Fieldworks Language Explorer (FLEX)

2019 Linguistic Institute – Colleen Fitzgerald
Organization

- Overview of FLEEx functions (and gaps)
- A sampling of projects created using FLEEx.
- Resources
- Snapshot of FLEEx for lexical and text analysis
- Hands on training in FLEEx (laptops permitting)
FLEEx: What can you do with it?

- Lexicon
  - Gather words & make dictionary
  - Add audio, pictures, or video to entries
  - Enter bound morphemes and identify allomorphy
- Texts and Words
  - Transcribe stories and wordlists
  - Gloss words and morphemes
  - Analyze texts for interlinear presentation
  - Concordances
- Grammar
  - Generate a grammar sketch
- Notebook
- List
FLEx: What can’t you do with it?

- Edit audio files (Audacity)
- Annotate audio phonetically with text grids (Praat)
- Create time-aligned transcriptions of audio (ELAN)
- Create a visualization of the data
  - [https://glossopticon.com/](https://glossopticon.com/)
  - [http://wals.info/](http://wals.info/)
Weaknesses of FLEX (in the opinion of some)

- Morphology that is not classic item-and-arrangement, like templates or truncation/subtractive morphology, among others.
- Ablaut or other internal changes among closely related paradigm members
- Tone
- ...

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Sample Projects Made with FLEX
difficult

eat: upa [a-pah] v. to eat (a food) || Issuba mot takkon chito upa hoke! That horse is eating an apple!; impa [i^n-pah] v. to eat a meal, dine || Abeka aposvchi yit impa. The nurse is eating.; awant impa [a-wâ"t i^n-pah] v. to eat with (someone) || Si awant impa chi. She will eat with me.; ibai impa [i-ba:y-i^n-pah] v. to eat with (someone) || Ohoyo vhl=ha ibai impa li. I'm eating with the ladies.

day: uhli [á-th-thi] n. edge, border, boundary, side (of a road), end; nishkin uhli [nish-kin á-th-thi] n. edge of the eye, corner of the eye; ont aihli [o^n a:-yá-th-thi] n. the end, ending, edge

edible: nan upa [na:n á-pa] n. things to eat, edible things, food


egg white: akâkushî i tohbi [a-ká^n-kó-shi i^n-tóh-bi, a-ká^n-kó-shi ló^n-bo i^n-tóh-bi] n. egg white (also akâkushî lumbo i tohbi)

eggshell: akâkushî hakshup [a-ká^n-kó-shi hák-shop] n. eggshell

eight: untuchina [o^n-tóch-chi:-nah] num. eight

eighteen: awah untuchina [a-wah o^n-tóch-chi:-nah] num. eighteen (sp. var. auah untuchina)

- From the Archives of the Indigenous Languages of the Americas (AILLA)


- https://www.ailla.utexas.org/islandora/object/ailla:134948
(3.1) Itimi matsigenka itenta ijina ontiri paniro irishinto otyomian.

\begin{tabular}{ll}
  i- & tim -i matsigenka -i tent -a i- jina ontiri paniro \\
  3ms- & live -realis person 3ms- accompany -realis.refl 3mp- wife and.FEM one.ANIM \\
  iri- & shinto o- tyomian -ni \\
  3mp- & daughter 3fs- small -ANIM \\
\end{tabular}

‘Vivía una persona con su esposa y una pequeña hija.’

(3.2) Ogari ijina otavegetari kara, tera antsipereakageri imire aikiro iseka.

\begin{tabular}{ll}
  oga -ri i- jina o- t -a -vage -t -a -ri kara tera o- that -CNTR 3mp- wife 3fs- love -EPV -DUR -EPC -realis.refl -3mo AUGM NEG.REAL 3fs- n- antsipere -akag -c -ri i- mire aikiro i- seka \\
  irrealis- suffer -CAUS.INFL -irrealis -3mo 3mp- beverage also 3mp- food \\
\end{tabular}

‘Se esposa lo amaba mucho, no le hacía sufrir (faltando) su bebida y su comida.’

