The Linguistic Data Consortium: Developing and Distributing Language Resources4All

Denise DiPersio, Christopher Cieri

Linguistic Data Consortium, University of Pennsylvania

{dipersio, ccieri} AT ldc.upenn.edu

Overview

- LDC: Founding and Mission
- Sharing, Curating Language Data
- Language Resource Overview
- Research Collaborations in Indigenous Languages
- Conclusion

LDC: Founding, Mission

- A mutual aid society with the mission to develop and distribute language resources to the global community
  - Academia, government, industry
  - Researchers contribute data sets: visibility, community recognition, uptake
  - Members/data licensees contribute fees: ongoing rights to a variety of resources
  - Sponsors contribute funding: resource creation, infrastructure, innovation, cost sharing, resource dissemination to the community
- LDC's online Catalog launched in 1993
  - Close to 200,000 copies of 820+ resources in more than 90 languages distributed to roughly 6000 distinct organizations in over 100 countries
  - 3-4 new data sets released monthly
  - Distributed under a variety of licensing arrangements: for use in language-related research, education and technology development
- Research impact: more than 10,000 papers cite LDC data

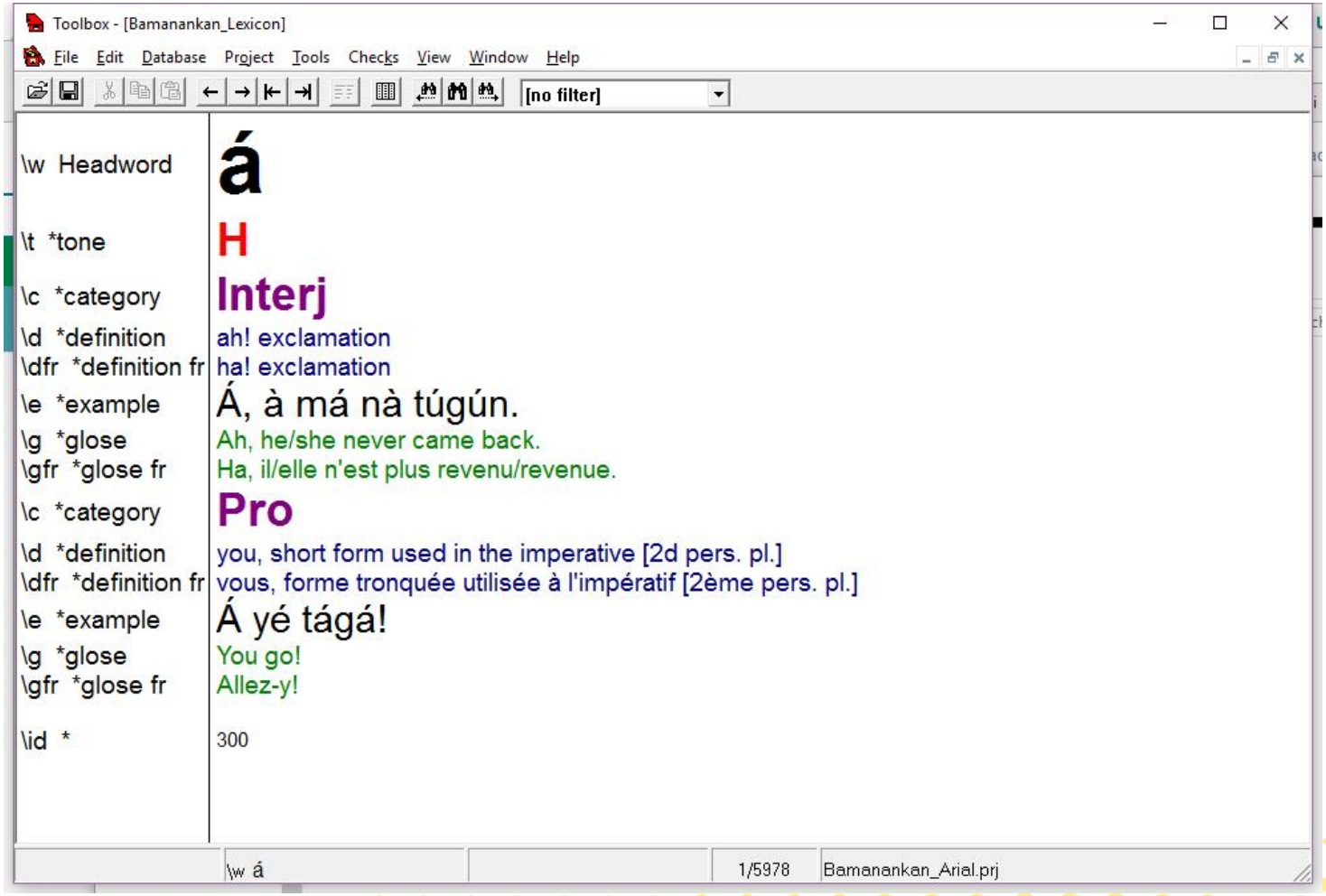
Sharing, Curating Language Data

- The LDC Catalog is a permanent language resource archive
  - Seeded by data contributions of significant corpora, augmented by data sets developed by LDC in funded projects along with contributions from the global research community
- The Catalog is a CoreTrustSeal trustworthy repository
  - Meets high standards for data access, metadata, rights management, curation, storage, security
- Curation workflow: data review, quality checks, metadata, documentation
  - Storage and back-up system; migration to new formats, storage, media as needed
  - Licenses consistent with community use and address human subjects, privacy, intellectual property, tribal rights to community languages
- LDC has the expertise and infrastructure to ensure that data is preserved and accessible, with appropriate protections to language communities, students, scholars, researchers and developers

Language Resource Overview

- More resources in a growing number of languages: indigenous languages, minority languages, endangered languages, low resource languages
  - All are underserved language communities
  - Human language technologies need digital resources
  - Scarce source data, language structure present research challenges
- LDC data set and research case studies
  - West African languages
    - Manding and Yoruba lexicons, Dschang and Ngomba (Bantu) tone paradigms
  - Fieldwork
    - Language preservation in Papua New Guinea, Brazil
    - Malto Speech and Transcripts
  - Language Packs
    - Core resources and tools

