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1.1. Introduction

This paper is part of an investigation of the process whereby strings of segments are assigned syllabic structure. The facts considered below concern primarily the distribution of high vowels and glides in Romanian and will be used as evidence in the discussion of the following issues: (a) the relative order of syllabification operations such as the rule creating core CV syllables and the rule responsible for complex onsets; (b) the proper cross-linguistic formulation of the latter process, the Onset rule; (c) the format of rules that change already assigned syllable structures: in particular the format of rules that merge two syllables into one. I need not point out that there is no necessary connection between these aspects of the theory of syllabification: simply, a complete discussion of the Romanian evidence on (a) is impossible without a preliminary answer to the remaining questions.

The question of ordering distinct syllabification operations does not arise in every theory of syllabic parsing. If syllabic parsing is viewed as the matching of complete syllabic templates (like CCVCC, in languages in which complex codas and onsets exist) against the segmental string, there cannot be any sense in which the CV part of the syllable is derivationally prior to the CCV part. I will refer to such a view of syllabification, advocated or assumed in Kiparsky 1979, Lowenstamm 1981, Cairns and Feinstein 1982, as the template approach. An alternative view, originated by Kahn 1976 and resurrected in Steriade 1982, holds that syllabic organization is the result of a series of structure building rules in the same sense in which metrical organization (foot and word level structures) is the result of an ordered series of rules that build metrical structures. In the context of such a view of syllabic parsing, which I will dub the rule based approach, the issue of ordering syllabification operations can arise. In fact, if simply ordering two syllabification rules provides otherwise unavailable answers to fundamental questions about syllabic parsing, the rule based approach scores an advantage over the template approach.

The present paper is a step in the demonstration that CCV syllables are formed by two distinct and ordered rules in all languages in which they occur:
(1) The CV rule: 
\[ (C)V \rightarrow (C)V \] where \( C = [-syll] \) or [0syl1], 
\( V = [+syll] \) or [0syl1], 
\( O = \text{Onset}, R = \text{Rime} \), 
operates left-to-right.

(2) The Onset rule: 
\[ C \ \text{CV} \rightarrow C \ C \ \text{V} \] may be subject to 
language-specific adjacency restrictions on the CC clusters it creates and/or 
to the sonority sequencing restrictions.

The results presented below are derived from the assumptions (a) 
that universally the CV rule precedes and, sometimes, bleeds the 
Onset Rule and (b) that universally the CV rule operates from 
left-to-right.

For reasons of space, I will not provide an explicit comparison 
between the analysis of Romanian syllabification available in a 
template-based format and the analysis proposed here. The 
significance of the results presented below for a comparison 
between syllabic parsing models should, however, be obvious 
throughout.

1.2. Glide/vowel alternations in Latin

A pattern of glide/vowel alternations similar but not identical 
to the one found in Romanian is that of Latin. I begin with a 
brief discussion of the Latin system, for two reasons. First, the 
surface distribution of glides and high vowels is closer in Latin 
than produced by the initial layer of syllabification and more 
transparent than it is in Romanian. Second, the facts of Romanian 
are significant only to the extent that they represent a recurring 
pattern: the similar facts of Latin suggest that they do.

In what follows the term vowel is used for any [-consonantal] 
segment, regardless of syllabicity; glide is used for [-syllabic, 
-consonantal] segments; [-consonantal, +syllabic] elements are 
referred to as syllabic vowels or syllabics.

The distribution of Latin high vowels and glides is outlined 
below:

(3)

Glides:

\[ \# \_ \ U \]

\[ V \_ \ U \]

Vowels:

elsewhere

\[ [\text{muler} \ [\text{mu}.l.i.\text{er}]] \ '\text{woman}'; \text{dies} \ [\text{di}.e\text{i}]; \ '\text{day}'; \]

\[ [\text{tenuis} \ [\text{te}.n.u.i.\text{is}]] \ '\text{thin}'; \text{mutuus} \ [\text{mu}.\text{tu}.\text{u}u.s] \ '\text{mutual}'; \text{pius} \ [\text{pi}.u.s] \ '\text{pious}'; \text{piissimus} \]
where C=[-syll] or [0syll],
U=[+syll] or [0syll],
O=Onset, R=Rime;
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er'; venio [we.ni.o] 'I come';
lungo [yun.go] 'I join'.
y'; ovis [o.wis] 'sheep'; avus
father'; avia [a.wi.a]
[s [huy.yus] 'his'.

'woman'; dies [di.eis] 'day';
thin'; mutuus [mu.tu.us]
[pi.us] 'pious'; piissimus

[pi.is.si.mus] 'the most pious'.

(4)

Sequences of three high vowels:
avius [ai.wi.us] 'off the road'; buius [huy.yus]
'his'; iuvenis [yu.we.nis] 'young'.

Several aspects of this system are noteworthy. Latin disallows
two types of hiatus: V.V.U, where the medial U is [+high]; and
#U,U, where the first V is [+high]. Note that all other types of
hiatus are attested; forms like teuer [te.au.or] 'I consider'
indicate that V,U,U hiatus is tolerated when the medial vowel is
not high; and all forms in (3.b) indicate that post-consonantal high
vowels cannot be glides, even when they precede a vowel". The
second point of interest is that when sequences of several high
vowels occur in the string (as in via wi.a, avius ai.wi.us) it is
the leftmost eligible high vowel that becomes a glide, in
accordance with the distributional rules in (3). It is this
Leftmost wins principle that explains why via is not syllabified
*[u.ya] and why avia does not surface as *[au.ya] or *[a.au.ya].

