Irish Nishnaabemwin Parallels

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    - New Odawa: prefix changes, paradigm leveling (Bowers 2019)

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    - New Odawa: prefix changes, paradigm leveling (Bowers 2019)
- Goal: explore how Odawa changed
    - Data available for Odawa may illuminate Old Irish

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Irish Lightning Round

- Key Irish analogue: prototonic-deuterotonic alternations

'fall' (deuterotonic)	'fall' (prototonic)	McCone (1996:202)
do:ro-chratar	*:torchartar*	Orthography
/to-ro-xaratar/	/X-to-ro-xaratar/	UR
do-ro-xaratar	—	t→d
do-('roxa)(ˌratar)	X-('toro)(ˌxara)(ˌtar)	Stress
do-('rox_)(ˌratar)	X-('tor_)(ˌxar_)(ˌtar)	Syncope
[do-'rox_ˌratar]	X-['tor_ˌxar_ˌtar]	SR

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- . . . and demise of the alternations
  - *:torchartar* → *:torchratar* (Milan 48c28, McCone 1996:202)
  - 'Dummy' prefixes in deuterotonic contexts:

'avoid.2.sg.impv'		/imb-uss-gab-/	
Prototonic	→	:(ˈim_)(ˌcaib)	Wurzburg 28c24
Expected deut	↛	*im:(ˈocaib)	Armstrong 1976:65
Actual	→	*imma*:(ˈn-im_)(ˌcaib)	Wurzburg 30d20

Transitional Odawa
–1930s Adults–
-Cusp of Syncope-

Phonetic Reduction

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  - Iterative feet from left-right
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- Cusp of rhythmic syncope, will assume perceived as categorically deleted

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(mʌzí)(nʌʔí)(gʌ́n)	(nɪmʌ́)(zmʌ́)(ʔɪgʌ́n)	Stress
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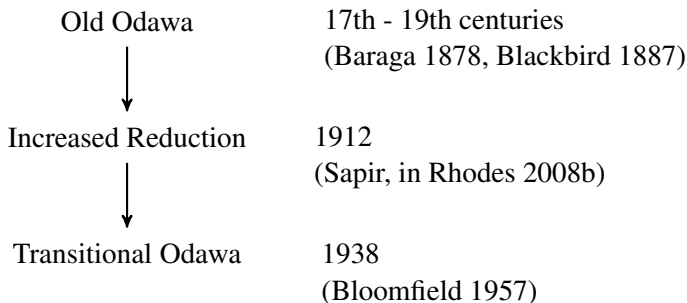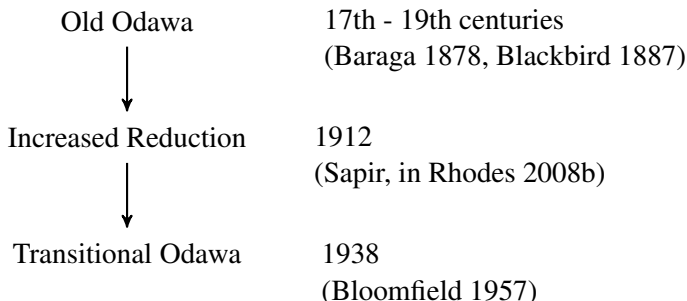| 'book'	'my book'	
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- Robust lexical evidence for alternations:
    - ~40% of stems began with at least 1 light σ
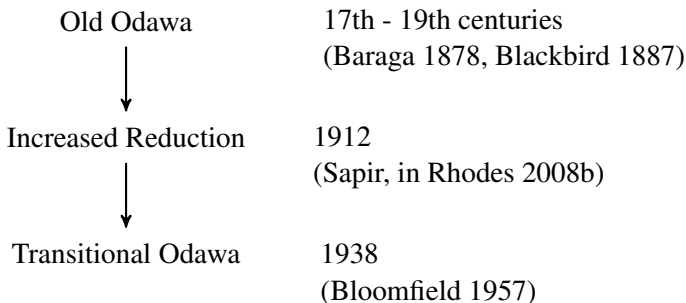   - ~25% began with more than 1 light σ

