

Outline

- 1 Intro
- 2 Day 1: SPE and sons
- 3 Day 2: The prosodic hierarchy and morphology
- 4 Day 3: Morphology within OT
- 5 Day 4: GP and CVCV-phonology**
- 6 Day 5: DM-inspired approaches

Kaye (1995)

Kaye (1995) is an attempt at formalizing derivation in Government Phonology.

Kaye explicitly takes the following point of view w.r.t. phonological derivations: “processes take place whenever the conditions for their application are satisfied.”

- (61) Two tenets of GP:
- a. Phonological representations are uniform in kind throughout derivations: constituent structure does not change in the course of derivation
 - b. There are no language-specific ‘rule’ ordering statements.

Kaye (1995)

Kaye (1995:302-303) introduces two functions, which are active in the phonology:

- (62) The function *concat*
It takes two arguments which are strings and returns the string which results from concatenating the second argument to the first (according to Scheer 2011:223 ϕ is comparable to *Merge*).
- (63) The function ϕ
This has one argument, the phonological string, and returns the application of the phonology to its argument (in other words: ‘apply phonology to the string X’)

Caveat: brackets, in Kaye’s words “are not objects in themselves but rather represent instructions as to how the phonological string is to be processed.”

Kaye (1995)

Government Phonology: a few basic details (KLV 1990:290, Charette 1990:236).

(64) Empty Category Principle

A position may be uninterpreted phonetically if it is properly governed.

(65) Proper Government: A properly governs B iff

- a. A governs B (A and B are adjacent on the nuclear projection);
- b. A is not licensed;
- c. No governing domain intervenes between A and B.

Kaye (1995)

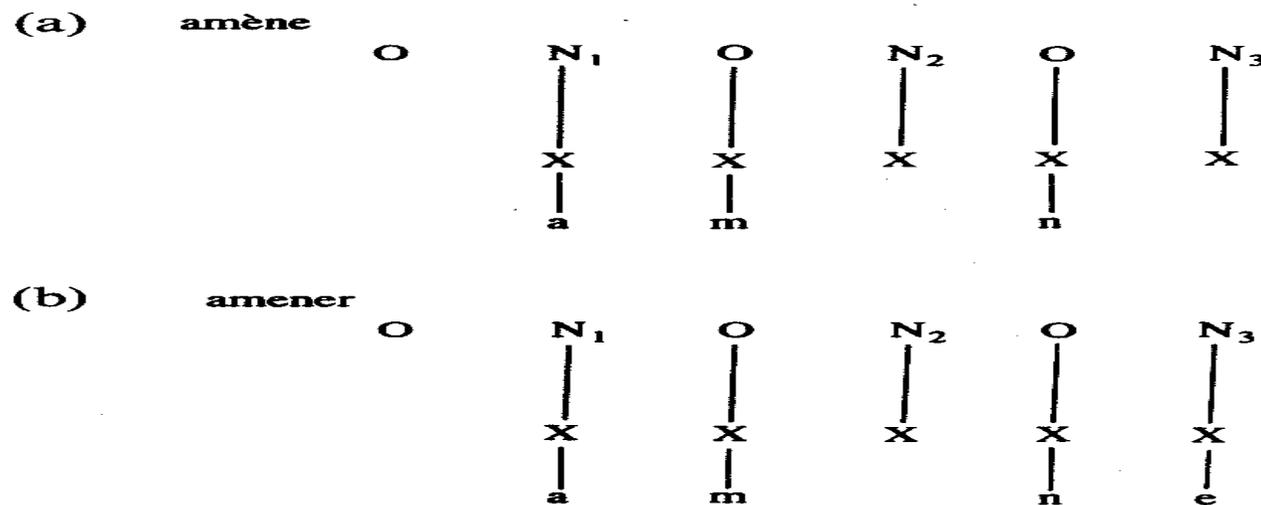
French and Yawelmani data showing V-zero alternations:

| | | | | |
|-----------|-----------|-------------|--------|---------------------|
| French | amɛn | 'brings' | amøne | 'to bring' |
| | apɛl | 'calls' | apøle | 'to call' |
| Yawelmani | 'a:miłhin | 'helped' | 'amlit | 'was helped' |
| | logiwhin | 'pulverize' | logwit | 'was pulverized' |

