

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 occurring in unstressed position

syllabic consonant formation

syncope

mergers in unstressed position

free variation

free variation exists in stressed syllables

either /ájðə/ ~ /íjðə/, apricot /éjprækot/ ~ /áprækot/

free variation

free variation exists in stressed syllables

either /ájðə/ ~ /íjðə/, *apricot* /éjprækot/ ~ /áprækot/

but it is much more common in unstressed syllables

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

neutralization

vowel contrasts are neutralized before R

neutralization

vowel contrasts are neutralized before R

- NURSE merger: *bin* ≠ *Ben* ≠ *bun*, *Byrne* = *Bern* = *burn*

neutralization

vowel contrasts are neutralized before R

- ▶ NURSE merger: *bin* ≠ *Ben* ≠ *bun*, *Byrne* = *Bern* = *burn*
- ▶ FORCE–NORTH–CURE merger: *shoat* ≠ *shot* ≠ *shoot*,
shore = *shor(t)* = *sure*

neutralization

vowel contrasts are neutralized before R

- ▶ NURSE merger: *bin* ≠ *Ben* ≠ *bun*, *Byrne* = *Bern* = *burn*
- ▶ FORCE–NORTH–CURE merger: *shoat* ≠ *shot* ≠ *shoot*,
shore = *shor(t)* = *sure*
- ▶ *tan* ≠ *Tyne* ≠ *town*, *tar* = *tyre* = *tower*

neutralization

vowel contrasts are neutralized before R

- ▶ NURSE merger: *bin* ≠ *Ben* ≠ *bun*, *Byrne* = *Bern* = *burn*
- ▶ FORCE–NORTH–CURE merger: *shoat* ≠ *shot* ≠ *shoot*,
shore = *shor(t)* = *sure*
- ▶ *tan* ≠ *Tyne* ≠ *town*, *tar* = *tyre* = *tower*
- ▶ GA: *mat* ≠ *met* ≠ *mate*, *marry* = *merry* = *Mary*

neutralization

vowel contrasts are neutralized before R

- ▶ NURSE merger: *bin* ≠ *Ben* ≠ *bun*, *Byrne* = *Bern* = *burn*
- ▶ FORCE–NORTH–CURE merger: *shoat* ≠ *shot* ≠ *shoot*,
shore = *shor(t)* = *sure*
- ▶ *tan* ≠ *Tyne* ≠ *town*, *tar* = *tyre* = *tower*
- ▶ GA: *mat* ≠ *met* ≠ *mate*, *marry* = *merry* = *Mary*

vowel contrasts are neutralized in unstressed syllables

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

neutralization

vowel contrasts are neutralized before R

- ▶ NURSE merger: *bin* ≠ *Ben* ≠ *bun*, *Byrne* = *Bern* = *burn*
- ▶ FORCE–NORTH–CURE merger: *shoat* ≠ *shot* ≠ *shoot*,
shore = *shor(t)* = *sure*
- ▶ *tan* ≠ *Tyne* ≠ *town*, *tar* = *tyre* = *tower*
- ▶ GA: *mat* ≠ *met* ≠ *mate*, *marry* = *merry* = *Mary*

vowel contrasts are neutralized in unstressed syllables

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

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 position (= weak/reduced vowels)

3 short (checked) vowels i ə u e a o

0 long (R) vowels ɪ əɪ ʊɪ eɪ aɪ oɪ

3 diphthongs (free vowels) ij əw uw ej aj aw oj

vowel reduction

the vowels of English

short (checked) vowels	i	ə	u	e	a	o	
long (R) vowels	ɪ:	ə:	ʊ:	ɛ:	ɑ:	ɔ:	
diphthongs (free vowels)	ɪj	əw	uw	ej	aj	aw	oj

stressed and reduced vowel may sound/look the same

village vɪlɪdʒ

butter bétə

easy ˈiːzɪj

photo fówtəw

vowel reduction

the vowels of English

short (checked) vowels	i	ə	u	e	a	o	
long (R) vowels	ɪ:	ə:	ʊ:	ɛ:	ɑ:	ɔ:	
diphthongs (free vowels)	ɪj	əw	uw	ej	aj	aw	oj

