Defining “community” through spatial reference: Communities of practice in the Isthmus of Tehuantepec

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SPATIAL BOUNDARIES AND TRANSITIONS IN LANGUAGE AND INTERACTION
Monte Verità, Ascona
Introduction

• How are communities defined?
  • Physical Space
  • Shared culture, shared behaviors, shared language
  • “spatial facts with social impact” or “social facts with spatial forms”

• Speech community
  • Gumperz 1968 – interactional and dynamic (vs. homogenous and monolithic)

• Communities of practice
  • Wenger 1998 – mutual engagement, shared enterprise, shared repertoire
  • Eckert 2006 – people who are regularly engaging with one another in some common endeavor
    • E.g. soccer team, church congregation
Why care about Community?

• Why not language- or dialect-level approach?
  • MesoSpace (Bohnemeyer et al 2014, 2015, *inter alia*)

• (Socio)linguists (especially) know that linguistic varieties are not homogeneous monoliths, but constellations of shared features or practices
  • Language is not a static artifact, but rather a socio-cognitive behavior that can be used in different contexts to construct and index identity
Isoglosses from the Atlas of North American English

http://www.ling.upenn.edu/phono_atlas/maps/Map8.html
Lexical Variation

Huffington Post online: Lifestyle
http://www.huffingtonpost.com/2012/11/12/soda-vs-pop_n_2103764.html
Why care about Community?

• What cognitive and discourse strategies do people share and NOT share?
• What social variables differentiate speakers (community included)?
This Talk

• Variation in practices of spatial reference
• Speakers of 3 communities of Isthmus Zapotec
• Consider demographic variables, human and physical geography
Background: Discourse Practices

- **Spatial reference frames**
  - Strategies for locating or orienting objects
  - Vary by what anchors the reference frame
    - Relative: Speakers’ bodies
    - Geocentric: Environmental features
    - Intrinsic: The objects themselves
Spatial Reference Frames: A fine-grained classification

- Classify by anchor
  - Egocentric vs. Allocentric
- Classify by anchor & axes
  - Relative, Intrinsic, Absolute

Current study
- Geocentric
  - Absolute
  - Landmark-Based

Figure from Bohnemeyer et al. ms
Reference frame use in small-scale horizontal space across languages (Bohnemeyer et al. ms.)
The Current Study

• Large-scale analysis of spatial reference practices in discourse across 3 communities of speakers of the same language
  • 40 pairs of speakers per community

• Motivation
  • What linguistic and nonlinguistic factors influence frame use?
    • First language, second language
    • Education, literacy
    • Topography, population geography
  • Previous studies examine these between communities of speakers of different languages (Bohnemeyer et al 2014, 2015, ms.)
The Current Study: Isthmus Zapotec

• Zapotecan branch of Otomanguean language family
• Verb-initial; Tonal Language
• ~100,000 speakers
• High rate of bilingualism in Spanish
• Unique for Zapotec languages
  • Many speakers over a range of communities
  • Allowed for by the topography of the Isthmus of Tehuantepec (vs. Oaxaca)
Isthmus of Tehuantepec, Oaxaca, Mexico
Cool winds blowing south from the Gulf of Mexico blow up against the mountains on the Isthmus of Tehuantepec. The cool, dense air presses through Chivela Pass, speeding up the wind. Gusts can easily exceed 50 MPH as they blow through the pass and over the ocean.

Diagram of Tehuantepecer winds
(https://i.kinja-img.com/gawker-media/image/upload/hvttkme469ebgy6l1mhb.png)
3 communities of Isthmus Zapotec speakers

- La Ventosa
- Juchitán de Zaragoza
- Santa María Xadani
La Ventosa

- “The Windy One”
- Subject to particularly strong North-South “Tehuano” winds
- Pop.l: 4,884 (INEGI 2010)
Juchitán de Zaragoza

- Urban center of the Isthmus
- Zapotec dominant neighborhoods
- Most of data collected in *cheguiigu* ‘across the river’
- Pop.: 74,825 (INEGI 2010)
Santa María Xadani

