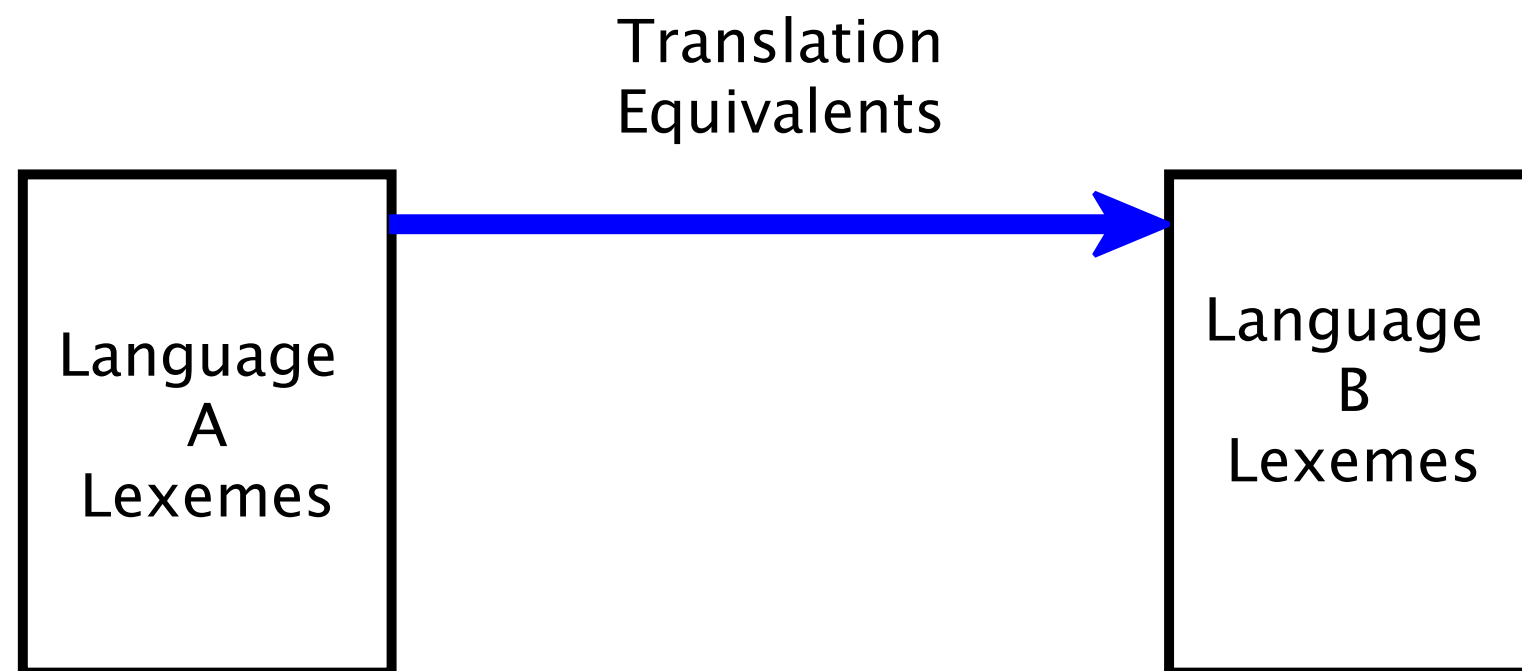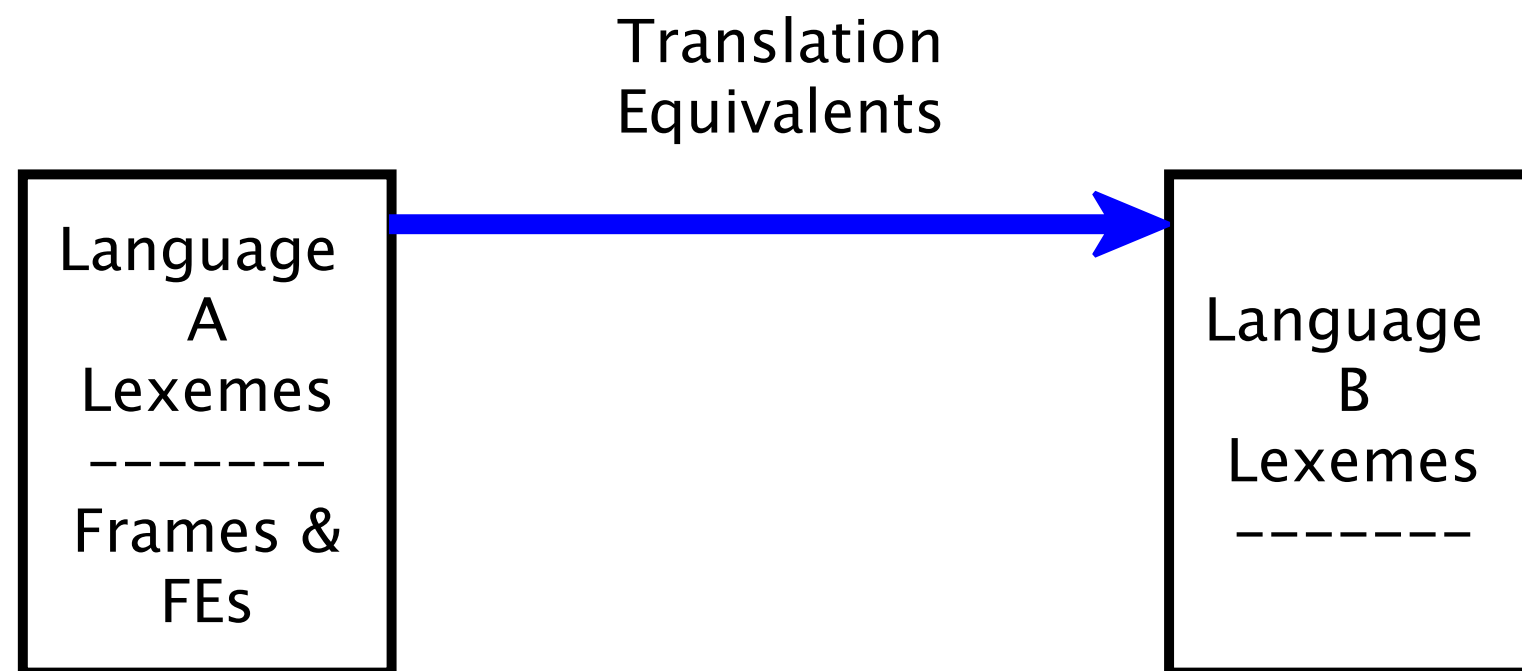# Applications of Multilingual FrameNet