stressed and **reduced** vowel may sound/look the same

village vílɪdʒ

butter bétə

easy ízíj

photo féwtəw

the distribution of reduced vowels: i ə u

short vowels only occur before a consonant

the distribution of reduced vowels: i ə u

short vowels only occur before a consonant

- *illegal* ilígəl, *family* fámiliј, *basic* béisik

the distribution of reduced vowels: i ə u

short vowels only occur before a consonant

- ▶ *illegal* ilígəl, *family* fámiliј, *basic* béjsik
- ▶ *unite* junájt, *regular* régjulə, *volume* vóljum

the distribution of reduced vowels: i ə u

short vowels only occur before a consonant

- ▶ *illegal* ilígəl, *family* fámiliј, *basic* béjsik
- ▶ *unite* junájt, *regular* régjulə, *volume* vóljum
- ▶ *attack* əták, *abacus* ábəkəs

the distribution of reduced vowels: i ə u

short vowels only occur before a consonant

- ▶ *illegal* ilígəl, *family* fámiliј, *basic* béjsik
- ▶ *unite* junájt, *regular* régjulə, *volume* vóljum
- ▶ *attack* əták, *abacus* ábəkəs

except reduced ə, which can also occur word finally

matter mátə, *colour* kélə, *martyr* má:tə, *coma* kéwmə

the distribution of reduced vowels: ij əw uw

free vowels occur anywhere

the distribution of reduced vowels: ij əw uw

free vowels occur anywhere

- ▶ *create* **krijéjt**, *happy* **hápij**

the distribution of reduced vowels: ij əw uw

free vowels occur anywhere

- ▶ *create* **krijéjt**, *happy* **hápij**
- ▶ *obese* **əwbíjs/əbijs**, *Genoa* **dʒénəwə**, *window* **wíndəw**

the distribution of reduced vowels: ij əw uw

free vowels occur anywhere

- ▶ *create* **krijéjt**, *happy* **hápij**
- ▶ *obese* **əwbíjs/əbijs**, *Genoa* **dʒénəwə**, *window* **wíndəw**
- ▶ *unite* **juwnájt/junájt**, *visual* **víʒuwəl**, *value* **váljuw**

the distribution of reduced vowels: ij əw uw

free vowels occur anywhere

- ▶ *create* kri^jéjt, *happy* hápⁱj
- ▶ *obese* əwbíjs/əbíjs, *Genoa* dʒénəwə, *window* wíndəw
- ▶ *unite* juwnájt/junájt, *visual* víʒuwəl, *value* váljuw

except reduced ij, which does not occur before a consonant

(note that ij is word final in *babies* békbi^jz or *laziness* lézijⁿəs)

before a consonant reduced əw and uw can always lose their w, thus becoming reduced ə and u

the distribution of reduced vowels: ij əw uw

free vowels occur anywhere

- ▶ *create* kri^jéjt, *happy* hápij
- ▶ *obese* əwbíjs/əbijs, *Genoa* dʒénəwə, *window* wíndəw
- ▶ *unite* juwnájt/junájt, *visual* víʒuwəl, *value* váljuw

except reduced ij, which does not occur before a consonant

(note that ij is word final in *babies* békbijs or *laziness* lézijñəs)

before a consonant reduced əw and uw can always lose their w, thus becoming reduced ə and u

reduced u and uw

occur only after palatal consonants and stop+liquid clusters:

volume vóljuwm, *virtue* vé:tjuw, *gradual* grádʒuwəl, *issue* íʃuw,
usual júwʒuwəl, *instrument* ínstrumənt, *influence* ínfluwəns

the distribution of reduced vowels: summary

	—C	—#	—V
I	✓	X	X
ə	✓	○	X
ɛ	✓	X	X
ɪj	○	✓	✓
əw	(✓)	✓	✓
ɛw	(✓)	✓	✓

○: different than full vowel

spelling reduced ə

single vowel letters

	BEGINNING	MIDDLE	END
A	<i>about</i> əbáwt	<i>madam</i> mágdəm	<i>comma</i> kómə
E	<i>erase</i> əréjs	<i>chicken</i> tʃíkən	—
I/Y	—	<i>April</i> éjprəl	—
O	<i>obey</i> əbéj	<i>abbot</i> ábət	—
U	—	<i>bonus</i> báwnəs	—

