Uniform Exponence: Exemplification and Extension

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In this paper we motivate and exemplify instances of the general constraint of Uniform Exponence stated in (1).

(1) **Uniform Exponence**: a lexical item (stem, affix, word) has the same realization for property P in its various contexts of occurrence.

This constraint is proposed independently in Burzio (1996a, 1996b), Flemming (1995), and Kenstowicz (1996). It finds plausible psychological motivation on the assumption that words are stored in memory in their surface phonetic form. To the extent that two instances of a given lexical item share the same phonological structure, the amount of space required to store the words in memory is minimized. But this faithfulness relation is in tension with markedness constraints on phonological form. By familiar OT reasoning, a rich array of grammars arises from different rankings of the two classes of faithfulness and markedness constraints.

In the traditional generative model the only way in which one word can affect the phonological shape of another word is to embed the derivation of one inside the other--the principle of the cycle (Chomsky & Halle 1968). To the extent that we can demonstrate a genuine phonological connection between words that do not satisfy the containment properties of the cycle, we have empirical motivation for subsuming cyclic phenomena under the more general constraint of Uniform Exponence. See Benua (1995), Ito & Mester (1996), and

Steriade (1996), for additional cases; see also Booij (1996) and Peperkamp (1997b) for critical assessment.

This paper is organized as follows. First, we examine a case from Russian where the stress of one word critically affects the stress of a related word but where neither is a substring of the other. To the extent that our interpretation of the data is valid we have motivation for Uniform Exponence over and above the cycle. We then show how uniformity for stress helps to explain the scope of an allomorphy rule in a dialect of Dominican Spanish. The body of the paper utilizes Uniform Exponence to develop a new typology of the stress contours in several Australian languages, supplanting the alignment-based analyses of Crowhurst (1994) and Kager (1997). We then speculate on an extension of the notion of uniformity from constraints on the shape of a given lexical item to uniformity in the effect a lexical item has on the surrounding context. The paper ends with an application of the basic concepts to enclitic accent shifts found in various Italian dialects and in Japanese.

1.   Russian stress retraction

Russian stems (as well as derivational affixes) fall into three accentual classes: class A (barytone) have a fixed stress on some vowel of the stem; class B (oxytone) stress the immediately following syllable; class C (mobile) stress the ending (if the latter bears an underlying accent) and otherwise take a default accent on the first syllable of the phonological word (see Halle 1997 for recent discussion). Like all Slavic languages, Russian has a pair of abstract vowels that alternate with zero--the so-called "jers" or "fleeting" vowels. Their distribution runs as follows: a jer surfaces (vocalizes) if the following syllable contains a jer and otherwise deletes. In the nominal inflection the jer of the final syllable of the stem vocalizes in the nominative/accusative singular of the

masculine declension and in the genitive plural of the feminine and neuter declensions. It is natural to conclude that these case forms are marked by a jer suffix. This suffix never surfaces as such because it is not itself followed by a jer. Although their analysis has been controversial (see Yearley 1995 for a recent OT analysis), we follow Kenstowicz & Rubach (1987) in assuming that the jers are represented as underlying floating vowels.

When a jer bears stress but fails to vocalize then stress regularly appears on the immediately preceding syllable. This point is easiest to see with nouns belonging to the class B accentual category that stresses the desinence. When that desinence is a jer the stress falls on the final syllable of the stem--in the masculine declension the nom./acc. sg. (e.g. *ogo'n'* < /ogYn-Y'/) and in the feminine and neuter declensions the gen. pl. (e.g. *kajo'm* < /kajYm-Y'/, *sele'c* < /sel'Yc-Y'/). We transcribe stress with a tick after the stressed vowel or syllable. Primary vs. secondary stress is marked by double vs. single ticking. The tick after a consonant denotes palatalization.

(1)

	sing.	pl.	sing.	pl.	sing.	pl.
nom.	ogo'n'	ogn-i'	kajm-a'	kajm-y'	sel'c-o'	sel'c-a'
gen.	ogn'-a'	ogn-e'j	kajm-y'	kajo'm	sel'c-a'	sele'c
dat.	ogn'-u'	ogn'-a'm	kajm-e'	kajm-a'm	sel'c-a'	sel'c-a'm
acc.	ogo'n'	ogn-i'	kajm-u'	kajm-y'	sel'c-o'	sel'c-a'
instr.	ogn-e'm	ogn'-a'mi	kajm-o'j	kajm-a'mi	sel'c-o'm	sel'c-a'mi
loc.	ogn-e'	ogn'-a'x	kajm-e'	kajm-a'x	sel'c-e'	sel'c-a'x
	'light'		'border'		'village'	

A substantial subset of the class B nouns that belong to the feminine and neuter (but not the masculine) inflection retract their stress from the case ending to the final syllable of the stem in the plural. Examples of this plural retraction appear in (2).

(2)   sing.   pl.   sing.   pl.

nom. kolbas-a'   kolba's-y   koles-o'   kole's-a

gen. kolbas-y'   kolba's   koles-a'   kole's

dat. kolbas-e'   kolba's-am   koles-u'   kole's-am

acc. kolbas-u'   kolba's-y   koles-o'   kole's-a

instr. kolbas-o'j kolba's-ami   koles-o'm   kole's-ami

loc. kolbas-e'   kolba's-ax   koles-e'   kole's-ax

'sausage'   'wheel'

Halle (1973) cites Zaliznjak (1967) who finds 340 class B nouns in the feminine inflection which do not retract in the plural (e.g. *gospo„Ëz-a'* nom.sg., *gospo„Ëz-y'* nom.pl., *gospo'„Ëz* gen.pl. 'lady') as opposed to some 185 which do (e.g. *kolbas-a'*, *kolba's-y*, *kolba's* 'sausage'); in the neuter declension 130 class B nouns retain stress on the ending in the plural (e.g. *bo„zestv-o'* nom.sg., *bo„zestv-a'* nom.pl., *bo„ze'stv* gen.pl. 'deity') while 70 retract stress (e.g. *koles-o'*, *kole's-a*, *kole's* 'wheel').

