

**K20.1156**  
**THE DARWINIAN REVOLUTION**

Charles Darwin's theory of evolution by natural selection may be the single most influential scientific theory ever proposed. It would be safe to say that the world we inhabit has not been the same place since 1859, when Darwin, nudged on by Alfred Russel Wallace's co-discovery of the idea of natural selection, first published *On the Origin of Species*. Since that time the Darwinian theory has inspired considerable self-reflection, opened up whole new fields of inquiry, and provoked controversy after controversy. This course examines the origin, nature, and consequences of Darwin's evolution theory, with an emphasis on the interrelationships among the social, cultural, and intellectual dimensions of the scientific enterprise. Topics will include religious opposition to the theory; applications, and misapplications, of the theory, such as Social Darwinism, eugenics, and sociobiology; the influence of Darwinian thought on politics, literature, and the arts; and various philosophical issues raised by the theory, such as biological determinism and free will. A background in the sciences is not assumed for this course, but you are expected to make a sincere effort to understand the nature of the Darwinian theory and the scientific basis of some of the controversies surrounding its applications. You are strongly encouraged to visit the many exhibits at the American Museum of Natural History, such as those on human origins and fossil mammals.

Objectives: From my perspective, this course has three major goals. If all goes as planned and hoped, at the end of the semester (1) you should have become familiar enough with the main features of the Darwinian Revolution to fully understand its significance, including understanding what Darwin actually said and how various people have interpreted and misinterpreted what he said, (2) you should be able to sort through and analyze for yourself many of the current applications of Darwinian theory and controversies involving the theory, whether in newspaper or magazine articles, television programs, legislative debates and court cases, or whatever, and (3) you should have developed an understanding of the Darwinian Revolution that is meaningful for you personally.

Darwin conference. Since this year is the bicentennial of Darwin's birth, the Gallatin School will be sponsoring a two-day conference on Darwin, April 17 and 18th. I encourage you to attend as many of the conference sessions as you can. As an added incentive, you will have the option of basing your final essay on the conference talks. Also, we will need volunteers to help with organizing the conference, so please let me know if you are interested.

Course requirements: (1) Attendance, punctuality, and participation; (2) careful and critical reading of the texts; (3) regular response papers on the readings; and (4) three formal essays. See details on following page.

Gene Cittadino  
715 Broadway, Room 412  
Office hours: Mon. 12:30-2, Tues. 2-4, Weds. 12:30-2 & 5-6  
(all other times by appointment only)  
212-992-7774; e-mail: [ec15@nyu.edu](mailto:ec15@nyu.edu)

Texts (The following are available at the NYU Bookstore and on reserve in the Bobst Library):

Michael Ruse, *The Evolution-Creation Struggle*

Kurt Vonnegut, *Galápagos*

Janet Browne, *Darwin's Origin of Species: A Biography*

Charles Darwin, *Origin of Species* (Penguin--this edition only)

Charles Darwin, *Voyage of the Beagle* (Penguin--this edition only)

Robert Wright, *The Moral Animal*

Sean Carroll, *The Making of the Fittest*

There will be a number of supplementary readings as well. These will be available either as class handouts, through online sources, or posted on Blackboard. Note that the Blackboard articles are there for online access only and not for downloading.

A Note on the Darwin texts: Please use *only* the Penguin edition of both the *Origin of Species* and *Voyage of the Beagle*. There are many published versions of both books, but the Penguin editions are based on the first editions (most others are not) and they are small and compact. So use Penguin only. This way we will all be literally on the same page!

### **Rules, requirements, and basis for evaluation.**

*Attendance and punctuality.* I pass an attendance sheet around at the beginning of each class. Your commitment to take this course entails a commitment to attend every class and to be on time. If you aren't in class, I will assume it is due to illness or an unavoidable emergency. Three unexcused absences will be frowned upon; more than three will result in an automatic reduction of your grade. Late arrivals *always* disrupt a classroom. Please discuss it with me if there are circumstances that will prevent you from regularly arriving on time.

*Participation.* (10%, includes attendance) The success of this course depends on the quality of the discussions, which, in turn, depends on each student keeping up with the reading and on everyone working to maintain an atmosphere conducive to discussion. For most classes, two students will be assigned to initiate the discussions. On the day(s) you are assigned, you should come to class prepared with two questions or two comments on the required reading for that day. Although I will do what I can to encourage participation, I realize that everyone is not equally comfortable speaking up in a large group, and I will take individual differences into account.

*Response papers.* (25 %) You will be expected to write one response paper on the readings each week. With few exceptions, you will have a choice of bringing in a response paper on Mon. or Weds. Each should be one or two pages typed, due at the beginning of the class corresponding to the reading. These should be thoughtful reflections on the readings. Feel free to speculate, question, challenge, and probe. Your prose can be looser than for a formal essay, but something more disciplined than free association or an internet blog.

*Essays.* (65%) There will be three formal essays of from 6 to 8 pages. Topics will be handed out about two weeks before the due dates: March 4, April 6, and May 9. Each essay should have a title and follow formal rules of style, grammar, and documentation. Details to follow.

*Late papers.* Response papers or essays not handed in on the date due are late. Every late paper has its story. I'm willing to listen, but I reserve the right to downgrade a paper for lateness.

*Documentation and plagiarism:* I will assume that all written work is your own and that you understand the basic rules for acknowledging outside sources. Any clear instance of plagiarism will result in automatic failure of this course and possible further disciplinary action.