Kaye (1995)

French *amène* [amɛn] vs. *amener* [amne]

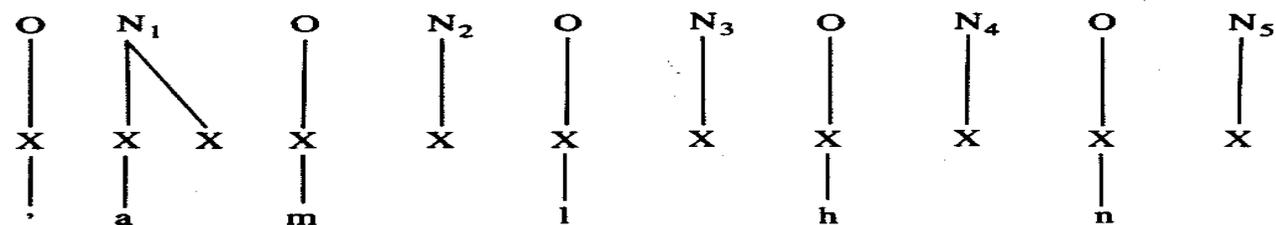
N_2 in *amène* [amɛn] (a) is ungoverned and unlicensed: it needs to be interpreted.



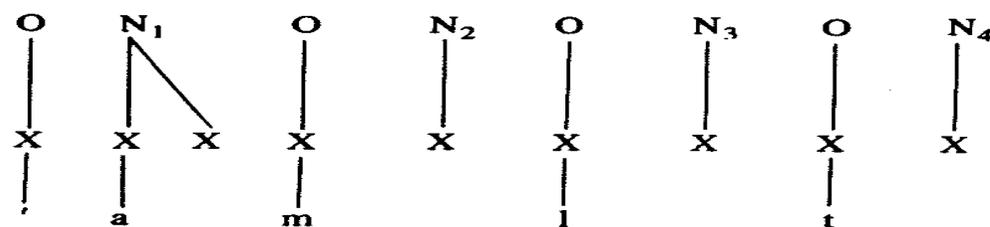
Kaye (1995)

Yawelmani data offers additional support to GP analysis of V-zero alternations.