- Using FrameNets to build new FrameNets

- Human and Machine Translation --Collin Baker

- Crosslingual Sentiment Analysis -- Josef Ruppenhofer

- Computer-Assisted Language Learning --Miriam Petruck
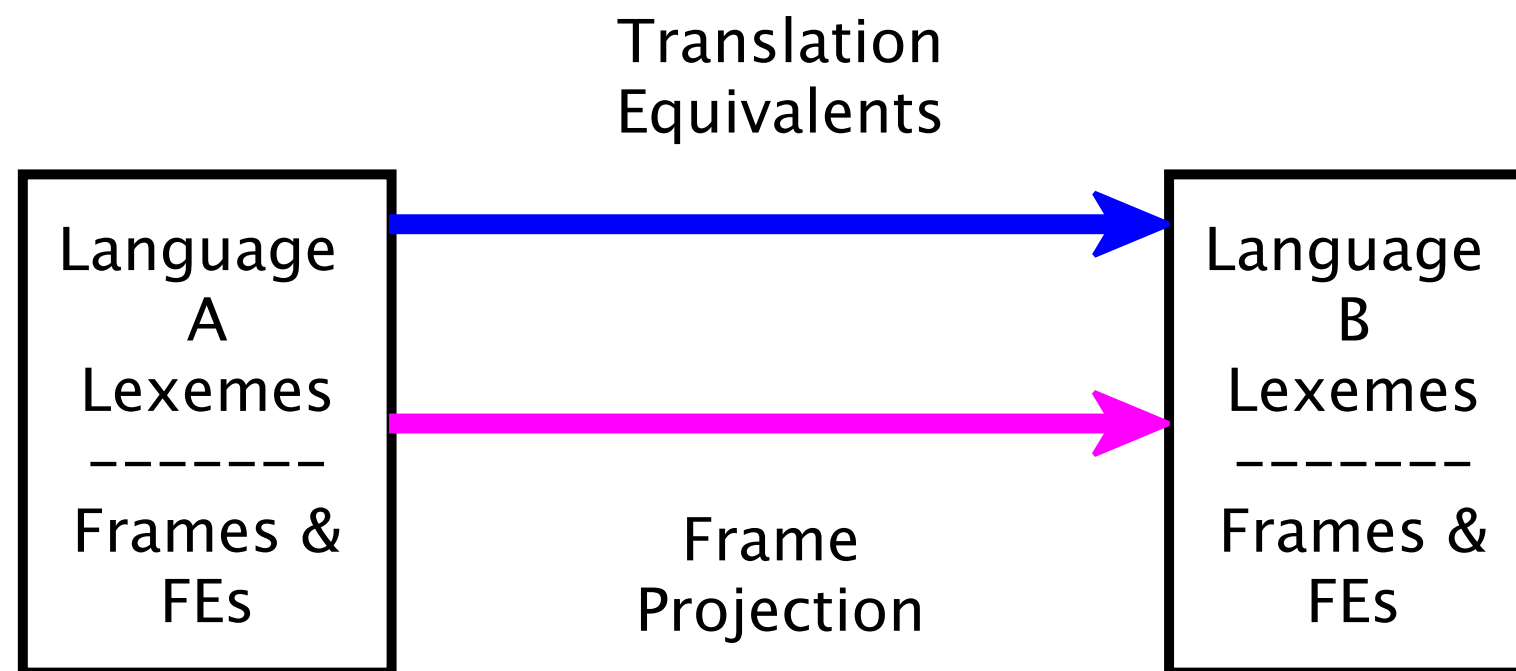
Using FrameNets to build new FrameNets
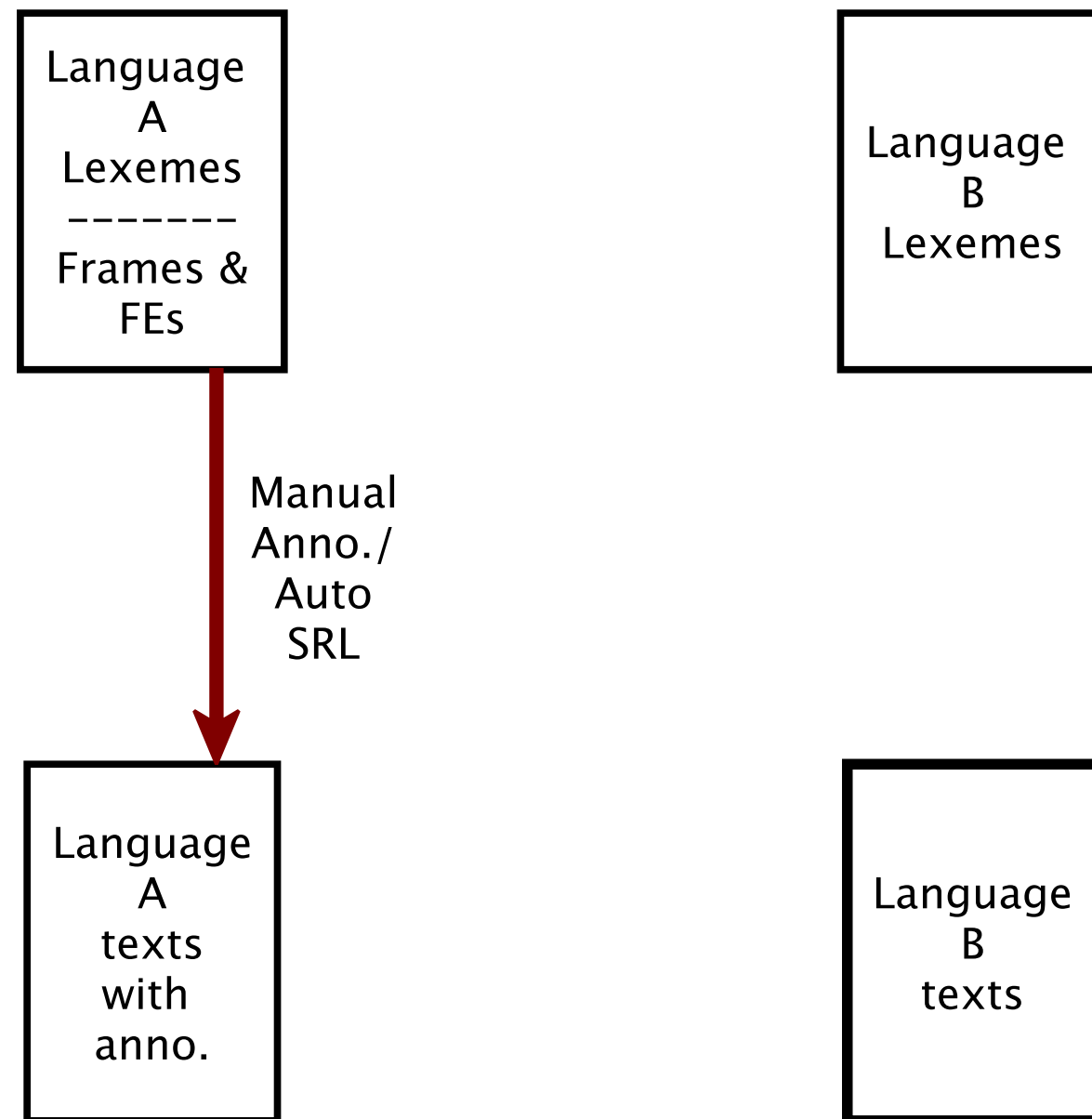
Pathways: Frame Projection

Pathways: Frame Projection

Translation
Equivalents

Language
A
Lexemes
————————
Frames &
FEs

Language
B
Lexemes
————————

Pathways: Frame Projection

Translation
Equivalents

Language A Lexemes ――――― Frames & FEs	Language B Lexemes ――――― Frames & FEs

Frame
Projection

- B. Chen and P. Fung (2004 Chinese)

