LINGUIST 61S: Language Evolution and Change **Summer 2018**

LOGISTICS

Instructor: Simon Todd (sjtodd@stanford.edu)

Office hours: Tu 3-4pm, or by appointment, in 460-040D (Margaret Jack's Hall)

Classes: TuTh 1:30-2:50pm in 160-120 (Wallenberg Hall)

Website: This course has a Canvas site, on which all materials are posted and to which all assignments should be submitted.

Textbook: There is no textbook for this course; readings will be posted to Canvas.

DESCRIPTION

Every human culture has a sophisticated, systematic means of communication which we call "language". Why? What makes languages the way they are, and what makes them keep changing over time? In this course, we will explore proposed explanations for language evolution and their connections to language change. In doing so, we will address a major roadblock in scientific inquiry: how do you study something you can't directly observe? Language evolution left no fossils behind, so how can different proposed explanations for it be evaluated? We will examine the argumentation behind different proposed explanations and the various methodologies that have been used to support them. Students will put to practice the knowledge and critical thinking skills gained from this course by developing and workshopping their own research project proposals.

POLICIES

Units: 2-3

Unit criteria: Students taking the course for 2 units will be expected to submit five responses to weekly readings and lead at least one class discussion over the quarter. Students taking the course for 3 units will be expected to complete all work required for 2 units, plus a project proposal and peer review. See ASSESSMENT for details.

Late work: All deadlines are hard deadlines. Late assignments will incur a penalty of at least 10%. Exceptional circumstances should be discussed with the instructor well in advance of the due date.

Attendance: Attendance is mandatory. Where possible, absences must be cleared with the instructor in advance. No credit will be given for unexplained absences. Reduced (80%) credit will be given for unexplained latenesses. Everyone is expected to participate in discussion.

Honor Code: We follow Stanford University's Honor Code. You may discuss your assignments with other students, but all submitted work must be your own.

OAE: Students who may need an academic accommodation based on the impact of a disability must initiate the request with the Office of Accessible Education (OAE). Professional staff will evaluate the request with required documentation, recommend reasonable accommodations, and prepare an Accommodation Letter for faculty dated in the current quarter in which the request is being made. Students should contact the OAE as soon as possible since timely notice is needed to coordinate accommodations. The OAE is located at 563 Salvatierra Walk (phone: 650 723 1066).

Objectives

By the end of this course, students taking the course for 3 units should be able to:

1. understand what Linguistics is and what it means to study language scientifically;
   (a) describe the differences between components (levels) of linguistic structure (phonetics, phonology, morphology, syntax, semantics, and pragmatics);
   (b) describe how the scientific study of language can draw on aspects of history (historical linguistics), society (sociolinguistics), technology (computational linguistics), and psychology (psycholinguistics);
2. understand key themes and methodologies in the study of language evolution;
   (a) explain what is meant by the term "language evolution", including its similarities to and differences from biological evolution;
   (b) describe existing theories of language evolution;
   (c) identify appropriate methodologies for supporting or challenging theories of language evolution;
   (d) draw connections between theories of language evolution and their implications for continued language change;
3. begin to participate productively in scientific inquiry;
   (a) read scientific literature;
   (b) identify the hypothesis in a scientific paper and the data and argumentation used to support it;
   (c) critically evaluate how well the data and argumentation in a scientific paper support the hypothesis;
   (d) lead a discussion centered around a scientific paper;
   (e) write a proposal for a research project;
   (f) conduct peer reviews for others' research proposals;
   (g) present a research proposal orally and answer questions about it.

Students taking the course for 2 units should be able to meet all objectives except 3(e)-(g).

Assessment

For students taking the course for 3 units, the weighting of assessments is as follows:

Participation: (10%) Attend all classes and participate in discussions (incl. leading one).

Responses: (45%) Write 5 (of 6) guided responses to weekly readings (9% each).

Abstract: (10%) Write a 1-page (∼500-word) abstract for a research proposal.

Peer reviews: (10%) Complete half-page peer reviews for two abstracts (5% each).

Presentation: (10%) Give a short (∼10-minute) presentation + Q&A for your proposal.

Proposal: (15%) Submit a full 4-page (∼2000-word) version of your proposal.

For students taking the course for 2 units, the weight for responses is doubled (to 90%).

Full details for each assessment can be found on Canvas.

Grading

Letter grades will be assigned according to the following:

excellent	97–100%	A+	93–96%	A	90–92%	A–
good	87–89%	B+	83–86%	B	80–82%	B–
satisfactory	77–79%	C+	73–76%	C	70–72%	C–
minimal pass	67–69%	D+	63–66%	D	60–62%	D–
no pass			<60%	NP		

For students not taking the course for a letter grade, the minimum score for CR is 70%.

Schedule

Tuesday's classes will generally be lectures. Thursday's classes will generally be student-led discussions of readings, or other practical activities.

There will be 2 assigned readings of scientific papers (∼25 pages total) per week most weeks. See Readings for details.

Students taking the class for 3 units are encouraged to meet with the instructor to discuss their research proposal prior to submitting an abstract.

With the exception of the full proposal write-up, all assignments are due Thursdays 1:30pm. The full proposal write-up is due by the end of Monday 8/20 (11:59pm).