(a) 'a:mihiŋ

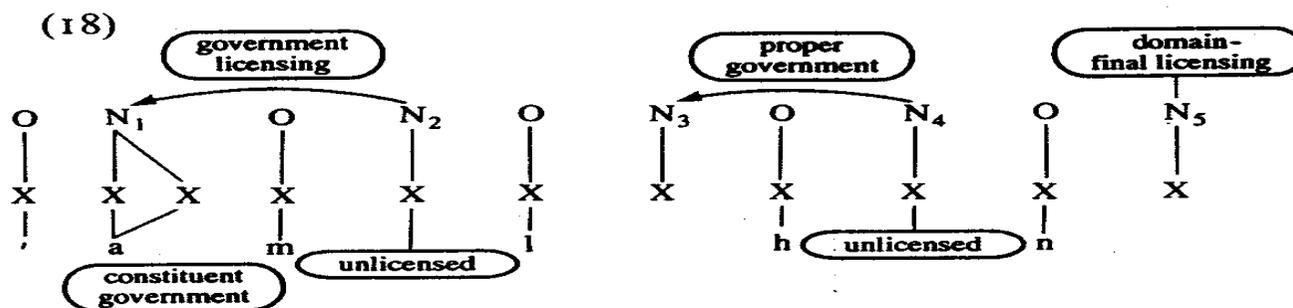


(b) 'amlit

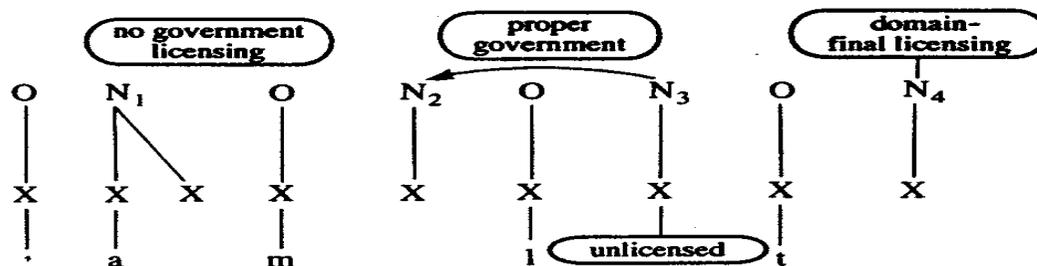


Kaye (1995)

Kaye's (1995:299-300) detailed explanation of the Yawelmani facts:



(a) Derivation of 'a:milhin



(b) Derivation of 'amlit

Kaye (1995)

Analytic vs. non-analytic morphology:

- (66)
- a. A string of morphemes that has no internal structure is **non-analytic**
 - b. A string of morphemes that has an internal structure is **analytic**

Scheer sums up the four logical possibilities in Kaye's system:

| possible domain structure for two morphemes X and Y | | | | |
|---|---|-----------|---------------------------|--------------|
| | formal | brackets | number of domains | name |
| a. | $\phi(\text{concat}(X, Y))$ | [X Y] | one: [X Y] | non-analytic |
| b. | $\phi(\text{concat}(\phi(X), Y))$ | [[X] Y] | two: [X] and [X Y] | analytic |
| c. | $\phi(\text{concat}(X, \phi(Y)))$ | [X [Y]] | two: [Y] and [X Y] | analytic |
| d. | $\phi(\text{concat}(\phi(X), \phi(Y)))$ | [[X] [Y]] | three: [X], [Y] and [X Y] | analytic |

Kaye (1995:305) claims option (c) is logical possible but not attested.

Kaye (1995)

Kaye (1995:302) claims that some morphology is visible to phonology: in the paper, he tries to “define precisely exactly what that structure is and what form it takes in the phonology.”

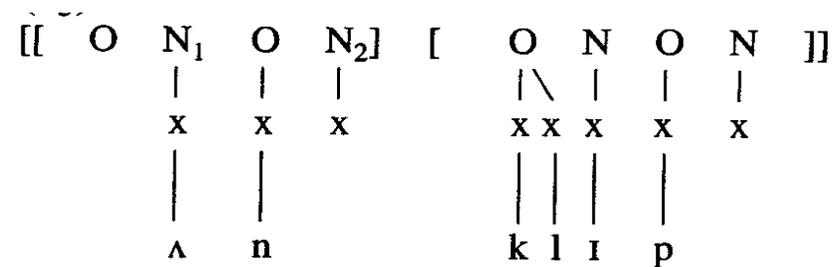
Analytic morphology

(67) Type (d): [[A] [B]]: English compounds
[[black] [board]] *blackboard*

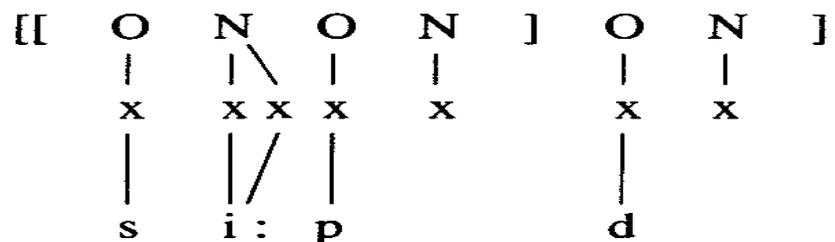
The functions ϕ and *concat* apply: ‘apply phonology to *black* and to *board*; concatenate the results to form a string and apply phonology to that string.’
(Kaye 1995:303)

Kaye (1995)

Analytic morphology: type (d)

(68) English *unclip*

Analytic morphology: type (b)

(69) English *seeped* (regular inflectional morphology)