Pathways:Annotation Projection
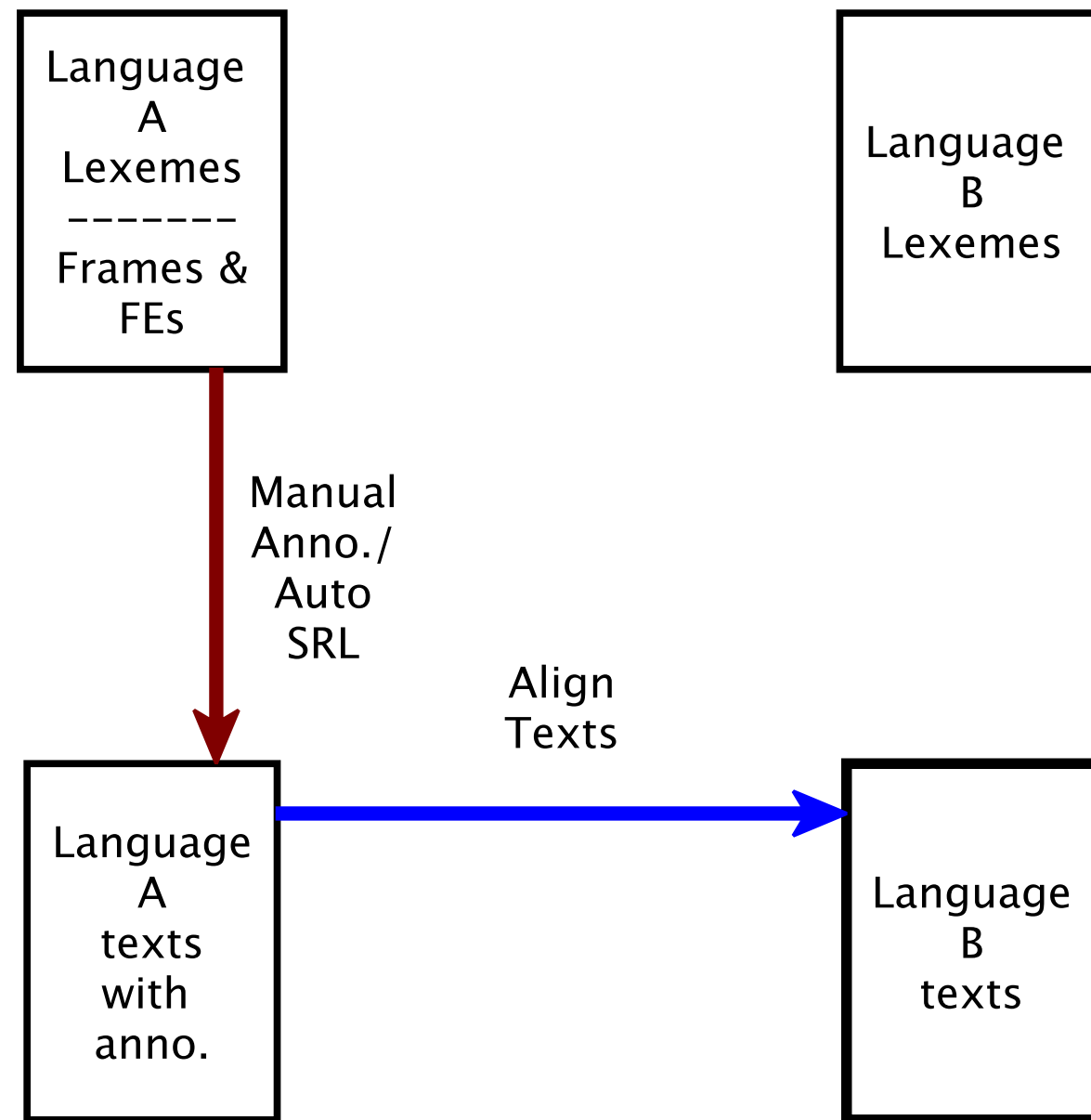
Language
A
Lexemes