Week	Dates	Topic	Due
1	Tu 6/26, Th 6/28	What is language? Thinking critically about evolution and change	
2	Tu 7/03, Th 7/05	Is language evolution biological or cultural?	Reading response 1
3	Tu 7/10, Th 7/12	Learning and language evolution	Reading response 2
4	Tu 7/17, Th 7/19	Can computers invent language?	Reading response 3
5	Tu 7/24, Th 7/26	The role of the community	Reading response 4
6	Tu 7/31, Th 8/02	What was before language?	Reading response 5, Proposal abstract
7	Tu 8/07, Th 8/09	Comparing languages	Reading response 6, Proposal peer reviews
8	Tu 8/14, Th 8/16	Outlook: current and future directions	Proposal presentations
	Mo 8/20		Full proposal write-up

Workload

The Stanford regulations define 1 unit as corresponding to 3 hours of work per week, including class time. The expected workload for this course is as follows:

all students	class: lecture / discussion	24 hours	*3hrs/wk*
	required readings	15 hours	*2.5hrs/wk* × *6 weeks*
	reading responses	8 hours	*1.6hrs/wk* × *5 weeks*
	discussion-leading preparation	1 hour	
3-unit students	proposal abstract	7 hours	
	proposal peer reviews	3 hours	
	proposal presentation	5 hours	
	final proposal write-up	9 hours	

Readings

Two required readings will be assigned for each of weeks 2–7. The required readings are posted on Canvas, in the *Required readings* folder for each week.

The required readings are scientific papers which develop on an aspect of that week's topic in more detail. These readings should be completed before the Thursday class of that week, which will include an in-class discussion of the readings.

For 5 of the 6 weeks from week 2–7, each student will choose **one** of the two required readings to respond to, through the *Assignments* link on Canvas. Alternatively, a student may write a response for each of the 6 weeks, and only the best 5 will be counted toward the grade. Responses are due by the start of the Thursday class. Additionally, one student will be chosen to lead discussion on each paper during the Thursday classes of weeks 2–7 (details confirmed during the first week of class).

The required readings are as follows:

Week 2: *Is language evolution biological or cultural?*

- Pinker, S. (2003) Language as an Adaptation to the Cognitive Niche. In M.H. Christiansen & S. Kirby (ed.), *Language Evolution*, pp. 16–37. New York, NY: Oxford University Press. **[22 pages]**
- Chater, N., Reali F., & Christiansen, M.H. (2009) Restrictions on Biological Adaptation in Language Evolution. *Publications of the National Academy of Sciences USA* 106(4):1015–1020. **[5 pages]**

Week 3: *Learning and language evolution*

- Kirby, S., Cornish, H., & Smith, K. (2008) Cumulative Cultural Evolution in the Laboratory: An Experimental Approach to the Origins of Structure in Human Language. *Publications of the National Academy of Sciences USA* 105(31):10681–10686. **[6 pages]**
- Goldin-Meadow, S., & Yang, C. (2017) Statistical Evidence that a Child can Create a Combinatorial Linguistic System without External Linguistic Input: Implications for Language Evolution. *Neuroscience and Biobehavioral Reviews* 81:150–157. **[7 pages]**

Week 4: *Can computers invent language?*

- Steels, L., & Kaplan, F. (2000) AIBO's First Words: The Social Learning of Language and Meaning. *Evolution of Communication* 4(1):3–32. **[28 pages]**
- Steels, L. (2016) Agent-Based Models for the Emergence and Evolution of Grammar. *Philosophical Transactions of the Royal Society B* 371:20150447. **[8 pages]**

Week 5: *The role of the community*

- Dunbar, R.I.M. (1993) Coevolution of Neocortical Size, Group Size and Language in Humans. *Behavioral and Brain Sciences* 16:681–735. **[13 pages]**
- Senghas, R.J., Senghas, A., & Pyers, J.E. (2005) The Emergence of Nicaraguan Sign Language: Questions of Development, Acquisition, and Evolution. In J. Langer, S.T. Parker, & C. Milbrath (ed.), *Biology and Knowledge Revisited: From Neurogenesis to Psychogenesis*, pp. 287–306. Mahwah, NJ: Lawrence Erlbaum. **[18 pages]**

Week 6: *What was before language?*

- Corballis, M.C. (2003) From Hand to Mouth: The Gestural Origins of Language. In M.H. Christiansen & S. Kirby (ed.), *Language Evolution*, pp. 201–218. New York, NY: Oxford University Press. **[18 pages]**
- Morgan, T.J.H., Uomini, N.T., Rendell, L.E., Chouinard-Thuly, L., Street, S.E., Lewis, H.M., Cross, C.P., Evans, C., Kearney, R., de la Torre, I., Whiten, A., & Laland, K.N. (2015) Experimental Evidence for the Co-Evolution of Hominin Tool-Making Teaching and Language. *Nature Communications* 6:6029. **[7 pages]**

Week 7: *Comparing languages*

- Mufwene, S. (2009) The Evolution of Language: Hints from Creoles and Pidgins. In J. Minett & W. Wang (ed.), *Language Evolution and the Brain*, pp. 1–33. Hong Kong: City University of Hong Kong Press. **[29 pages]**
- Dunn, M., Greenhill, S.J., Levinson, S.C., & Gray, R.D. (2011) Evolved Structure of Language Shows Lineage-Specific Trends in Word-Order Universals. *Nature* 473:79–82. **[4 pages]**

There are also 1–2 suggested readings each week, in the corresponding *Suggested introductory readings* on Canvas. These readings are written for a general audience and serve to introduce that week's topic. While you do not have to complete these readings, reading them before the Tuesday class of that week may allow you to get more out of the lecture.

Most of the suggested readings are taken from one of the following books:

- Aitchison, J. (1996) The Seeds of Speech: Language Origin and Evolution. New York, NY: Cambridge University Press.
- Burling, R. (2005) The Talking Ape: How Language Evolved. New York, NY: Oxford University Press.
- Hurford, J.R. (2014) The Origins of Language: A Slim Guide. New York, NY: Oxford University Press.

All of the papers discussed during lecture each week are also available on Canvas, in the corresponding *Further readings* folder. They may be helpful for the research proposal.