BBN–ANG–141 Foundations of phonology
8. Unstressed syllables, unstressed vowels

Péter Szigetvári

Dept of English Linguistics, Eötvös Loránd University

outline

free variation & neutralization

vowel reduction
- spelling reduced vowels

other processes occuring in unstressed position
- syllabic consonant formation
- syncope

mergers in unstressed position

free variation

free variation exists in stressed syllables

either /ájðə/ ∼ /íjðə/, *apricot* /éjprəkot/ ∼ /áprəkot/

free variation

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but it is much more common in unstressed syllables

family /fámilij/ ∼ /fáməlij/ ∼ /fámḷij/ ∼ /fámlij/ (the first, stressed syllable is stable, the second unstressed syllable varies)

neutralization

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man $\neq$ *men* (/a/ vs. /e/), but *postman* $=$ *postmen* (/ə/ in both)

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vowel reduction

/a/ > /ə/ and /e/ > /ə/ are instances of vowel reduction

vowel reduction

the vowels of English in stressed position (= full vowels)							
6 short (checked) vowels	i	ə	u	e		a	o
6 long (R) vowels	iː	əː	uː	eː		aː	oː
7 diphthongs (free vowels)	ij	əw	uw	ej	aj	aw	oj

vowel reduction

the vowels of English in unstressed postion (= weak/reduced vowels)							
3 short (checked) vowels	i	ə	u	e		a	o
0 long (R) vowels	iː	əː	uː	eː		aː	oː
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vowel reduction

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stressed and reduced vowel may sound/look the same

village	vílidʒ
butter	bətə
easy	íjzij
photo	fəwtəw

vowel reduction

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the distribution of reduced vowels: i ə u

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- *unite* junájt, *regular* régjulə, *volume* vóljum

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except reduced ə, which can also occur word finally

matter mátə, *colour* kə́lə, *martyr* má:tə, *coma* kə́wmə

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except reduced ij, which does not occur before a consonant

(note that ij is word final in *babies* béjbijz or *laziness* léjzijnəs)
before a consonant reduced əw and uw can always lose their w, thus becoming reduced ə and u

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reduced u and uw

occur only after palatal consonants and stop+liquid clusters:
volume vóljuwm, *virtue* vəːtʃuw, *gradual* grádʒuwəl, *issue* íʃuw, *usual* júwʒuwəl, *instrument* ínstrumənt, *influence* ínfluwəns

the distribution of reduced vowels: summary

	__C	__#	__V
ɪ	✓	✗	✗
ə	✓	✓	✗
ʉ	✓	✗	✗
ɪj	✗	✓	✓
əw	(✓)	✓	✓
ʉw	(✓)	✓	✓

◯: different than full vowel

spelling reduced ə

single vowel letters

	BEGINNING	MIDDLE	END
A	*a*bout əbáwt	mad*a*m mádəm	comm*a* kómə
E	*e*rase əréjs	chick*e*n ʧíkən	(Saoirs*e* ʃə́ːʃə)
I/Y	—	Apr*i*l éjprəl	—
O	*o*bey əbéj	abb*o*t ábət	—
U	—	bon*u*s báwnəs	—

spelling reduced ə

single vowel letters

	BEGINNING	MIDDLE	END
A	*about* əbáwt	*madam* mádəm	*comma* kómə
E	*erase* əréjs	*chicken* ʧíkən	(*Saoirse* ʃáːʃə)
I/Y	—	*April* éjprəl	—
O	*obey* əbéj	*abbot* ábət	—
U	—	*bonus* báwnəs	—

no letter

app•le ápəl, *rhyth•m* ríðəm, *cent•re* séntə

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U	—	b*u*s báwnəs	—

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app•le ápəl, rhyth•m ríðəm, cent•re séntə

digraphs

v*illai*n vílən, f*amou*s féjməs

spelling reduced i

single vowel letters

	BEGINNING	MIDDLE	END
A	—	*village* víliʤ	—
E	*erase* iréjs	*chicken* ʧíkin	—
I/Y	*ignore* ignóː	*April* éjpril	—
O	—	—	—
U	—	(*minute* mínit)	—

spelling reduced i

single vowel letters

	BEGINNING	MIDDLE	END
A	—	*village* víliʤ	—
E	*erase* iréjs	*chicken* ʧíkin	—
I/Y	*ignore* ignóː	*April* éjpril	—
O	—	—	—
U	—	(*minute* mínit)	—

digraphs

forfeit fóːfit, *handkerchief* háŋkəʧif

spelling reduced i

single vowel letters

	BEGINNING	MIDDLE	END
A	—	*village* víliʤ	—
E	*erase* iréjs	*chicken* ʧíkin	—
I/Y	*ignore* ignóː	*April* éjpril	—
O	—	—	—
U	—	(*minute* mínit)	—