• On the Laguna Superior
• Salient hill situated in the middle of town
• Xadani: *zha’na-dani* means ‘bottom-hill’
• Pop.: 7,613 (INEGI 2010)
Interaction of communities

• Communities close, relatively barrier free
  • Juchitán to La Ventosa: 16 km (22 min)
  • Juchitán to Xadani: 10 km (20 min)
• Local busses and colectivo taxis allow for easy travel for commerce
• Extended families sometimes spread across different communities
• Interregional travel fairly common (e.g. to Oaxaca City - 276km, 5 hrs)
Frame use in Isthmus Zapotec

• Pérez Báez (2011, *inter alia*)
  • La Ventosa speakers strongly prefer Absolute frames
  • North-South axis (winds): *guia* ‘north’ and *guete* ‘south’
  • East-West axis (rising and setting sun): *nezā rindani ubidxa* ‘where the sun arrives’ and *nezā riaze ubidxa* ‘where the sun is hidden’

• McComsey (2015); Marghetis et al. (2015); McComsey et al. (2016)
  • Juchitán de Zaragoza show greater variation
  • In recall memory, predominantly egocentric (using axes from own bodies)
Research Question

• Do these communities differ in their discourse practices?
  • I.e. Use of spatial reference frames in small-scale space

• If they do, what contributes to that variation?
  • Is it something linguistic (L2 use, community of practice)?
  • Is it something environmental (local topography, population geography)?
  • Is it some individual factor (education, literacy)?
Describing small-scale space: Talking Animals

• Pairs of speakers describe three-dimensional objects in small-scale space
  • Referential communication task (Clark & Wilkes-Gibbs 1990)
  • Similar to MPI L&C ‘Men & Tree’ task
• Used to elicit spatial reference frames
• Analyze director’s descriptions from
  40 pairs of speakers
  * 3 communities
  * 4 trials
  * 4 animals
  = Unlimited descriptions
Spatial reference frames

- Strategies for locating or orienting objects
  - Relative (speakers’ bodies)
  - Geocentric (environmental features)
  - Intrinsic (objects themselves)
- Any and all strategies can be used
- Count # of stimuli/trials for which a given frame was used at least once to locate or orient a toy animal
Talking Animals Spatial Descriptions

Geocentric Frame Use by Community

- La Ventosa: 93%
- Juchitán Community: 78%
- Xadani: 79%

Percentage of Stimuli Described at least once using Geocentric
What predicts frame use?

- Generalized linear mixed-effects models (lme4 package, R) test influence of
  - Community membership
  - Use of Spanish as a second language
  - Education Level
  - Frequency of reading or writing
  - (Population density)
  - (Topography)
Results of Predictive Models

• Geocentric frame use
  • Predicted by Community membership (p<0.025)

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<th>Independent variables (fixed effects)</th>
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<tr>
<td></td>
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</table>
Talking Animals Spatial Descriptions: A closer look at Geocentric Frame usage

Percentage of Stimuli Described by Frame Type

- **La Ventosa**: 91% Geocentric, 6% Landmark-based
- **Juchitán Community**: 44% Geocentric, 46% Landmark-based
- **Xadani**: 22% Geocentric, 62% Landmark-based
What influences frame use?

• In this study, statistical analysis of frame use in discourse (Talking Animals) shows that **community membership** predicts a preference for Geocentric
  • Previous crosslinguistic studies show L1 and population density (Bohnemeyer et al 2014, 2015)

• Within Geocentric, we see a more nuanced picture of how community membership is working
  • Speakers in La Ventosa strongly prefer Absolute vs. other communities
Conclusion

• Individuals of a given community converge in their discourse practices, despite personal history or current residence.

• People are sensitive to their local context despite the lack of boundaries between communities.

• Language use as a cultural practice within a community is
  • self-reinforcing
  • relatively stable, despite changes in group membership

• Individuals can therefore move between communities, yet still engage in a specific community of practice for their present communicative context.
Thank you!

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