A TWO-LEVEL MORPHOLOGICAL ANALYSIS OF RUMANIAN

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1. Rumanian Phonotactic Rules

One of the most characteristic features of Rumanian is the existence of a series of vocalic and consonantal alternations in the root morpheme's final syllable, conditioned by phonological characteristics in the suffix immediately following.¹ Most frequent are palatalization caused by a following front vowel, especially -i, and metaphony conditioned by a following -a or -e. For example:

"pas" / "pași" ("step" / "steps", root "pas-")

"unealtă" / "unei ele" ("tool" / "the tools", root "unealt-")

These alternations can also occur in combination:

"coada" / "cozilor" ("tail" / "of the tails", root "coad-")

"băiat" / "băieți" ("boy" / "boys", root "băiat-")

The following graphemic alternations are found in nouns, adjectives and verbs (and some additional ones for various verbs), and have been encoded for the KIMMO system:

Consonantal (before morpheme boundary):

- t/t, d/z, s/s, z/j, st/st, sc/st, l/0

Vocalic (final syllable of root):

- a/e, a/a, a/e, i/i, ea/e, oa/o, ia/ie

Morphophonemes (usually represented by capitals) are used in

¹The morphophonemic description follows Valeria Gatu Romalo's "Morfologie Structurala a Limbii Române", Bucureshti, 1968.
the lexical representation for some characters where the surface realization is not conditioned by phonotactic considerations alone. For example, graphemically 'z' alternates with 'j', but although these 'j's are before a morpheme boundary followed by 'i', 'z' also occurs before a morpheme boundary followed by 'i'. Thus two separate underlying forms are used, invariant 'z' and variable 'Z'. Other morphophonemes used in this description are 'L' (realizable as 'l' or zero), 'A' (realizable as 'a' or 'a'), 'α' (realizable as 'a' or 'e'), 'E' (realizable as 'e' or 'a'), and 'I' (realizable as 'i' or 'ı').

The set of phonotactic rules required to relate the lexical and surface forms of Rumanian nouns and adjectives may be described as follows, using the formalism devised for this paper (see L.Karttunen's Introduction), and an informal gloss, for each:

1.1. Palatalization Rules

(1) s-Palatalization

\[(s \cdot \mathcal{s}) \leftrightarrow \sim(= . t) \_ (= . +i)\]

i.e., Before a morpheme boundary followed by 'i', lexical 's' corresponds to surface 'ś', unless preceded by 't'.

\[(sc \cdot \mathfrak{s}t) \leftrightarrow -- (= . +i)\]

i.e., Before a morpheme boundary followed by 'i' or 'e', lexical 'sc' corresponds to surface 'śt'.

\[(st \cdot \mathfrak{s}t) \leftrightarrow -- (= . +i)\]

i.e., Before a morpheme boundary followed by 'i', lexical 'st' corresponds to surface 'śt'.

(2) t-Palatalization

\[(t \cdot \mathcal{t}) \leftrightarrow \sim(= . s) -- (= . +i)\]

i.e., Before a morpheme boundary followed by 'i', lexical 't' corresponds to surface 't', unless preceded by s.

(3) Z-Morphophoneme realization

\[(Z \cdot j) \leftrightarrow -- (= . +i)\]

i.e., Before a morpheme boundary followed by 'i', lexical 'Z' corresponds to surface 'j'.
\[(Z . z) \leftrightarrow \quad \sim (= . +i)\]

i.e., Unless before a morpheme boundary followed by 'i',
lexical 'Z' corresponds to surface 'z'.

(4) L-Morphophoneme realization

\[(L . 0) \leftrightarrow \quad \sim (= . +i)\]

i.e., Before a morpheme boundary followed by 'i',
lexical 'L' corresponds to surface zero.

\[(L . 1) \leftrightarrow \quad \sim (= . +i)\]

i.e., Unless before a morpheme boundary followed by 'i',
lexical 'L' corresponds to surface 'l'.

(5) d-Palatalization

\[(d . z) \leftrightarrow \quad \sim (= . j) \quad \sim (= . +i)\]

i.e., Before a morpheme boundary followed by 'i',
lexical 'd' corresponds to surface 'z',
unless preceded by 'j'.