The challenge to any theory of syllabic parsing is to have both
the peculiar restrictions on hiatus and the Leftmost wins principle
follow from general properties of the syllabification mechanism.
There is also a further mystery lurking in the vowel/glide
distribution outlined: to become aware of its existence we need to
look into the Latin onsets system.

1.3. Onset inventories

Metrical scansion and stress patterns converge in showing that
clusters of obstruent followed by liquid (TL) can form complex
onsets in Latin; and that no other consonant sequences can (cf.
Devine and Stephens 1977). This type of onset inventory, a common
one, can be easily accounted for along the lines suggested by
Harris (1983) for Spanish:

(5) Latin Onset Adjacency Condition

On a sonority scale of the form Obstruents > Nasals
> Liquids any cluster whose members are separated by
more than one interval is a possible onset".

The appeal of this account of the Latin onset system stems from
the fact that its format is universal. In describing the Latin
facts we need to set only two parameters: what features enter in
the composition of its sonority scale; and what is the minimal
number of sonority intervals that must separate the members of a
tautosyllabic cluster.

The analysis of onset types outlined above faces however a
serious problem. Latin has glides in onset position. Any sonority
scale, no matter how constructed, will rank at least \( y \), if not also
as highly as or higher than the liquids. It seems then that
all glides should be allowed as second members in any complex onset
whose first member is an obstruent; the TL onsets imply at least
the Ty onsets. Nonetheless Ty onsets as well as most C-glide
sequences cannot be found in Latin. The success of our project to
specify onset inventories by rule, rather than to simply list their
members, depends on our answer to this mystery: why is more
syllabified [di:es] rather than [dy:es]; why is plus syllabified
[pi:us] rather than [pyus]. We may point out that sequences of
C-glides are generally absent from Latin, regardless of whether the
sonority index of C would allow it to form a complex onset with a
following glide: this suggests that the absence of C-glide onsets
is part of a more general phenomenon and does not directly
disconfirm rule (5). But, even if indirectly related to the issue
of onset inventories, the absence of postconsonantal glides in
Latin must be explained before (5) is adopted.

1.4. The rules of syllabification

Our analysis of Latin glide/vowel alternations must answer then
three questions: (a) why are only certain types of hiatus
permitted; (b) what is the nature of the Leftmost wins principle;
(c) why are Ty, Tw onsets absent from Latin.

The answer to these questions is provided by the rules of
syllabification introduced in section 1.1. I assume that a single
class of segments underlies the surface pairs /i/ and u/w; this
class is specified as [-consonantal, +high, +syllabic]. It is the
absence of underlying specifications for [+syllabic] that allows
high vowels to occupy either nucleus or onset positions,
[-consonantal] segments are excluded from the nucleus because they
are underlyingly [-syllabic]; non-high vowels, on the other hand,
may occur only in the nucleus because they are underlyingly
[+syllabic]. I adopt below Levin’s (1983) X-notation for the
skeloton units whose associated segments are unspecified for the
feature [+syllabic]. I reserve however the C and V notation for
skeloton slots associated to segments specified as [+syllabic] and
[-syllabic] respectively. We can consider now the derivation of a
few interesting cases: auiu and uia will illustrate how the
left-to-right operation of the CV-rule produces the Leftmost wins
effect; auiu will also illustrate how intervocalic high vowels
become glides; the derivations of tuu and uuu show how the
bleeding order between the CV-rule and the Onset-rule prevents the
occurrence of C-glide onsets.

\[
\begin{align*}
&\text{(6)a.} & &\text{uia} & &\text{uia} & &\text{uia} \\
&\text{XO} & &\text{XO} (1) & &\text{XO} (1) & &\text{XO} (1), \text{2nd iteration}
\end{align*}
\]
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reis? why is plus syllabified? point out that sequences of 
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A further step is needed in the derivations of tueor and plus: the final consonant is incorporated into the rime of the last syllable by a Coda Rule which, for present purposes, we can assume as simply a mirror image process to the Onset Rule.

The Onset Rule (2) has been inapplicable in all four derivations above: since (1) will turn any CX sequence into an OR syllable, no C preceding an X remains unaffiliated in the output of (1). Since (2) follows (1) and, like (1), applies to unaffiliated segments only, no CX sequence will undergo (2). More generally, no CX sequence will fail to undergo (1), which accounts for the absence of postconsonantal glides, regardless of syllabic division.

Our analysis of the Latin paradigm does not rule out, as it should not, postconsonantal glides in other languages. Languages other than Latin may have a different distribution of the [Osyllabic] specification: in particular, they may have [-consonantal, -syllabic] segments, which Latin lacks. Such segments will be treated by (1) like all other C's and may give rise to CC onsets. An alternative source of postconsonantal glides may be contraction rules of a variety which does not occur in Latin: CIV, CVV sequences may contract, as they do in Sanskrit (Kiparsky 1971) and French (Dell 1973), giving rise to CVV, CUV. One such case will be investigated below. We predict, however, that in languages where contraction rules of this sort operate they will be responsible for the postconsonantal glides but not for the intervocalic and initial prevocalic glides, which derive from the prior operation of (1). It will then be necessary to look for
properties that differentiate, in such languages, "early derived" glides (#YU, UY) from "late derived" glides (YU). One hint that we are on the right track in making this distinction is provided by the following observation: in Luganda, the syllabicity of high vowels is predictable from context. Prevocally, high vowels surface as glides, elsewhere as syllabics. Postconsonantal glides, however, are systematically followed by long vowels in contrast, intervocalic and morpheme-initial pre-vocalic glides may be followed by long or short vowels, depending on the lexical item. Significantly, morpheme-initial pre-vocalic glides may be followed by short vowels even when the preceding morpheme ends in a consonant (cf. [musomyle] below):

