ORIGINS AND EVOLUTION OF LANGUAGE 2024-2025

The assessment consists of two essays, see below for **details. Each essay must be submitted with an accompanying submission cover sheet** – feedback will be **minimal** if you do not fill in the self-reflection part of the cover sheet. The cover sheets are available from these links and from the course github page. Essay 1 cover sheet. Essay 2 cover sheet.

UNDERGRADUATE ASSESSMENT
Essay 1: a 1500-word essay on *one* topic selected from the list below, worth 50% of the course mark. Deadline: 12.00 noon, Thursday 24th October 2024.
Essay 2: a 1500-word essay on *one* topic selected from the list below (must be a different topic than that tackled in essay 1), worth 50% of the course mark. Deadline: 12.00 noon, Thursday 12th December 2024.

MSC ASSESSMENT
Essay 1: a 1500-word essay on *one* topic selected from the list below, worth 40% of the course mark. Deadline: 12.00 noon, Thursday 24th October 2024.
Essay 2: a 1500-word essay on *one* topic selected from the list below (must be a different topic than that tackled in essay 1) or your own topic (see below), worth 60% of the course mark. Deadline: 12.00 noon, Thursday 12th December 2024. For essay 2, MSc students have the option of setting your own question, rather than selecting from the list below: **any such question must be agreed in writing by Kenny by noon on Wednesday 4th December** (remembering to allow time to discuss – if you want to set your own topic, contact Kenny early).

Word limits are excluding the references section: the references section does not count towards the 1500 word limit. Obviously we don't want to penalize you for reading and citing widely.

Word limits include e.g. footnotes, figure captions, tables etc: I never want to read a 1500 word essay with 5000 words of footnotes and a 1500 word figure caption. Don't try to game the word count, write something focussed and concise.

Word limits are strict: you will be penalized if you go over 1500 words.

Include the question number and full question you are answering at the top of your essay: Putting the full question at the top of your essay removes any ambiguity for your marker as to what question you are attempting to answer. It's also a useful reminder to you that **your essay should be answering a question,** rather than taking an aimless ramble through the literature. Putting the question right at the top is a simple trick that helps you focus on answering that question, and avoiding this pitfall. This does not count towards the word count.

If you have questions about the assessments, they must be asked by the following deadlines – I won't respond to questions between these dates and the hand-in (unless you have an extension obviously, then this deadline is extended by the same amount).
Essay 1: no questions after 12 noon, Monday 21st October
Essay 2: no questions after 12 noon, Monday 9th December

General advice on the essays, for both undergraduates and MScs
First and most importantly, **use the PPLS Skills Centre!** They can give you brilliant advice on all the stuff I mention here, and more.

The essay is your opportunity to show that you understand more than the content of the lectures and set readings – you should take it as a chance to show that you have carried out independent reading that's relevant to the course, can produce your own interpretation of the material you have read, and use it to build your own argument. The topics were chosen with this in mind, and are in areas we have touched on in the lectures or tutorials but which leave lots of room for you to explore the literature independently and develop your own ideas. To help you get started on each topic, I have provided a couple of potential 'starter' references for each topic that you might find useful – you should use these as your gateway into the literature (see advice below on how to do this). **Essays which rely mainly/exclusively on the set readings for the course (lecture and tutorial readings) and/or which only work with the 'starter' readings will receive a low mark.** I am looking for critical engagement with the language evolution literature – ideally your essay will show that you have approached the question in an open-minded but skeptical manner, carefully seeking out, scrutinizing and evaluating the evidence behind theories and ideas, and drawing your own conclusions that represent a fair consideration of the available evidence.

Organize your essay in sections: an introduction (describing the topic, why it is interesting and outlining your position/what you are going to argue) followed by some content sections and a conclusion. Use informative section headings.

Be clear and to the point in your argumentation and precise in the terminology – the word limits are quite tight, so I expect you to be concise. Simple clear language is easier to read and more concise; no need to aim for flowery language to impress us.

Provide references in a consistent format – I prefer the APA style, but another style is fine if you are consistent. For APA citations you can find a helpful guide here on in-text citation format and the format for the reference sections in the Purdue University Online Writing Lab pages (start at "In-text citations: The basics"), and you can see the sample references below for an idea of the APA format for reference sections.

There's no need to avoid the 1st person singular: I would much rather read "I will argue…" than "We will argue…" (this is an individual assignment, who is "we"?) or god forbid "It will be argued…".