1.2. Vowel Metaphony

(6) Diphthong Metaphony

\[(oa . o) \leftrightarrow \quad \sim (= . C) + = (= . a,e)\]

i.e., In a closed syllable before a morpheme boundary,
lexical 'oa' is monophthongized to surface 'o',
unless 'a' or 'e' follows the morpheme boundary.

\[(ea . e) \leftrightarrow \quad \sim (= . C) + = (= . a.o)\]

i.e., In a closed syllable before a morpheme boundary,
lexical 'ea' is monophthongized to surface 'e'
unless 'a' or zero follows the morpheme boundary.

(7) A-Metaphony

\[(A . a) \leftrightarrow \quad \sim (= . C) + (= . i,e)\]

\[(A . a) \leftrightarrow \quad \sim (= . C) + \sim (= . i,e)\]

i.e., In a closed syllable before a morpheme boundary
followed by 'i' or 'e', lexical 'A' corresponds
to surface 'a', otherwise it corresponds to
surface 'a'.

(8) &-Metaphony

(& . e) <--> ___ (= . C)* + (= . i,e)
(& . a) <--> ___ (= . C)* + ~(= . i,e)

i.e., In a closed syllable before a morpheme boundary followed by 'i' or 'e', lexical ' &' corresponds to surface 'e', otherwise it corresponds to surface 'ā'.

(9) E-Metaphony

(E . e) <--> ___ (+ . C)* + (= . i,e)
(E . a) <--> ___ (+ . C)* + ~(= . i,e)

i.e., In a closed syllable before a morpheme boundary followed by 'i' or 'e', lexical ' E' corresponds to surface 'e', otherwise it corresponds to surface 'a'.

(10) I-Metaphony

(I . i) <--> ___ (= . n) + (= . i,e)
(I . ') <--> ___ (= . n) + ~(= . i,e)

i.e., Before surface 'n' before a morpheme boundary followed by surface 'i' or 'e', lexical 'I' corresponds to surface 'i', otherwise it corresponds to surface 'i'.

(I . i) <--> ___ (= . nt,n&r,n&t) + (= . i,e)
(I . ') <--> ___ (= . nt,n&r,n&t) + (= . i,e)

i.e., Before surface 'n' followed by surface 't', 'r', or 't', and a morpheme boundary followed by surface 'i' or 'e', lexical 'I' corresponds to surface 'i', otherwise it corresponds to surface 'i'.

1.3. Elision and Glides

(11) u-Elision

(u . 0) <--> ___ (= . #V)

i.e., Before a morpheme boundary followed by a surface vowel, lexical 'u' corresponds to surface zero.
(12) a-deletion

(a . 0) \leftrightarrow __ (= . +a)

i.e., Before a morpheme boundary followed by surface 'a',
'\ddot{a}' corresponds to surface zero.

(\ddot{a} . 0) \leftrightarrow (= . a+ ) __

i.e., After a morpheme boundary preceded by surface 'a',
lexical '\ddot{a}' corresponds to surface zero.

(\ddot{a} . 0) \leftrightarrow (= . i+ ) __

i.e., After a morpheme boundary preceded by surface 'i',
lexical '\ddot{a}' corresponds to surface zero.

(13) u-glide

(+ . u) \leftrightarrow (= . a ) __ (= . a)

i.e., At a morpheme boundary between lexical 'a's
a surface 'u' is realized.

(+ . u) \leftrightarrow (= . i ) __ (= . a)

i.e., At a morpheme boundary between lexical 'i' and 'a',
a surface 'u' is realized.

(14) l-glide

(+ . l) \leftrightarrow (= . i ) __ (= . e)

i.e., At a morpheme boundary between lexical 'i' and 'e',
a surface 'l' is realized.

(+ . l) \leftrightarrow (= . ea ) __ (= . e)

i.e., At a morpheme boundary between lexical 'ea' and 'e'
a surface 'l' is realized.

2. Rumanian Morphotactic Rules

As the Romance language which has preserved more of the
morphological features of Latin than any other, Rumanian has a
particularly rich morphology. As far as nouns and adjectives are
concerned this is reflected not only in the preservation of
certain case markings per se, but also in their preservation in
the definite article which is suffixed to nouns and adjectives,
frequently providing case marking where the form without the
suffixed article lacks it (as in the case of masculine nouns and adjectives).