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Local Summary

Old Odawa	17th - 19th centuries
	(Baraga 1878, Blackbird 1887)
↓	
Increased Reduction	1912
	(Sapir, in Rhodes 2008b)
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Transitional Odawa	1938
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- "The reduced vowels are rapidly spoken and often whispered or entirely omitted" (Bloomfield 1957:5).
- Language at cusp of rhythmic syncope
- Children just need to turn gradient reduction to full deletion

New Odawa
–1930s Children–

Murmurs of Change

- "Odawa has added a rule fairly recently, which deletes
  unstressed vowels . . . It would be interesting to speculate about
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- Missing vowels "easily resupplied" by older speakers, not by younger speakers
  - Rhodes (1975:130):, see also Rhodes (1976:5-6)
  - i.e. The vowels are gone for younger speakers

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- Missing vowels "easily resupplied" by older speakers, not by younger speakers
  - Rhodes (1975:130):, see also Rhodes (1976:5-6)
  - i.e. The vowels are gone for younger speakers
- Kaye and Piggott gathered most of their data in 1968-70
- Early childhood of mid-30's consultants coincides with Bloomfield.

Prefix Restructuring

- Rhodes (1985) 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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- Innovative prefixes became productive

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

New Prefixes Spread

- New prefixes displace old prefixation pattern across lexicon

'He has a close call'	'I have a close call'	(T. Odawa)
/bʌʒmeː/	/nɪ-bʌʒmeː/	UR
(bʌʒí)(néː)	(nɪbʌ́)(ʒméː)	Stress
(bᵊʒí)(néː)	(nᵊbʌ́)(ʒᵊnéː)	Reduction
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- New Odawa: [bʒmeː], [ndʌ-bʒmeː]
- Note: stem alternations are gone too!

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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
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- A plausible mis-analysis (repeatable for [ɪ, ʊ], see Bowers 2019):

	goːd͡ʒɪn	'He hangs'
ndʌ	goːd͡ʒɪn	'I hang'

Perhaps Attrition?

- There may be conservatively syncopating 'younger' speakers
  - i.e. maintain stem alternations, prefer original prefixes
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- To find out: surveyed 20 speakers on Manitoulin Island and Walpole Island

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Surveys
–1930s Children (now elders)–

Participants

- 20 first-language speakers
  - (8 males, 12 females)
  - All born during heyday of strong reduction
    - 61-87 years old
    - mean: 71.6, sd: 7.3
  - Includes highly competent translators, instructors, activists

3 Surveys

1 Prefix choice (no stem-internal alternations)
    a Which prefix do you prefer? (multi-level forced choice)
    b How much do you like each prefix ? (7-point Likert scale)
2 Leveling: Do you prefer [ndoː-]+*leveled* or [n-]+*alternating*?
    • Binary forced choice
3 Alternations: Can you find the conservative prefixed stem allomorph?
    • Binary forced choice

Transitional Odawa   New Odawa   **Design**   Prefixes   Leveling   Alternations   Comparison to Irish   Conclusion   References
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- Items presented using standard romanization

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    - Word familiarity: $\frac{\text{\# speakers who recognized w}}{\text{\# speakers who were shown w+2}}$

Models and Variables

- Linear mixed effects models constructed
  - Generalized linear mixed effects models for binary data
  - Random effect for participant
- Models compared on AIC, likelihood ratio test
  - For inter-survey comparability, maximal models shown
  - Factors excluded in 'best' model *italicized*
- Word frequency and speaker fluency are common variables of interest
- Neither can be assessed in Odawa (no corpora, no standardized tests)
- Calculated proxies:
  - Word familiarity: $\frac{\text{\# speakers who recognized w}}{\text{\# speakers who were shown w}+2}$
  - Speaker proficiency: $\frac{\text{\# words recognized by s}}{\text{\# words shown to s}}$

Prefix Survey: Task

- Target question 1: which prefix do you prefer?
    - ndʌ-, ndoː-, ndɪ-, n- + daːbaːn 'my car'

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- Target question 2: rate each prefix on 7 point Likert scale
- All words underlyingly began with ((ʌ,ɪ,ʊ)C)VV
    - → Long vowel stopped alternations in T. Odawa
- Equal numbers of ʌC, ɪC ..., words were drawn