Frames &
FEs

Language
B
Lexemes

Manual
Anno./
Auto
SRL

Language
A
texts
with
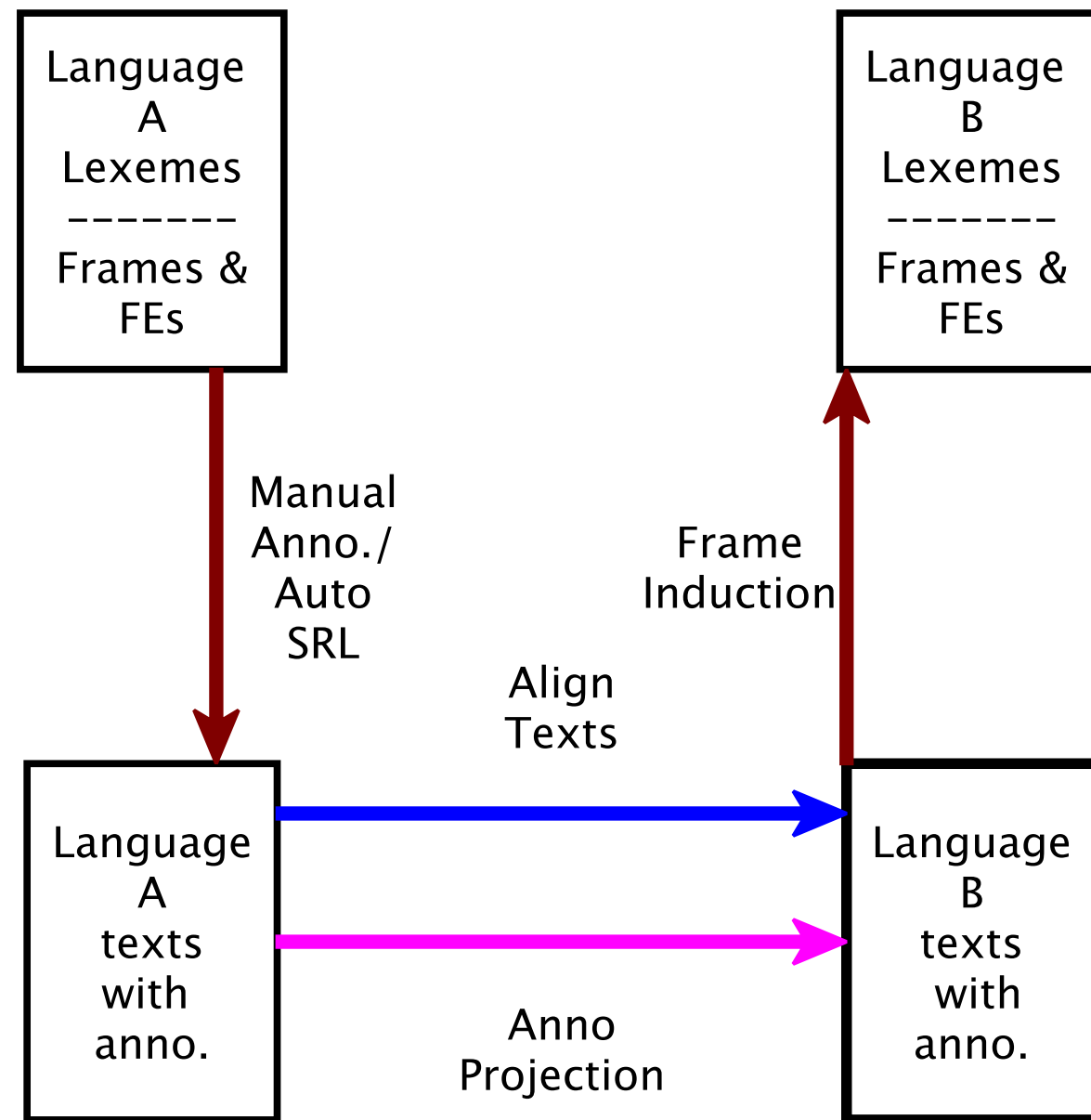anno.

Language
B
texts

Pathways:Annotation Projection

Pathways:Annotation Projection

Pathways:Annotation Projection

Language A Lexemes ——————— Frames & FEs

Language B Lexemes ——————— Frames & FEs

Manual Anno./ Auto SRL

Frame Induction

Align Texts

Language A texts with anno.

Language B texts with anno.
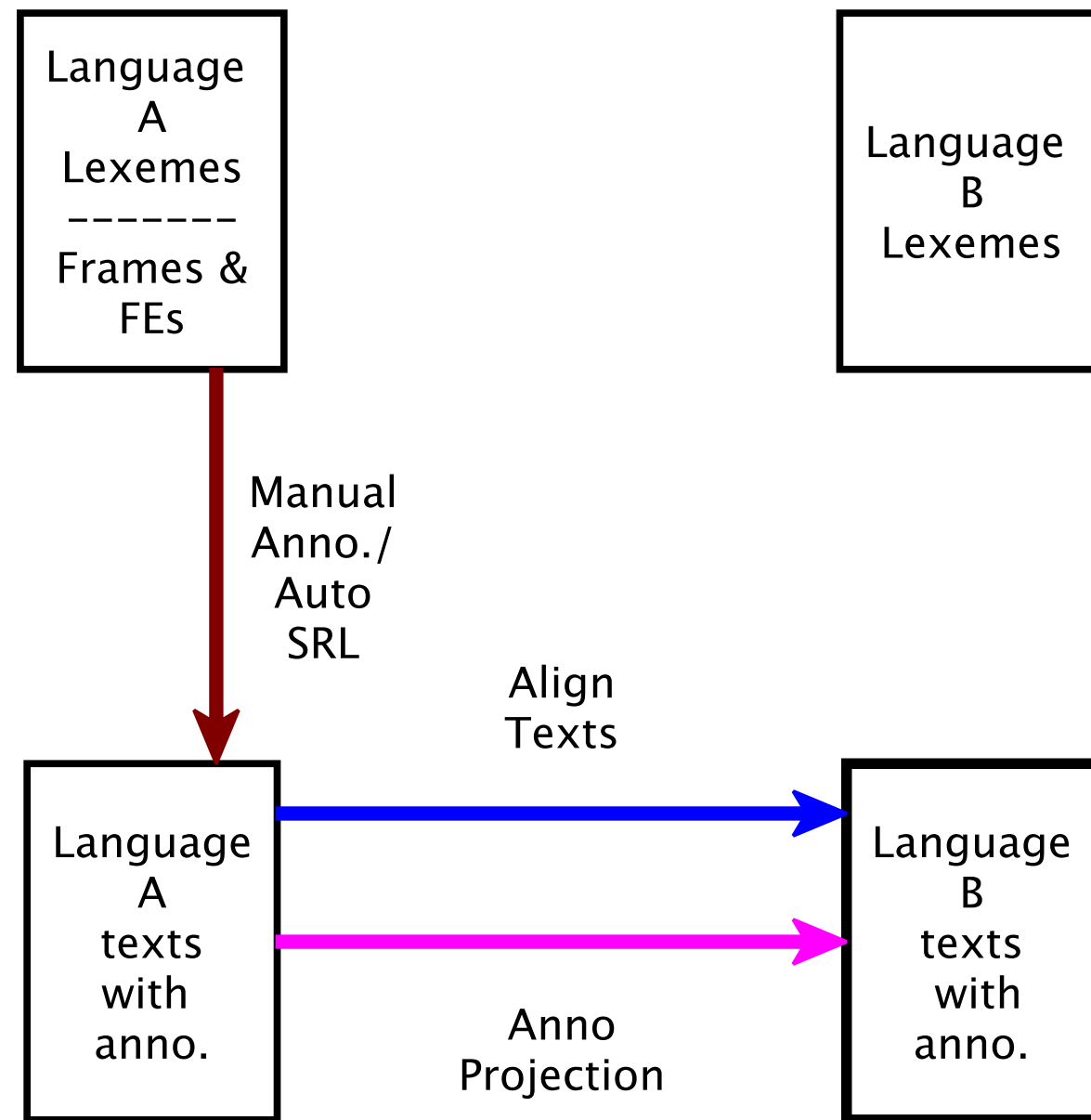
Anno Projection