Kimmo Koskenniemi's lexicon system, with its (sub)lexicons related by alternation and continuation patterns, has proved very amenable to use in describing Rumanian morphosyntax. Both nouns and adjectives conform to the following general pattern:

\[
\text{ROOT} + (\text{DERIVATION}^*) + \text{NUMBER/CASE} + (\text{DEFINITE ARTICLE}).
\]

The derivational morpheme(s) and suffixed definite article are optional and in some instances the number/case morpheme is zero. Using Guțu Romalo's classification we have ten noun declensions, six feminine, two masculine and two neuter. However, the continuation class system permits considerable conciseness since the adjective declensions echo much of the noun morphology. If a dummy lexicon is inserted to hold the class label (e.g. N1, N2, N3 etc.) then for most adjectives the continuation class can point to the relevant portions of the noun lexicons, by-passing the noun class label. Thus, for the most numerous class of adjectives for example, (our /AJl, accounting for about 77% of the adjectives in the basic vocabulary), the continuation classes point to Fl and Ml type nouns endings.

Indeclinable nouns, grouped together as an eleventh declension by Guțu Romalo, are here divided into four categories, since although they do not inflect for number and case, they can take the suffixed definite article which differs according to the gender of the noun or adjective to which it is suffixed.

By using alternation classes which span categories, the description becomes extremely powerful. For example a form belonging to noun root continuation class /N4b can be followed by fourth declension masculine noun inflections (N4), a type two adjective forming derivational suffix (AJD2), a type one adverb forming derivational suffix (AVD1), or a type one noun forming derivational suffix (ND1).

It is debatable whether some rare types are better dealt with lexically by being classed as exceptions and having their separate forms listed, or whether additional phonotactic rules should be postulated to incorporate them into other regular paradigms. The elision and glide rules above largely serve the purpose of incorporating nouns and adjectives with a Cl form ending in -ea into the N1 noun paradigm. The amount of segmentation and sublexicons could also be increased for example in the case of the plural article suffixes, which could be separated into an article
base -l- and its inflections -e, -i or -or. Further expansion of
the system may well suggest or impose other adjustments or
alternatives. Nevertheless, the large portion of the Rumanian
vocabulary which the system is able to handle correctly after this
brief experiment is encouraging.
A. Rumanian Automata

ALPHABET
\[ a \hat{\alpha} b c d e f g h i ^ { ^ \hat{\alpha} } j k l m n o p q r s t u v w x y z \]
A E & I L Z ' +
NULL 0
ANY =
SUBSET C b c d f g h j k l L m n p q r s t v w x z Z
SUBSET % a \hat{\alpha} \hat{\alpha}
SUBSET V a \hat{\alpha} e i
SUBSET X .
END

"Surface Characters " 1 29
\[ a \hat{\alpha} b c d e f g h i ^ { ^ \hat{\alpha} } j k l m n o p q r s t u v w x y z = \]
\[ a \hat{\alpha} b c d e f g h i ^ { ^ \hat{\alpha} } j k l m n o p q r s t u v w x y z = \]
1: 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

"s/sc/st-Palatalization" 11 11
s c c t t + + + i e =
s c h t h t 0 i e =
1: 2 1 0 1 1 0 0 0 1 1 1 1
2: 0 3 5 8 9 7 0 8 1 1 1
3: 1 0 0 1 0 0 0 4 1 1 1
4: 1 0 0 1 0 0 0 4 0 0 1
5: 0 0 1 0 1 0 0 0 6 0 0 0
6: 0 0 1 0 1 0 0 0 6 1 1 0
7: 0 0 1 0 1 0 0 0 7 1 0 0
8: 0 1 0 1 0 0 0 8 0 1 1
9: 0 0 1 0 0 0 0 1 0 0 1 0
10: 0 0 0 0 0 0 0 0 1 0 0
11: 1 1 0 0 0 0 0 1 1 1 1

"t-Palatalization" 5 6
s t + + + i =
s t s 0 i =
1: 2 3 0 1 1 1
2: 0 1 0 1 1 1
3: 1 0 4 5 1 1
4: 0 0 0 4 1 0
5: 1 0 0 5 0 1

"Z/L/d-Palatalization" 6 10
Z Z L L j d d + i =
z j 1 0 j d z 0 i =
1: 2 4 2 4 6 2 4 1 1 1
2: 0 0 0 0 1 0 0 3 1 1
3: 0 0 0 0 0 0 0 3 0 1
4: 0 0 0 0 0 0 0 5 0 0
5: 0 0 0 0 0 0 0 5 1 0
6: 0 0 0 0 0 1 0 1 1 1
"u-elision" 5 5
u + u V =
  0 0 u V =
1. 4 1 2 1 1
2. 4 3 2 1 1
3. 0 3 0 0 1
4. 0 5 0 0 0
5. 0 5 1 1 1