Kaye (1995)

(70) French *son ami* [sɔ̃nami] 'his friend' vs. *bon ami* [bɔ̃nami] 'good friend'

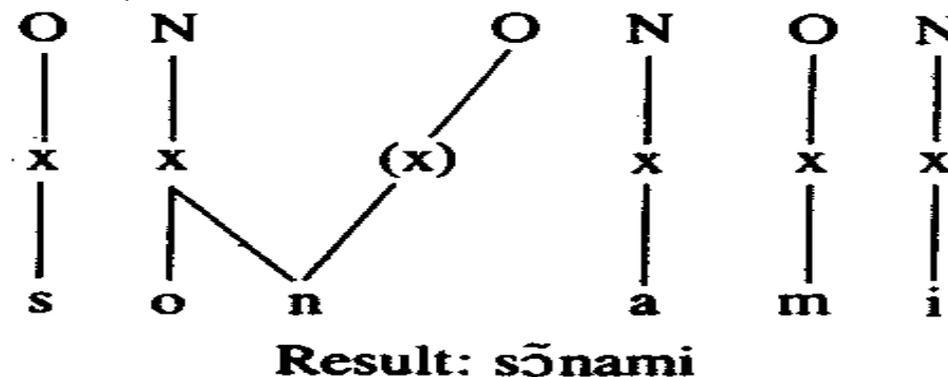
| | | | | | | | | | | |
|--------------------|----|---|---|---|----|---|---|---|---|----|
| (a) <u>son ami</u> | [[| O | N | |]] | O | N | O | N |]] |
| | | | | | | | | | | |
| | | x | x | | | x | x | x | | |
| | | | | | | | | | | |
| | | s | o | n | | a | m | i | | |
| | | | | | | | | | | |
| (b) <u>bon ami</u> | [[| O | N | | | O | N | O | N |] |
| | | | | | | | | | | |
| | | x | x | | | x | x | x | | |
| | | | | | | | | | | |
| | | b | o | n | | a | m | i | | |

son ami (type (d)) contains internal domains, while *bon ami* (type (a)) does not.

Kaye (1995)

Kaye (1995: 307): ‘When phonology is done on the external domain, an empty onset is available for the *n*. However, the principle of strict cyclicity states that the association created in the inner domain cannot be undone in an external domain. The association remains and the *n* also links to the available onset.

(71) French *bon ami*



Kaye (1995)

Non-analytic morphology

(72) Type (a): [A B]: *parént-al*

In words like *parental*, the morphology is invisible to the phonology: this word is treated like *agenda*, or *advantage*.

Note the following contrast:

- (73) a. *in* is non-analytic: *irrational*, **inrational*
b. *un* is analytic: *unreal*, where */nr/ are not tolerated in English.

Kaye claims that irregular morphology is always non-analytic.

Kaye (1995)

- (74) a. Class 1 affixes are non-analytic (*párent* vs. *parént-al*)
 b. Class 2 affixes are analytic (*párent* vs. *párent-hood*)

(75) Class 1 vs class 2 affixes in Kaye's system

Kaye: analytic affixes provoke the spell-out of their sister

a. Y is analytic: α is spelled out

b. Y is non-analytic: α is not spelled out

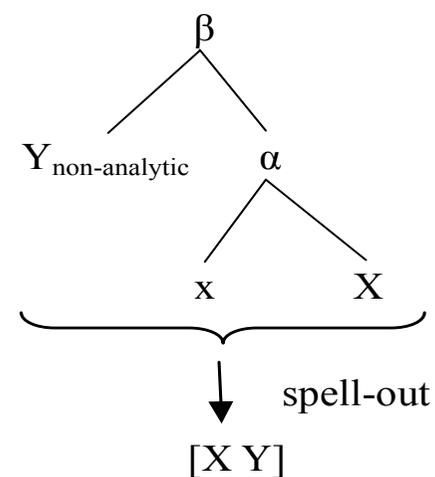
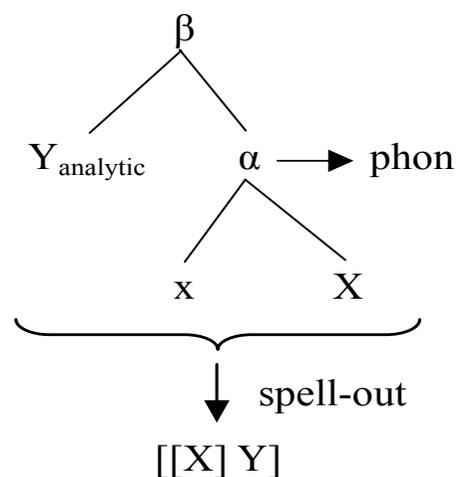