(7) a. /N-kuale/ ‘partridge’ [gkualle] (K239)
   /mu-luan-/ ‘fighter’ [mulwa:n:] (K122)
   /ku-li-a/ ‘to eat’ [kulya:] (K234)
   /mi-oio/ ‘souls’ [mio:yo:] (K223)

b. /a-ial-a/ ‘he spreads out’ [avala] (K128)
   /a-iogel-a/ ‘he talks’ [avogel] (K128)
   /e-ik-a/ ‘it burns’ [eyka] (K128)
   /ki-elia/ ‘drought’ [ce:ya] (K225)
   /mi-oio/ ‘souls’ [mio:yo:] (K223)
   /lu-ielo/ ‘broom’ [lu:yo:] (K212)
   /mu-som-je/ ‘you have read’ [musomyle] (K25)

(Data from Katamba 1974; parenthesized numbers give the page reference.)

This distribution has suggested to other investigators (Katamba 1974, Clements 1978) that postconsonantal glides derive from a rule of contraction, whose consequence is compensatory lengthening (for details see Clements 1978). But the analysis is not complete unless provisions are made for the glides that do not induce compensatory lengthening (cf. (7.b)). These are not underlying glides, since their occurrence is predictable. The short vowels that follow them are not shortened vowels, since long vowels can also occur (cf. [ -yul] ‘house’ K198). The morpheme-initial and intervocalic glides are the glides derived by the cyclic operation of the CV rule; they do not induce compensatory lengthening because the CV Rule which derives them, unlike Contraction, does not change already assigned syllabic structure and does not create empty slots. Within each morpheme, then, initial and intervocalic glides pattern differently from post-consonantal glides: this is exactly what the cyclic operation of the CV Rule predicts.

In the pages that follow, we will encounter a similar case: we will see that the Romanian postconsonantal instances of Y are derived at a later stage in the derivation than the initial and intervocalic Y's.

2.1. Romanian

Like Latin according to (b) may be followed by a short vowel. Some expected environments are displayed in (8):

(8) lenn;
    kalzy;
    bilin

The surface more complex of sources of c alternations in postconsonantal (b) unlike Latin exhibit expected environment distribution the intervocalic and Romanian exhibit (9).

(9) a. /u:ni/

b. /ra:bo/ /men_ya /
   /pi:er /
   /zi:le/.

Postconsonantal

(10) s’/e ‘let
    s:bi:le ‘the paper

There are no predictable except m/e ‘honey’, p/e ‘perishes’ contrast with the ‘adoption’, a-tro/th. Significantly, this a label of labic
2.1. Romanian syllable structure: a first approximation

Like Latin and Spanish, Romanian defines its onset inventory according to rule (3): possible onsets are restricted to obstruent-liquid clusters. Word-initially, a larger class of clusters occurs, which includes but is not limited to s-stop sequences. Surface rimes consist of single vowels or diphthongs followed optionally by up to two consonants. Word-internal coda clusters are generally restricted to sonorant-obstruent sequences: șert.ta 'sacrifice', vers.ta 'age', skulp.ta 'to sculpt', pugk.tu.șal 'punctual'. Word-final clusters consist of codas, which may be followed by any one consonant, which may in turn be followed by a y. Some suitably complex examples of word-final clusters are listed in (8):

\begin{align*}
\text{lemn} & \ 'wood', \ \text{ritm} \ 'rhythm', \ \text{zvecl} \ 'hurl-1sg', \\
\text{kaly} & \ 'warm-pl', \ \text{ak.terny} \ 'spread-2sg', \ \text{bi.lingy} \\
& \ 'bilingual-pl', \ \text{zertfy} \ 'sacrifices', \ \text{zuvly} \ 'hurl-1sg'.
\end{align*}

The surface distribution of glides and vowels is considerably more complex than in Latin. This paper will deal with only two sources of difference between the patterns of glide/vowel alternations in the two languages: (a) unlike Latin, Romanian has postconsonantal glides in both prevocalic and word-final position; (b) unlike Latin u, Romanian y fails to alternate with y in the expected environments. One aspect of the surface glide/vowel distribution that the two languages share is the absence of initial prevocalic and intervocalic i: in both contexts, like Latin, Romanian exhibits y:

\begin{align*}
\text{a. vyunxye} & \ 'June'; \ \text{vyute} \ 'rapid'; \ \text{vexse} \ 'exists'. \\
\text{b. razboiu-i} & \ 'the war'; \ \text{razboi-re} \ 'doing war'; \ /\text{muntui-am}/; \ /\text{i redeemed}/ \\
& \ /\text{muntu.șam} (cf. /muntui-re/) /muntu.șre (re redeeming)/; \ /oi-ereu/ \ 'shepherd' \ /ovye (cf. /oi-le/ \ 'the sheep-pl' /gile/).
\end{align*}

