Sound change in Australia:
Current knowledge and research priorities

Luisa Miceli    U.Western Australia
Erich R. Round  U.Queensland, Australia
Sound change in Australia requires explanation

- Australian languages
  - atypical homogeneity in synchronic sound patterns
  - less recognized — atypical **diachronic** sound patterns
- Roadmap
  - nature of problem posed by sound change
  - begin to piece together some parts of the problem
The poverty of Australian sound change
Non-identical, regular correspondences are needed

- For testing hypotheses of genetic relationship → comparative method

- Demonstration of cognacy → sound correspondences:
  - amply attested
  - regular
  - a significant number must involve non-identical sounds
    - (near-)identical correspondences → could be due to borrowing
Non-identical, regular correspondences are needed

- Discussions of comparative method
  - don’t often highlight the role of non-identical regular correspondences

- Evidence from non-identical correspondences
  - grants confidence → identical correspondences also reflect inheritance
  - without that evidence → arguments for cognacy are weaker
In Australia, non-identical correspondences are scarce

- Narrow differentiation $\rightarrow$ typical

<table>
<thead>
<tr>
<th>Language</th>
<th>Base</th>
<th>Meaning</th>
<th>Language</th>
<th>Base</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jiwarli</td>
<td>kampa-</td>
<td>cook, burn</td>
<td>Wirangu</td>
<td>kampa-</td>
<td>cook, eat</td>
</tr>
<tr>
<td>Nyangumarta</td>
<td>kampa-</td>
<td>cook (tr), burn (intr)</td>
<td>Martuthunira</td>
<td>kampa</td>
<td>be burning, cooking</td>
</tr>
<tr>
<td>Warlpiri</td>
<td>kampa-</td>
<td>be burning – of fire; burn it – of fire</td>
<td>Manjiljarra</td>
<td>kampa</td>
<td>cook, burn</td>
</tr>
<tr>
<td>Djabugay</td>
<td>kampa(:)</td>
<td>cook in earth oven</td>
<td>Walmajarri</td>
<td>kampa</td>
<td>cook it</td>
</tr>
<tr>
<td>Wik-Mungknh</td>
<td>ka:mp-</td>
<td>cook in earth oven</td>
<td>Kaytetye</td>
<td>ampe-</td>
<td>burn</td>
</tr>
<tr>
<td>Yingkarta</td>
<td>kampa-ñi</td>
<td>be burning, cooking</td>
<td>Uradhi</td>
<td>aβa-</td>
<td>cover with sand</td>
</tr>
</tbody>
</table>
Theory provides no obvious response

• Problem
  • Poverty of non-identical correspondences
  • Apparent poverty of sound change
  • Current theory — what to do with such data??

• What to do?
  • first, better understand how it comes about
The poverty of Australian phonological diversity
Australian languages are synchronically similar

- Synchronically, very similar:
  - Phonemic inventories  Busby 1979
  - Phonotactic constraints  Hamilton 1996
  - Morpheme structure conditions (at least Pama-Nyungan)  Dixon 1980
  - Metrical systems
  - No lexical tone
Phoneme inventories are highly similar

<table>
<thead>
<tr>
<th></th>
<th>coronal</th>
<th>peripheral</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>apical</td>
<td>alveolar</td>
</tr>
<tr>
<td>plosive</td>
<td>t</td>
<td>t</td>
</tr>
<tr>
<td>nasal</td>
<td>n</td>
<td>η</td>
</tr>
<tr>
<td>lateral</td>
<td>l</td>
<td>l</td>
</tr>
<tr>
<td>trill</td>
<td>r</td>
<td></td>
</tr>
<tr>
<td>rhotic approx.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>semi-vowel</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Bardi
- Kukata
- Nyungar, Pintupi
- Umbugarla, Walmatjarri, Nyangumarta, Wambaya, Wardaman, Jingulu, Warnman, Watjarri, Yankunytjatjara, Nyigina, Kunin....
Phoneme inventories are highly similar

- Kalkatungu, Badimaya, Payungu, Kariyarra, Kurrama, Martuthunira, Ngarluma, Panyjima, Putijarra, Kija, Guugu Yimidhirr, Ganggalida, Wubuy, Ngawun, Marra, Lardil, Kayardild, Jiwarli, Gooniyandi...
Australian languages are synchronically similar

- Synchronically, very similar:
  - Phonemic inventories  Busby 1979
  - Phonotactic constraints  Hamilton 1996
  - Morpheme structure conditions (at least Pama-Nyungan)  Dixon 1980
  - Metrical systems
  - Don’t offer obvious explanation for sound change
  - Static properties, dynamic alternations
We can reason from alternations to sound change

• Synchronic alternations ← sound change antecedents

  • Hypothesis:

    • continent of absent sound changes:

    • morphophonology impoverished

• AusPhon — currently 91 languages (Round 2014)

  • 1,786 alternations
Outcomes are system-preserving

- Deletion and lenition
  - preserve typical phonemic inventory and phonotactic patterns
  - stops $\rightarrow$ glides fricatives
  - deletions $\rightarrow$ uncharacteristic clusters
\textbf{σσ} roots escape the most common changes

- Nature of alternations $\leftrightarrow$ Lack of observed changes in PN roots

- Butcher (2006): Post-tonic consonants $\rightarrow$ ‘strong’ position

- Assuming these are resistant to changes such as lenition and deletion:
  - Typical disyllabic Pama-Nyungan root, \texttt{CV(Son).CV(Son)-STRONG}
  - doesn’t contain most common targets (e.g. weak VCV)
The role of multilingualism
Are low cognate numbers linked to absent change?

- Pama-Nyungan → low number of potential cognates
  - Implies → high rate of lexical replacement
  - Paucity of sound change
  - High lexical replacement
  - Linked?

Data: Claire Bowern
Active bilingualism was ubiquitous

• Exogamous marriage patterns $\rightarrow$ stable, ubiquitous, active multilingualism

• The Australian pattern $\leftarrow$ cognitive challenges faced by active bilinguals

• Ellison and Miceli (2013) — lexical choices in code-switching:
  • if alternatives are available
  • avoidance of ‘doppels’: form–meaning similar across the languages
Bilinguals avoid doppels

monolinguals
(N=25)

bilinguals
(N=24)

usage

avoidance
The consequences for lexical replacement were tested

• Assumption
  • Doppel avoidance $\rightarrow$ token frequency
  • Token frequency $\rightarrow$ transmission

• Simulations
  • Transmission & replacement of doppels in 2 languages
Bilingualism accelerates loss of doppels
Cognate loss links to multilingualism & lack of change

- High proportion of active multilingualism
  - was the case in Australia
  - expected to accelerate the replacement of similar cognate words

- Low levels of sound change
  - cognates remain similar
  - expected to accelerate their replacement
Summary and conclusions
• Initial observations

  • Poverty of non-identical correspondences

  • Apparent poverty of sound change

  • High rate of lexical replacement
Plausible connections have been identified

Synchronic alternations

Recurrent changes

Multi-lingualism

Similar inventories, phonotactics

Roots are shielded

Cognates are similar

High lexical replacement