The point of interest to us concerns class B stems whose final syllable contains a jer. This vowel will vocalize in the genitive plural. Many of these stems show a mysterious double retraction of the stress in the genitive plural: *remesl-o'* nom.sg., *reme'sl-a* nom.pl., *reme'sel* gen.pl. instead of **remese'l* 'trade, profession'. Why should we have *reme'sel* and not **remese'l*? After all **remese'l* < /remesel+Y'/ satisfies both retraction requirements simultaneously: stress falls on the final syllable of the stem (plural retraction) and on the syllable immediately preceding the underlyingly stressed weak jer. Class B jer stems belonging to the feminine and neuter declensions that lack retraction in the plural systematically lack the double retraction in their genitive plural forms: there are no feminine or neuter nouns with the stress patterns CVCC-a', CVCC-y',

CV'CeC or CVCC-o', CVCC-a', CV'CeC. Stated differently, all nouns with double retraction in the genitive plural have retracted stress in the other forms of the plural. There is a strong but not invariant implication in the opposite direction as well: most jer stems with retracted stress in the plural have double retraction in the genitive plural. In the feminine declension we found 19 class B jer stems with retraction in the plural: 13 have double retraction in the genitive while 6 have a single retraction. In the neuter declension the correlation is stronger. Of the 32 class B jer stems with retracted plural stress, 30 have double retraction in the genitive while only 2 do not. In (3) we show the paradigms for the double retracting *remesl-o'* 'trade' and the single retracting *kol'c-o'* 'ring'. They can be compared with the nonretracting *se'lc-o'* in (1). See the appendix for a list of the stems belonging to each class.

(3)

	sing.	pl.	sing.	pl.
nom.	remesl+o'	reme'sl+a	kol'c-o'	ko'l'c-a
gen.	remesl+a'	reme'sel	kol'c-a'	kole'c
dat.	remesl+u'	reme'sl+am	kol'c-u'	ko'l'c-am
acc.	remesl+o'	reme'sl+a	kol'c-o'	ko'l'c-a
instr.	remesl+o'm	reme'sl+ami	kol'c-o'm	ko'l'c-ami
loc.	remesl+e'	reme'sl+ax	kol'c-e'	ko'l'c-ax
	'trade'		'ring'	

As Halle (1973) notes, double retraction in *reme'sel* creates a situation in which the stress falls on the same vowel as in the other forms of the plural--a case of "columnar" stress when the paradigm is written out as in (3). He formulates a special rule to achieve this effect.[1] We propose instead to see the double retraction as a direct reflex of Uniform Exponence: *reme'sel* is more

optimal than *remese'l* because the former stresses the same vowel as the one that bears stress in the other forms of the plural inflection. Our analysis is sketched informally in (4).

(4)　　/remesYl+a'/　　　Retraction　　　Faith(stress)
　　　　　remesl-a'　　　　*!
　　　　$reme'sl-a　　　　　　　　　　　*
　　　　　re'mesl-a　　　　　　　　　　　**!

　　　　/remesYl+Y'/　　　Un-Exp(stress)　Faith(stress)
　　　　　remese'l　　　　　*!　　　　　　*
　　　　$reme'sel　　　　　　　　　　　　**

For the handful of retracting stems like *kol'c-o'*, *ko'l'c-a*, *kol'e'c* 'ring' with just a single retraction in the genitive plural, we assume a lexically determined ranking of Faith(stress) >> Uniform Exponence.

(5)　　/kol'Yc+Y'/　　　　Faith-(stress)　Un-Exp(stress)
　　　　$kole'c　　　　*　　　　　　*
　　　　　ko'lec　　　　**!

It should be noted that double retraction cannot be treated in terms of the cycle--the only way in which a derivational model lacking output-output constraints can express the systematic effect of one word on another word. The reason is that the genitive plural is not a substring of the other forms of the plural paradigm.[2] It is noteworthy that the majority of stems with double retraction like *reme'sel* superficially terminate in an obstruent+sonorant cluster before a nonjer desinence: *remesl-o', reme'sl-a*. Furthermore, the quality of the fleeting vowel appearing in the cluster is predictable: it is /e/ unless the preceding consonant is a velar. In view of these facts one might pursue an alternative analysis in which the fleeting vowel is epenthetic. If epenthesis is ordered after retraction then the columnar stress is just a byproduct of rule ordering: /remesl-Y'/ -> /reme'sl-Y/ -> /reme'sl/ -> /reme'sel/.   There are

several problems with this alternative analysis which lead to its rejection. First, as observed by Rubach (1986) for Polish, epenthesis into CR clusters cannot be a general rule because Russian has many final CR clusters which are not broken: *tigr* 'tiger', *rubl'* 'ruble', etc. Second, a jer appears in the retracted stems when a jer suffix such as the diminutive is added: *metl-a'*, *me'tl-y*, *me'tel* 'broom'; cf. *mete'l-k-a*, *mete'l-ok*. If the stem really lacked an underlying jer, we should expect gen.pl. **metl-o'k* diminutive. Most importantly, this alternative just trades one distributional gap for another. In order for this appeal to rule ordering to work, the stems with no retraction and a fleeting vowel must have an underlying vowel: /kn'a„zYn-Y'/ -> /kn'a„zY'n-Y/ -> /kn'a„zo'n/. But now the problem reemerges: why is epenthesis only found in stems like *remesl-o'* that have retracted stress in the plural? We conclude that the problem of double retraction of stress in *reme'sel* cannot be avoided by treating the fleeting vowel as epenthetic. Rather it is an instance of paradigmatic uniformity that is best expressed directly in terms of Uniform Exponence.

2. Dominican Spanish plural allomorphy

Another example of Uniform Exponence for stress is found in the Surenyo dialect of Dominican Spanish (Aguero-Bautista 1997, p.c.). Like other Carribean Spanish dialects, Surenyo bars [s] from the coda of the syllable, where it is replaced by [h] or zero. The plural suffix /-s/ in nouns is augmented to [-se] via epenthesis (presumably in order to ensure that the plural category has a (robust) exponence). This epenthesis only affects the plural suffix; an underlying stem-final /s/ appears as [h] or zero (cf. /mes/ 'month' -> *me(h)*, **mese*). The interesting point from our perspective is that augmentation of the plural suffix only affects stems whose singular form has stress on the

penultimate or the final syllable. Proparoxytones with antepenultimate stress such as /sa'bana/ never augment the plural: *sa'bana-se*.

(6)   singular   plural

    mucha'cho   mucha'cho-se   'boy'

    ca'sa   ca'sa-se   'house'

    cafe'   cafe'-se   'coffee'

    mani'   mani'-se   'peanut'

    sa'bana   sa'bana   'sheet'

We interpret these data as follows. As in other dialects of Spanish, primary stress is located within a three-syllable window at the right edge of the word (Harris 1995). Augmentation of a proparoxytone such as *sa'bana* to *sa'bana-se* would push stress outside this window--a violation of the Lapse constraint proposed in Green & Kenstowicz (1995) that bars two successive unstressed syllables not separated by a foot boundary. Another alternative would be to augment the plural but satisfy Lapse by shifting the stress to the right: *saba'na-se*, *sabana'-se*. Neither of these alternatives is acceptable. They are blocked by Uniform Exponence for stress. The stress of the plural must mimic that of the singular.[3] We sketch our analysis in the tableaux below.

