The dynamics of linguistic diversity: Language contact and language maintenance in Amazonia

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Introduction: Variable linguistic diversity

1) Diversity of languages
   -> Cladogenesis (splitting), with or without maintenance over time.

2) Diversity of ‘genetic’ units
   -> Maintenance over time, with or without subsequent cladogenesis.

(Gavin et al. 2013:525)

MOST ATTENTION HAS FOCUSED ON (1):
Introduction:
Lowland South America

• Unusually high diversity of ‘genetic’ units:
  – Over 50 distinct language families/isolates
  – Among the highest in the world

• Prevalence of small families
  – Most have < 5 members
  – High number of isolates – SA has 34% of world total
  – Large families tend to be non-contiguous
Introduction: Lowland South America

Why does lowland S. America have such high genetic/genealogical diversity, with so many small families?
Introduction:
Variable linguistic diversity

• Common assumption that linguistic diversity is an outcome of isolation among populations.

• Geographic ≠ genetic ≠ social *relative* isolation.

• Isolation may be *sufficient* to generate and maintain diversity, but how *necessary* is it, and on what levels?

“Scholars have consistently underestimated the regional scale and supra-ethnic character of precolonial Amerindian social organisation.”

(Alexiades 2009:8, citing Whitehead 1994; see also Hornborg & Hill 2011)
Goals of this talk

To investigate the relationship between linguistic diversity and language contact in Amazonia.

1. Recent/synchronic perspective informed by ethnographic and sociolinguistic record (cf. Epps forthcoming).

2. Diachronic perspective informed by
   - Lexical evidence: loanwords and Wanderwörter
   - Grammatical evidence

Introduction - Contemporary systems - Loanwords and WW - Structures - Conclusion
The dynamics of contact + diversity?
Lowland SA ‘regional systems’

• Upper Rio Negro
• Upper Xingu
• Southern Guianas
• Caquetá-Putumayo
  (‘People of the Center’)
• Guaporé-Mamoré
• Gran Chaco
Regional systems: Localized linguistic diversity
Generalizations across SA regional systems

- Localized linguistic diversity
- Frequent interaction, incl. trade specializations and joint ritual activities
- Practice of linguistic exogamy (Rio Negro, Xingu, Gran Chaco)
- Relative cultural homogeneity (‘culture areas’)
- Language as an important emblem of difference
- Multilingualism common, especially in ritual contexts; frequent passive multilingualism + active monolingualism

e.g. In Mision La Paz, Gran Chaco:

“Individuals identify with one language, speak it to all others, and claim only to understand but not to speak the other languages spoken to them” (Campbell & Grondona 2010:617).
Regional systems: Linguistic outcomes

• Upper Rio Negro:
  Very limited lexical borrowing
    (see e.g. Aikhenvald 2001, 2002 for Tariana; Epps 2009 for Hup)

Heavy diffusion in grammatical structures and categories;
  lexical/phrasal calquing (see e.g. Aikhenvald 2002; Gomez-Imbert 1996; Stenzel 2013; Epps 2007; etc.)

(1) Tariana (Arawak)
    nese paːma da-na
du-yana-sita-pidana
    3sgf-cook–already–rem.past.rep
‘She had reportedly cooked him already.’

(2) Tukano (East Tukanoan)
    tiita ni’kó ki–re
do’á-toha-po
    cook–already–rem.rep.3sg.fem
‘She had reportedly cooked him already.’

(3) Hup (Nadahup)
    yit yúp=ʔav tih–án ciw–yi?=cieties=mah j’ám
then that=fem 3sg-obj cook–tel–already=rep dst.past
‘Then she had reportedly cooked him already.’

(4) Baniwa (Arawak)
    hnete-pida apa:ma zu-dzana-ni zu-taita
then-rep one+cl.fem 3sgf-cook–3sgfO/So 3sgf-finish
‘Then she had reportedly finished cooking him.’
Regional systems: Linguistic outcomes


- **Southern Guianas**: Carlin (1999:330) for Mawayana: “resistance to the transfer of actual morphological forms but not to the transfer of structural categories... in the lexicon there is only a negligible number of borrowings”.

- **Caquetá-Putumayo**: “Inhibition against lexical borrowing” but diffusion of grammatical structures and even bound morphological forms (Seifart 2011:88).

- **Guaporé-Mamoré**: “Languages diverge dramatically at the lexical level” but exhibit extensive structural similarities (Crevels & Van der Voort 2008:164ff).

