Welcome to hsci 4993 The Capstone seminar in the History of Science, Technology and Medicine.

This research seminar will introduce students to a range of documents and scholarship relating to just some of the many narratives of human evolution. The idea of humanity's evolutionary progress (or degeneration) has shaped our culture, our science, and our politics; ultimately, it has profoundly the colored and sexed our sense of what it means to be human. Students will utilize historical tools of analysis to excavate aspects of the evolutionary stories that have shaped our lives. Plays, poetry and painting, as well as politics of social-Darwinism and eugenics are all fair game here, as we look at the development of evolutionary biology as a contribution to sociology, anthropology, primatology and the development, and critique, of the 'selfish gene'. This course fulfills the capstone requirement for a major in the history of science, technology and medicine. The goal of this seminar-format course is to provide students with the opportunity to further develop their skills in research, writing, and critical analysis with respect to the historical study of science.

Students will produce an extended research paper - or equivalent - that will run to approximately 20-30 double-spaced pages.
This should be representative of a culmination of the skills they have learnt throughout their major program of study.

**Course goals:**

**Learning Outcomes:**

After taking this course you will have further developed your competence in the following skills and competences:

1. **Critical analysis and contextual reading skills:**
The development of critical analysis and contextual reading skills is vital for successful document analysis, and is the most basic and important skill for any historian.
You will develop the ability to read a document closely and critically, and to identify clues that will help you identify the author; his or her intentions; the intended audience; personal and political biases; and to identify the relevant social, scientific and cultural contexts within which to evaluate what you are reading. You will learn how and when to apply the social frameworks of class, gender, race and ethnicity as tools of historical analysis.

2. **Competence in scholarly writing:**
Competence in scholarly writing is important so that you can effectively communicate your research findings to others in your field.
This includes the consistent use of scholarly conventions, such as how and when to use citations, what needs to go into them, and how to build a bibliography. You will also focus on developing the clarity and the scholarly tone of your written work.

3. **Literature awareness:**
You are a part of a global academic community. As a researcher you are entering into an ongoing conversation about the subject you are interested in. An awareness of what others have already discovered and said is essential to recognising what is a useful contribution to the conversation and thus what is a useful research topic. This is an introductory class, and so you will begin to develop an awareness of this literature, and begin to learn how to evaluate the work of other scholars by critically analysing and assessing their arguments and use of evidence.

4. **Historical and contextual research methods:**
You will begin to learn how to do historical research. You will begin to develop competence in the use of online, library and archival research techniques, and develop an appreciation of a range of different historical sources.
5. Confidence in presentation:
- As an academic you will frequently be asked to communicate your work orally. The ability to speak clearly and confidently is something that can be learned through practice. In this class you will be asked to record a number of short video presentations, in which you introduce yourself to your classmates, and in which you comment on your research work.

Course Expectations and Assessment:

Written Reflections:

Students will be asked to write a 1-2 page reflection on their readings each week. In it they should summarise the main point the author(s) make and formulate questions that their reading prompts.

The purpose of these written assignments is to ensure that the student has understood the main argument of the authors, and is able to see how their work contributes to the contemporary study of evolution. The questions should be framed in terms of how this new information informs the student's understanding of the subject at hand, or their own research area.

Research bibliography and historiographic essay:

By midterm (week 8: 15th October) students will be required to submit a bibliography of the sources they have consulted in framing their research topic. The accompanying historiographic essay (5-7 pages) will introduce the historiographic debate related to their intended subject of research.

It will introduce the relevant historians, cover their discussion so far, and demonstrate that their own research question is a contribution to this debate.

In the final page(s) of this essay the student outline their own thesis, and comment on the sources they have found to date that inform their argument.

Final Research Essay:

It is expected that the final produce will incorporate and build upon the midterm essay, however, in the bulk of this piece of work the student will develop their argument in the context of the literature they have already outlined (and any further literature which they have subsequently encountered).

A final draft of the research paper is due November 23rd.
This will allow you time to work on your presentations which will take place on Thursday December 3rd.

Public Presentation:

Students will present their research in public to their colleagues and other professional historians at the end of the semester.

Family and friends are welcome.

Rubric:

In your presentation you should:

1. Present your thesis topic and your contribution to the existing literature.

2. Summarise the main points of your argument, providing the main evidence you have that supports your view.

3. Incorporate illustrations/slides that will aid in your audiences understanding of the topic.

4. You should practice your talk so that you can deliver it with confidence.

Grade distribution:

Weekly reflections are ungraded, however, a failure to turn in at least five reflections will reduce a student's grade by a full letter

(i.e: an A will become a B, etc.)

Bibliography and historiographic essay: 30%

Final Research Paper: 60%

Public Presentation: 15%

(an extra 5% points are available for an exemplary research presentation)

I will use D2L as a repository for some of the readings we will cover in class.

We will meet in person once each week on Thursday's from 1:30-4:20.

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1: Getting started: revisiting basic tools of document analysis

2: Struggle and Selection

3: Literature awareness 1: science and society

4: Contemporary responses: Reviews and Correspondences

5. Popularising Evolution: the many forms of Darwinism

6: The Politics of Evolution In the last decades of the nineteenth century

7: The Descent of Woman
1: Getting started: revisiting basic tools of document analysis

We'll start with some basic recap on document analysis. What can we tell from reading a text, and what work do we need to do beyond the text to put it on context.

We'll read the Introduction to Darwin's *Origin of Species* - this seems as good a place to start as any!