spelling reduced ə

single vowel letters

	BEGINNING	MIDDLE	END
A	<i>about</i> əbáwt	<i>madam</i> mágdəm	<i>comma</i> kómə
E	<i>erase</i> əréjs	<i>chicken</i> tʃíkən	—
I/Y	—	<i>April</i> éjprəl	—
O	<i>obey</i> əbéj	<i>abbot</i> ábət	—
U	—	<i>bonus</i> báwnəs	—

no letter

apple ápəl, *rhythm* ríðəm, *centre* séntə

spelling reduced ə

single vowel letters

	BEGINNING	MIDDLE	END
A	<i>about</i> əbáwt	<i>madam</i> mágdəm	<i>comma</i> kómə
E	<i>erase</i> əréjs	<i>chicken</i> tʃíkən	—
I/Y	—	<i>April</i> éjprəl	—
O	<i>obey</i> əbéj	<i>abbot</i> ábət	—
U	—	<i>bonus</i> báwnəs	—

no letter

apple ápəl, *rhythm* ríðəm, *centre* séntə

digraphs

villain vílən, *famous* féjməs

spelling reduced i

single vowel letters

	BEGINNING	MIDDLE	END
A	—	village vílɪdʒ	—
E	erase íréjs	chicken tʃíkin	—
I/Y	ignore ignó:	April éjpril	—
O	—	—	—
U	—	(minute mínit)	—

spelling reduced i

single vowel letters

	BEGINNING	MIDDLE	END
A	—	village vílɪdʒ	—
E	erase íréjs	chicken tʃíkin	—
I/Y	ignore ignó:	April éjpril	—
O	—	—	—
U	—	(minute mínit)	—

digraphs

forfeit fó:fit, handkerchief háŋkətʃif

spelling reduced i

single vowel letters

	BEGINNING	MIDDLE	END
A	—	village vílɪdʒ	—
E	erase íréjs	chicken tʃíkin	—
I/Y	ignore ignó:	April éjpril	—
O	—	—	—
U	—	(minute mínit)	—

digraphs

forfeit fó:fit, handkerchief háŋkətʃif

note

i does not occur before R in covered position:

aspiration áspiréjʃən or áspəréjʃən vs affirmation áfərméjʃən

spelling reduced ij

single vowel letters

	BEGINNING	MIDDLE	END
A	—	—	—
E	—	<i>area</i> é:rijə	<i>simile</i> síməlij
I/Y	—	<i>aria</i> é:rijə	<i>happy</i> hápj
O	—	—	—
U	—	—	—

spelling reduced **əw**

single vowel letter

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

spelling reduced $\text{\textipa{əw}}$

single vowel letter

	BEGINNING	MIDDLE	END
A	—	—	—
E	—	—	—
I/Y	—	—	—
O	<i>obey</i> $\text{\textipa{ə(w)béj}}$	<i>Oldsmobile</i> $\text{\textipa{áwlđzmə(w)bijl}}$	<i>motto</i> $\text{\textipa{mótəw}}$
U	—	—	—

digraph

fellow $\text{\textipa{féləw}}$

spelling reduced **uw** and **u**

single vowel letter

	BEGINNING	MIDDLE	END
A	—	—	—
E	—	—	—
I/Y	—	—	—
O	—	—	—
U	<i>unite</i> ju(w)nájt	<i>volume</i> vólju(w)m	<i>men<u>u</u></i> ménjuw

spelling reduced uw and u

single vowel letter

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

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	<i>unite ju(w)nájt</i>	<i>volume vólju(w)m</i>	<i>men<u>u</u> ménjuw</i>

notes

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

1. *stimulate stímjuwlejt* or *stímjulejt* or *stímjəlejt* vs

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	men <u>u</u> ménjuw

notes

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

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

spelling reduced **uw** and **u**

single vowel letter

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

notes

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

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

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

notes

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

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

syllabic consonant formation

a schwa+consonant sequence may become a syllabic consonant

syllabic consonant formation

a schwa+consonant sequence may become a syllabic consonant

- if it is a sonorant (obstruents cannot be syllabic):
opal əwpəl → əwp|, but *opus* əwpəs ↗ *əwpſ