Postconsonantal prevocalic y surfaces syllabic in most cases:

\begin{align*}
\text{file} & \ 'let be' \ (cf. \text{fi} \ 'to be'); \ \text{săbi.a} \ 'the sword'; \ \text{săbi.i.le} \ 'the sword'; \ \text{hér.ti.șe} \ 'the paper'; \ \text{hér.ti.șe} \ 'the papers'; \ \text{să+i.șa} \ 'to tear'.
\end{align*}

There are, however, seemingly idiosyncratic as well as predictable exceptions to this rule. First, lexical items like măr.re 'honey', făr.be 'boils', a-măr.re 'noons', făr.re 'gall', păr.re 'perishes', buvet 'poor' show postconsonantal glides in contrast with the regular behavior of file 'let be', in-făr.re 'adoption', a-trc-făr.re 'atrophy', a-prp.plăre 'nearness', etc. Significantly, this class of postconsonantal y's occurs only after a labial or labiodental consonant and only before e; we can
therefore account for the *fyēre* : in.īēre, pryēre : apro.pi.ēre contrasts by positing a rule of post-labial pre-
γ-insertion, which turns underlying /fere/, /pere/ into *fyēre*, *pryēre*.
Second, there are numerous postconsonantal instances of *y* before
*u*, as in (11):

(11) a. /studī-i-le/ ‘the studies’ /studīj.ī.le/; /propri-i-le/ ‘the proper’ /pro.pi.j.ī.lē/ (cf. /propri-i-le/ ‘the proper-pl’); /imperī-i-le/ ‘the kingdoms’ /imperī.j.ī.lē/; /kamēry-i-le/ ‘the kingdoms’ (cf. /kamēry-i-le/; /kamēry.j.ī.lē/ ‘the kingdoms’).


The alternations recorded above suggest a contraction rule whereby a disyllabic sequence *Ci.u* becomes monosyllabic *Cu*. A preliminary statement of this rule appears below:

(12) Contraction

```
  σ   σ
OR R O R
                        Condition: i is unstressed
C.X X
  I    I    I
  I    I    I
```

In fact, the only analysis of the *Cu* syllables compatible with the model of syllabification presented in section 1.4. requires that a disyllabic pre-contraction stage *Ci.u* exist, and thus indirectly supports (12); any underlying sequence /Ci.u/... will be turned into /Cu/ by the first syllabification operation, rule (1). We need however to consider the alternative possibility that the *Cu* syllables are created in the initial stages of the syllabification process and that no intermediate disyllabic stage exists. As a potential difficulty for our views on syllabification, this alternative analysis merits discussion. At the same time, we need to explain how our proposed Contraction rule is compatible with the fact that minimal pairs *Ciu* : *Ci.u* exist in Romanian. Nouns like *studiu*, *impersyu*, *potasyu* ‘potassium’ stand in minimal contrast to nouns like *skiatui* ‘bird’, *sikriu* ‘coffee’, *pardesiu* ‘overcoat’; a verb like *sfêsyu* ‘tear’ contrasts with *skim* ‘know’. The two issues, disyllabic origin of the postconsonantal *yu* sequences and problematic *iw* diphthongs, turn out to be related. As we see below, an analysis of the full paradigm tends to support to the s

2.2. Romanian

Stress is 1: Final stress is the idiosyncratic and antepenultimate property. The text below:

(13a) V-final f

(i) antep 16sp. p

(ii) penul ‘brin

(iii) oblig se.n1

(iv) oblig al.64

(v) kuki

b. C-final f

(i) penul

(ii) final re.zu

(iii) oblig

This paradigm by Harris (1983) individual lexi extrametricality
final segment or in actually c
be given informa

14.4a. Stress a h

b. If the fin

The stress of (13b.lii-iii) at therefore stress and clause (b) of remaining two c
the stress rule
final syllable;
support to the syllabification model presented here. We must first
however look briefly into the stress pattern of the language.

2.2. Romanian stress

Stress is limited to the last three syllables of the word.
Final stress is uncommon in polysyllables and generally restricted
to idiosyncratically stressed suffixes. The choice between penult
and antepenult stress is in part rule-governed, in part a lexical
property. The main generalizations are formulated and illustrated
below:

(13)a. V-final forms

(i) antepenult stress: fősőta ‘agitation’,
    léspe.de ‘stone’, ré.pe.de ‘fast’,
    kásút ‘seeks’, küm.par ‘buys’.
(ii) penult stress: ké.tá.te ‘fortress’, a.dú.ké
    ‘brings’, ré.pé.de ‘rebukes’,
    se.ní.na ‘serene’, u.ti.de ‘kills’.
(iii) obligatory penult stress if penult is closed:
    ai.bás.tru ‘blue’, a.prín.de ‘lights up’,
    as.kún.de ‘hides’, po.rún.ka ‘order’.

b. C-final forms

(i) penult stress: bì.vol. ‘buffalo’,
    ku.trémur ‘quake’, lín.ced ‘soft’,
    de.și.qur ‘certainly’.
(ii) final stress: va.tá.t ‘supervisor’,
    re.zul.tá.t ‘result’, u.suk ‘dry-lsg’,
    a.dú.mn ‘gather-lsg’.
(iii) obligatory final stress if final in -CC(C#):
    as før’t ‘asphalt’, as.kult ‘listen-lsg’,
    deș.tept ‘awake’, a.dá.post ‘shelter’.

