

R for Linguists

Week 1: Day 1

Wassink

Spring 2018

University of Washington

Overview

- Course goals, calendar & requirements
- Introductions
- What do Linguists do with R?
- Foundations: installing and running R
- The R interface
- R Studio
- Due Friday: (1) student questionnaire, (2) install packages

Course goals

- Increase skill in Linguistic analysis: frame research questions such that linguistic databases can be constructed to address them
- Use scripts to work with linguistic data and databases in R
- ...understand how to use existing R resources, and create your own

Course goals, cont.

- Term project will involve choosing a research question, and creating a script to address it. Along the way, you will locate and run a relevant R package, and share your script

Your goals

- Understand differences between different types of corpora
- How to partition data into demographic variables?
- Learn whether R is useful for syntactic & semantic analysis
- Learn how to quantify data relevant to (laboratory) phonological research questions
- Learn how to model acoustic or articulatory data
- Learn how to model developing grammars?
- Make gorgeous vowel plots
- Scale up my analysis skills
- Learn how to write scripts well (so can decipher in 10 years)
- Gain skills that will help me get a real job!

Our R

- Who has worked in R?
- What have you used R for? (tables, stats, graphs?)
- Who has created scripts in R?
- We will each take one day on the syllabus to explore what we're learning in class, and on our own

Course requirements

- Weekly readings -- classtime will be used to discuss the skills introduced in readings.
- Reading questions (due in Canvas by Midnight the night before class)
- Weekly exercises -- practice on your own. These are due midnight on Fridays
- Term project -- teamwork is ok

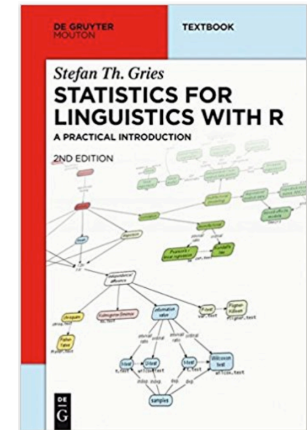
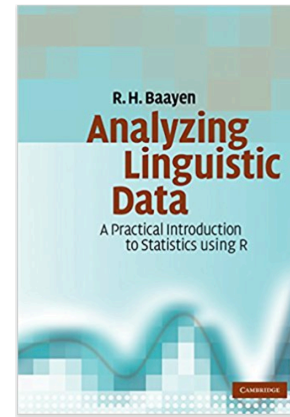
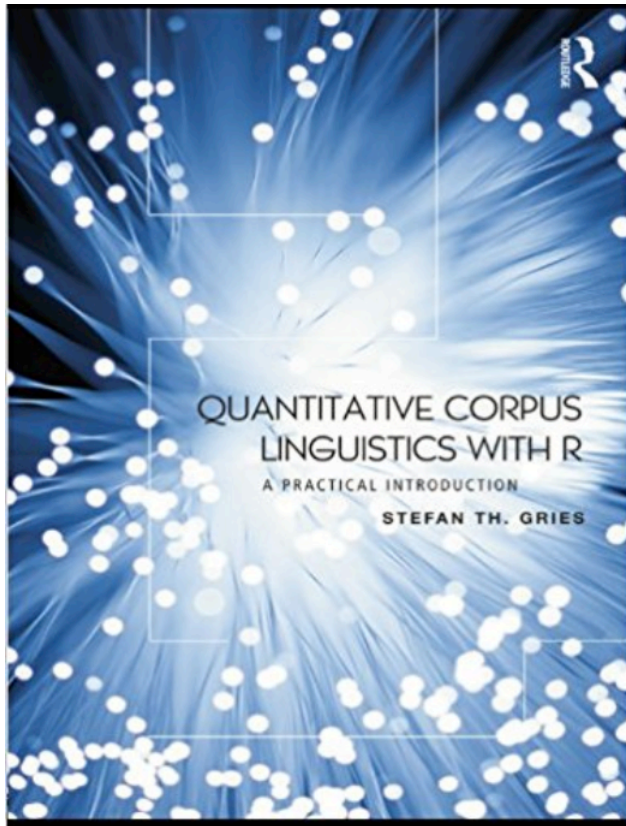
Reading Questions

- You compose questions as you read, using prompts on the syllabus RQs page
- Encourage careful reading of course materials
- Make class sessions more responsive to student questions
- Due by midnight the night before each class that has an assigned reading
- Each day, instructor posts RQs to Canvas

ASK QUESTIONS!

- If we're doing it right, we'll be asking you to stretch beyond your comfort zone in this class
- Working with computers, there is a big potential for black hole time sinks
- Solution: 10 minute rule
 - If you've worked at something for 10 minutes and don't yet have the answer, that's when you post the question

Course Text and Other Resources



Johnson, K. (2008) Baayen, R. H. (2008) Gries, S. Th. (2013)

What do Linguists do with R?

- R is not just for statistics (hypothesis testing, pattern discovery or building statistical models)...
- these are “coherent across subdisciplines of linguistics” (Johnson, p. xi)
- syntacticians need functions used by phoneticians and vice versa

Other stuff we do with R (specialization overlap)

- tables
- graphics
- word order constraint violations (syntax)
- principal components analysis (phonetics, historical linguistics)
- ratings scales for perception tests are actually similar to scales for acceptability judgements

Quantification is all around us

Laboratory Phonology	Constraint reranking, sentence acceptability judgements	Boersma and Hayes
Phonetics	Cherokee VOT durations over time, randomizing stimuli to vary presentation order	Johnson
Sociolinguistics	Counting variants, discovering whether a form is high or low-frequency, testing whether a change has occurred over time, checking for relationships between factors (do 2 communities differ in use of X)?	Dodsworth
Syntax	Determine whether an acceptability judgement bears on grammaticality or semantic anomaly, examine correlation b/w type of discourse context and frequency of occurrence	Corrigan, Ferreira

Typology of Linguistic Databases