(7)

/mucha'cho+s/	*Coda-[s]	Faith-[s]	Dep-IO
mucha'cho-s	*!		
$mucha'cho-se			*
mucha'cho		*!	

/sa'bana+s/	Un-Exp	Lapse	Faith-[s]
$(sa'ba)na			*
(sa'ba)na-se		*!	
sa(ba'na)-se	*!		
saba(na'-se)	*!		

3. Australian stress systems: a typology

Once Uniform Exponence is admitted into the theory of constraints, it can be called upon to elucidate data which have heretofore been described in other terms. We develop this point by proposing a new typology for stress in various native Australian languages that have been discussed in the recent literature (cf. Crowhurst 1994, Kager 1995).[4] The languages we discuss here are Diyari, Dyirbal, Jingulu, Warlpiri, and Pintupi. As seen in (8), these languages assign the same stress contours to monomorphemic disyllabic, trisyllabic, and quadrisyllabic stems. However, the languages diverge when odd-parity stems combine with suffixal material of various shapes.

(8) | Diyari | Dyirbal | Jingulu | Warlpiri | Pintupi |
|---|---|---|---|---|
| s's | s's | s's | s's | s's |
| s'ss | s'ss | s'ss | s'ss | s'ss |
| s'ss's | s'ss's | s'ss's | s'ss's | s'ss's |
| | | | | |
| s'ss+s | s'ss+s | s'ss'+ss | s'ss'+ss | s'ss'+s |
| s'ss+s's | s'ss+s's | s'ss+s's | s'ss+s's | s'ss'+ss |
| s'ss+s+s | s'ss+s'+s | s'ss+s'+s | s'ss+s'+s | s'ss'+s+s |
| s'ss+s+s's | s'ss+s'+ss | s'ss+s'+ss | s'ss'+s+s's | s'ss'+s+s's |

Our major claim is that the contrasting stress contours manifest different resolutions of the tension between Uniform Exponence on the one hand and stress calculated in terms of odd-even position from the left edge of word on the

other. In all these systems there is as well an undominated constraint of Foot-Binarity.

Let us survey the terrain before developing analyses for the individual grammars. As seen in (8), when a monosyllabic suffix is added to an odd-parity (trisyllabic) stem, Diyari and Dyirbal preserve the stress contour of the isolation form of the stem at the cost of a Lapse violation; on the other hand, Jingulu, Warlpiri, and Pintupi avoid the lapse of three successive unstressed syllables at the cost of introducing a disparity between the stem's isolation form and its affixed form. In the /sss+ss/ case we see that when an odd-parity stem is combined with a disyllabic suffix, Pintupi splits off from Jingulu and Warlpiri by stressing the final syllable of the stem in order to maintain a smooth binary alternation of stress. The latter two languages preserve the stress contour of the bare form of the stem at the expense of an alignment violation. Next Diyari parts company with Dyirbal in the case of /sss+s+s/ by failing to stress any monosyllabic suffixes; Dyirbal freely stresses such monosyllables when they occupy an odd-numbered position in the affixal string. Finally, Warlpiri and Jingulu diverge when a monosyllabic suffix is followed by a disyllabic one /sss+s+ss/: Warlpiri s'ss'+s+s's vs. Jingulu s'ss+s'+ss. We shall see that these cases also fall under Uniform Exponence provided that it is properly ranked with other constraints.

3.1 Diyari

According to Austin (1981:30-31) "Stress in Diyari is not phonologically contrastive and is entirely predictable from the shapes of roots and suffix morphemes. Primary stress falls on the first vowel of a root and secondary stress is assigned to the third vowel of a four-syllable root (no roots are longer

than four syllables) and to the first vowel of a disyllabic suffix." (Austin 1981:30-31).

(9) ka"na   'man'

     pi"nadu   'old man'

     wi"l̲api'na   'old woman'

     ka"na-wa'ra   'man-pl'

     pi"nadu-wa'ra 'old man-pl'

     wi"lapi'na-wa'ra   'old woman-pl'

     ka"na-n̲i   'man-loc'

     ka"na-n̲i-ma'ṯa 'man-loc-ident'

     ka"na-wa'ra-u 'man-pl-loc'

     ka"na-wa'ra-u'ndu   'man-pl-abl'

     (Poser 1989 data from Austin p.c.)

     ta"yi-ya'tima'yi   'to eat-opt'

     pu"l,uru-n̲i   'mud-loc'

     ma"da-la-ntu   'hill-charac-proprietive'

     pu"l,uru-n̲i-ma'ta   'mud-loc-ident'

     ya"kalka-yi'rpa-ma'li-na   'ask-ben-recip-part'

Working in the rule-based metrical parsing system, Poser (1989) sees the Diyari stress contours as the product of a grammar in which each morpheme is treated as a separate domain for a binary left-headed left-to-right trochaic parse. If each morpheme is parsed in isolation from its neighbors then it follows that it will

have a uniform stress contour regardless of context. We propose that rather than being an epiphenomenal byproduct of isolating the morpheme as a stress domain, uniformity across contexts is the driving force behind stress in Diyari. Given that Foot-Binarity and Lapse/Parse-s dominate Align-Foot, disyllabic and longer morphemes parse at least one foot. On the other hand monosyllables cannot support a disyllabic foot. Given undominated Foot Binarity, monosyllabic suffixes satisfy Uniform Exponence by taking an unstressed shape across all contexts. As seen in the tableaux below, the cost of maintaining Uniform Exponence for stress in Diyari is Lapse and Alignment violations.

(10)   Un-Exp(root,affix) >> Lapse >> Align-Ft-Left

/sss+s/	Un-Exp	Lapse
(s's)(s'+s)	*!	
$(s's)s+s		*

/ss+s+s/	Ft-Bin	Un-Exp	Lapse
(s's)+(s'+s)		*!	
$(s's)+s+s			*
(s's)+(s')+(s')	**!		

/sss+ss/	Un-Exp	Align-Left
(s's)(s'+s)s	*!	#, #ss
$(s's)s+(s's)		#, #sss

3.2 Pintupi

In comparison to Diyari, Pintupi (Hayes 1994, McCarthy & Prince 1993, based on Hansen & Hansen 1969) falls at the opposite end of the spectrum where uniformity for stress is demoted below the Lapse and Alignment constraints. Pintupi is the textbook exemplar of binary left-to-right trochaic parsing: foot boundaries freely cross both stem and suffix junctures.