Image taken from Scheer (2011:234).

Kaye (1995)

(76) Polish *pies* - *psa* 'dog:nom.sg/gen.sg'

| | | | | |
|-----|---|----------------|---|----------------|
| (a) | O | N ₂ | O | N ₁ |
| | | | | |
| | x | x | x | x |
| | | | | |
| | p | | s | |

| | | | | |
|-----|---|----------------|---|----------------|
| (b) | O | N ₂ | O | N ₁ |
| | | | | |
| | x | x | x | x |
| | | | | |
| | p | | s | a |

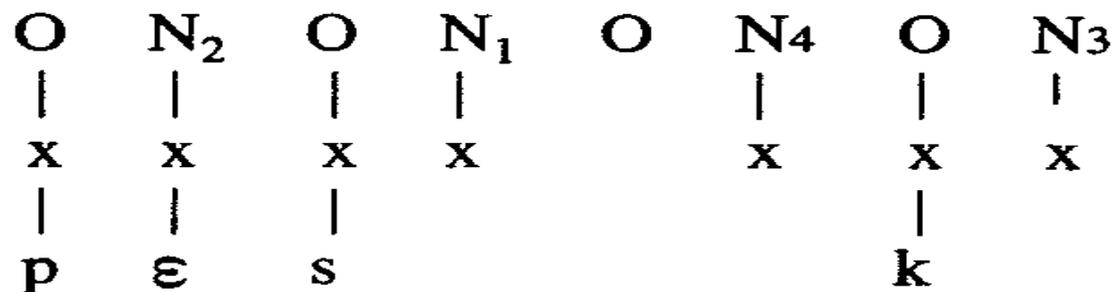
- (77)
- a. Polish unlicensed empty nuclei are realized as [ɛ]
 - b. Domain-final empty nuclei are licensed in Polish.

Kaye (1995)

Note the anomaly in the diminutive:

(78) Polish *pies* - *piesek* 'dog:nom.sg' vs. 'dog:dim.nom.sg'

- (79) a. The genitive is non-analytic (morphology is invisible to phonology).
 b. The diminutive is analytic: $[[p \ \emptyset \ s \ \emptyset] \ \emptyset \ k \ \emptyset]$.



Lowenstamm (1999)

Lowenstamm (1999) proposes the existence of a CV syllable that marks the beginning of the word.

(80) English *kit*

| | | | | | |
|---|---|---|---|---|---|
| C | V | C | V | C | V |
| | | | | | |
| | | k | i | t | ∅ |

Lowenstamm follows his previous work, exposed in Lowenstamm (1996), and postulates the existence of a unique syllable type, made of a strict alternation of onsets (C) and nuclei (V). Coda does not have any theoretical status.

What in fact Lowenstamm (1999) proposes is a simple equation:

(81) $\# = CV$

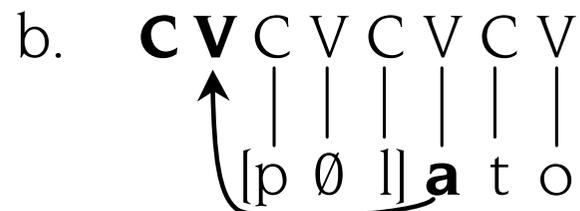
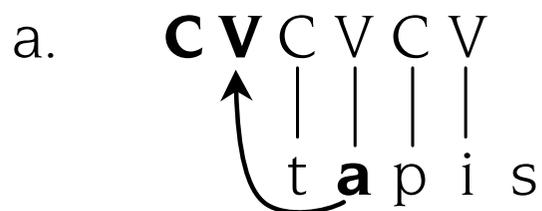
Lowenstamm (1999)