No Historical Preference, but Awareness
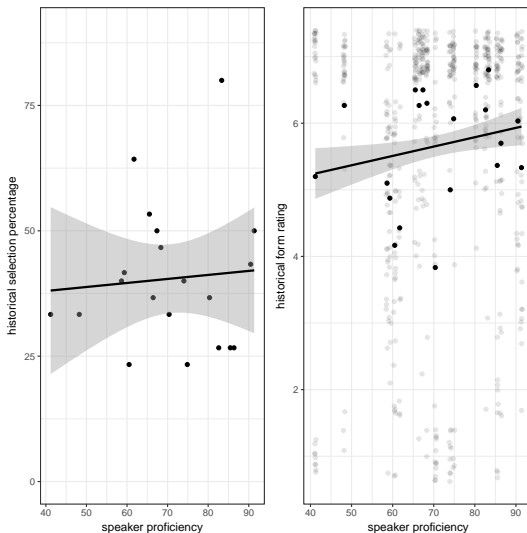
Prefix Survey: Forced Choice Results

- Target question 1: which prefix do you prefer?

	C	ʌC	ʊC	ɪC	VV
n-	**27**	8	15	8	3
ndʌ-	33	**49**	16	29	34
ndoː-	23	25	**53**	21	32
ndɪ-	17	17	15	**42**	4
nd-	—	—	—	—	**27**

- ndʌ-, ndoː- usually favorites
  - Always combine to $\geq 50\%$ in column

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- ndʌ-, ndoː- usually favorites
  - Always combine to $\geq 50\%$ in column
- Conservative prefixes (n-, nd-) never even a plurality
- But, historically attested always largest in row

Prefix Survey: Rating lmer Fixed Effects

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	Estimate	Std. Error	t value
(Intercept)	4.20441	0.30002	14.014
nd-	0.41458	0.38069	1.089
ndɪ-	0.39661	0.22952	1.728
ndʌ-	1.41182	0.26511	5.325
ndoː-	1.62259	0.30751	5.277
historical	0.58740	0.09727	6.039
historical:proficiency	0.18881	0.08867	2.129
historical:familiar	0.40207	0.09592	4.192
proficiency(z-scored)	0.36704	0.14480	2.535
familiar(z-scored)	-0.25793	0.04588	-5.622
age(z-scored)	0.27938	0.14540	1.921
historical:age	0.01290	0.08972	0.144

Prefix Summary

- Speakers tend to choose *ndʌ-/ndoː-* and rate them highly
- Historical forms have improved ratings, chances of being chosen
  - Word familiarity gives particular boost to historical rating
  - But historical forms not on same level with *ndʌ-/ndoː-*

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- Modern language has embraced innovative prefixes
- Historical forms looking a bit like memorized irregulars

Leveling Survey Task

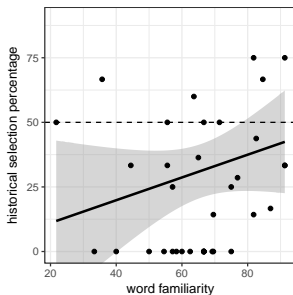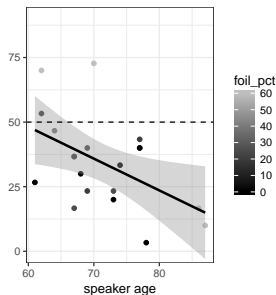- Target question: do you prefer [ndoː-] or [n-]?
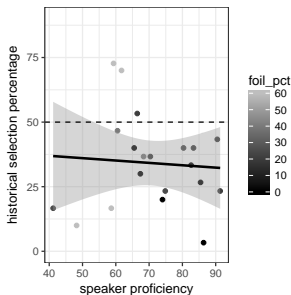 - n-mʌkzɪn vs ndoː-mkɪzɪn 'my book'

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  - *n-mʊkzɪn vs ndoː-mkɪzɪn 'my book'
- Words varied in number of alternating syllables (1-5)
  - n-m <mark>ɪ</mark> ʃiːmɪn 'my apple' (1)
  - n-m <mark>ʌ</mark> k <mark>∅</mark> zɪn 'my shoe' (2)
  - n-b <mark>ʌ</mark> d <mark>∅</mark> k <mark>ʌ</mark> ʃk <mark>∅</mark> ʔ <mark>ɪ</mark> gʌn 'my pitchfork' (5)