This paradigm shows considerable similarity to the one described
by Harris (1982) for Spanish. Our analysis can be modeled on his.
Individual lexical items may have the property of segment
extrametricality, which means that the stress rule will ignore the
final segment of such items either in determining syllable weight
or in actually counting syllables. The stress rule itself can then
be given informally as in (14):

14.a. Stress a heavy final syllable.

b. If the final is light, stress the penult.

The stress rule alone accounts for cases (13.a.ii-iii) and
(13.b.ii-iii) above; in a.dú.mn and deș.tept, the final is heavy,
therefore stressed; in re.zul.tá.t and a.prín.de, the final is light
and clause (b) of (13) takes effect. Extrametricality explains the
remaining two classes (13.a.i) and (13.b.i). In ré.pe.de, the
final segment e is extrametrical; since onsets are irrelevant for
the stress rule, the extrametricality of e eliminates the entire
final syllable de from consideration. Stress is then computed on
the remaining string *re.de.(de) and, in the absence of a heavy final, the penult syllable receives stress. In *de.sir, our segment extrametricality turns the heavy final our into a light syllable our(r) and thus justifies the penultimate stress. For classes (13.a.iii) and (13.b.iii) the assumption of extrametricality has no effect on stress placement: this is why these are the only types of strings that do not exhibit lexical variation in the location of stress. Thus as.ken.de could be analyzed either as as.kun.(de), in which case it illustrates clause (a) of the stress rule, or else as as.kun.de, in which case it illustrates clause (b). A form like des.tept will be stressed by clause (a), whether one assumes extrametricality (des.tept(t)) or not.

2.3. Desyllabification Rules

We have seen in the preceding section that the option of segmental extrametricality accounts for the variation between penult and antepenult stress in words whose last two syllables are light (*repede) *fast* vs. repede *rebukes*. Consider now the contrasts that we set out to explain: skatiu vs. study, pardeiu vs. potasivu. Inspection of a larger selection of skatiu-type nouns reveals that they are invariably stressed on their final syllable:

(15)  muţ.te.riu 'customer', tir.ziu 'late', ţe,nu.Şiu 'grey', ban.ţiu 'inn-keeper', mif.lo.ciu 'middle'.

Our analysis will be that the syllabification contrast between skatiu and study is due to an underlying difference in stress pattern. Rule (1) predicts that both types have an initial syllabification that includes hiatus: skatiu, study. On such representations, the option of segmental extrametricality turns study into study(u). Rule (14) applies to both types, assigning a de facto antepenult stress to study(u) and penult stress to skatiu by clause (b). Two desyllabification rules, discussed below, apply now, both subject to the condition that stressed syllables cannot be affected. The first rule, (12) or Contraction, turns Ciu sequences into Ciu syllables. This rule affects study(u); but the stress on ti in skatiu blocks it. The second rule, High Vowel Desyllabification, turns an unstressed word-final high vowel into a glide, subject to the condition that the preceding onset, if any, may not be branching; this rule can apply to skatiu to derive skati with stress but is blocked, by the branching onset condition, from applying to study. We can proceed to motivate this analysis.

Several observations indicate that the factor differentiating skatiu from study is stress, not syllable structure. A look at the Inverse Dictionary of the Romanian Academy shows that the 233 forms ending in (orthographic) -ciu cited there divide into two classes where stress and syllabification correlate: penult stressed -uc.ciu forms and final-stressed -ciu forms. Intermediate types in -ucu or -uc.ciu do not occur and register as ill-formed with native speakers. A further significant fact in this connection is that
monosyllables ending in an -iy sequence are systematically of the "aiw" type; the "au" class of monosyllables is uniformly unattested and judged as ill-formed.

\[(16)\]  
\[\text{lit} 'know-1sg'; \text{pliu} 'fold'; \text{viiw} 'alive'; \text{fiu} 'son';\]  
\[\text{fiu} 'be-1sg-subj'; \text{fiu} 'hold-1sg'; \text{fiu} a hydronym.\]

Finally, the stress of the "juyu"-class is consistently on the penult; a stress pattern like *potsayu* is, again, unattested and ungrammatical. All three facts recorded follow from our proposed analysis. Antepenult stressed forms like *potsayu* do not exist because, at the stage in the derivation when Stress applies, the form is *po.tasiu* and cannot be stressed further to the left than the antepenult. *Potsayu* is then impossible for the same reason that *razboi* is: (14) was misapplied. Monosyllables ending in -iy belong exclusively to the "skatiw" class because they are disyllables when Stress applies: *viiw* for example, originates as /vi-u/, is initially syllabified by (1) as vi-u, stressed on the penult, according to (14.b), and subjected to High Vowel Desyllabification, which produces the surface viu. Extrametricality in cases like this has no visible effect, since both vi-i(u) and vju will receive initial stress. Ill-formed *vju* is also ruled out. The two alternative derivations of *vju* are each blocked by one of the assumptions of our analysis: on the one hand, *vju* could result from intermediate *vii-u*, whose stress pattern is deviant; on the other hand, *vju* could be derived from vi-i-u but only in violation of the condition on rule (12) that requires an unstressed -i. Further evidence for that condition comes from forms like *kiiu-ye* 'whoop-3sg', *pipu-e* 'chorp-3sg', *biu-ye* 'buzz-3sg' from /kiiu-ee/, /piu-e/, /biu-ee/, syllabified (see below) *kiiu-ye, pipu-e, biu-ye* and stressed on the antepenult. In these cases as well the stress on the initial -i blocks rule (12). Finally, the consistent end-stress of the "skatiw"-class is explained as follows: forms like *ska.tiw* could only come from intermediate *skati.u*. Such a form should however undergo the obligatory rule of Contraction (12) and become *ska.tivu*. *Ska.tiw* is then ill-formed because an obligatory rule has failed to apply in its derivation.