(11)   pu"li-ka'-latju   'sit-loc-1pl.excl'

         yu"mari'-ka-ma'ratju'raka   'mother-in-law-loc-because'

         yu"mari   'mother-in-law' (p. 155)

tja"mu-li'-mpa-tju'-ku 'our relation'

ti"li-ri'u-la'-mpa-tju   'the fire for our benefit flared up'

From our perspective, Uniformity is demoted below Lapse and Alignment. The cost is to introduce alternations in the shape of the odd-parity stems when followed by a monosyllabic suffix (cf. s"ss but s"ss'+s...). Similarly, suffixes such as the locative -ka and -tju display alternative prominences depending on their odd-even location in the word.

(12)   Lapse >> Align-Ft >> Un-Exp(root,affix)

/sss+s/	Lapse	Un-Exp
$(s's)(s'+s)		*
(s's)s+s	*!	

/sss+ss/		Align-Left	Un-Exp
$(s's)(s'+s)s	#, #ss	*	
(s's)s+(s's)	#, #sss!		

3.3 Dyirbal

Dyirbal (Dixon 1972; Crowhurst 1994) follows Diyari in maintaining a constant stress contour for the root (13a); but suffixes such as the comitative freely alternate between stressed and unstressed variants as a function of their odd-even position in the suffixal string (13b).

(13)   a.   bu'rgurrum   'jumping ant'

              bu'rgurum-bu   erg.

        b.   ñi'nay-man   'sit-comit'

              ñi'nay-ma'-riy 'sit-comit-reflex'

              ñi'nay-ma'-ri-man   'sit-comit-reflex-comit'

              da'ga-na'-mbila   'eat-pron-with'

              ba'nagay-mba'-ri-ju   'return-comit-refl-p/p'

ma'ndalay-mba'l-bila 'play-comit-lest'

In other words, Uniform Exponence for the root dominates the Lapse and Alignment constraints; but the latter in turn dominate Uniform Exponence for affixes. The constraint ranking and associated tableaux in (14) illustrate our analysis.

(14)   Uniform Exp(root) >> Lapse >> Align-Ft >> Uniform Exp(affix)

/sss+s/	Un-Exp(root)	Lapse
(s's)(s'+s)	*!	
$(s's)s+s		*

/ss+s+s/	Lapse	Un-Exp(affix)
(s's)+(s'+s)		*
$(s's)+s+s	*!	

/sss+s+ss/	Un-Exp(root)	Align-L
('s's)(s'+s)s	*!	#, #ss
$(s's)s+(s'+s)s		#, #sss

/ss+s+ss/	Align-L	Un-Exp(affix)
$(s's)+(s'+s)s	#, #ss	**
(s's)+s+(s's)	#, #sss!	*

3.4 Jingulu

Jingulu stress differs from the other systems considered here in a couple of noteworthy respects (see Pensalfini 1997 for details). First, it is the rightmost rather than the leftmost foot that projects the primary stress of the word. Second, a lexically determined class of stems align their feet to the right instead of displaying the leftward alignment that uniformly governs affixes: (s"s)s vs. s(s"s) and (s's)(s"s)s vs. (s's)s(s"s): compare *ba"kuri* 'headband' vs. *jarra"da* 'song' and *ku'rdija"laka* 'mussel' vs. *nga'jalaku"rru* 'mouth'. We abstract away from these differences and concentrate on the similarities with the other systems studied here.

In (15a) we see the alternating stress of monomorphemic stems. In (15b) we see that odd-parity stems stress their final syllable when a single monosyllabic suffix is added; but when the suffixal string consists of two or more syllables then stress falls on the first syllable of the suffixal string and not on the root. Finally, in (15c) we see that just as in Dyirbal, Jingulu suffixes freely alternate between stressed and unstressed variants as a function of their odd-even position.

(15) a. nga"wu   'camp'

     ba"rdarda   'younger brother'

     ja'lurru"ka   'tea'

  b. ba"rdarda   'younger brother'   ji"kaya 'lake'

     ba'rdarda"-rni   'erg'   ji'kaya-mbi"li 'lake-loc'

     ma"nkiyi   'sit'

     ma'nkiya"-mi   'sit-irr'

     ma'nkiya-ga"-ju   'sit-1sg-irr'

  c. nga'wu-ngka"mi-rni   'camp-abl-foc'

     yu'kulya'rri-na'-ngkami"-rni 'goat-dat-abl-foc'

     yu'kulya'rri-na"-ngkami   'goat-dat-abl'

     du'la-nga"-rruku   'seek-lsg-went' ('I went looking for him')

     nga'ja-rru"ku   'see-went' ('he went looking')

     nga'ba-nga'-na-rri"ki 'have-2sg-1obj-went' ('You took me there')

     wu'ngkarra-ji"yimi   'whistle-come' ('she's coming up whistling')

     ya'-jiyi"mi   '3sg-come' ('here he comes')

     nga'wu-ngka"mi-rni   'camp-abl-foc'

     nga'wu-rni"-na   'home-foc-dat'

The alternation between s'ss and s'ss'+s indicates that the Lapse constraint has risen above Uniform Exponence(root) forcing the insertion of a stress to avoid three successive unstressed syllables at the cost of introducing a disparity between the isolation form of the stem and its contextual form. However, when Lapse can be satisfied by stressing the suffix then this option is always taken. This indicates that Uniform Exponence for the root is still in effect--it dominates Alignment which in turn dominates Uniform Exponence for the affixes--a classic ranking effect. Our analysis is sketched in (16).

(16)   Lapse >> Un-Exp(root) >> Align-Ft >> Un-Exp(affix)

/sss+s/	Lapse	Un-Exp(root)
$(s's)(s'+s)		*
(s's)s+s	*!	

/sss+s+s/	Lapse	Un-Exp(root)	Alignment
(s's)(s'+s)+s	*!		#, #ss
$(s's)s+(s'+s)			#, #sss

/sss+ss/	Lapse	Un-Exp(root)	Alignment	Un-Exp(affix)
(s's)(s'+s)s	*!		#, #ss	*
$(s's)s+(s's)			#, #sss	*

It is worth observing that the isolation form of the root has a privileged status in Jingulu. Given that the Lapse >> Uniform-Exponence(root) ranking forces a (s's)(s'+s) parse, the paradigm built from a given trisyllabic root has both s'ss and s'ss' variants. Consequently in order to assign a violation mark to the (s's)(s'+s)+s and (s's)(s'+s)s parses, Uniform Exponence for the root must evaluate in terms of deviation from the isolation form (s's)s.[6]

3.5 Warlpiri

In Warlpiri (Nash 1981, K. Hale p.c.) Lapse violations on the root are avoided just as in Jingulu. This explains the alternation between *wa"tiya'-rla* and *wa"tiya-rla'-rlu*.