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Preference for Non-Alternation
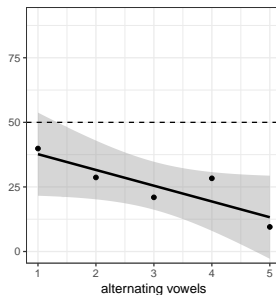
Leveling Survey: glmer Fixed Effects

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	Estimate	Std. Error	z value	Pr($> |z|$)	
(Intercept)	-0.946649	0.261456	-3.621	0.000294	***
AltVowels> 1	-0.808641	0.198504	-4.074	4.63e-05	***
age(z-scored)	-0.511188	0.145574	-3.512	0.000446	***
%foil accepted	0.019439	0.008228	2.363	0.018145	*
n-dV	0.881623	0.311641	2.829	0.004670	**
n-gʌ	-0.747303	0.489440	-1.527	0.126798	
familiarity(z-scored)	0.035012	0.095443	0.367	0.713741	
proficiency(z-scored)	0.175473	0.179200	0.979	0.327478	

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- If fooled by foils, modest boost to conservative forms
- Maybe they just aren't very familiar with conservative forms . . .
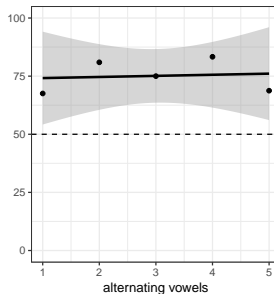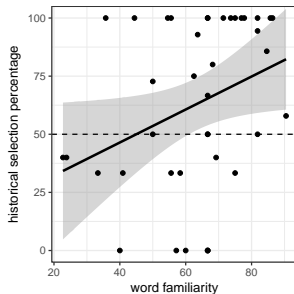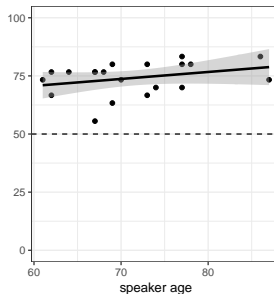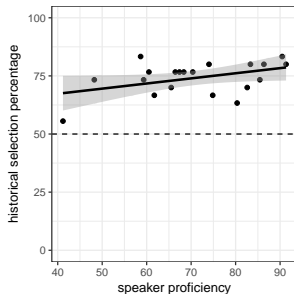
Alternation Survey Task

- Target question: Can you pick the right prefixed stem allomorph?

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    - **n-mʌkzɪn** vs *n-mɪkzɪn 'my shoe'

- Otherwise same design as leveling survey

- No participant was shown same word twice

Preference for Correct Historical Form

Alternation Survey glmer Fixed Effects

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	Estimate	Std. Error	z value	Pr($> |z|$)	
(Intercept)	0.759674	0.140853	5.393	6.91e-08	**
familiarity(z-scored)	0.296874	0.106567	2.786	0.005340	**
#AltVowels > 1	0.664969	0.193227	3.441	0.000579	**
n-gʌ	-0.007046	0.313011	-0.023	0.982040	
age(z-scored)	0.129810	0.096367	1.347	0.177971	
proficiency(z-scored)	0.171463	0.101866	1.683	0.092333	.

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- Speakers substantially above chance when conservative vs foil
- Most words had conservative form selected

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- Do so despite familiarity with conservative forms (survey 3)
$\rightarrow$ They know the conservative forms, but converged on innovation
  - All in the space of a generation

Comparison to Irish
Or Something Else?

Fast enough?

- Usual question: did Irish change too fast?

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        - (McManus 1983; 1991, Armstrong 1976, McCone 1985)

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- Phonetic reduction is a low-level, variable process
  - 1912 Sapir recorded varying degrees of reduction, including full vowels
  - 6th c Ogam stones have inconsistent omission too (McManus 1991:96)

Odawa	Irish
n**ɪ**nd-aːd ∅ soːkaːn	CAT ∅ VVIRR MAQI LUG **U** VVEC
giː-d**ɪ** ŋgɪʃk ∅ waːn	VER ∅ GOSO MACI LLOM **I** NACCA
giː-boːkwaːk**ɪ** gʌmeːʃk ∅ waːd	LUG **U** AEDON MACCI MEN ∅ VEH