## SCHEDULE OF TOPIC AND READINGS

We will try to keep to this schedule if at all possible, but anticipate a few changes over the course of the semester. You should be prepared to discuss the reading that is listed under a given date on that date. Handouts from week to week will indicate which readings to emphasize for discussion.

### I. Setting the stage

- W JAN 21 Introductions; Darwinism today  
(Begin reading Ruse, *The Evolution-Creation Struggle*, chaps. 1-3; this will serve as background reading for the first unit)
- M JAN 26 Discovering extinction & deep time  
Cuvier, “Living and Fossil Elephants” and “The Megatherium from South America” (handout)  
Ruse, Prologue, & chaps. 1 & 2  
(Begin reading Vonnegut, *Galápagos*)
- W JAN 28 Gould’s three riddles  
“Darwin’s Revolution in Thought” (VIDEOTAPE)  
Paley, *Natural Theology*, excerpts (handout)  
(Continue reading Vonnegut)
- M FEB 2 Humankind a million years from now?  
Vonnegut, entire
- W FEB 4 Evolution before Darwin; Darwin’s early life  
Ruse, chap. 3; Browne, Intro. & chap. 1

### II. Darwin, Wallace, and the birth of natural selection theory

- M FEB 9 Darwin comes of age: the Beagle voyage  
Darwin, *Voyage of the Beagle*, chaps. 1, 2, & 5 (and look over the chronology, pp. ix-xi); optional: Introduction & Appendix One
- W FEB 11 The voyage continues: a river excursion, Tierra del Fuego, and Galapagos  
Darwin, *Voyage*, chaps. 10, 11, & 14; also pp. 372-77  
Optional: chaps. 9 & 23, or whatever looks interesting
- M FEB 16 President’s Day (no class)  
(Read Ruse, chap. 4, sometime over the next two weeks, continue reading Browne, chaps. 2 & 3)
- W FEB 18 Variation, natural and domestic  
Darwin, *Origin of Species*, pp. 65-69 (Darwin’s intro.) and chaps. 1 & 2

- M FEB 23 Darwin and Malthus: the struggle for existence  
Darwin, *Origin*, chap. 3; Malthus, *On the Principle of Population*, excerpts.
- W FEB 25 The argument stated: Darwin, Wallace, and natural selection  
Darwin, *Origin*, chap. 4; Alfred R. Wallace, “On the Tendency of Varieties to Depart Indefinitely from the Original Type”
- M MAR 2 Difficulties?  
Darwin, *Origin*, chaps. 6 & 7
- W MAR 4 Difficulties, yes, but “There is grandeur in this view of life...”  
Darwin, *Origin*, chap. 14  
FIRST ESSAY DUE

### III. Reactions, applications, implications

- M MAR 9 Darwin takes the plunge: human evolution  
Excerpts from Darwin’s *Descent of Man*, chaps. 4 & 5  
(For general background, read Browne, chaps. 4 & 5)
- W MAR 11 Darwin and Wallace on women, savages, and sexual selection  
Excerpts from Darwin’s *Descent of Man*, chaps. 19, 20, & 21  
Alfred Wallace, “The Limits of Natural Selection as Applied to Man”
- MAR 16-20 Spring Recess  
Recommended: For a contemporary view of evolutionary biology begin reading Carroll, *The Making of the Fittest*--a few chapters are assigned below, but just choose any chapter that looks interesting; you can read them out of order
- M MAR 23 Immediate responses/ “Social Darwinism”  
Ruse, chaps. 5 & 6  
Herbert Spencer, “The Development Hypothesis” & “Poor Laws”
- W MAR 25 Christianity and evolution  
Ruse, chaps. 7 & 8  
Miscellaneous reviews on the Complete Works of Charles Darwin Web site (TBA)
- M MAR 30 The Scopes Trial revisited  
Hunter, *A Civic Biology*, excerpts  
Larson, “Enforcing the Law”  
*Inherit the Wind* (film clips)
- W APR 1 Genetics, eugenics, and the evolutionary synthesis  
Ruse, chaps. 9  
Gould, “The Most Unkindest Cut of All”  
The Eugenics Archive (online source, TBA)

## IV. Contemporary Issues

- M APR 6 Human origins  
Ruse, chap. 10  
Carroll, *Making of the Fittest*, chap. 7  
SECOND ESSAY DUE
- W APR 8 Altruism: a problem for Darwinism?  
Richard Dawkins, "Why Are People?" E. O. Wilson, "The Morality of the Gene"  
Wright, *The Moral Animal*, Introduction
- M APR 13 Men and women, sex and marriage  
Wright, *The Moral Animal*, Part One, focus on chaps. 3 & 6
- W APR 15 Families and friends  
Wright, *The Moral Animal*, Part Two
- Fri. & Sat., April 17 & 18 Gallatin Darwin Conference
- M APR 20 Morality evolves  
Wright, *The Moral Animal*, chaps. 12-15
- W APR 22 Progress and evolutionary ethics?  
Wright, *The Moral Animal*, chaps. 16 & 17  
Ruse, chap. 11
- M APR 27 Evolution and the pope  
Pope John Paul II, Ruse, Dawkins, & Gould
- W APR 29 Resisting the scientific origin story: "creation science," intelligent design, etc.  
Carroll, chap. 9; excerpts from "Flock of Dodos"  
Ruse, chap. 12
- M MAY 4 Parting thoughts  
Wright, *Moral Animal*, chap. 18. "Darwin Gets Religion"  
Ruse, "Conclusion"  
Carroll, chap. 10, "The Palm Trees of Wyoming"
- F MAY 9 FINAL ESSAY DUE (no exceptions!)