(17)   ya"parla-ngu'lu   'father's mother-elative'

         ya"pa-rla'ngu-rlu   'person-.e.g.-erg'

    N   wa"ti   wa"tiya   ma"nangka'rra

    N-loc   wa"ti-ngka   wa"tiya'-rla   ma"nangka'rra-rla

    N-loc-erg wa"ti-ngka'-rlu   wa"tiya-rla'-rlu   ma"nangka'rra-rla'-rlu

               'man'   'tree'   'spinifex plain'

         wa"tiya-rla'-rlu-ju   'tree-loc-erg-top'

         wa"tiya'-rla-ju'ku   'tree-loc-still'

The Jingulu and Warlpiri grammars diverge in their treatment of disyllabic affixes. In Warlpiri these morphemes are always stressed on their first syllable (just as in Diyari) while in Jingulu their stress varies as a function of context. Warlpiri's uniform stress for disyllabic affixes underlies the shift of stress from the first to the second suffix in *wa"tiya-rla'-ju* versus *wa"tiya'-rla-ju'ku*. To maintain a uniform stress on disyllabic affixes in the /sss+s+ss/ construction and at the same time avoid a Lapse violation the root must give way and insert a stress: (s's)(s'+s)+(s's). We explain this case if Uniform Exponence for affixes dominates Uniform Exponence for the root--a point demonstrated in the following tableaux.

(18)   Lapse >> Un-Exp(affix) >> Un-Exp(root) >> Align-F

/sss+s+ss/	Lapse	Un-Exp(affix)	Un-Exp(root)	Align-Ft
$(s's)(s'+s)+(s's)	*	*		#, #ss, #ssss

(s's)s+(s'+s)s		**!	
(s's)s+s+(s's)	*!	*	
(s's)(s'+s)+ss	*!		

/sss+s+s/	Un-Exp(affix)	Un-Exp(root)	Align-Ft
(s's)(s'+s)+s	**	*!	#, #ss
$(s's)s+(s'+s)	**		#, #sss

The table in (19) recaps the analysis demonstrating that the subtle differences among the languages reviewed here are succinctly described by variable ranking of the faithfulness constraint of Uniform Exponence with respect to the Lapse and leftward Foot Alignment constraints that enforce good metrical form.

(19)   Diyari: Uniform Exp(root,affix) >> Lapse >> Align-Ft

Dyirbal: Uniform Exp(root) >> Lapse >> Align-Ft >> Uniform Exp(affix)

Jingulu: Lapse >> Uniform Exp(root) >> Align-Ft >> Uniform Exp(affix)

Warlpiri: Lapse >> Uniform Exp(affix) >> Uniform Exp(root) >> Align-Ft

Pintupi: Lapse >> Align-Ft >> Uniform Exp(root,affix)

4. Jingulu metaphony: uniformity of effect

In this section we speculatively identify another uniformity phenomenon--the effect of a morpheme on its context. Our example concerns the vowel raising process in Jingulu (Pensalfini 1997). Jingulu has three vowel phonemes: /i,u,a/. As shown by the paradigms in (20a) the high vowel of a suffix raises the [a] of a preceding root to [i]. But metaphony does not affect another suffix (20b); only roots undergo raising.

(20)   a.   walanja   'goanna'

wilinji-rni   'goana-female'

mamabiyaka 'soft'

mamabiyiki-mi 'soft-vegetable class'

ngaja-nga-ju 'see-1sg-do'

ngiji-ngurru-ju 'see-1pl.incl-do'

ngiji-kunyi-ju 'see-2dl-do'

b. ngaja-nga-ju 'see-1sg-do'

ngunya-na-mi 'give-1obj-irr'

langalanga-nya-mi 'think-2sg-irr'

However, not all suffixes induce metaphony. It turns out that only gender suffixes on nouns and subject marking suffixes on verbs raise the vowels of a root. Compare the absence of metaphony in (21a) where the root is combined with other inflectional suffixes. The descriptive generalization in (21b) succinctly characterizes the distinction between those suffixes that condition metaphony and those that do not.

(21) a. bardarda-ni 'younger brother-erg'

jikaya-mbili 'lake-loc'

mamambiyaka-bila 'big-dual'

ambaya-ju 'talk-do'

ngaja-mi 'see-irr'

b.   raising suffixes are never preceded by another affix while nonraising ones can have another suffix intervening between the root and themselves in some form of the nominal or verbal inflection.

We propose to view the peculiar restrictions on metaphony as a "uniformity" phenomenon--one concerning the effect of a morpheme on its context. Specifically, suppose a constraint bars a low vowel before a high one. To account for the fact that affixes never undergo raising, we suppose that Uniform-Exponence for affixes ranks higher than Uniform-Exponence for roots with respect to vowel quality.

(22)   /walang+i/   *[low] [high]   Un-Exp(root)

	*[low] [high]	Un-Exp(root)
walang-i	*!	
$wiling-i		*

/ngaja+nga+ju/ Un-Exp(affix) *[low]-[high] Un-Exp(root)

	Un-Exp(affix)	*[low]-[high]	Un-Exp(root)
$ngaja-nga-ju		*	
ngiji-ngi-ju	*!		*

The fact that a suffix only affects a root if it stands next to the root in all of its occurrences is a "uniformity of effect". If metaphony was launched from an affix such as the irrealis marker -mi, this morpheme would have a nonuniform effect on its context: it would raise a preceding vowel if that vowel belonged to a root (*ngiji-mi instead of ngaja-mi 'see-irr') but not if it belonged to an affix (ngunya-na-mi 'give-1obj-irr'), given the Un-Exp(root) >> *[low]-[high] ranking. Rather than introduce this variability, the language evidently chooses to suspend metaphony except in contexts where a given affix always collocates directly with a root and hence can always satisfy *[low] [high]. In autosegmental terms, the raising suffixes are uniformly multiply-linked. If there

is a another species of Uniformity constraint--Uniform Effect--then the distribution of metaphony in Jingulu can be expressed directly in terms of constraint ranking.

(23) /ngaja+mi/   Un-Effect   *[low]-[high]
      $ngaja-mi   *
        ngiji-mi   *!

See, however, Pensalfini (1997) for an alternative interpretation of these data that appeals to a special morphosyntactic domain.