syllabic consonant formation

a schwa+consonant sequence may become a syllabic consonant

- ▶ if it is a sonorant (obstruents cannot be syllabic):
opal əwpəl → əwp|, but *opus* əwpəs ↗ *əwpʂ
- ▶ nasals can be syllabic only if the preceding consonant is an obstruent or r:
mutton mətən → mətɳ, *quorum* kwo:rəm → kwo:rɳ,
but *melon* melən ↗ *melɳ, *common* komən ↗ *komɳ

syllabic consonant formation

a schwa+consonant sequence may become a syllabic consonant

- ▶ if it is a sonorant (obstruents cannot be syllabic):
opal əwpəl → əwp|, but *opus* əwpəs ↗ *əwpſ
- ▶ nasals can be syllabic only if the preceding consonant is an obstruent or **r**:
mutton mətən → mətn̩, *quorum* kwo:rəm → kwo:r̩m,
but *melon* melən ↗ *meln̩, *common* komən ↗ *komn̩
- ▶ | can be syllabic except when the preceding consonant is also |:
mortal mo:təl → mo:t|, *morsel* mo:səl → mo:s|,
moral morəl → mor|, *mammal* maməl → mam|,
narwhal na:wəl → na:w|, *mile* majl → majəl → maj|

syllabic consonant formation

a schwa+consonant sequence may become a syllabic consonant

- ▶ if it is a sonorant (obstruents cannot be syllabic):
opal əwpəl → əwp|, but *opus* əwpəs ↗ *əwpſ
- ▶ nasals can be syllabic only if the preceding consonant is an obstruent or **r**:
mutton mətən → mətn̩, *quorum* kwo:rəm → kwo:r̩m,
but *melon* melən ↗ *meln̩, *common* komən ↗ *komn̩
- ▶ l can be syllabic except when the preceding consonant is also l:
mortal mo:təl → mo:t|, *morsel* mo:səl → mo:s|,
moral morəl → mor|, *mammal* maməl → mam|,
narwhal na:wəl → na:w|, *mile* majl → majəl → maj|
- ▶ r can be syllabic only before vowels: *terrorist* terərist → ter|rɪst, but
terror *terr|; *hammer* *hamr̩, *camera* kamrə, *literal* litr̩

syncope

syllabic consonants may lose their syllabicity

the result, called **syncope**, is the total loss of the unstressed vowel:

family fámiliј → fáməliј → fám|liј → fámliј

syncope

syllabic consonants may lose their syllabicity

the result, called syncope, is the total loss of the unstressed vowel:

family fámiliј → fáməliј → fám|liј → fámliј

syncope may occur if

syllabic consonant formation is also possible, and in addition, if

syncope

syllabic consonants may lose their syllabicity

the result, called syncope, is the total loss of the unstressed vowel:

family fámiliј → fáməliј → fám|liј → fámliј

syncope may occur if

syllabic consonant formation is also possible, and in addition, if

- ▶ the syllabic sonorant is followed by an unstressed vowel:

memory méməriј → mémriј, but *memorize* mémərajz ↗ *mémrajz,

Lebanon lébənən → lébənən → lébnən, but lébənon → lébənon ↗ *lébon

syncope

syllabic consonants may lose their syllabicity

the result, called syncope, is the total loss of the unstressed vowel:

family fámiliij → fáməlij → fámlij → fámlij

syncope may occur if

syllabic consonant formation is also possible, and in addition, if

- ▶ the syllabic sonorant is followed by an unstressed vowel:
memory mémərij → mémrij, but *memorize* mémərajz ↗ *mémrajz,
Lebanon lébənən → lébənən → lébnən, but lébənon → lébənon ↗ *lébon
- ▶ the syllabic sonorant is not preceded by r (recall, r in CUBE must be followed by something syllabic—usually a vowel):
celery sélərij → sélrij → sélrij, but *perilous* pérələs → pérəs ↗ *pérləs

syncope

syllabic consonants may lose their syllabicity

the result, called syncope, is the total loss of the unstressed vowel:

family fámiliij → fáməlij → fámlij → fámlij

syncope may occur if

syllabic consonant formation is also possible, and in addition, if

- ▶ the syllabic sonorant is followed by an unstressed vowel:
memory mémərij → mémrij, but *memorize* mémərajz ↗ *mémrajz,
Lebanon lébənən → lébən → lébnən, but lébənon → lébənon ↗ *lébnon
- ▶ the syllabic sonorant is not preceded by r (recall, r in CUBE must be followed by something syllabic—usually a vowel):
celery sélərij → sélrij → sélrij, but *perilous* pérələs → pérəs ↗ *pérləs
- ▶ there is no stop+liquid cluster before the ə:
company kémpənij → kémpnij, *factory* fáktərij → fáktrij, *raspberry* rázbərij → rázbrij, but *burglary* bá:głərij → bá:głrij ↗ *bá:głrij

a special case of syncope: “high vowel gliding”

syncope usually affects ə

but unstressed ij and uw may also lose i and u

a special case of syncope: “high vowel gliding”

syncope usually affects ə

but unstressed ij and uw may also lose i and u

- ij: *opinion* əpínijən → əpínjən, *helium* híljijəm → híljəm

a special case of syncope: “high vowel gliding”

syncope usually affects ə

but unstressed ij and uw may also lose i and u

- ij: *opinion* əpínijən → əpínjən, *helium* híljijəm → híljəm
- uw: *usual* júwʒuwəl → júwʒwəl

a special case of syncope: “high vowel gliding”

syncope usually affects ə

but unstressed ij and uw may also lose i and u

- ▶ ij: *opinion* əpínijən → əpínjən, *helium* híljijəm → híljəm
- ▶ uw: *usual* júwʒuwəl → júwʒwəl
- ▶ this phenomenon is sometimes called **high vowel gliding**

a special case of syncope: “high vowel gliding”

syncope usually affects ə

but unstressed ij and uw may also lose i and u

- ▶ ij: *opinion* əpínijən → əpínjən, *helium* híljijəm → híljəm
- ▶ uw: *usual* júwʒuwəl → júwʒwəl
- ▶ this phenomenon is sometimes called high vowel gliding

like syncope, high vowel gliding does not occur

a special case of syncope: “high vowel gliding”

syncope usually affects ə

but unstressed ij and uw may also lose i and u

- ▶ ij: *opinion* əpínijən → əpínjən, *helium* híljijəm → híljəm
- ▶ uw: *usual* júwʒuwəl → júwʒwəl
- ▶ this phenomenon is sometimes called high vowel gliding

like syncope, high vowel gliding does not occur

- ▶ before a stressed vowel: *delineation* dəlínijéjʃən ↘ *dəlínjéjʃən; *situation* sítfuwléjʃən ↘ *sítfwléjʃən

a special case of syncope: “high vowel gliding”

syncope usually affects ə

but unstressed ij and uw may also lose i and u

- ▶ ij: *opinion* əpínijən → əpínjən, *helium* híljijəm → híljəm
- ▶ uw: *usual* júwʒuwəl → júwʒwəl
- ▶ this phenomenon is sometimes called high vowel gliding

like syncope, high vowel gliding does not occur

- ▶ before a stressed vowel: *delineation* dəlínijéjʃən ↘ *dəlínjéjʃən; *situation* sítfuwéjʃən ↘ *sítfwéjʃən
- ▶ after stop+liquid clusters: *atrium* éjtrijəm ↘ *éjtrjəm

mergers

reduction

accept əksépt = *except*

complement kómpli|mént = *compliment*

currant kérənt = *current*

mergers

reduction

accept əksépt = *except*

complement kómplɪmənt = *compliment*

currant kérənt = *current*

syncope

finally fájnəlij → fájnlij = *finely*

Hungary héŋgərij → héŋgrij = *hungry*

lightening lájtənij → lájtnij = *lightning*

sample exam questions

which short vowel may occur word finally?

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

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

which short vowel may occur word finally?

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

in which word is syncope possible?

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

sample exam questions

which short vowel may occur word finally?

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

in which word is syncope possible?

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