"a/a/e-elision/glide" 9 9
a i a + + + a e =
  = i 0 0 u 1 = e =
1. 2 2 4 1 0 0 6 1 1
2. 1 1 1 3 8 9 1 1 1
3. 0 1 6 3 0 0 0 0 1
4. 0 0 0 5 0 0 0 0 0
5. 2 0 0 5 0 0 0 0 0
6. 0 1 0 7 0 0 0 1 1
7. 0 1 0 7 0 0 0 1 1
8. 1 0 4 0 0 0 0 0 0
9. 0 0 0 0 0 0 0 1 0

"oa->o, ea->e, ia->ie" 14 9
o e i a a C + % =
  o e i 0 e = = =
1. 2 9 1 0 0 0 1 1 1 1
2. 0 1 1 3 0 1 1 6 1
3. 0 0 4 0 0 4 0 0 0
4. 0 0 0 0 0 4 5 0 0
5. 1 0 1 0 0 1 5 0 1
6. 0 0 7 0 0 7 0 0 0
7. 0 1 0 0 0 7 8 1 0
8. 0 1 0 0 0 0 8 1 0
9. 2 0 1 3 0 1 1 1 1
10. 2 1 1 0 1 3 1 1 1 1
11. 1 1 1 0 0 1 1 1 2 0 1
12. 0 0 0 0 0 0 0 1 0
13. 0 0 0 0 0 1 3 14 0 0
14. 1 1 1 0 0 1 1 4 0 1

"A->e/a, &-> a/a, E -> e/a" 7 11
A A & E E C + i e =
  a a e & e a = = i e =
1. 2 5 2 5 2 5 1 1 1 1 1
2. 0 0 0 0 0 3 0 0 0 0
3. 0 0 0 0 0 3 4 0 0 0
4. 0 0 0 0 0 0 4 1 1 0
5. 0 0 0 0 0 6 0 0 0 0
6. 0 0 0 0 0 6 7 0 0 0
7. 0 0 0 0 0 1 7 0 0 1
"I -> 1/\^" 13 10

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  \text{Int} & \text{r} + \text{ie} =
  \text{\_int} = \text{r} = \text{ie} =