# Pathways:Annotation Projection
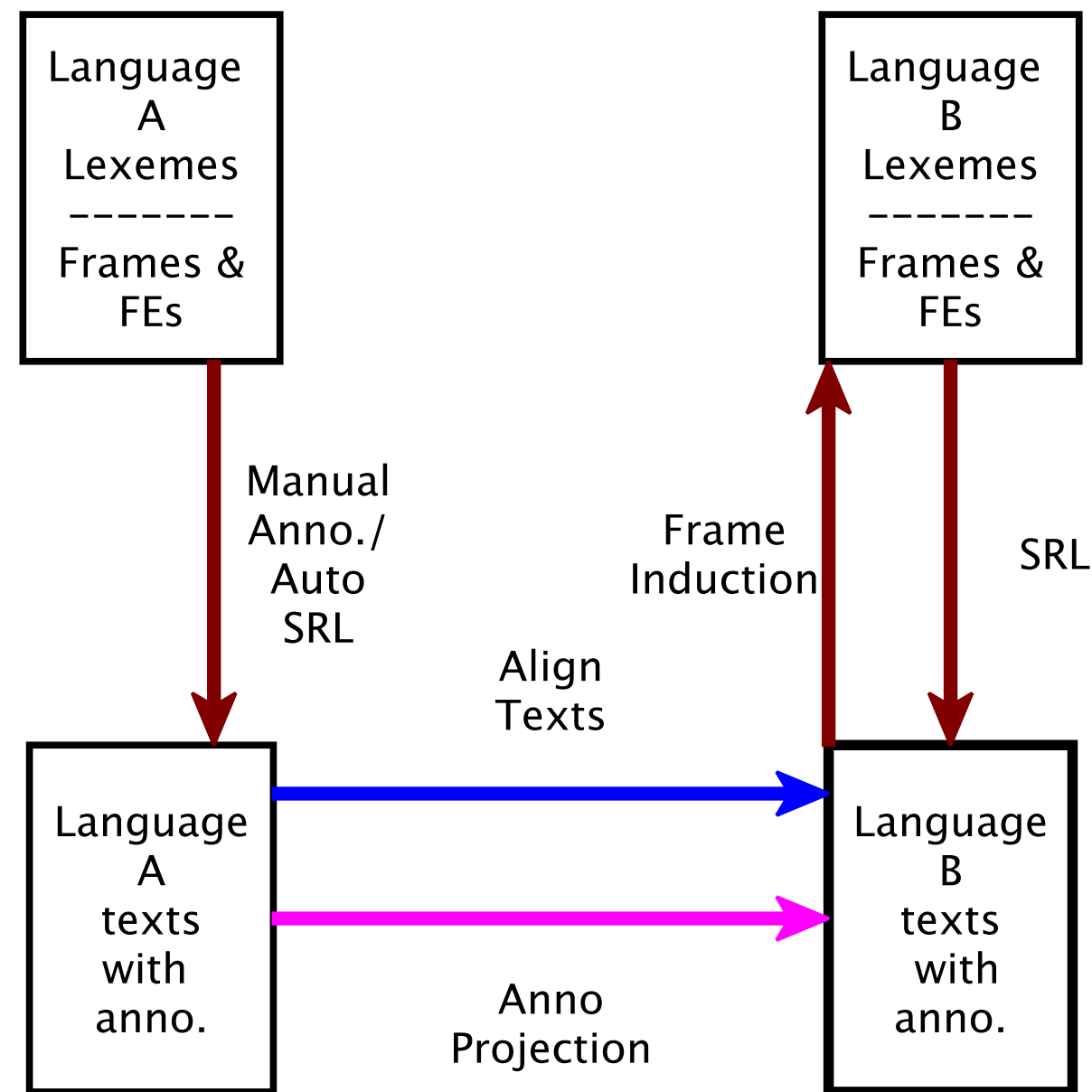
- R. Johansson and P. Nugues (2006 Swedish)
- S. Tonelli and E. Pianta (2008 Italian)
- S. Padó (2007 German, French)
- S. Padó and M. Lapata (2009 German)