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- 7th c Poets treat missing vowels opportunistically (Carney 1971, Sims-Williams 2016)
  - $/\sigma_1\sigma_2\sigma_3/\rightarrow[\sigma_1\_\sigma_2] = 3$
  - $/\sigma_1\sigma_2\sigma_3\sigma_4/\rightarrow[\sigma_1\_\sigma_2\sigma_3] = 3$
  - $/\sigma_1\sigma_2\sigma_3\sigma_4\sigma_5/\rightarrow[\sigma_1\_\sigma_2\_\sigma_3] = 3$
  - Even $/\sigma_1CC\sigma_2/\rightarrow[\sigma_1\sigma_2] = 3$!

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- Many possible interpretations, but early reduction is plausible

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  → Irish reduction could have snowballed well into 7th century before triggering restructuring

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- But there are further similarities: haywire deletions
- New Odawa alternations $\rightarrow$ derived by phonotactically conditioned deletion
    - 'Delete so long as resulting cluster is acceptable'
    - $\checkmark$ /mkɪzɪn-ʌn/ $\rightarrow$ [mkɪz_nʌn] 'shoes'
    - X /mnʊpgʊzɪd/ $\rightarrow$ [mnʊpgʊzɪd] 'If he tastes good'

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	Expected	Observed
Irish	:*(tar_1)(ti_2sset)*	:*tar_1t_2sat*
Odawa	('moː)(n_1'ʔʌ_2ʃ)(k_3'kɪ_4)(weː)	moːn_1_2ʃk_3_4weː

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$\rightarrow$ Vacillation in syncope sites

Odawa (Field Notes)	Irish (Wurzburg)
/da:ŋn-ɪd ɪ z ʊ -wɪn/	/:tom o n i tis/
[. . .-ɪd ɪ z_-wɪn]∼[. . .-ɪd_z ʊ -wɪn]	:*tom o n_tis* ∼ :*tom_n i tis*

Comparison with Odawa: Persistent Alternations

- Wurzburg, Milan and St. Gall glosses are generally conservative

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'If he plays a game'	'We play a game'	
/dʌnʌkʌmɪgɪzɪ-d/	/nɪ-dʌnʌkʌmɪgɪzɪ-mɪn	UR
(dʌˈnʌ)(kʌˈmɪ)(gɪˈzɪd)	(nɪˈdʌ)(nʌˈkʌ)(mɪˈgɪ)(zɪˈmɪn)	Stress
(d_ˈnʌ)(k_ˈmɪ)(g_ˈzɪd)	(n_ˈdʌ)(n_ˈkʌ)(m_ˈgɪ)(z_ˈmɪn)	Syncope
—	(n_ˈdʌ)(n_ˈkʌ)(m_ˈgɪ)(z_ˈmɪ)	Other
[dnʌkmɪgzɪ-d]	[n-dʌnkʌmgɪz-mɪ]	SR

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- 'Too much syncope' (Mary Ann Corbiere, p.c.)

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- 'Too much syncope' (Mary Ann Corbiere, p.c.)
- Yet, recent text has *ndan'kamgizmi* 'we play a game' (Panamick 2015)

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- Miracles happen once, but patterns repeat
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	UR	'shoe'	'my shoe'	Irregular
T. Odawa	/mʌkɪzɪn/	[mkɪzn]	[nmʌkzɪn]	—
New Odawa	/ mkɪzɪn /	[mkɪzɪn]	[ndoː- mkɪzɪn]	[nmʌkzɪn]

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- Same story for Irish
  - Restructured Irish URs = prototonic forms
  - Conservative deuterotonics thus irregular, eventually replaced
  - Middle Irish by time of Wurzburg and Milan! (McCone 1985)

Future Work

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  - Nature of phonotactic constraints on restructured deletion
    - And interaction with consonant cluster simplification
  - Establish transition between reduction and deletion
  - 'Dummy' prefixes fine, but prefix reduplication!?
  - Explaining various coping mechanisms (McCone 1996 §XII.5.2)
    - 'Extracting new simple stem from prototonic form of compound'
    - Dummy prefixes
    - Denominalized verbs
  - And this just scratches the surface . . .
- Thank you!

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