In his 2004 book, Scheer (2004:103) writes: “Lowenstamm’s (1999) proposal $\# = CV$ thus meets a number of empirical facts about the word-initial location. Its most enjoyable feature, however, is **the transformation of a diacritic pink panthers into a truly phonological object that can be addressed in phonological terms**, and which may be appraised according to the predictions it makes. Morphological objects and diacritics do not make any prediction as to their phonological effect. By contrast, translating the left pink panther into an empty CV unit does have predictable effects on the phonological side.

The initial CV tries to do away with the attitude of simply giving a name to a reality that phonologists do not understand. Humans have linguistic objects such as noun phrases, Onsets, lexical meanings and the like in their head, but they do not walk around with hatch marks in their brain.”

Lowenstamm (1999)

- (82) a. *tapis* [tapi] 'rug'
 b. *plateau* [plato] 'tray'



- (83) The initial site is always licensed in French.

Lowenstamm (1999)

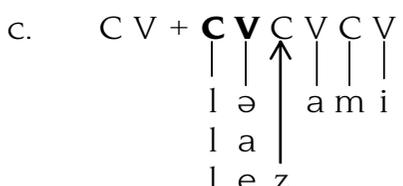
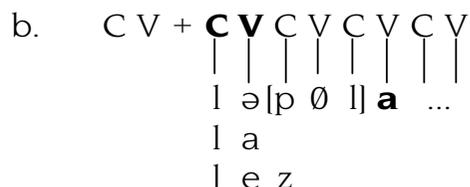
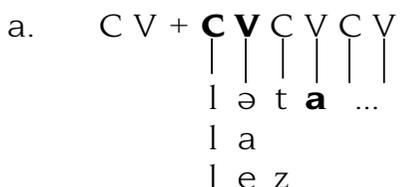
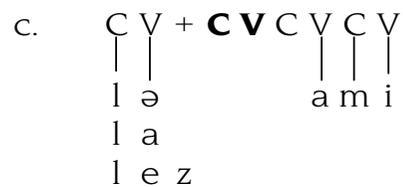
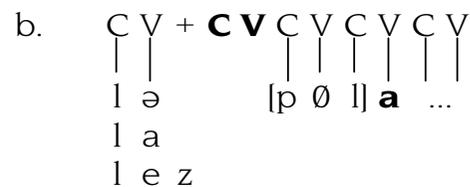
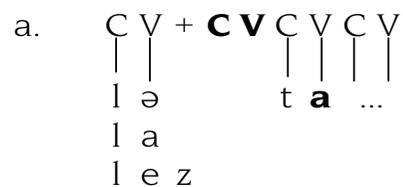
- (84)
- a. The initial CV site is the site of cliticization.
 - b. Cliticization can take place iff the site is licensed.
- a. *Before “single initial onset” words*

| | | | |
|--------------------|------------|---|----------|
| <i>le + tapis</i> | ‘the rug’ | → | [lətapi] |
| <i>la + tasse</i> | ‘the cup’ | → | [latas] |
| <i>les + tapis</i> | ‘the rugs’ | → | [letapi] |
 - b. *Before “initial branching onset” words*

| | | | |
|-----------------------|-------------|---|-----------|
| <i>le + plateau</i> | ‘the tray’ | → | [ləplato] |
| <i>la + place</i> | ‘the place’ | → | [laplas] |
| <i>les + plateaux</i> | ‘the trays’ | → | [leplato] |
 - c. *Before initial empty onset words*

| | | | |
|-------------------|---------------------|---|----------|
| <i>le + ami</i> | ‘the male friend’ | → | [lami] |
| <i>la + amie</i> | ‘the female friend’ | → | [lami] |
| <i>les + amis</i> | ‘the friends’ | → | [lezami] |