5. **Italian**

The encliticization of pronouns to verbal bases in Italian gives rise to different patterns of metrification that mimic those found in the Australian languages just reviewed; consequently they also submit to an analysis in terms of competition between constraints on good metrical form versus constraints that promote uniform metrical structure for roots and affixes (here clitics) across varying contexts. One difference is that feet are aligned with the right edge of the word in Italian. Another difference is that cliticization is limited to at most two monosyllabic elements; hence, the opportunity for differences in the treatment of [base#s+ss] structures that we find in Diyari vs. Dyirbal or in Jingulu vs. Warlpiri do not arise. Putting these limitations aside, we find analogs for each of the three major Australian types (Diyari-Dyirbal, Jingulu-Warlpiri, and Pintupi) in the dialects of Italian (Standard, Napoletano, and Lucanian), respectively.

In (24) we tabulate the data; the Napoletano forms are taken from Bafile (1993, 1994). The Lucanian data come from Gioscio (1985).

(24) | Standard | Napoletano | Lucanian |
|---|---|---|
| s's | s's | s's |
| s's#s | s's#s | ss'#s |

s's#s+s   s's#s'+s   ss#s'+s

s'ss   s'ss
s'ss#s   s'ss#s
s'ss#s+s   s'ss#s'+s

s '   s '   s '
s'#s   s'#s   s'#s
s'#s+s s'#s'+s   s#s'+s

5.1 Napoletano

Bafile (1993) cites the following data for Napoletano.

(25)   pÙ'rta   pî'ttʃna   fa'

pÙ'rta#lʃ   pî'ttʃna#tʃ   fa'#llʃ

pÙ'rta#ti'llʃ   pî'ttʃna#ti'llʃ   fa#tti'llʃ

'bring' 'comb'   'make'

'bring it'   'comb yourself'   'make-them-masc'

'bring-yourself-'comb-yourself-   'make-yourself-it'

  it'   them masc.'

For Napoletano, the basic generalization is that stress never shifts on the base as a result of encliticization. This indicates that Uniform Exponence for root stress is undominated. For proparoxytone bases, this gives rise to Lapse and Alignment violations (26a). But when there are two clitics and hence two syllables the Lapse and Alignment constraints can be satisfied without disrupting the stress of the base. The cost is to introduce variation in the stress of the clitic suffixes across different contexts: hence Lapse and Align-R dominate Uniform Exponence for affixal stress (26b).

(26)	a.	/s'ss#s/	UE(root)	Lapse	Align-R	UE(affix)
		$(s's)s#s		*	**	

('ss)(s'#s)   *!

    b.

/s'ss#s+s/	UE(root)	Lapse	Align-R	UE(affix)
(s's)s#s+s		*!*	***	
$(s's)s#(s'+s)				*

Monosyllabic bases such as *fa#tti'llʃ* require comment. As Bafile (1993:133) points out, the gemination after the root does not necessarily indicate that a metrical foot has been assigned to the root. Napoletano (in contrast to standard, Tuscan based, Italian) does not have raddoppiamento sintattico triggered by a word-final stressed vowel; gemination is morphologically and lexically governed in Napoletano (Andalò & Bafile 1991). Conclusive evidence for stress on the root would come from CV verbal bases with an underlying mid vowel. Since mid vowels reduce in unstressed position in Napoletano, reduction on such a base would prove that the root vowel is unstressed. Unfortunately, such bases appear to be absent from the lexicon. Taking Bafile's transcription *fa#tti'lʃ* (as opposed to *fa'#tti'llʃ*) at face value, we may invoke a Clash constraint to rule out adjacent stresses. The problem is that if Uniform Exponence for the root dominates Uniform Eponence for the affixes, then clash should be resolved in favor of the root (27).

(27)

/s#s+s/	Clash	Un-Exp(root)	Un-Exp(affix)
s'#s'+s	*!		
s'#s+s			*
s#s'+s		*!	

This incorrect prediction pushes us toward the analysis suggested by Bafile (1993:133). She points to evidence that the disyllabic enclitics of the form -*Cíllʃ, -Célla, -Cénnʃ* have been reanalyzed into C+VCCV structures in Napoletano with -*íllʃ, -élla, -énnʃ* as allomorphs of the CV clitics -*lʃ, -la,* and -*nʃ* that appear next to the verb. Since gemination is not predictable from stress it

can be recorded lexically under this analysis. Moreover, the metaphony alternation between -*élla* and -*íllƒ* in which masculine gender is indicated by raising the stressed vowel can also be treated allomorphically. It should be noted that metaphony is not found when the verb combines with a single object clitic and neither gemination nor metaphony occurs in proclitics, where a different range of allomorphic variation appears.

If we accept this analysis, then the -VCCV portion of all clitic sequences comprises a single morpheme. The result is that -/ella/, /-illƒ/, /-ennƒ/ have a uniform stress contour across all contexts: stress on their first syllable. Consequently, under this alternative proposal, Napoletano has the Diyari-type ranking in which Uniform Exponence for both roots and affixes dominates Lapse and Align. The resolution of stress clash in *fa#ttíllƒ* then indicates either that Uniform Exponence for affixes dominates Uniform Exponence for the root or that these constraints have equal rank and that clash is resolved by the lower-ranked Alignment constraint. We show the latter analysis in (28).

(28)

/fa#t-illƒ/	Clash	Un-Exp(root,affix)	Align
(s')#(s's)	*!		
(s'#s)s		*	*!
$s#(s's)		*	

5.2 Lucanian

The Lucanian dialect of Calvello (Gioscio 1985) shifts the stress to the penult of the prosodic word under both monosyllabic and disyllabic encliticization.

(29) vi'nnƒ   'sell'

   vƒnni'#llƒ   sell it'

   manna'tƒ   'send pl.'

   mannatƒ#mi'+llƒ   'send pl. me it'

ra'   'give'

ra#mmi'+ll*f*   'give me it'

In this dialect the uniformity constraints on stress for both roots and affixes are demoted below Lapse and Alignment with the result that penultimate stress is regularly assigned to the phonological word encompassing the entire base#clitic structure.

(30)   /ss#s/   Lapse   Alignment   UE(root, affix)
        (s')s#s *!   **
        s(s')#s   *   *

This dialect is thus the Italian analog of Pintupi, where constraints on good metrical form override those promoting uniform stress across different contexts. The languages differ in that Pintupi has multiple footing, which indicates that Lapse and Parse-syllable dominate Alignment. For Lucanian not enough data are cited to determine whether there is secondary stress and hence the relative ranking of these constraints remains unclear.

5.3 Standard Italian

For standard Italian we find that stress never shifts under encliticization--neither on the base nor to the clitic.

(31)   po'rta   'carry'

        po'rta#mi   'carry for me'

        po'rta#me+lo   'carry it for me'

        ma'cina   'grind'

        ma'cina#lo   'grind it'

        ma'cina#me+lo   'grind it for me'

da'	'give'
da'#mmi	'give me'
da'#mme+lo	'give it to me'

This indicates that Uniformity for root and for affixal stress dominates Alignment and Lapse.