- **Gran Chaco**: Little lexical borrowing; wide range of shared structural features (Campbell & Grondona 2010, 2012:657, Vidal & Nercesian 2009:1023)
Some questions...

Are the sociolinguistic processes we see in these regions more general features of native Amazonia?

To what extent have linguistic diversity and interaction been associated over space and time?

To what extent has interaction been organic and localized, and/or mediated by the dispersal of a few large language families?
Wider networks of interaction?

Indigenous trade routes of northern Amazonia (Hornborg & Eriksen 2011:141; based on archaeological and historical evidence; see also Alexiades 2009 and references therein)

Arawak topographic record in ritual discourse (Vidal 2000:646)
Loanwords in northern Amazonia

Most assessments of loanwords in South American languages do not indicate the number of meanings or the semantic domains considered – little basis for systematic comparison. (WOLD is an exception, but contains only two Amazonian languages)

This study:
- Controlled comparison across standard lists of
- 182 basic vocab items
- 96 flora-fauna terms
- 58 culture terms

(Building on Bowern et al. 2011, 2014; Database forthcoming: https://huntergatherer.la.utexas.edu)
Investigating loanwords

139 languages from 47 families

All languages well represented for basic vocabulary.

Northern languages well represented for Flora-fauna & Culture terms.
Investigating loanwords: Northern languages

Comprehensive coverage; 90 languages from 32 families

Introduction - Contemporary systems - Loanwords and WW - Structures - Conclusion
Investigating loanwords: Northern languages

Loans evaluated for 56 languages from 21 families
Investigating loanwords: Methods

For each meaning, each term evaluated against all others in database with same or related meaning;

Each term judged as probable:
- inheritance/semantic shift/unique/unknown
- loan (direction unknown/doubtful/Wanderwort/into protolanguage?)

Loan totals:
Direction unknown/doubtful/into protolanguage (?) given ½ weight
All loanwords by semantic domain

% of terms attested

 loans Euro-origin

t Wanderwörter

 Loans Non-Euro-origin

 Loans > protolanguage?

Introduction - Contemporary systems - Loanwords and WW - Structures - Conclusion
Non-European loans: semantic domain and recipient language family

Introduction - Contemporary systems - Loanwords and WW - Structures - Conclusion
Loan levels in basic vocabulary: Northern Amazonia vs. elsewhere

- Basic vocabulary loan levels **significantly lower in N. Amazonia** than in other global regions considered (Australia, CA/Great Basin, and worldwide [Haspelmath & Tadmor 2009]; Bowern et al. 2011).

Introduction - Contemporary systems - **Loanwords and WW** - Structures - Conclusion
Wanderwörter: A closer look

• Criteria for identification:
  – plausible loanword
  – attested in at least 4 different language families (i.e. at least 3 clearly identifiable loan events)

• Identified with reference to all northern languages in survey

• Overall results:
  – 59 meanings associated with WW
    (31% of flora-fauna meanings, 50% culture, 0% basic vocab)
  – 78 different WW etyma identified
WW etyma $\geq$ 5% of Flora-fauna + Culture terms attested (84% languages surveyed)
WW LOAN etyma ≥ 5% of Flora-fauna + Culture terms attested (73% languages surveyed)
WW as evidence for overlapping regional networks

Across northern Amazonia:

– Regional subsystems: Upper Rio Negro, Caqueta-Putumayo, northern sub-Andean area, Orinoco-Guianas

– Connections linking these regions

– Some very widespread WW patterns
Alto Rio Negro (and neighbors)

Coca  %patu

Banisteriopsis (ayahuasca)  %kapi

East Tukanoan and Arawak role in spread
Caqueta-Putumayo (and neighbors)

Coca
%hibie

Iguana
%mana?o
Northern sub-Andes

Cricket %tjiriku

Banisteriopsis (ayahuasca) %jahe
Orinoco/Guianas

Cashew
%eroi

Knife
%marije

Carib role in spread
Linking regions
Rio Negro, Caqueta-Putumayo, and beyond

*kumu*
‘signal drum’ (Arawak, Bora)
‘canoe’, ‘bench’, ‘healer’ (East Tukanoan)
‘laurel tree’ (Arawak, Bora, East Tukanoan)