(3.3) latirika itsamaivagiterira, onpogitianai iroriri amanainirira imire ontiri iseka.

\begin{tabular}{ll}
  i- & a -t -i =rika i- tsamai -vage -t -i =ra o- n- \\
  3ms- & go -EPC -realis =INDF:TEMP 3ms- cultivate -DUR -EPC -realis =SUB 3fs- irrealis.
  pogi -t -an -a -i iroro -ri o- am -an -a -i -ni -ri \\
  go.next -EPC -ABL -REG -realis 3fst.PRO -CNTR 3fs- bring -ABL -REG -realis -REC? 3mO \\
  =ra i- mire ontiri i- seka \\
  =SUB 3mp- beverage and.FEM 3mp- food \\
\end{tabular}

‘Cuando iba a trabajar (su chacra), ella iba después llevándole su bebida y su comida.’

(3.4) Oshiriagataapaakara iporoake itsamaire omarane.

\begin{tabular}{ll}
  o- & shiriaga -t -apa -ak -a =ra i- poro -ak \\
  3fs- & go.down(.water.level) -EPC -ALL -PERF -realis.refl =SUB 3ms- clear.garden -PERF \\
  -e i- tsamai -re \\
  -realis 3mp- cultivate -NONZ:ALIEN.POSS \\
\end{tabular}

‘Al llegar el verano, realizó roce de una enorme chacra.’
Kagate/Syuba [SYW] language documentation

- Archived at the Endangered Language Archive (ELAR) and at Pacific and Regional Archive for Digital Sources in Endangered Cultures (PARADISEC)
  - [https://elar.soas.ac.uk/Collection/MPI971098](https://elar.soas.ac.uk/Collection/MPI971098)

[https://scholarspace.manoa.hawaii.edu/handle/10125/24768](https://scholarspace.manoa.hawaii.edu/handle/10125/24768)
FLEx database

- Archived as three files that are part of this collection:
- Lauren Gawne (collector), 2009; Kagate (Nepal) (SUY1), Digital collection managed by PARADISEC. [Open Access] DOI: 10.4225/72/56E976A071650
Overview of Fieldworks Language Explorer (FLEEx)
Dictionary Edit View
Dictionary View (printable as a PDF)
Using your dictionary to create a grammar guide
Grammar Sketch

- “Sample” language Kalaba, created by SIL Fieldworks
- Source: http://software.sil.org/fieldworks/resources/tutorial/grammar/sketch/
Editing Texts and Wordlists
Creating Bilingual and Interlinearized Texts
Concordance
Leftfield
The Bear and the Opossum Went Walking Together

Free One time, a hungry bear was standing in the woods.

Free He saw a young opossum.

Free This opossum was at a creek.

Free That had bear tried to eat the little opossum.
Centerfield
Rightfield
Rightfield
<table>
<thead>
<tr>
<th>Headword</th>
<th>Lemme F.</th>
<th>Class</th>
<th>Grammatical Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>achuffa</td>
<td>achuffa</td>
<td>one</td>
<td>Numerals</td>
</tr>
<tr>
<td>ahi</td>
<td>ahi</td>
<td>potatoes</td>
<td>Noun</td>
</tr>
<tr>
<td>akaka</td>
<td>akaka</td>
<td>chicken</td>
<td>Noun</td>
</tr>
<tr>
<td>ampo</td>
<td>ampo</td>
<td>plate</td>
<td>Noun</td>
</tr>
<tr>
<td>anoli</td>
<td>anoli</td>
<td>tell</td>
<td>Verb</td>
</tr>
<tr>
<td>balili</td>
<td>balili</td>
<td>run</td>
<td>Verb</td>
</tr>
<tr>
<td>bininli</td>
<td>bininli</td>
<td>sit</td>
<td>Verb</td>
</tr>
<tr>
<td>chukfi</td>
<td>chukfi</td>
<td>rabbit</td>
<td>Noun</td>
</tr>
<tr>
<td>hihla</td>
<td>hihla</td>
<td>dance</td>
<td>Noun</td>
</tr>
<tr>
<td>hokli</td>
<td>hokli</td>
<td>catch</td>
<td>Verb</td>
</tr>
<tr>
<td>hoponi</td>
<td>hoponi</td>
<td>cook</td>
<td>Verb</td>
</tr>
<tr>
<td>hushi</td>
<td>hushi</td>
<td>bird</td>
<td>Noun</td>
</tr>
<tr>
<td>hvvmani</td>
<td>hvvmani</td>
<td>six</td>
<td>Numerals</td>
</tr>
<tr>
<td>hvypi</td>
<td>hvypi</td>
<td>salt</td>
<td>Noun</td>
</tr>
<tr>
<td>hvshnakaya</td>
<td>hvshnakaya</td>
<td>moon</td>
<td>Noun</td>
</tr>
<tr>
<td>ia</td>
<td>ia</td>
<td>go</td>
<td>Verb</td>
</tr>
<tr>
<td>impa</td>
<td>impa</td>
<td>eat</td>
<td>Verb</td>
</tr>
</tbody>
</table>

