FOCUS

We will address the question of how our capacities for language and thought, which set us apart from other living species, may have evolved. We will consider recent studies that indicate that modern humans who originated in Africa reached their final form in the last 90 to 50,000 years. We will approach these issues from a Darwinian perspective. Darwin's insights continue to guide current research on human evolution. After a brief discussion of the Darwinian paradigm, we will outline what Darwin actually proposed in 1859 in *On the origin of species*, using a facsimile of the first edition, which presents his thoughts in a direct and surprisingly modern manner.

It is clear that the biological bases of human language can not be understood without taking into account the mark of evolution. As Dobzhansky noted, "nothing in biology makes sense except in the light of evolution." The converse is that the study of the anatomy and physiology that makes speech possible and the brain mechanisms implicated in language and thought can provide insights on the probable evolution of these human capacities. In this light, we will review current theories and data on the nature of the human brain and its possible evolution presented in my new book, *Toward an evolutionary biology of language*. It is also evident that the roots of human language are present in other species and studies of their behavior will be considered in tracing the evolution of human language and thought. Videotapes and studies of chimpanzees and other species will provide direct evidence of their social and communicative abilities.

A midterm, final examination and a short term-paper are the formal requirements for the course.

Books:


---

Course schedule

1- Overview. Chapter one of TEBL

2- What Darwin proposed. Ernst Mayr's introduction to facsimile edition + Chapters 1-4, 6, 13 and other sections of Darwin (1859)

3- Comparative studies of other species. Overview of animal communication, Primitive and derived features of human language (Chapter 2 of TEBL)

4. The critical role of rapid human speech in language. Physiology of speech production, Basic speech acoustics and computer analysis of speech, Speech perception, Encoding and vocal tract normalization, Vocal communication in other species. (Chapter 3 of TEBL)

5. Neural bases of human language. Traditional Broca-Wernicke theory, recent neurophysiological models, Findings of studies of aphasia, neurodegenerative diseases, brain imaging and other techniques (Chapter 4 of TEBL)

6. Theories for the evolution of the brain bases of language and thought. Motor control and the evolution of the modern human brain (Chapter 5 of TEBL)

7. Studies of the development of speech anatomy in children. The evolution of modern speech anatomy. The recent evolution (50-90,000 years ago of fully modern human beings. (Chapter 6 of TEBL)