Dolphin
%amana

Arawak role in spread
Linking regions
Rio Negro, Orinoco-Guianas, and beyond

Fermented drink
%jalaki

Fermented drink
%pajaru

Arawak role in spread
Linking regions
Widespread in northern Amazonia

- Guan %mare
- Vulture %wadʒuri

Arawak role in spread
Linking regions
Very widespread WW

Egret/heron
%wakara

Parrot
%awaro

Data collection south of Amazon River mostly limited to Guapore-Mamore, Xingu, and Chaco
Wanderwörter by probable major vehicle of spread

Total number of WW loans in sample

<table>
<thead>
<tr>
<th>Language</th>
<th>Culture WW</th>
<th>Flora-fauna WW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arawak</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>Carib</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>Tupi-Guarani</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Quechua</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Local/Unknown</td>
<td>20</td>
<td>10</td>
</tr>
</tbody>
</table>

Introduction - Contemporary systems - **Loanwords and WW** - Structures - Conclusion
Wanderwörter by major vehicle of spread

Non-WW loanwords by donor
WW LOAN etyma ≥ 7.5% of Flora-fauna terms attested (20% languages surveyed)
WW LOAN etyma ≥ 7.5% of Flora-fauna terms attested (20% languages surveyed)

Arawak regional exchange system, AD1000 (Carling et al. 2013:23)
WW LOAN etyma ≥ 10% of Culture terms attested (26% languages surveyed)
Assessing loanword patterns

Quality vs. quantity of interaction?
• Basic vocab loan rates in Amazonia are very low, even in contexts where interaction has been intense

• Flora-fauna loans/WW notably high in comparison to basic vocab; major role of Arawak languages in their diffusion (esp. bird species)

• Possible correlation with Arawak influence in Amazonian ritual culture?
  – trade in ritual paraphernalia involving e.g. feathers
  – role of animal and plant names in northern Amazonian ritual discourse (see Hill 1993, Meléndez 2014)
Assessing loanword patterns

Extent and intensity of interaction?

- Wanderwörter reflect:
  - localized interactions
  - regional contact zones
  - wider networks of interaction

- Dispersed families (Arawak, Tupi-Guarani, and Carib) as probable sources of multiple WW – consistent with view of these families as influential players within a wider interactive system
Investigating grammatical diffusion
Low loan levels ≠ lack of intensive linguistic interaction?

Survey of 60 northern languages from 19 families

- 226 grammatical features (mostly morphosyntactica)
- Relative similarities assessed via NeighborNet algorithm
Region vs. family in grammatical profiles: Upper Rio Negro and Caquetá-Putumayo

Language families:
- Nadahup
- Kakua-Nukak
- Arawak
- East Tukanoan
- Boran
- Andoke
- Witoto
- Tupi-Guarani
- Yagua

Diagram showing relationships between different language families in the region, with labels for Vaupés Region, Caquetá-Putumayo Region, North Arawak languages, Other neighboring languages, and specific language families such as Bora, Koreguaje, Macuna, Barasano, Tanimuca, Cubeo, Desano, Wanano, Tukano, Hup, Kakua, Tariana, Resigaro, Yucuna, MinicaWitoto, Achagua, Bare, Warekena, Yavitero, Piajoco, Yagua, Kokama Nheengatu.
Region vs. family in grammatical profiles:
Upper Rio Negro and western Guianas

Language families:
Nadahup
Kakua-Nukak
Arawak
East Tukanoan
Yanomami
Carib
Guahiban
Stability of lexicon vs. diffusability of grammar: Arawak languages

Lexical similarity analysis: defined subgroups (Walker & Ribeiro 2010:2)

Grammatical similarity analysis: mis-match with lexical subgroups

Eriksen and Danielsen (2014) consider a different set of structural features and derive a similar outcome; see also Eriksen & Galucio 2014 for Tupi-Guarani
Conclusions

Contact has played a major role in shaping Amazonian linguistic diversity:

- Regional systems linked by wider networks of contact
- Dispersed ‘matrix’ language families had role as linkers, but were also profoundly affected by their neighbors
- Widely shared language ecologies have promoted diversity in the face of frequent contact → Lexical conservatism + grammatical change
Conclusions

Why so many families, and why so few large ones?

Dynamics of isolation/interaction variable over time:

(cf. O’Connor & Muysken 2014)

– Likely *early* stage of diversification (facilitated by relative isolation?)
– Later long-term maintenance with limited further cladogenesis – facilitated by regular interaction

The dynamics of linguistic diversity are intimately tied to ideological factors, which can also be highly sensitive to contact.
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Past and current members of UT Amazonian Languages Research Team:

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