Also, we will familiarize ourselves with some basic research databases.

Origin_intro_4993

2: Struggle and Selection

For this reading we will have read excerpts from chapters 3 and 4 of Darwin's *Origin*. In class we will discuss the social and biological contexts in which Darwin wrote, which influenced him, and which influenced his readers.

Come to class with questions and ideas about this from your reading.

Origin_4993_3&4

4993_Darwin_4_notsel

3: Literature awareness 1: science and society

Robert Young, “Malthus

https://learn.ou.edu/d2l/ia/content/2114763/Home

In this class we will turn to the historiographical debate. We'll look at some basic search tools to help us discover the state of debate in the discipline, and we'll read up on some of what historians have had to say about the relationship between science and society in the context of Darwin's reading and use of Malthus.

There's quite a lot to get through, so start early! Also, make notes as you go along so you can talk about what you've read.

Search for and read the section on Darwin and Malthus in Desmond and Moore's Darwin.

Winch Darwin & Political Economists

Further reading:

4: Contemporary responses: Reviews and Correspondences

Evolution and theology

This week we will look at other sources we can utilise to help make sense of the past: reviews and correspondence. We'll look at these in the context of the reviews to the Origin. We'll look at two (feel free to find more and compare), one by the Bishop of Oxford, Samuel Wilberforce, and the other by the comparative anatomist Thomas Henry Huxley.

Use the Darwin Correspondence archive to look at letters to and from Darwin from November 1859 into 1860 about the publication of Origin. What can you find there that is relevant or interesting for us?
Wilberforce-Origin

Use the Wellesley Index to find Huxley's 1860 review of
Origin in the Westminster Review

Darwin Correspondence Project online

Supplemental reading

Literature awareness 2: historiographical debate

I'd like you to find the relevant section covering the 1860 Oxford meetings of the British Association for the Advancement of Science in The Life and Letters of Thomas Huxley.

Then compare this account with one, or both, of the following sources: Jonathan Smith, or Chapter 6 of Ian Hesketh's Of Apes and Ancestors.

Also, find at least two letters, from different archives, that shed light on the events covered here.

5. Popularising Evolution: the many forms of Darwinism

In this class we will look at the popularization of evolution in Victorian society. Bernard Lightman has done more than most on the topic of the popularization of science in this period in the context of Victorian Britain. His work includes edited collections as well as monographs that repay attention.

In the first reading, "Darwin and Popularization" Lightman outlines the diversity of evolutionary ideas that became popular in the period.

Will, and Jon, can you each be prepared to talk us through this one?

As well as looking at the ideas that were popularised, we will also think about the various media through which evolution was popularised. Books, journals, periodicals, cartoons, novels and even children's stories.

Lightman's second reading, Evolution for Children, focuses on the popularisation of evolution for children.

Charles Kingsley's children's fairy story Water Babies is just one example he talks about. It's a nice story and I've done a little work on this myself, this one is a short one.

Micah, can you talk us though these two please?

Our final readings will be an excerpt from Eliza Burt Gamble's book, The Evolution of Woman, (1894) and a short extract from Darwin's Descent of Man.

Brenna, can you talk us through these, please?

You should all at least skim all of the readings. Please come with notes so you can give us a detailed account of your reading. Thanks!
6: The Politics of Evolution in the last decades of the nineteenth century

In 1888 Thomas Huxley published his controversial essay "The Struggle for Existence: A Programme", published in the journal Nineteenth Century. Micah, please read the long version of the original (listed as Struggle_A Programme below), the rest of you read the edited version listed as "The Struggle for Existence in Human Society".

Peter Kropotkin, a Russian-born geographer, naturalist and anarchist thought it an "atrocious article", and responded with a series of articles in the same Journal. They were later brought together as a book, Mutual Aid.

In class we'll discuss these two authors, what they had to say about evolution and its implications for us.

Daniel Todes was one of the first historians of science to take Kropotkin seriously.

As you will note:

We're reading less from now - this is because I expect you to be focusing on your own research topics. We'll still read important texts as we go on, but the bulk of your work for each week will be to focus on your own research. Aim to have looked at some interesting new sources for next class.

7: The Descent of Woman

In the early 1970's Elaine Morgan revisited the question of what kind of creature evolution had made us. She pointed out that previous accounts of human evolutionary history had focussed only on the male fo the species.

We'll look at the gendered assumptions at the heart of evolutionary theory, and in science, in the context of the debate that ensued.

Erika Milam's publication page: scroll down for her 2013 essay on Morgan

Elaine Morgan
Moral Sense

Further reading
Looking at the Darwin Correspondence Project pages there is an interesting post about Eliza Burt Gamble, a fore-runner of Elaine Morgan.

Chapter 1 of Erika Milam's book is on Darwin and Wallace on Sexual Selection, and will fit in well with discussion of this topic.

8: Evolution and Education

Hello!
In this class we'll discuss debates about education and their effects on the educated. In this instance we'll focus on a debate about the impact of educating women on their bodies, minds and reproductive capacity. Any theory of evolution includes a theory of heredity, and so reproduction was central to debates about social evolution and the progressive development of the species, or the nation and the race.

For this reason I've relocated the extract from Darwin's Descent of Man too, (the section that was I had added as supplemental reading for last week).

Admin materials

Materials to aid in course evaluation:

- 4993 Syllabus and Pre-Survey_Fall-2015
- 4993_2015_exit_survey
- 4993_2015_EntrySurvey