High Vowel Desyllabification (HVD) is illustrated below:

\[(17)\]  
\begin{align*}
\text{Word-final} & & \text{Word-medial} \\
a. & \text{skatiu} & \text{skatiu} \\
& 'bird' & 'the bjrd' \\
& \text{skatiy} & \text{skatiu} \_lor \\
& 'bird-pl' & 'the bjrd-pl-DAT' \\
& \text{fla.ka} & \text{fla.ka} \\
& 'young man' & 'the young man' \\
& \text{fla.ka} & \text{fla.ka} \_lor \\
& 'young man-pl' & 'young man-pl-DAT'
\end{align*}
| b.   | bí.vo.lul | 'the buffalo'       |
|      | va.tá.ful | 'the supervisor'    |
|      | lém.nul   | 'the wood'          |
|      | kú.yul    | 'the nail'          |
|      | mìn.tuy   | 'redeem-1sg'        |

| c.   | va.tá.fy  | 'supervisor-pl'     |
|      | vé.zil    | 'see-IMP-him'       |
|      | íst.mí.lor| 'isthmus-pl-DAT'    |
|      | zuwéry    | 'hurl-2sg'          |

| d.   | a.flu     | 'find out-1sg'      |
|      | a.kru     | 'the sour'          |
|      | zím.bru   | 'the buffalo'       |
|      | kús.kru   | 'the in-law'        |

| e.   | a.fli     | 'find out-2sg'      |
|      | a.krí     | 'spur-pl'           |
|      | zím.bri   | 'buffalo-pl'        |

| f.   | fa.kú     | 'do-PERF-3sg'       |
|      | vor.bi    | 'speak-INF'         |
|      | ku        | 'with'              |
|      | tu        | 'you'               |
|      | ší        | 'and'               |

The left-hand column contains forms that end underlyingly in a high vowel. The morphemes giving rise to alternations are: (a) the
masculine singular u (as in zimbru, vataf from /vatafu/, flakaw from /flakau/); (b) the plural suffix i (as in zimbri, flakay from /flakai/; vatafa from /vatafi/); (c) the 1st person singular suffix u (as in aifu, zuvi from /zuvi-u/); (d) the 2nd singular suffix i (as in affi, zuvi from /zuvi-i/, vezii from /ved-i/). The right-hand column shows how these forms surface when one more morpheme, a clitic, is added after the high vowel. (17.a) illustrates the case of underlyingly postvocalic high vowels. Word-finally these surface as glides, otherwise as syllabics, with hiatus preserved even in a sequence of identical vowels (skatbu, iijor). (17.b) illustrates the behavior of postconsonantal u: word-finally, it is desyllabified and deleted, word-medially it is preserved. (17.c) shows that final i is desyllabified but, unlike u, does not delete postconsonantly. HVD fails to affect syllables with branching onsets: the forms in (17.d-e) show this. HVD also fails to desyllabify stressed vowels (17.f), whether their final stress is a lexical idiosyncrasy, as in the case of the perfect suffix u and of the infinitive i, or the predictable final stress of monosyllables (ku, tu, vi).

The facts in (17) indicate that a rule of considerable generality is responsible for the final glides in forms like skatbu. Our account of the skatbu: stduy contrast was, in part, based on the hypothesis that HVD fails to apply to stduy because the complex onset dy of the final syllable blocks it. This is exactly what a comparison between forms like stiu and zuvi reveals: both of these contain the 1st singular suffix u in unstressed word final position. The difference is that u is preceded by an onset sequence i1 in one case, and by a heterosyllabic cluster pi in the other: /zuvi-u/ is syllabified as zuvi-li (cf. surface zuvi-li 'hurl-INF') and qualifies for HVD; /anni-u/ becomes affi and, like stduy, stays intact. HVD is formulated below as a rime-adjunction rule that operates in structure-changing fashion. The branching-onset condition is incorporated into the statement of the rule, which applies to syllables whose onset contains at most one segment. Since no adjacency or relative sonority conditions are imposed, the rule freely derives coda clusters like stiu (stiu), stiu (stiu), etc. The right bracket on the CV tier indicates word-final position. X's are used as variables over skeleton slots.

(18) High Vowel Desyllabification
We may at this point consider the full derivations of some of the central forms discussed so far. The rules are ordered as follows:

(19) a. Cyclic: CV Rule (1) > Onset Rule (2) > Stress (14) > Contraction (12) > High Vowel Desyllabification (18)

b. Postcyclic: high vowel clusters, are left out.

(20) [skata-u] [studi-u] [kui-u] [skata-u]\(\rightarrow\) [studi-u]

(1) ska.ti.u stui.d.u ku.yu ska.ti.u stui.d.u
(2) n/a n/a n/a n/a
(14) ska.ti.u stui.d.u ku.yu ska.ti.u stui.d.u
(12) n/a n/a n/a n/a

Postcyclic
(18) ska.\(\tilde{t}i\)w n/a kuyw n/a n/a
Surface
skata.ti.u stui.dyu kuy ska.ti.u stui.dyu

The mismatch between kuyw and the actual surface form, kuy, seems to indicate that one more rule is needed: the elimination of postconsonantal y's resulting from HVD. We will return to this question.