Software Sharing among FrameNets

- FNDesktop software created at ICSI has been adopted and adapted by several projects: Spanish FN, Japanese FN, and FN Brasil. Also used for Slovenian FN project (S. Može 2009 M.A. thesis)

  - Annotation, frame and LU creation all in one interface

  - Java GUI, not web based, not intended for remote use

- Japanese FN, FN Brasil and Chinese FN have each built their own web-based annotation tool; FN Brasil is using theirs exclusively. We are looking for an interoperable tool.

ICSI FN FrameGrapher interface
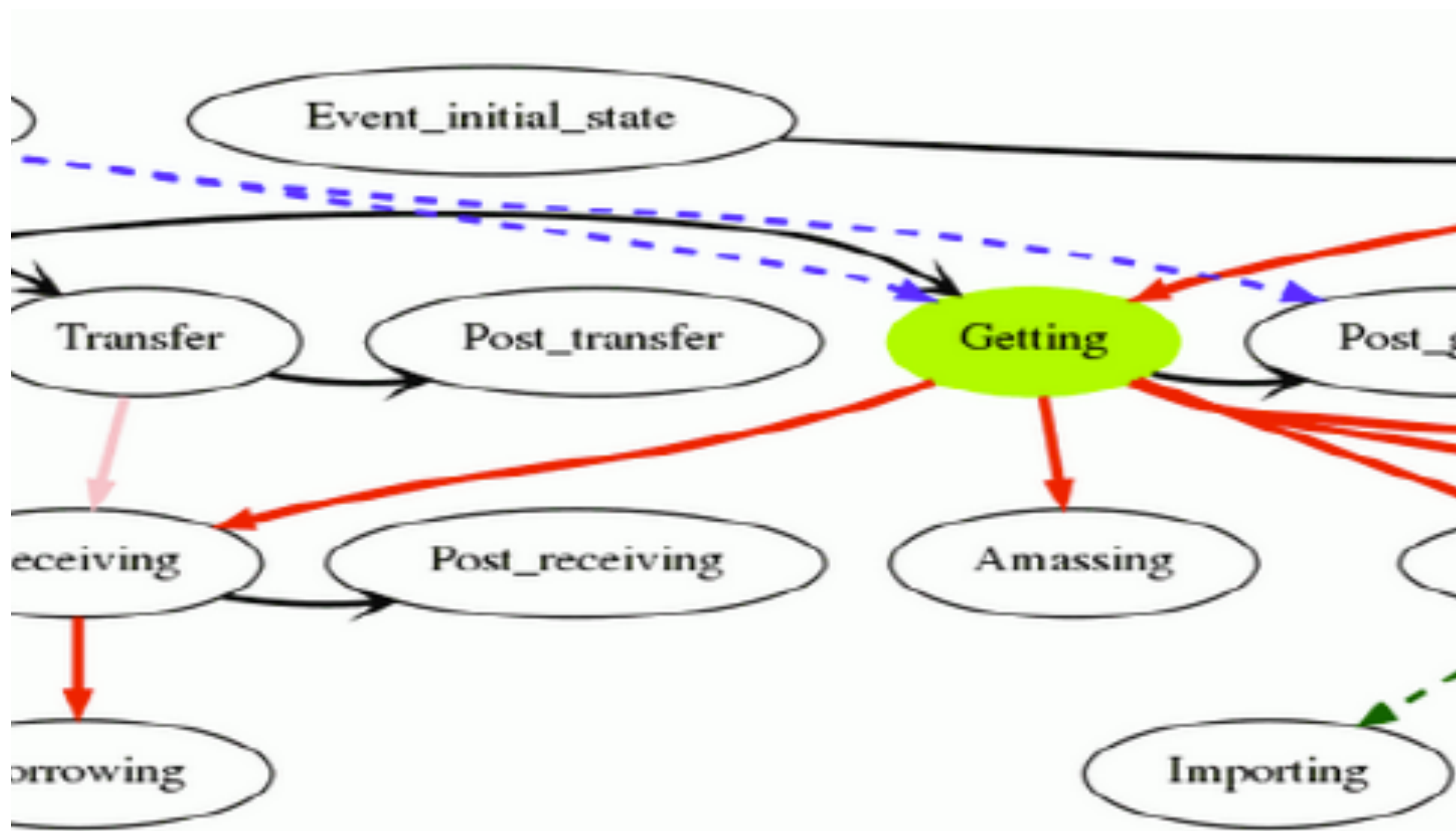
FN Brasil Frame Grapher
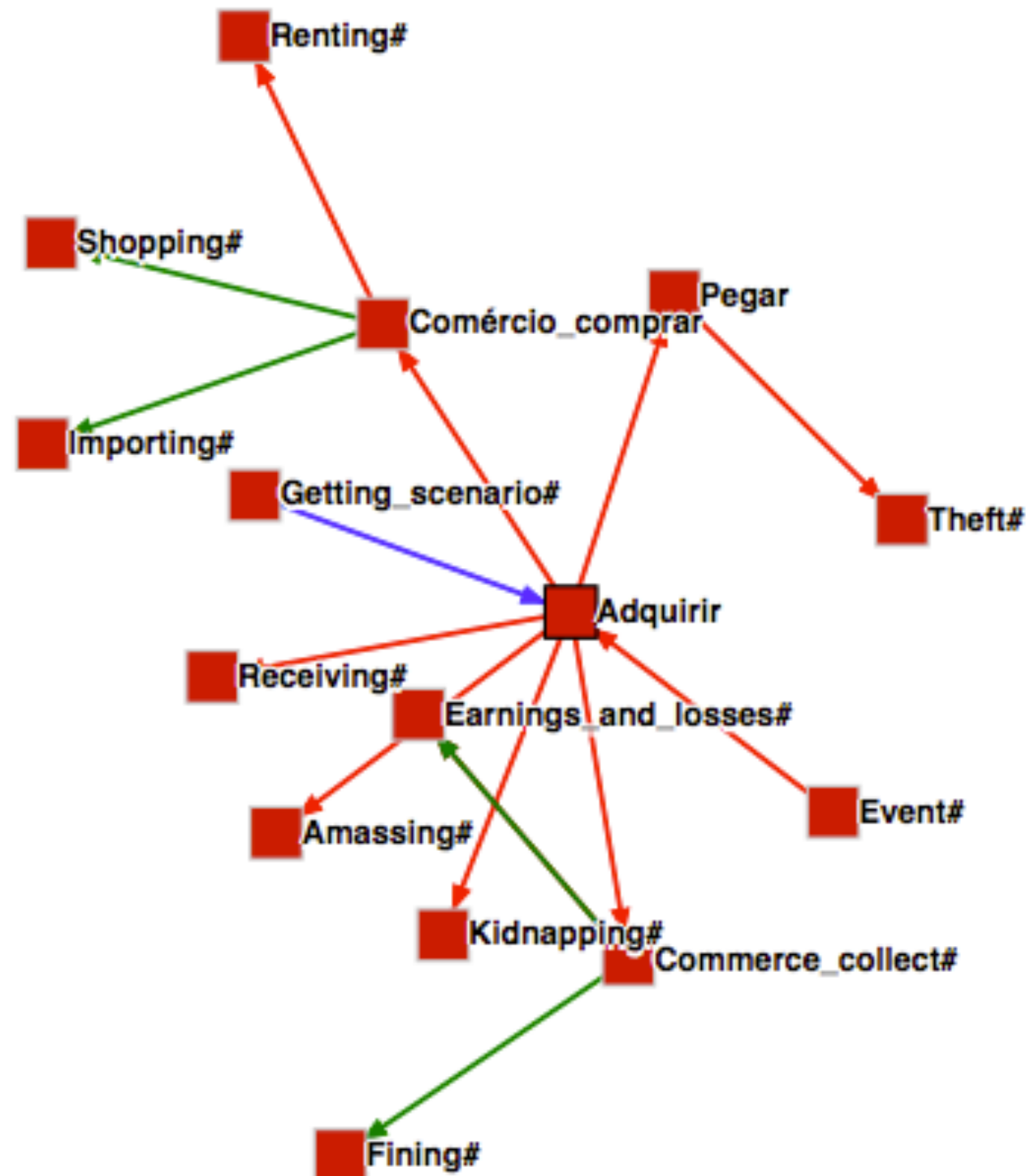
Opening up FrameNet (1)

