Social Mobile Technologies for Reconnecting Indigenous and Immigrant Communities

Steven Bird
Adjunct with Northern Institute, Charles Darwin University, Australia
University of Melbourne, Australia
University of California Berkeley, USA

Northern Institute
Charles Darwin University
28th January 2016
Social Mobile Technologies for Reconnecting Indigenous and Immigrant Communities

Steven Bird
International Computer Science Institute, UC Berkeley
Computing and Information Systems, U Melbourne

with thanks to the Australian Research Council and the National Science Foundation

aikuma.org

Language Champion Panel
Storytelling Event, San Francisco
December 2015 (4 min segment)

treasurelanguage.org

Papua New Guinea 2009–2013
100 voice recorders and 100 languages

ARC Discovery Project: Language engineering in the field – preserving 100 endangered languages in New Guinea

The world’s languages in crisis
Michael Krauss
University of Alaska, Fairbanks

The Eyak language of Alaska now has two aged speakers; Mandan has 6, Osage 5, Aiken-Penobscot 20, and Iowa has 5 fluent speakers. According to counts in 1977, already 13 years ago, Coeur d’Alene had fewer than 20, Tuscarora fewer than 30, Menomini fewer than 50, Yukuts fewer than 10. On and on this sad litany goes, and by no means only for Native North America. Sirenkski Eskimo has two speakers, Ainu is perhaps extinct. Ubykh, the Northwest Caucasian language with the most consonants, 80-some, is nearly extinct, with perhaps only one remaining speaker. Here we might be accused of jumping the gun, prematurely announcing the extinction of a language, since—as I heard somewhere—two or three more speakers of Ubykh had reportedly been found.1 But what difference does it make in human history that a language became extinct in 1999 instead of 1989? What difference does it make if the youngest speaker is 90 or in fact 97? Only 81 years in the date of the inevitable extinction of the language, a mere moment in human history—though a crucial moment for linguists today, as we shall see.

Language endangerment is significantly comparable to—and related to—
EVERY 14 DAYS A LANGUAGE IS LOST FOREVER. Learn about the crisis: Did you know that there are ideas that are only possible in certain languages? Let’s keep this knowledge alive.

–Language Conservancy

Languages embody the intellectual wealth of the people that speak them. Losing any one of them is like dropping a bomb on the Louvre.

–Ken Hale

This knowledge is incredibly valuable to humanity as a whole and we really shouldn’t be in the business of squandering it or letting it just fade away without documenting it.

–The Linguists Movie
Blueprint: The Work that Reconnects

Business as Usual

The Great Unravelling

The Great Turning

Overview

- Some new opportunities
- Obstacles
- Three research projects

Team...

Design & Community Development
- Robyn Perry
- Manuel Maqueda

Software Development
- Sangyeop Lee
- Haejoong Lee

Research Students working on language preservation technology
- Mat Bettinson
- Long Duong
- Florian Hanke
- Oliver Adams

1. Some new opportunities
ICT Revolution: Remaining Gaps

Source: ITU Telecommunication Development Bureau

ICT Revolution: Mobile-Only usage of Facebook

Source: Statista, 2015

ICT Revolution: 15 years of growth

Source: ITU Telecommunication Development Bureau

ICT Revolution: mobile apps

Source: ITU Telecommunication Development Bureau
ICT Revolution: Mobile apps

- mobile apps
- blended
  - (types of app: native, web, hybrid)
- space of apps for minority communities
  - generic (but alienating)
  - targeted (but patronising)
  - customised (but ineffective)
- (analysed in terms of Recognition Theory)
2. Obstacles

- the rapid pace of language loss and the failure of language documentation projects
- app developers don’t understand the language situation; few indigenous app developers
- lack of awareness and engagement with apps for preserving language and culture

3. Three research projects

- Indigenous Wellbeing (with Melbourne School of Global Health & Baker IDI Heart and Diabetes Institute)
1. What can we learn about the effects of existing social mobile applications on Indigenous wellbeing?

2. How can we use in-app analytics to customise user experience and increase the effectiveness of apps that target Indigenous wellbeing?

3. What are general design criteria for successful social mobile technology interventions in Indigenous communities?
Aside: why is this computer science?
Treasure Language Storytelling
A gathering to celebrate small languages and connect their speakers

1. storytelling in original languages (Mien, Tigrigna, Chochenyo)
2. translation paragraph by paragraph
3. creative risk activities
4. the panel

Risks

- People wouldn't pay attention during foreign language segments that they can't understand
- People wouldn't like the translation given by a translator
- People wouldn't feel comfortable with the storytelling format
- The political and religious divisions in the Eritrean and Laotian communities would come up

New collaborations in Darwin

- Multilingual storytelling with Larrakia, Melaleuca, Multicultural Council, Darwin Festival, ARC Centre for the Dynamics of Language
- Research and training on mobile technologies for cultural preservation and language revitalisation
- Plus one more?