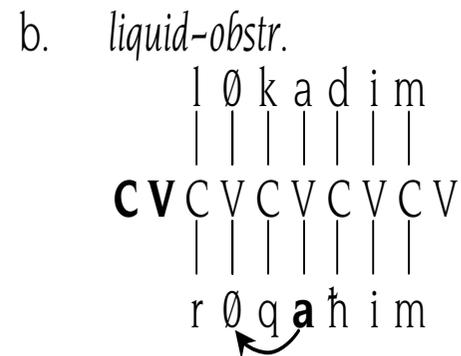
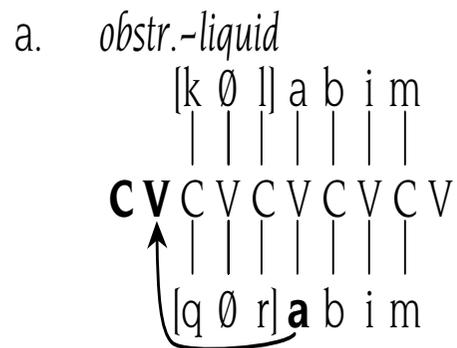
Lowenstamm (1999)



Lowenstamm (1999)

Biblical Hebrew data:

| Root | Singular | Plural |
|------------------------|-----------------|----------------------------|
| a. $\sqrt{\text{klb}}$ | kéleḅ 'dog' | k Ølaḅim 'dogs' |
| b. $\sqrt{\text{lkd}}$ | léxeḏ 'capture' | l Øxaḏim 'captures' |
| c. $\sqrt{\text{qrb}}$ | qéreḅ 'midst' | q Øraḅim 'midsts' |
| d. $\sqrt{\text{rqḥ}}$ | réqaḥ 'spice' | r Øqaḥim 'spices' |



(85) The initial site is not always licensed in Biblical Hebrew

Lowenstamm (1999)

The behaviour of Biblical Hebrew definite articles: the combination of the definite article /ha/ and some of the plurals of the segholate class:

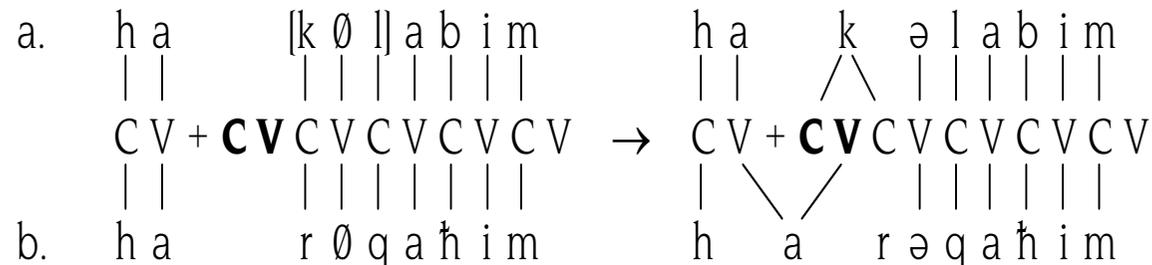
ha + kØlaβim 'the dogs'
 ha + rØqaħim 'the spices'

a. h a [k Ø l] a b i m
 | | | | | | | |
 C V + **C** **V** C V C V C V C V
 | | | | | | | |
 b. h a r Ø q a ħ i m

Lowenstamm (1999)

- (86) a. Since the initial CV is not always licensed, it cannot host the article: “definite article cliticization in Biblical Hebrew is blocked across the board.”
- b. “The initial CVs in the Biblical Hebrew cases under consideration are now stuck in the midst of a phonological word.” (Lowenstamm 1999:164).

Gemination (=a.) vs. compensatory lengthening (=b.)



Scheer (2014)

Scheer (2014 and references cited therein) has elaborated on Lowenstamm's hypothesis on the initial CV.