2.4. Early and late y's

The preceding section has presented the basis for our analysis of CV syllables. We have observed that several arguments based on the contrast between CVy and CVy establish the fact that both types of finals are derived by stress-dependent rules. This completes our demonstration that the postconsonantal, prevoCalic glides of the language are not the result of the initial syllabification: they are either the result of a glide insertion rule (in cases like eyere, etere) or the result of Contraction.

The model of syllabification adopted here predicts, however, not only a late derivational origin for postconsonantal glides but also an early one for initial prevoCalic and intervocalic glides: since the latter category is derived by the first rule of syllabification, rule (1), one expects that subsequent processes, like stress assignment, will have no access to representations in which these segments are anything other than onset glides. We investigate this prediction here.

Consider the forms in (21)

(21) verbs
/men.ti.w/ 'men tween'
/men.tu/ 'men two'
/reem-1sg/ 'redeem'
/nouns
/plai-u/ 'play'
/plai/ 'plane'

Both sequenc
/plai-uy/ stress extrema
/plai-uy/ stress extrema
/men.ti.u/ definit should
/men.tu/ final
/sequence
(12) holds
the these Supp
/yu/ der
the i
-men.ti.u/ option
/interm

(22)

(23)

The
hol.t
who
that
ment.
ild
the
Dict
orth
exis
The
that
also
stres
Both classes of forms in (21) contain an underlying final sequence Vju. The predicted initial syllabification is mën.tu.yu, pi.u.yu, plà.yu, mai.a.yu, etc. The verbs are recessively stressed, with the final (underlying) syllable counted as extrametrical: hence intermediate forms should be mën.tu.yu, pi.u.yu, etc. The nouns of this form happen not to make use of extrametricality. Stress should then produce intermediate malai.yu, ku.kyu, hol.te.yu, forms which surface intact when the definite article is added: malai.yu, hol.te.yu, ku.kyu. HVD should then derive verbs like mën.tu.yu, nouns like mai.a.yu, whose final y is eventually deleted. Thus even though intermediate yu sequences must be assumed in forms like mën.tu.yu and hol.te.yu, rule (12) has not been involved in these derivations. The same remark holds for the surface yu sequences of hol.te.yu, mai.a.yu, ku.kyu: these are not the result of Contraction.

Suppose now that, contrary to our hypothesis, all sequences in yu derive from Contraction. Given that Contraction follows Stress, the input representations to Stress should be uncontracted mën.tu.yu, ki.u.yu, hol.te.i.u, mai.a.i.u, etc. Stress has two options now: it may count the final y as extrametrical and derive intermediate:

(22) mën.tu.i.yu, ki.u.i.yu, hol.te.i.u, mai.a.i.u,

or it may derive, without extrametricality, forms like:

(23) mën.tu.i.yu, ki.u.i.yu, hol.te.i.yu, mai.a.i.yu.

The, surface counterparts of (22) should be *mën.tu.y, *ki.u.y, hol.te.y, mai.a.y. Those of (23) should be *mën.tu.i.y, *ki.u.i.y, *hol.te.i.y, *mai.a.i.y. One obvious problem for such an analysis is that it cannot sanction the stress pattern of the verbal forms: mën.tu.y can be derived from mën.tu.i.y only by assuming an illegitimate application of (14). A less obvious but equally daunting difficulty is the prediction that forms like khol.te.i.y, mai.a.i.y, *ku.kyu.i.y will occur. Another look at the Inverse Dictionary reveals that all forms recorded there as ending in orthographic Vju are archaic pronunciations corresponding in the contemporary language to Vyu, as in mai.a.y; no forms like mai.a.y exist now or can be attributed to earlier stages of the language. The [-ly] finals occur only after consonants. A third problem is that, alongside forms like yú.te 'fast', yú.da 'Judas' one should also expect ki.u.e, ku.u.da from antepenult-stressed forms whose stressed i blocks Contraction.
The conclusion is then that postvocalic and initial ju sequences are derived before rather than after the application of the stress rule (14). The natural hypothesis is that they are derived by the same rule which accounts more generally for the absence of initial prevocalic or intervocalic i: rule (1). In contrast, the earliest syllabified stage recoverable for Cju sequences is hiatus Cju.

Using stress and the more general observation that stressed syllables are never disyllabified in Romanian, we can make similar observations for other sequences involving i. Thus postvocalic i loses its syllabicity in forms like něv.bar ‘devil’, pův.ka ‘young hen’, křě.ne ‘dog’ but not in ař.do.mī ‘entirely similar’, gai.na ‘hen’, ru.řna ‘ruin’, where it carries stress. We can analyze forms like pův.ka as instances of (intermediate) antepenult stress and thus reduce the apparent syllabification contrast between pův.ka and ru.řna to the familiar difference between segmental extrametricality and lack thereof: pu.i.(ka) vs. ru.řna. This analysis would permit us to recover another type of hiatus predicted by (1): the hiatus underlying surface UvC sequences. In contrast, no initial prevocalic or intervocalic i’s ever surface as syllabics: there are no forms like so.řer, šla.řef next to ovr ‘shepherd’ from /oi-er-um/, la.řæ ‘long-haired’ from /lai-er-um/; there are also no forms like šri.řa next to šri.řa ‘look’. Such gaps can only be interpreted as effects of rule (1).

