Phonological Breakdown

Dustin Bowers

University of Alberta

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  - Particular focus on rhythmic syncope

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    - Particular focus on rhythmic syncope
- Reanalyses are a correction to an unlearnable phonological system.

Basic Rhythm

- Standard rhythmic typologies recognize two foot types (Hayes 1995):
    1. Iamb: (σ ´σ)
    2. Trochee: (´σ σ)

- Iteratively assigned across phonological words
    - (ba.dú)(pi.lé)(na.só)

- Degenerate feet indicate direction of foot assignment
    - (ba.dú)(pi.lé)(na.só)(dá)

- Long vowels may host a full foot
    - (báː)(pi.lé)(na.só)(dá)

Reduction . . . Deletion

- Unstressed vowels are often phonetically reduced
  - Shorter duration
  - Smaller vowel space/loss of quality distinctions
  - Loss of voicing

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- Vowels can be so reduced that they are not perceived
    - Presaging phonological deletion instead of phonetic reduction

Rhythmic Syncope

- Extreme reduction + iterative feet $\rightarrow$ cusp of rhythmic syncope
- True rhythmic syncope requires precursor be:
    1. interpreted as deletion by learners
    2. basis for deletion grammar with veridical output

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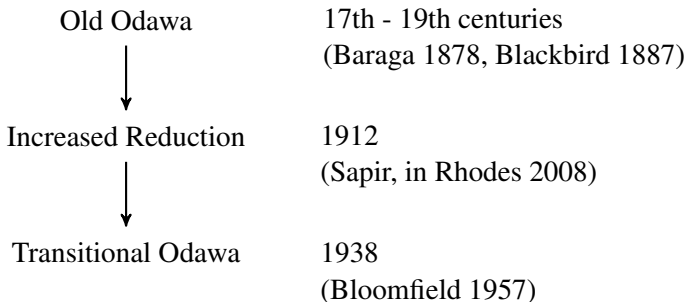- True rhythmic syncope is not a guaranteed outcome

Odawa

Preliminaries

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- Communities in Southern Ontario and Michigan

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- Odawa is a dialect of Ojibwe (Algonquian)
- Communities in Southern Ontario and Michigan
- Left-to-right iambic stress
- Long vowels heavy, closed syllables not
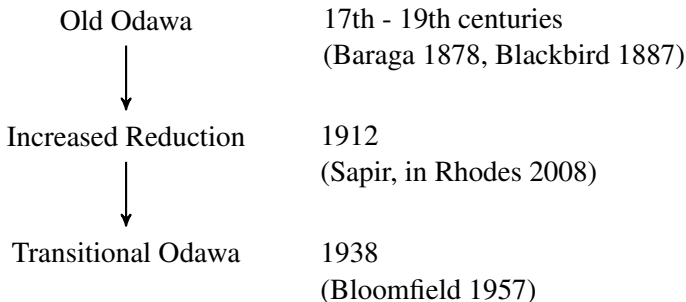- (dʌ.nʌ́)(kʌ.mí)(gɪ.zí-d) 'If he plays a game'

Timeline

- Cusp of rhythmic syncope ca. 1938

Old Odawa	17th - 19th centuries
	(Baraga 1878, Blackbird 1887)
↓	
Increased Reduction	1912
	(Sapir, in Rhodes 2008)
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Transitional Odawa	1938
	(Bloomfield 1957)

- "The vowels are . . . *never* silent" (Baraga 1878:4, emph. orig.).

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| Transitional Odawa | 1938 |
| | (Bloomfield 1957) |

- "The vowels are ... *never* silent" (Baraga 1878:4, emph. orig.).
- "The reduced vowels are rapidly spoken and often whispered or entirely omitted" (Bloomfield 1957:5).

Paradigmatic Alternations

- Prefixation shifted foot boundaries, causing alternations

'book'	'my book'	
/mʌzmʌʔɪgʌn/	/nɪ-mʌzmʌʔɪgʌn/	UR
(mʌzí)(nʌʔí)(gʌ́n)	(nɪmʌ́)(zɪnʌ́)(ʔɪgʌ́n)	Stress
(mᵊzí)(nᵊʔí)(gʌ́n)	(nᵊmʌ́)(zᵊnʌ́)(ʔᵊgʌ́n)	Reduction
[mᵊzínᵊʔígʌ́n]	[nᵊmʌ́zᵊnʌ́ʔᵊgʌ́n]	SR
[mzínʔígʌ́n]	[nmʌ́znʌ́ʔgʌ́n]	Likely Percept

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[məzínəʔígʌ́n]	[nəmʌ́zənʌ́ʔəgʌ́n]	SR
[mzínʔígʌ́n]	[nmʌ́znʌ́ʔgʌ́n]	Likely Percept

- $\sim 40\%$ of lexicon began with a light syllable
- $\sim 25\%$ of lexicon began with two light syllables
- → Paradigmatic alternations were well attested

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Murmurs of Change

- "Odawa has added a rule fairly recently, which deletes unstressed vowels . . . It would be interesting to speculate about the ulimate impact of this rule on Odawa phonology" (Kaye 1974b:148-9)
- "the grammar of older speakers has undergone (or, rather, is undergoing) considerable modification in the grammar of speakers who are in the mid-thirties and under." (Piggott 1974 [1980]:2)
    - See also Rhodes (1976:5-6)

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- Kaye and Piggott gathered most of their data in 1968-70

- Their consultants were in early childhood during Bloomfield's time.