Advice on how to find additional relevant articles
Having a quick google on "language evolution" isn't really going to help very much, so you need to be more targeted in identifying relevant articles to read. The starter articles for each topic are intended to give you an opening into the literature, so you should use them to guide your initial search (but don't feel constrained by them). There are several ways you could find more additional articles.

You could check for other relevant work by the same authors: most people have a personal and/or institutional webpage listing some or all of their publications (e.g. here's mine), and they might also have a profile on Google Scholar (e.g. here's mine).

You can also work outwards from a focal paper, using its reference list and looking for it in the reference lists of other papers. You can look at the reference list of the paper you are reading and chase up papers that they cite – if the people who wrote the focal paper did a decent job of their literature review, the major relevant papers will be included there, which will allow you to work backwards in time from your focal paper. In order to work forwards in time, you have to find papers which cite the focal paper you are reading – if someone has come along subsequently and done something on the same topic, they should cite your focal paper. Fortunately, various tools exist to make this kind of search easier. Google Scholar is useful here – for every paper, it provides a list of papers which cite that paper, allowing you to work forward in this way. Web of Science makes it easy to go both forwards and backwards in time – find your focal paper on there (e.g. search by the title), and you can access a linked list of papers it cites and papers that cite it. And of course you can apply these procedures recursively – there may be relevant papers in the papers that cite a paper that cites your focal paper, and so on.

A combination of these techniques should get you started, and will probably generate more papers than you can possibly read, so you need to be selective. Use the title and abstract of a paper to get the gist of what it's about, and pursue the papers which you think will provide the most relevant evidence, or which are most helpful (or most difficult) for the argument you are trying to develop. And look for converging evidence – few single papers provide an uncontroversial and definitive "truth" on any subject, but a converging body of work showing the same sort of results should give you more confidence.

Policy on the use of generative AI

The formal policy for this course is as follows: Academic integrity is an underlying principle of research and academic practice. All submitted work is expected to be your own. AI tools (e.g., ChatGPT, the Edinburgh Language Model) should **not** be used to generate written text on your essays for this course. However, you are allowed to use these tools to identify ideas, key themes, and plan your assessment. You may also use it to improve the clarity of your writing. If you use AI software, you must acknowledge its use in your submission, using the cover sheet provided (this is linked from the course github page alongside the assignment brief).

Some additional remarks. Having played around with ChatGPT a bit myself (including experimenting with its responses to these essay questions), I'd add the following observations: 1) the text it produces is obviously incredibly impressive for a machine, but for an undergrad or Masters essay is quite superficial and lacks the critical engagement and evidence of both wide and specialized reading we are looking for (which is slightly ironic since it's certainly read very widely!); 2) its answers sometimes contains interesting or unexpected links that could be worth pursuing, but it's often prone to fantasizing evidence that does not exist; 3) it does particularly badly with references, and frequently produces references to papers which either do not exist or which do not contain content relevant to the claim they are being cited to support. This will be extremely obvious to anyone who knows the literature who reads your essay.

If you do use generative AI, you are encouraged to use the Edinburgh Language Model (https://elm.edina.ac.uk/), see explanation in the Appendix.

ESSAY TOPICS
[All articles cited here can be accessed via DiscoverEd]

1. Is language a tool for thought, where externalizing those thoughts for others is a secondary function? Or a tool for communication, where its function in externalizing our thoughts and sharing them with others is crucial to understanding the evolution of language?

   Asoulin, E. (2016). Language as an instrument of thought. *Glossa, 1,* 46.
   Piantadosi, S. T., Tily, H., & Gibson, E. (2012). The communicative function of ambiguity in language. *Cognition, 122,* 280-291.
   [See also the reading and discussion from the week 2 lecture]

2. When did language first evolve? Can we date language origins, and if so what kinds of evidence enable us to do that? Or if we can't, why not?