(32)

/s's#s/	UE(root)	UE(affix)	Lapse	Align
$(s's)s#s			*	**
(s's)(s'#s)	*!			
/s'ss#s+s/				
$(s's)s#s+s			**	***
(s's)s#(s'+s)	*!			

Thus, Standard Italian is the metrical counterpart of Diyari and Dyirbal. It differs from the latter (and from Napoletano under the alternative analysis suggested above) in that all clitics are monosyllabic. In other words, all polysyllabic clitic strings can be analyzed into monosyllabic components which can attach to the verb individually: base#s. Here they are naturally unstressed due to Foot-Binarity; and in virtue of Uniformity, this property is extended to the clitic clusters. Our interpretation thus differs from the one taken in Monachesi (1995) where clitic clusters are treated as separate prosodic words. To the best of our knowledge, there is no independent phonological evidence for treating the enclitic clusters as separate phonological words.[8]

6. Lexical Accent Systems--Japanese

Accentual systems in which morphemes are lexically specified for the presence or absence as well as the location of an accent often require that just one accent appear in the output form of the phonological word. In these cases we expect to

find different patterns of resolution depending on the ranking of the uniformity constraints for roots versus affixes. Due to limitations of space we confine ourselves here to one example--the lexical accent system of Japanese (data from McCawley 1968, Purnell 1997). The well-known paradigm in (33) from McCawley (1968) shows the relevant data.

(33) i'noti   koko'ro   atama'   miyako'

    i'noti-ga   koko'ro-ga atama'-ga miyako-ga'

    i'noti-made koko'ro-made atama'-made miyako-ma'de

    i'noti-kara   koko'ro-kara atama'-kara miyako-kara'

    'life'   'heart'   'head'   'capital city'

    affixes: -ga nominative, ma'de 'up to', kara' 'from'

The words *i'noti*, *koko'ro*, and *atama'* have a fixed accent on the first, second, and third syllables, respectively, that overrides the accent on the first and second syllables, respectively, of *ma'de* and *kara'*. The contrasting accent of these suffixes appears when appended to a stem such as 'capital city' that lacks any fixed lexical accent: *miyako-ma'de* vs. *miyako-kara'*. When /miyako/ combines with an unaccented suffix such as the nominative /-ga/ or when it appears in isolation then an accent is inserted on the final syllable of the phonological word in order to satisfy the requirement that each word contain a single accent.

  Given the overriding requirement that just a single accent appear in the output, departures from uniform exponence for accent occur when first an accented root combines with an accented affix or second an unaccented root combines with an unaccented affix or appears in isolation. As for the first case,

when an accented root is combined with an accented suffix the accent of the root consistently predominates. This reflects the ranking of 1-accent, UE(root) >> UE(affix).

(34)

/i'noti-ma'de/	1-accent	UE(root)	UE(affix)
i'noti-ma'de	*!		
$i'noti-made			*
inoti-ma'de		*!	

This ranking also asserts itself when an unaccented stem is combined with an unaccented suffix. Given the superordinate requirement that the phonological word contain one accent, an accent must be inserted, entailing a departure from uniformity. Since UE(root) >> UE(affix), it is the affix that gives way (35a). But when there is no affix, then the root receives an accent (35b) indicating at 1-accent dominates UE(root) as well.

(35) a.

/miyako+ga/	1-accent	UE(root)	UE(affix)
miyako+ga	*!		
miyako'+ga		*!	
$miyako+ga'			*

b.

/miyako/	1-accent	UE(root)	UE(affix)
miyako	*!		
$miyako'		*	

While the paradigms in (33) represent the general case, there are restricted classes of affixes that invert the UE(root) >> UE(affix) ranking. Two such affixes are *gu'rai* 'as much as, approximately' and *rasi'i* 'it seems like'. Unlike *ma'de* and *kara'*, their accent predominates over the root.

(36) i'noti   'life'   miyako' 'capital city'

      inoti-gu'rai 'as much as a life'   miyako-gu'rai 'as much as a

                                             capital city'

      koko'ro 'heart'   miyako' 'capital city'

      kokoro-rasi'i 'like a heart'   miyako-rasi'i 'like a capital city'

We capture this behavior by positing the lexically restricted ranking of UE(affix) >> UE(root), as shown by the tableau in (37).

(37)

/i'noti+gu'rai/	1-accent	UE(gu'rai)	UE(root)
i'noti-gu'rai	*!		
i'noti-gurai		*!	
$inoti-gu'rai			*

There are unaccented suffixes whose exponence predominates over that of the root as well. Examples appear in (38).

(38)   i'noti-ga 'life' nom.   miyako-ga' 'capital city' nom.

i'noti-sika 'only a life'   miyako'-sika 'only a capital city'

ana'ta-ga 'you'   kodomo-ga' 'child'

ana'ta-tati 'you' pl.   kodomo'-tati 'children'

These suffixes are traditionally viewed as preaccenting morphemes (-*'sika*, -*'tati*) that place an accent on the final syllable of the stem. In the derivational model this accent deletes after another accent by the processes that eliminate all but the first accent in the minor phrase. In our framework *-sika* and *-tati* can be treated as parallel to the accented suffixes *-gu'ari* and *-rasi'i* in the sense that they maintain a uniform accentual shape (unaccentedness) at the expense of the root. When they are combined with an accented root, there is no conflict and hence the accent of the root predominates as expected. But when they are combined with an unaccented root a conflict arises. As we saw above (35a), under the normal ranking an accent appears on the suffix. But in this case the root gives way with a departure from uniformity--but a minimal one. Given that an accent must be introduced, it is better to place it on the final syllable of the

stem than anywhere else because this is the spot where an accent falls in the isolation form *miyako'* in order to satisfy the 1-accent constraint. Any other location would needlessly expand the paradigm of *miyako'*.

(39) /miyako+sika/	1-accent	UE(sika)	UE(root)
miyako-sika	*!		
miyako-sika'		*!	
$miyako'-sika			*
miya'ko-sika			**!

7. Conclusion

In this paper we have exemplified the constraint of Uniform Exponence. We saw that this constraint elucidates an otherwise mysterious double retraction of stress in certain plural formations in Russian and the scope of an allomorphy process in Dominican Spanish. We then saw how a simple typology of stress in five Australian languages is available when Uniform Exponence for the stress of roots and affixes is variably ranked with Alignment and Lapse constraints on good metrical form. These results were then extended to provide a typology of enclitic stress in Italian and Japanese.

Notes

[1] In the more sophisticated Simplified Bracketed Grid model of Idsardi (1992) no special rule is required to achieve the double retraction (cf. Halle (1997).