Prefix Restructuring

- Rhodes (1985b) identifies a major change in person prefixes
  - See also Kaye (1974a)
- Expected person prefixes:

Pre-Consonantal			Pre-Vocalic			
1	2	3	1	2	3	
nɪ-	gɪ-	ʊ	nɪd-	gɪd-	ʊd-	Old Odawa
n-	g-	∅	nd-	gd-	d-	New Odawa

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- Additional prefixes observed

1	2	3	(New Odawa)
ndʌ-	gdʌ-	dʌ-	
ndɪ-	gdɪ-	dɪ-	
ndoː-	doː-	doː-	

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New Prefix Origins

- New prefixes arose via reanalysis of Transitional Odawa short
  vowel-initial words:

'He hangs'	'I hang'	(T. Odawa)
/ʌgoːd͡ʒɪn/	/nɪ-ʌgoːd͡ʒɪn/	UR
—	nɪ[d]ʌgoːd͡ʒɪn	Hiatus Resolution
(ʌgóː)(d͡ʒín)	(nɪdʌ́)(góː)(d͡ʒín)	Stress
(ᵊgóː)(d͡ʒín)	(nᵊdʌ́)(góː)(d͡ʒín)	Reduction
[ᵊgóːd͡ʒín]	[nᵊdʌ́góːd͡ʒín]	SR
[góːd͡ʒín]	[ndʌ́góːd͡ʒín]	Likely Percept

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- A plausible analysis (repeatable for [ɪ, ʊ], see Bowers 2012; 2013):

	goːd͡ʒɪn	'He hangs'
ndʌ	goːd͡ʒɪn	'I hang'

New Prefixes Spread

- New prefixes spread to *C-initial words

'He has a close call'	'I have a close call'	(T. Odawa)
/bʌʒmeː/	/nɪ-bʌʒmeː/	UR
(bʌʒí)(néː)	(nɪbʌ́)(ʒméː)	Stress
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- New Odawa: [bʒmeː], [ndʌ-bʒmeː]

- This spread was very regular (Rhodes 1985a, Valentine 2001:66-67, Bowers in prep)

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Local Summary

- Synchronic use of new prefixes diverges from diachrony

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- Synchronic use of new prefixes diverges from diachrony
- Synchronic grammar does not recapitulate diachrony
- Specifically, rhythmic syncope must not have been acquired

Prefixes under Rhythmic Syncope

- Transitional Odawa prefix allomorphs are regular under rhythmic syncope

Allomoprh	Distribution
nd-	pre-vocalic
n-	elsewhere

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- *n-[d]ʌgoːd͡ʒɪn* 'I hang' is easily analyzed:
    - *n-* is prefixal (possibly syllabic)
    - *[d]* separates syllabic segments
    - ʌ is stressed allophone of ʌ

- Alternating [ʌ] at left edge was lexically specific

→ Part of stem UR: /ʌgoːd͡ʒɪn/

- *ndʌ-* is contrary to rhythmic syncope analysis of *ndʌgoːd͡ʒɪn* 'I hang'

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- Rhythmic syncope must not have been acquired

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More Yiddish?

- *Can you give more detail about Yiddish?*
- Alternations that ceased due to levelling:

Process	Maintained (v = 1.sg, n = pl)	Replaced (other cells)
Umlaut	traːg	trek-st
Preterite presents	veɪs	vɪs-ən
Wechselflexion	gɪb	geb-ən
Word-final devoicing	loːb	lop
Open-syllable lengthening	saːg	sag-st
[d]-Deletion	gəfin	gəfind-ən
[ə]-Epenthesis	ʃturəm	ʃturm-ən

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What About German?

- *If Yiddish lost devoicing when it was opacated, why does German still have it?*
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    - German *might* have paralleled Western Yiddish.
    - Modern devoicing may be an innovation.

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    - German *might* have paralleled Western Yiddish.
    - Modern devoicing may be an innovation.
- Eastern Yiddish made devoicing be transparent.
    - King (1976) attributes this to Polish influence.
    - German *might* have taken the Eastern Yiddish route.

Decisive Cells Improve Efficiency

- *Why should there be a decisive cell if all cells are consulted?*

  - The decisive cell by-and-large shows fewest neutralizations.

    - Can be computed via surface-surface maps (Albright 2002).
    - Fewer neutralizations $\rightarrow$ more markedness violations. Perhaps decisive cell can be computed by comparing markedness profiles.

  - Un-neutralized values $\rightarrow$ surface values must be underlying, rather than derived.
  - This cell generally narrows down possible URs the most.
  - "Likely to be down-hill from this form"

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Can you explain the prefixes?

- *How did the New Odawa prefixes arise?*
- New prefixes arose via reanalysis of Transitional Odawa vowel-initial words:

- 'He hangs' 'I hang'
  /ʌgoːd͡ʒɪn/ /nɪ-ʌgoːd͡ʒɪn/ UR
  — nɪ[d]ʌgoːd͡ʒɪn Hiatus Resolution
  (ʌgóː)(d͡ʒín) (nɪdʌ́)(góː)(d͡ʒín) Stress
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ndʌ	goːd͡ʒɪn	'I hang'

More Restructured Syncope

- *Where else was rhythmic syncope a flash in the pan?*
- Old Russian and other Slavic languages (V. Kiparsky 1979)
- Old Irish, Britonnic (Jackson 1953).
- Gallo-Romance (Pope 1952, Rickard 1989, Jacobs 2004).
- Mandaic (Malone 1997 Haberl 2009).
- Potawatomi (Hockett 1948:5).
- Unami (Goddard 1979; 1982).
- Kannada (?) (Bright 1970)
- Aguaruna (Payne 1990, Deicat 1996, McCarthy 2008, Bowers In Press).