   Dediu, D., & Levinson, S. C. (2013). On the antiquity of language: The reinterpretation of Neandertal linguistic capacities and its consequences. *Frontiers in Language Sciences, 4,* 397.
   Tattersall, I. (2017). How can we detect when language emerged? *Psychonomic Bulletin & Review, 24,* 64-67.
   [See also the reading and discussion from the week 4 tutorial]

3. There is a small industry in studying the ability of humans and non-human animals to learn artificial grammars. Some people think this work is important for understanding key cognitive differences between humans and non-human animals, and therefore the evolution of language in humans. Others think it's either badly done or conceptually flawed or both. What do you think, and why?

   de Vries, M. H., Monaghan, P., Knecht, S., & Zwitserlood, P. (2008). Syntactic structure and artificial grammar learning: The learnability of embedded hierarchical structures. *Cognition, 107,* 763-774.
   Milne, A. E., Wilson, B., & Christiansen, M. H. (2018). Structured sequence learning across sensory modalities in humans and nonhuman primates. *Current Opinion in Behavioral Sciences, 21,* 39-48.
   [See also the reading and discussion from the week 5 and 6 tutorials]

4. There are roughly 7000 languages in the world, which potentially differ from one another along many dimensions. Peter Trudgill coined the term "sociolinguistic typology" to capture the hypothesis that cross-linguistic variation might be shaped by social factors, such that (for example) languages spoken in small, tight-knit, isolated populations tend to exhibit different structural features (e.g. more complex morphology) than language spoken in larger, more loosely-connected population. Do you think that cross-linguistic variation is shaped by social factors in this way? If so, why? If not, why not? NB. This is **not** an opportunity to write a general essay on sociolinguistics, we expect you to engage with the language evolution literature, as embodied in e.g. the suggested starter readings.

Wray, A., & Grace, G. W. (2007). The consequences of talking to strangers: Evolutionary corollaries of socio-cultural influences on linguistic form. *Lingua, 117*, 543-578.

Shcherbakova, O., et al. (2023). Societies of strangers do not speak less complex languages. *Science Advances, 9*, eadf7704.

[See also the reading and discussion from the week 7 tutorial]

5. A recent trend in evolutionary linguistics has been to simulate the process of language creation and language evolution experimentally, using artificial language learning and silent gesture paradigms to study how languages develop in laboratory populations of adult humans. Do you think these methods are a good proxy for the real-world processes they are intended to simulate? Why, or why not?

   Hall, M. L., Ferreira, V. S. & Mayberry, R. I. (2014), Investigating Constituent Order Change With Elicited Pantomime: A Functional Account of SVO Emergence. *Cognitive Science, 38*, 943-972.

   Kirby, S., Tamariz, M., Cornish, H., & Smith, K. (2015). Compression and Communication in the Cultural Evolution of Linguistic Structure. *Cognition, 141*, 87-102.

   [See also the reading and discussion from weeks 7 and 8]

6. Is language evolution predominantly a process of biological or cultural evolution? Evaluate (some of) the evidence and arguments for each perspective and provide your own assessment.

   Christiansen, M. H., & Chater, N. (2008). Language as shaped by the brain. *Behavioral and Brain Sciences, 31*, 489-558.

   Pinker, S., & Bloom, P. (1990). Natural language and natural selection. *Behavioral and Brain Sciences, 13*, 707-784.

   [See also the readings and discussion from weeks 2, 7, 8 and 9]

APPENDIX: THE EDINBURGH LANGUAGE MODEL (ELM)

What is ELM?

The Edinburgh Language Model (ELM) is our internal institutional AI tool. ELM is powered by ChatGPT 4.0 Turbo, a powerful and widely used Generative AI. All University staff have access to ELM (https://elm.edina.ac.uk/), students should have access by 9th September 2024.

Why would I use ELM?

Compared with ChatGPT or other Generative AIs available, ELM has two key advantages:

1. It is free. The University has already paid for the product meaning access to this powerful AI is not restricted by your ability to pay. All you need is an EASE login.
2. It helps protect your privacy and intellectual property. Under the agreement between the University and ChatGPT, the information you input into ELM is not retained by the company or used for training their AI. This is not typically the case for online AIs.

What are the risks and ethical considerations?

There are risks in using ELM as it is powered directly by ChatGPT. The company that owns ChatGPT is US-based and not GDPR compliant, however these risks are mitigated by ELM. Due to the nature of their training, AIs can pick up (or even more worryingly, amplify) biases from their datasets. It is important to critically assess their output for bias, much as we would critically assess other information from the internet. These are a few key examples, and for a more fulsome discussion see risks and ethics.

How can I use ELM?

Generative AIs can be used for a very wide range of tasks. It is sometimes helpful to think of a Generative AI as a very bright but very new coworker – they have a lot of processing power but need quite specific guidance and fact-checking.

ELM could be used for generating ideas, refining text, writing code, summarizing text, providing feedback, and a range of other tasks. It is often easiest to try and see. For some guidance and simple training on how to start using ELM, see here.

For more details about ELM see here, and for general information about AIs see here.