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note

i does not occur before R in covered position:
aspiration áspiréjʃən or áspəréjʃən vs *affirmation* áfəméjʃən

spelling reduced ij

single vowel letters

	BEGINNING	MIDDLE	END
A	—	—	—
E	—	*area* éːrijə	*simile* síməlij
I/Y	—	*aria* éːrijə	*happy* hápij
O	—	—	—
U	—	—	—

spelling reduced əw

single vowel letter

	BEGINNING	MIDDLE	END
A	—	—	—
E	—	—	—
I/Y	—	—	—
O	*obey* ə(w)béj	*Oldsmobile* áwldzmə(w)bijl	*motto* mótəw
U	—	—	—

spelling reduced əw

single vowel letter

	BEGINNING	MIDDLE	END
A	—	—	—
E	—	—	—
I/Y	—	—	—
O	*obey* ə(w)béj	*Oldsmobile* əwldzmə(w)bijl	*motto* mótəw
U	—	—	—

digraph

fellow féləw

spelling reduced uw and u

single vowel letter

	BEGINNING	MIDDLE	END
A	—	—	—
E	—	—	—
I/Y	—	—	—
O	—	—	—
U	*u*nite ju(w)nájt	vol*u*me vólju(w)m	men*u* ménjuw

spelling reduced uw and u

single vowel letter

	BEGINNING	MIDDLE	END
A	—	—	—
E	—	—	—
I/Y	—	—	—
O	—	—	—
U	*unite* ju(w)nájt	*volume* vólju(w)m	*menu* ménjuw

notes

reduced uw does not occur before C + unstressed V (2) or R (3, 4)

spelling reduced uw and u

single vowel letter

	BEGINNING	MIDDLE	END
A	—	—	—
E	—	—	—
I/Y	—	—	—
O	—	—	—
U	*unite* ju(w)nájt	*volume* vólju(w)m	*menu* ménjuw

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1. *stimulate* stímjuwlejt or stímjulejt or stímjəlejt vs

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A	—	—	—
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1. *stimulate* stímjuwlejt or stímjulejt or stímjəlejt vs
2. *stimulus* stímjuləs or stímjələs, but *stímjuwləs

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1. *stimulate* stímjuwlejt or stímjulejt or stímjəlejt vs
2. *stimulus* stímjuləs or stímjələs, but *stímjuwləs
3. *saturate* sátʃurejt or sátʃərejt, but *sátʃuwrejt

spelling reduced uw and u

single vowel letter

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A	—	—	—
E	—	—	—
I/Y	—	—	—
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U	*unite* ju(w)nájt	*volume* vólju(w)m	*menu* ménjuw

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4. *tenure* ténjə, *treasure* trézʒə

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a schwa+consonant sequence may become a syllabic consonant

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  mutton mətən → mətn̩, *quorum* kwoːrəm → kwoːrm̩,
  but *melon* melən ↛ *meln̩, *common* komən ↛ *komn̩

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- l can be syllabic except when the preceding consonant is also l:
  mortal moːtəl → moːtl̩, *morsel* moːsəl → moːsl̩,
  moral morəl → morl̩, *mammal* maməl → maml̩,
  narwhal naːwəl → naːwl̩, *mile* majl → majəl → majl̩

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  narwhal naːwəl → naːwl̩, *mile* majl → majəl → majl̩
- r can be syllabic only before vowels: *terrorist* terərist → terr̩ist, but *terror* *terr̩; *hammer* *hamr̩, *camera* kamr̩ə, *literal* litr̩l̩

syncope

syllabic consonants may lose their syllabicity

the result, called syncope, is the total loss of the unstressed vowel:
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- the syllabic sonorant is followed by an unstressed vowel:
  memory méməri̯j → mémri̯j, but *memorize* méməraj̯z ↛ *mémraj̯z,
  Lebanon lébənən → lébn̩ən → lébnən, but lébənon → lébn̩on ↛ *lébnon

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- the syllabic sonorant is not preceded by r (recall, r in CUBE must be followed by something syllabic—usually a vowel):
  celery sélərij → sélr̩ij → sélrɪj, but *perilous* pérələs → pérl̩əs ↛ *pérləs

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- there is no stop+liquid cluster before the ə:
  company kə́mpənij → kə́mpnij, *factory* fáktərij → fáktrij, *raspberry* rázbərij → rázbrij, but *burglary* bə́ːglərij → bə́ːglṛij ↛ *bə́ːglrij

a special case of syncope: “high vowel gliding”

syncope usually affects ə

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like syncope, high vowel gliding does not occur

- before a stressed vowel: *delineation* dəlínijéjʃən ↛ *dəlínjéjʃən; *situation* síʧuwéjʃən ↛ *síʧwéjʃən
- after stop+liquid clusters: *atrium* éjtrijəm ↛ *éjtrjəm

mergers

reduction

accept əksépt = *except*
complement kómpl i̤ ə mənt = *compliment*
currant kə́rənt = *current*

mergers

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syncope

finally fájnəlij → fájnlij = *finely*
Hungary hə́ŋgərij → hə́ŋgrij = *hungry*
lightening lájtəniŋ → lájtniŋ = *lightning*

sample exam questions

which short vowel may occur word finally?

1. unstressed i
2. stressed i
3. unstressed ə
4. sterssed ə

sample exam questions

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in which word is syncope possible?

1. cámel
2. Pámela
3. Ptólemy
4. cólumn

sample exam questions

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