Scheer's paper has threefold purpose:

1. The specific implementation of the initial CV in the environment of CVCV theory provides an answer to a puzzle where three birds need to be killed with one stone. This puzzle has not even been identified by other theories.
2. The beginning of the word is but one particular case of what syllabic space marks: empty CV units also spell out all other kinds of morpho-syntactic information. Carriers of morpho-syntactic information in phonology reduce to syllabic space.
3. The phonological string is pieced together by two kinds of objects: those coming from vocabulary (or lexical) insertion (morphemic information), and those which represent on line-created morpho-syntactic information (boundary information). Just like all other boundary information, the initial CV is not a piece of the lexical entry of morphemes (or words). It sits in a lexical entry of its own.

Scheer (2014)

The initial CV is not a diacritic (like juncture phonemes, # [-segment], ω , etc.): “syllabic constituents, an onset and a nucleus, are not arbitrarily chosen and interchangeable symbols whose function reduces to the representation of morpho-syntactic information.” (Scheer 2014:316)

For instance, we may replace # or ω with ♣ and posit that phonological processes occur in the vicinity of a clover then our phonological component would still work.

With the initial CV, this is not possible: it cannot be replaced by ♣ because ‘it has a phonological identity which is independent from its eventual function of carrying morpho-syntactic information’.

Scheer (2014)

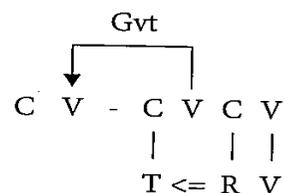
Predictions on what happens word-initially.

(a) #TR-only languages vs. #TR and #RT languages

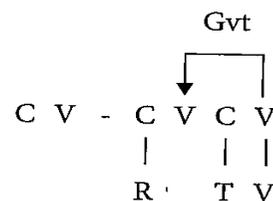
(b) Initial CV-languages inhibit V-zero alternations of the first V of the word

(4) restrictions on initial clusters in CVCV
languages that possess the initial CV

a. #TR well-formed

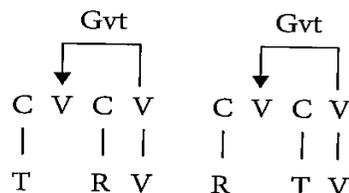


b. #RT ill-formed: two empty nuclei in a row



languages that lack the initial CV

c. #TR and #RT well-formed

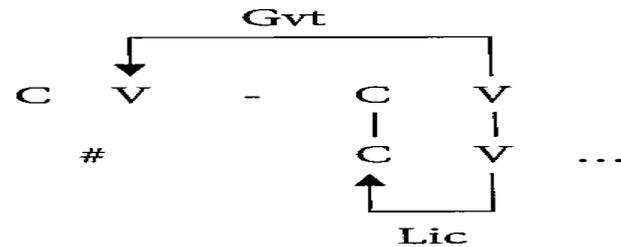


Scheer (2014)

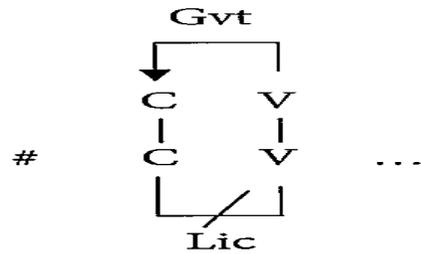
(c) Strength of word-initial consonants:

(5) strength of word-initial consonants

a. languages with the initial CV



b. languages without the initial CV



Scheer (2014)

The initial CV is, in Lowenstamm's first idea, part of the lexical recording of words and will be present in the phonology each time such a word appears.

Scheer does not agree with this hypothesis - rather, the initial CV **represents on-line created information**.

In his quest of eradicating “diacritic sleepers” from the phonology, Scheer makes the hypothesis that the initial CV spells-out a phase boundary.

Scheer (2014)

Central ideas of Direct Interface:

- (87)
- a. Diacritics are ruled out.
 - b. Melody (i.e. items below the skeleton) never carries morpho-syntactic information.
 - c. The output of translation of morpho-syntactic information reduces to syllabic space.

References of today's class:

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