[2] One might try to avoid this conclusion by proposing that the stress retraction class of stems such as *remesl-o'* have a floating accent that shuns jers and otherwise seeks out the rightmost position. However, docking the floating accent to the stem must only apply in the plural. Under the most straightforward conception of the cycle, the grammar cannot tell whether the word is in a

particular category until the cycle reaches the morpheme that marks that category--in this case the plural desinence.

3 It will be necessary to sensitize Uniform Exponence to primary vs. secondary stress: *sa'bana"-se* would match the stress of the singular *sa'bana* with a secondary stress. But this is not sufficient to license plural augmentation. The singular and plural must match in the location of primary stress in order to satisfy Uniform Exponence. Contrast this case with various Australian languages discussed below where Uniform Exponence for stress is satisfied regardless of the distinction between primary versus secondary stress.

4 The research reported in this section was conducted with Robert Pensalfini.

5 This form is transcribed without a stress mark in Hansen & Hansen (1969); we have supplied the stressing that would follow from their characterization of the stress as left-to-right alternating.

6 It is interesting that the bare form of the root is only found in subordinate clauses; in Jingulu main clauses the verbal root is always followed by an inflection. It is unclear to what extent this fact detracts from the learnability of the proposed analysis (cf. Lightfoot's 1989 notion of degree zero learnability).

7 Since monosyllabic affixes are stressed or unstressed depending on position, we count a Un-Exp violation for each one regardless of whether it is stressed or unstressed.

8Peperkamp (1995, 1997a) proposes an OT analysis of the three Italian dialects just reviewed in terms of three competing constraints regulating different degrees of incorporation of the clitics with the preceding verbal base. The constraints include faithfulness to the metrical structure of the base, a ban against recursion of the Prosodic Word, and an Exhaustivity constraint requiring the clitic to be a daughter of the Prosodic Word. The various

structures assigned are indicated in (a), the constraint violations these structures incur appear in (b), and the required rankings for each dialect appear in (c).

a. A. PWd-adjunction   B. PWd-incorporation   C. PPh-incorporation

```
PPh                    PPh                        PPh
 |                      |                          | \
Pwd                    Pwd                        Pwd \
 | \                    | \                        |   \
Pwd \                  host  cl                    host   cl
 |  \
host  cl
```

Napolitano   **Lucanian**   **St Italian**

b.   <u>Faithfulness   No-Recursion Exhaustivity</u>
   A   *
   B   *
   C   *

c. Napolitano: Faithfulness, Exhaustivity >> No-Recursion
    Lucanian: No-Recursion, Exhaustivity >> Faithfulness
    St Italian: Faithfulness, No-Recursion >> Exhaustivity

As far as we know, there is little independent evidence for the proposed structures (a point also made by Loporcaro 1997). Furthermore, the analysis for standard Italian where the clitics are daughters of the phonological phrase and thus have no special relation with the verb would appear to have trouble explaining the finding of D'Imperio & Rosenthall (1997) that penultimate lengthening of stressed open syllables is blocked under enclisis. Finally, there is a crucial redundancy between the postulated structures and the constraint rankings: in effect, all the work is done by the former

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Appendix

Russian Class B (Oxytone) nouns (Zaliznjak 1987)

<u>Feminine</u>

sosna', so'sny, so'sen	'pine'
ko„sma', ko'„smy, ko'„sem	'felt'
„cuxna', „cu'xny, „cu'xon	'Finn'
t'ur'ma', t'u'r'my, t'u'rem	'prison'
sud'ba', su'd'by, su'deb	'fate'
vetla', ve'tly, ve'tel	'white willow'
metla', me'tly, me'tel	'broom'
kopna', ko'pny, ko'pen/kope'n	'rick'
vesna', ve'sny, ve'sen	'spring' (season)
desna', de'sny, de'sen	'gum'
blesna', ble'sny, ble'sen	'spoon bait'
pl'usna', pl'u'sny, pl'u'sen	'metatarsus'
kirka', ki'rki, ki'rok	'pick-axe'
kn'a„zna', kn'a„zny', kn'a„zo'n	'prince'
kajma', kajmy', kajo'm	'border'
ko„cerga', ko„cergi', ko„cere'k	'poker'
mo„sna', mo„sny', mo„so'n	'purse'
syrca', syrcy', syre'c	'dampness'
kabarga', kabargi', kabaro'k	'pollard'

ki„ska', ki„ski', ki„so'k   'intestine'

ser'ga', se'r'gi, sere'g   'earing'
sestra', se'stry, seste'r   'sister'
ovca', o'vcy, ove'c   'sheep'
skam'ja', ska'm'ji, skame'j   'bench'
sem'ja', se'm'ji, seme'j   'family'
svinja', svi'n'ji, svine'j   'pig'

Neuter

polotno', polo'tna, polo'ten   'linen'
okno', o'kna, o'kon   'window'
pis'mo', pi's'ma, pi'sem   'letter'
dolotco', dolo'tca, dolo'tec   'chisel' dimin.
kopjo',ko'p'ja, ko'pij   'spear'
greblo', gre'bla, gre'bel   'rake'
skreblo', skre'bla, skre'bel   'scraper'
steblo', ste'bla, ste'bel
t'ablo', t'a'bla, t'a'bel   'shelf for icon'
sedlo', se'dla, se'del   'saddle'
steklo', ste'kla, ste'kol   'glass pane'
sopló, sópla, sópol   'nozzle'
duplo', du'pla, du'pol   'cavity'
veslo', ve'sla, ve'sel   'oar'
remeslo', reme'sla, reme'sel   'trade'
rukomeslo', rukome'sla, rukome'sel
teslo', te'sla, te'sel   'adze'
„cislo', „ci'sla, „ci'sel   'number'
brevno', bre'vna, bre'ven   'beam'
stegno', ste'gna, ste'gon   'thigh bone'
r'adno', r'a'dna, r'a'den   'sackcloth'
lukno', lu'kna, lu'kon
sukno', su'kna, su'kon   'shelve'
gumno', gu'mna, gu'men/gume'n 'floor'
p'atno', p'a'tna, p'a'ten   'stain'
rebro', re'bra, re'ber   'rib'
bedro', be'dra, be'der   'hip'
vedro', ve'dra, ve'der   'pail'
jadro', ja'dra, ja'der   'kernel'
ruzjo', ru'zja, ru'zej   'gun'

slovco', slovca', slove'c   'witty remark'
sel'co', sel'ca', sele'c   'village' dimin.
pitjo', pitja', pite'j   'beverage'

kol'co', ko'l'ca, kole'c   'ring
jajco', ja'jca, jaji'c   'egg'