specifications.
   b. the difference between a an empty and a contentful nucleus is that the latter inherits full phonological abilities from its melodic content: contentful nuclei are always good governors and good licensors. Empty nuclei, on the other hand, have no phonological properties per se: they may be governed, and their governing and licensing abilities depend on whether they are subjected to Government or not.
   c. Everywhere else in the linear string but for FEN, the lateral properties of constituents are defined by constituents to their right. In other words, the phonological computation cannot begin unless the phonological properties of its first domino are defined. Since the nucleus itself does not bear any, they must be defined by some other means: a parametric choice.

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