- Volunteers: different skills needed for different tasks:

  - annotation (Lexicographic vs. full text, source of texts?)

  - adding LUs to frames (manual/automatic suggestions)

  - defining frames (FEs and LUs, writing definition, semantic types)

  - Linking frames with frame-frame relations (within langs./across langs.)

- Web-based tools,

- Concurrent editing? Wikipedia model?

Opening up FrameNet (2)

- Relation to unsupervised, semi-supervised approaches

    - R. Green (2004 U MD PhD. dissertation) "Inducing Semantic Frames from Lexical Resources"

    - M. Palmer (2009) SemLink (PropBank, VerbNet, FN)

    - E. Pavlik *et al.* (2015) Fast Paraphrastic Tripling FN

- Database will need to reflect provenance of all data

- Copyright and privacy issues

"Language Independence" in NLP
(Bender 2011)

- Do explicitly note which aspects of the methodology are intended to be language-independent, and which are explicitly language-dependent.

- Do evaluate claims of language independence by testing the algorithm against multiple languages.

- Don't evaluate language independence by only testing against related and/or typologically similar languages.

- Do expect comparable performance across languages from language independent systems.   When performance varies, do error analysis based on typological properties...

The OED: Crowdsourcing + Artisanal Lexicography

- Oxford English Dictionary
- 1857-1928 (First edition)
- ~5 million citation slips
- From ~2,000 volunteer readers
- Dozens of assistants
- Small team of editors
- 1 editor-in-chief (at a time)