Bamanankan Lexicon



Collaborative Transcription in Papua New Guinea

Language Packs

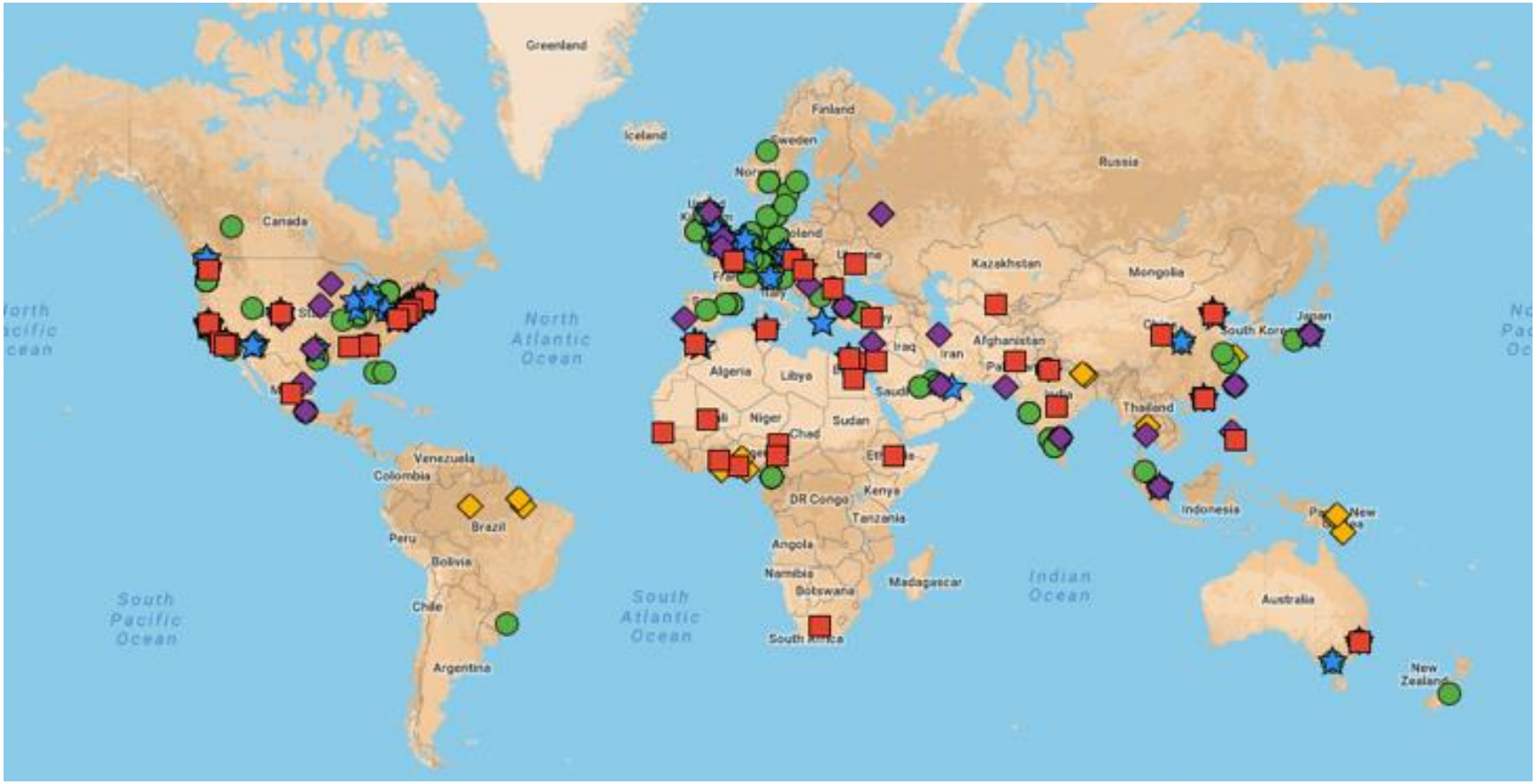
- REFLEX, LORELEI US projects
- Resources and tools
  - Monolingual, parallel text
  - Annotation
  - Tools for text processing, segmentation, entity tagging
  - Lexicons, grammatical sketches
- Multiple purposes:
  - Language documentation, preservation
  - Basic technology development
  - Situational awareness
- Akan (Twi), Amazigh, Amharic, Ilocano, Kinyarwanda, Odia, Oromo, Sinhala, Tigrinya, Uighur, Wolof, Zulu +
- In LDC catalog -- 2020

Research Collaborations in Indigenous Languages

- Language documentation support
  - AARDVARC (Automatically Annotated Repository of Digital Audio and Video Resources Community)
  - EMELD (Electronic Metastructure for Endangered Languages Data)
- Advice and technical assistance for collections: Nahuatl, Mixtec, Tembé and Nhengatu
- LDC workshops around languages in the Americas
  - Philadelphia 2018: Planning Workshop on Data Archives and Languages of the Americas
    - Experts managing linguistic data archives and resource centers discussing challenges, needs and opportunities for promoting and extending collaboration in the Americas
  - Mexico City 2018: International Workshop on Data Intensive Research on Languages of the Americas
    - Linguists and scientists from Mexico, Brazil, Chile, Argentina, USA
    - Languages discussed include Chuj, Yucateco, Huasteco, Nahuatl, Wixarika, Southern Cone languages, Mexican/American Spanish, Brazilian Portuguese

Linguistic Data Consortium

LDC Global Network



LDC Global Network of select data sources including: ■ = subcontractors and vendors, ● = corpus authors, ◆ = media providers, ◆ = LDC staff collections, ★ = research collaborators. Many markers represent multiple collaborators; many markers partially obscured by others.

Conclusion

- Access: crucial theme of this International Year of Indigenous Languages
  - Education, information, knowledge
- Sharing data, developing language technologies echo the theme
  - LDC's founding principle: broad access to data drives knowledge and research
- LDC is committed to developing and sharing resources in all languages for all language communities in ways that ensure meaningful access, advance language vitality and promote preservation