ishko

- **Morph Type**: stem
- **Citation Form**: Cho
- **Components**: Pronunciation
- **Gloss**: Eng
- **Sense 1**: Eng
- **Example**: Lessons, Rule 1, choctawschool.com
- **Semantics**: Verb
- **Categories**: Verb

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Extensions
Kratylos

- “new online tool enabling linguists to share and analyze data” using XML versions output by FLEEx and ELAN (from Endangered Languages Alliance website http://elalliance.org/programs/documentation/kratylos/)

- https://www.kratylos.org/~kratylos/home.cgi

- Described in more detail in this journal article:

Webonary

- Publish the FLEx data set online as a web dictionary:
  - [http://www.webonary.org/about-webonary/](http://www.webonary.org/about-webonary/)

- Pilot project for Cherokee can be viewed here:
  - [https://languagetech.cherokee.org/word-list/](https://languagetech.cherokee.org/word-list/)
Pathway

- A plug-in that enables printing of texts from FLEEx in multiple kinds of formats (e-pub, PDF, for Android cell phones, online), and offers more extensive options for formatting for dictionary outputs.
  - [https://software.sil.org/pathway/](https://software.sil.org/pathway/)
Dictionary App Builder

- A dictionary app (for either Android or iOS) can be created through exporting the lexicon from FLEx.
  - [https://software.sil.org/dictionaryappbuilder/](https://software.sil.org/dictionaryappbuilder/)

- Note: While I have never used this software, there is a lot of interest in apps like this from many indigenous communities. Here are others out there:
  - [http://www.fpcc.ca/language/FirstVoices/FirstVoices-Mobile.aspx](http://www.fpcc.ca/language/FirstVoices/FirstVoices-Mobile.aspx)
  - [https://aildi.arizona.edu/](https://aildi.arizona.edu/)
ELAN to FLEEx

- Two third-party resources at MPI:
  - [https://tla.mpi.nl/tools/tla-tools/elan/thirdparty/](https://tla.mpi.nl/tools/tla-tools/elan/thirdparty/)
  - Including a description of the FLEEx-ELAN workflow here:
Select other “companion” programs for FLEx


- WeSay (a less technical version of FLEx)
  - Sample outputs for Lexique Pro at [http://www.lexiquepro.com/library.htm](http://www.lexiquepro.com/library.htm)
Resources
SIL videos and tutorials

- Tutorials
  - https://software.sil.org/fieldworks/resources/tutorial/

- Videos
  - https://vimeo.com/channels/fieldworks
CoLang 2020

- Take FLEX 1 and 2 next summer at University of Montana (http://hs.umt.edu/colang/)

- Resources from prior CoLang institutes

- CoLang 2014
  - FLEX 1: http://www.uta.edu/faculty/cmfitz/swnal/projects/CoLang/courses/coursedetails.php?id=FLEX_1
  - FLEX 2: http://www.uta.edu/faculty/cmfitz/swnal/projects/CoLang/courses/coursedetails.php?id=FLEX_2
FLEx resources developed by UT Arlington*

- FLEx handout packet, including screenshots

- Training resources developed for a training for Choctaw Nation's language teachers:
  - http://www.uta.edu/faculty/cmfitz/swnal/training/aug%202012/

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