2.5. Latin and Romanian u

It was mentioned in section 1.2 that in Latin intervocalic and initial prevocalic u, like ĕ, surfaces as a glide. In sequences of the form UuU or UuV, where, in principle, either high vowel could become a glide it is the leftmost one that does: hence a.řvi.e, wi.řa.

None of these rules holds for Romanian: initial prevocalic u is not found, intervocalic u occurs only when the second vowel is ĕ and is provably apenthetically, as for intervocalic or initial sequences of vi, those are syllabified as shown below:

(24) a. ki.ú.wi ‘whoop-INF’; pi.ú.ři ‘chirp-INF’;
b. ki.ú.ře ‘whoops’, pi.ú.ře ‘chirps’ from /kiui-ë/, /piui-ë/.

The Latin syllabification of such forms would have to be ki.wi, pi.wi, ki.wi.e, pi.wi.e. The Latin syllabification of forms like řu.řa ‘forget-3sg’ would have to be wi.řa.

All these facts can be uniformly accounted for on the assumption that Romanian u is an underlying [+syllabic] segment, like the non-high vowels. The left-to-right iteration of (1) in ki.ú.ře would proceed as follows:

(25) ki.ú.ře

\[\begin{array}{c}
\text{kiuie} \\
\text{kiuie} \\
\text{kiuie} \\
\text{kiuie} \\
\text{kiuie}
\end{array}\]

\[\begin{array}{c}
\text{CXXV} \\
\text{CXXV} \\
\text{CXXV} \\
\text{CXXV} \\
\text{CXXV}
\end{array}\]

\[\begin{array}{c}
\text{OR} \\
\text{OR} \\
\text{OR} \\
\text{OR} \\
\text{O}
\end{array}\]

\[\begin{array}{c}
\text{V} \\
\text{V} \\
\text{V} \\
\text{V} \\
\text{V}
\end{array}\]
The idea that Romanian y is underlyingly syllabic rather than unspecified can also account for the hitherto unexplained fact that HVD may create postconsonantal \( \chi \)'s but not \( \mu \)'s. We have operated so far on the tacit understanding that segments unspecified for syllabicity are realized as syllabic in rime-initial position, as non-syllabic elsewhere. The postconsonantal \( \chi \)'s created by HVD are thus in the elsewhere category. An explicit assumption has been that of the two segments paired off by the CV rule (1) the first may not be [+syllabic], the second may not be [-syllabic]. This provision is however insufficient in its present form. We note that syllabic mergers of the type effected by HVD and Contraction never result in placing [+syllabic] segments in onset or coda position. Thus, while contractions of CV.L sequences to CV.L do occur in languages where other alternations establish the [-syllabic] specification of \( \mu \), such contractions are not found in languages which, like Attic Greek, have exclusively [+syllabic] \( \mu \)'s. For the same reason, the syllabic mergers of hiatus sequences like ae, ao, ee, oo, when attested, never position the first vowel in the onset of the resulting syllable. The same principle seems to be at work in all these cases, whether syllabification or resyllabification processes are involved:

(26) [+syllabic] segments cannot occur except in rime-initial position or immediately preceded by a rime-initial segment.

Principle (26) can now supersede the segmental conditions on rule (1). It can also explain the disappearance of postconsonantal \( \mu \), in forms like kuy derived by HVD from kuy, min.tuy from min.tu.yu, bi.vol from bi.vo.lu: HVD cannot incorporate the final \( \mu \), a syllabic segment into the coda of the preceding syllable.

Notes

1. In general, the synchronic grammar of Classical Latin provides few examples of intervocalic \( \chi \), all of them geminated, as in [ay.yos]. I assume that a separate gemination rule is responsible for this phenomenon.

2. I am ignoring here, for the sake of brevity, a number of complications. See Devere and Stephens 1977 for the relevant facts.

3. An investigation of the properties of sonority scales necessary for such statements, along with more complex examples, is found in Steriade 1982.

4. I am grateful to Larry Hyman for pointing out to me the relevance of the Luganda facts.

5. The decision to consider definite articles like \( ^{-}^{1} \) 'the-sg' as clitics rather than cyclic affixes is based on two sets of facts: (a) the failure of these morphemes to affect stress, as seen when one compares stūdīy with stūdīy, 'the study', stū.dī.i.lē 'the studies' or stū.dī.i.lor 'to the studies'; (b) the fact that the actual location of the definite
articles is the result of a syntactic rule which positions an underlyingly NP-initial determiner after the first NP constituent, noun or adjective: compare bivoli bun 'the good buffalo' (lit. 'buffalo-the good') with the alternative buni bivol 'id.' (lit. 'good-the buffalo').

6. Note the related form o.i.ɾa 'little sheep' from /oi-ɾa/, showing regular stressed i.
7. For example, the definite form of feminine nouns like zi 'day' is zi.ɾa from /zi-ɾa/, where /-ɾa/ is the feminine form of the definite article.

References
LEVINE, J. 1983 "Reduplication and CV Skeletons," unpublished ms. MIT.

Introduction
Close of Fren in part the role of the vowels

Much with a has be assumed vowels necessary advocate French within the preposition e-adj language these conditions context.