1:  7 2 1 1 1 1 1 1 1 1
2:  0 0 3 0 0 0 0 0 0 0
3:  0 0 0 4 6 0 5 0 0 0
4:  0 0 0 0 0 5 0 0 0
5:  0 0 0 0 0 0 1 1 0
6:  0 0 0 4 0 4 0 0 0
7:  0 0 8 1 1 1 1 1 1 1
8:  0 0 0 9 1 1 1 1 1 1
9:  0 0 1 0 1 1 1 1 1 1
10: 0 0 1 1 0 1 1 0 0 1
11: 0 0 0 1 2 0 1 1 1 1
12: 0 0 0 0 0 0 1 3 1 1
13: 0 0 1 1 0 0 1 3 0 0 1
```

END
B. Rumanian Lexicon
ALTERNATIONS

( /N1 = N1 )
( /N2 = N2 )
( /N3 = N3 )
( /N4 = N4 )
( /N5 = N5 )
( /N6 = N6 )
( /N7 = N7 )
( /N8 = N8 )
( /N9 = N9 )
( /N10 = N10 )
( /N1M = N1M )
( /NIF = NIF )
( /NIN = NIN )
( /NIM2 = NIM2 )
( /N3a = N3 AJD2 AVD1 )
( /N4a = N4 AJD2 AVD1 )
( /N4b = N4 AJD2 AVD1 ND1 )
( /N4c = ND1 AJD2 AVD1 /AJ1 )
( /N4d = N4 AJD2 AVD1 ND2 )
( /N5a = N5 AJD2 AVD1 )
( /N5b = N5 AJD2 AVD1 ND1 )
( /N7A1 = N7 /AJ1 )
( /N1/4a = N1 N4 ND1 )
( /N1/5 = N1 N5 )
( /N8/9 = N8 N9 )
( F1 = F1 )
( F2 = F2 )
( F3 = F3 )
( F4 = F4 )
( F5 = F5 )
( F6 = F6 )
( M1 = M1 )
( M2 = M2 )
( H1 = H1 )
( H2 = H2 )
( AFS = AFS )
( AFP = AFP )
( AMS = AMS )
( AMP = AMP )
( AFS2 = AFS2 )
( AM2S = AM2S )
( /AJ1 = /AJ1 )
( /AJ1a = /AJ1 AJD2 AVD1 )
( AJ1 = AJ1 )
( /AJ2 = /AJ2 )
( AJ2 = AJ2 )
( /AJ2a = /AJ2a )
( AJ2a = AJ2a )
( /AJ3 = /AJ3 )
( AJ3 = AJ3 )
( /AD = AJD2 AVD1 )
( AJD1 = AJD1 )
( AJD2 = AJD2 )
( /ADV = /ADV )
( AVD1 = AVD1 )
( /VN1 = /PR1 /IPF1 /PS1 /PPF1 /INF1 N1 )
( /VN4a = /PR1a /IPF1 /PS1 /PPF1 /INF1 N4 )
( /VN7 = /PR1 /IPF1 /PS1 /PPF1 /INF1 N7 )
( /VN7a = /PR1a /IPF1 /PS1 /PPF1 /INF1 N7 )
( /V1 = /PR1 /IPF1 /PS1 /PPF1 /INF1 )
( /V1a = /PR1a /IPF1 /PS1 /PPF1 /INF1 )
( /PR1 = /PR1 )
( /PR1a = /PR1a )
( PR1 = PR1 )
( PR1a = PR1a )
( /IPF1 = /IPF1 )
( IPF1 = IPF1 )
( /PS1 = /PS1 )
( PS1 = PS1 )
( /PPF1 = /PPF1 )
( PPF1 = PPF1 )
( /INF1 = /INF1 )
( INF1 = INF1 )
( VN = VN )
( VA = VA )
( PRF = PRF )
( # = Termin # )
END

LEXICON N1 0 F1 " N-F-D1"
LEXICON F1 +a AFS " SG-C1";
+e AFS2 " SG-C2";
+o # " SG-VOC";
+e AFP " PL"

LEXICON N2 0 F2 " N-F-D2"
LEXICON F2 +a AFS " SG-C1";
+i AFS2 " SG-C2";
+o # " SG-VOC";
+i AFP " PL"

LEXICON N3 0 F3 " N-F-D3"
LEXICON F3 +e AFS " SG-C1";
+i AFS2 " SG-C2";
+i AFP " PL"

LEXICON N4 0 M1 " N-M-D4"
LEXICON M1 0 AMS " SG";
+i AMP " PL"

LEXICON N5 0 M2 " N-M-D5"
LEXICON M2 +e AM2S " SG";
+i AMP " PL"
LEXICON N6 0 H1 " N-N-D6"
LEXICON H1 0 AMS " SG";
+e AFP " PL"

LEXICON N7 0 H2 " N-N-D7"
LEXICON H2 0 AMS " SG";
+uri AFP " PL"

LEXICON N8 0 F4 " N-F-D8"
LEXICON F4 +a AFS " SG-C1";
+e AFS2 " SG-C2";
+uri AFP " PL"

LEXICON N9 0 F5 " N-F-D9"
LEXICON F5 +a AFS " SG-C1";
+i AFS2 " SG-C2";
+uri AFP " PL"

LEXICON N10 0 F6 " N-F-D10"
LEXICON F6 +e AFS " SG-C1";
+i AFS2 " SG-C2";
+uri AFP " PL"

LEXICON N1M 0 AMS " N-M-IND-SG";
0 AMP " N-M-IND-PL"

LEXICON N1M2 0 AM2S " N-M2-IND-SG";
0 AMP " N-M2-IND-PL"

LEXICON N1F +e AFS "N-F-IND-SG-C1";
+e AFS2 "N-F-IND-SG-C2";
+e AFP "N-F-IND-PL"

LEXICON N1N +e AM2S "N-N-IND-SG";
+e AFP "N-N-IND-PL"

LEXICON ND1 +oafc F1 " N-DERIV"
LEXICON ND2 +eas F1 " N-DERIV"

LEXICON AFS 0 # "";
+a # " DEF-F-SG-C1"

LEXICON AFS2 0 # "";
+i # " DEF-F-SG-C2"

LEXICON AFP 0 # " C1/C2";
+le # " DEF-F-PL-C1";
+lor # " DEF-F-PL-C2"

LEXICON AMS 0 # " C1/C2";
+ul # " DEF-M-SG-C1";
+ului # " DEF-M-SG-C2"
LEXICON AMP  0  # "C1/C2";
            +i  # "DEF-M-PL-C1";
            +lor # "DEF-M-PL-C2"
LEXICON AM2S  0  # "C1/C2";
            +le  # "DEF-M-PL-C1";
            +lui # "DEF-M-PL-C2"
LEXICON /AJ1  0  AJ1  "ADJ(N)-D1"
LEXICON AJ1   0  F1   "F";  0  M1  "M"
LEXICON /AJ2  0  AJ2  "ADJ(N)-D2"
LEXICON AJ2   0  AMS  "M-SG";
            +a  AFS  "F-SG-C1";
            +i  AFS2 "F-SG-C2";
            +i  AMP  "M-PL";
            +i  AFP  "F-PL"
LEXICON /AJ2a 0  AJ2a "ADJ(N)-D2a"
LEXICON AJ2a  0  AMS  "M-SG";
            +i  AMP  "M-PL";
            +e  AFS  "F-SG-C1";
            +e  AFS2 "F-SG-C2";
            +e  AFP  "F-PL"
LEXICON AJD2  +easc AJ2 "ADJ-DERIV-D2"
LEXICON AJD1  +oas AJ1 "ADJ-DERIV-D1"
LEXICON /AJ3  0  AJ3  "ADJ(N)-D3"
LEXICON AJ3   0  eFS  "F-SG-C1";
            +e  AM2S "M-SG";
            +i  AFS2 "F-SG-C2";
            +i  AMP  "M-PL";
            +i  AFP  "F-PL"
LEXICON /ADV  0  # "ADV"
LEXICON ADV1  +este # "ADV-DERIV"
LEXICON /PR1  0  PR1   "V-C1-PRES"
LEXICON PR1   0  # "1-SG";
            +i  # "2-SG";
            +a  # "3-SG/PL";
            +am  # "1-PL";
            +ati  # "2-PL"
LEXICON /PR1a 0  PR1a "V-C1a-PRES"
LEXICON PR1a  +ez  # "1-SG";
            +ez1  # "2-SG";
            +eaza  # "3-SG/PL";
            +am  # "1-PL";
            +ati  # "2-PL"
LEXICON /IPF1 0 IPF1 "V-C1-IMPF"
LEXICON IPF1 +am # "1-SG/PL";
+ai # "2-SG";
+a # "3-SG";
+ati # "2-PL";
+au # "3-PL"

LEXICON /PS1 0 PS1 "V-C1-PRET"
LEXICON PS1 +ai # "1-SG";
+asi # "2-SG";
+a' # "3-SG";
+aram # "1-PL";
+arati # "2-PL";
+ara' # "3-PL"

LEXICON /PPF1 0 PPF1 "V-C1-PPERF"
LEXICON PPF1 +asem # "1-SG/PL";
+asesi # "2-SG";
+a'se # "3-SG/PL";
+aseram # "1-PL";
+aseti # "2-PL";
+aserati # "2-PL";
+asera # "3-PL"

LEXICON /INF1 0 INF1 "V-C1"
LEXICON INF1 +a # "INF";
+at AJ1 "PAST-PART(ADJ)";
+a VN "STEM";
0 VA "";
0 PRP "";

LEXICON VN +r F3 "N-DERIV-F-D3"
LEXICON VA +ator AJ2a "ADJ-DERIV-D2a"
LEXICON PRP + nd AJ1 "PRES-PART"
LEXICON Termin X # "Dummy"
LEXICON Root

<table>
<thead>
<tr>
<th>Word</th>
<th>Tag</th>
<th>Meaning</th>
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<tbody>
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<td>acord</td>
<td>VN7</td>
<td>&quot;accord&quot;</td>
</tr>
<tr>
<td>asiduu</td>
<td>AJ1</td>
<td>&quot;assiduous&quot;</td>
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<tr>
<td>ajut</td>
<td>V1</td>
<td>&quot;help&quot;</td>
</tr>
<tr>
<td>barbat</td>
<td>N4a</td>
<td>&quot;man&quot;</td>
</tr>
<tr>
<td>brad</td>
<td>N4</td>
<td>&quot;fix&quot;</td>
</tr>
<tr>
<td>cafea</td>
<td>N1</td>
<td>&quot;coffee&quot;</td>
</tr>
<tr>
<td>cal</td>
<td>N4</td>
<td>&quot;horse&quot;</td>
</tr>
<tr>
<td>cAL</td>
<td>N3</td>
<td>&quot;road&quot;</td>
</tr>
<tr>
<td>cARN</td>
<td>N10</td>
<td>&quot;meat, flesh&quot;</td>
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<td>cArt</td>
<td>N3</td>
<td>&quot;book&quot;</td>
</tr>
<tr>
<td>cas</td>
<td>N1</td>
<td>&quot;house&quot;</td>
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