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Teaching Literary Darwinism

A Historical Overview

During the late 1980s, profoundly dissatisfied with the poststructuralist ideas that had come to dominate departments of English, I was casting about for ideas sufficiently general and basic to provide a new framework for literary study. In 1990, I read Darwin's *On the Origin of Species* and *Descent of Man*. I had more or less always known about the theory of adaptation by means of natural selection, and had accepted it, but had not really thought much about it. As a student and professor, I had been preoccupied with studying languages, literature, and cultural history. Biology seemed relatively remote from my professional scholarly concerns. I finally got around to reading Darwin chiefly because he was in one of my special areas of scholarly interest: Victorian non-fiction prose. Understanding an idea theoretically and absorbing it imaginatively are different things. Reading Darwin's own works had a massive and instantaneous impact on my imagination. For the first time, I fully understood that all things human, including language and culture, are necessarily embedded in biological processes that extend back for billions of years. No idea could have been more general and basic. The Darwinian vision gave me the framework I needed for constructing a literary theory I could use.

About the same time that I was reading Darwin, I became aware that the social sciences were undergoing a watershed shift toward evolutionary thinking. That research program was still in its early stages but already had important things to say about motives, emotions, cognitive processes, gender, childhood development, family bonds, and social interaction. All those topics are obviously relevant to the subjects depicted in literature. I already knew, of course, that in most current literary theory psychology was dominated by Freudian ideas and social relations by Marxist ideas. Language had been colonized by the Derrideans, and gender appropriated by the feminists. I had strong reservations about the validity of all those theories, and thus also about the way they blended into the poststructuralist amalgam. Feeling confident that empirically grounded ideas coherently integrated within an evolutionary matrix could provide a better alternative, I set out to integrate

evolutionary social science with literary theory. The first main fruit of that effort was *Evolution and Literary Theory* (1995). All my subsequent work has been a continuation of the research program sketched out there.

During the past two decades, while developing Darwinist ideas for literary study, I've also been teaching courses that incorporate evolutionary research. In total, I have taught twenty-five courses that contain substantial evolutionary material—all but one at the University of Missouri, St. Louis, either seminars in the graduate program in the English department or seminars in an interdisciplinary undergraduate Honors College. (The exception was an intensive summer graduate seminar in Denmark.) Those twenty-five courses group into two distinct sets that have interlaced chronologically through the twenty years: (1) a graduate seminar in literary theory that I have taught fourteen times; and (2) eleven interdisciplinary seminars, eight for undergraduates, and three for graduate students. My home page contains a sample syllabus and sample paper topics: <http://www.ums1.edu/~carrolljc/>.

The course in literary theory, "Introduction to Graduate Studies," is divided into two parts: basic concepts in literary theory and a survey of the various current theoretical schools. Since poststructuralist theory has not changed substantially in the past twenty years, most of the components of this course have remained fairly stable. Only one component, literary Darwinism—evolutionary literary theory and criticism—has been highly volatile. It has increased in the proportion of the course devoted to it, and it has changed dramatically in content several times. By describing those changes, I shall be giving something like a history of the development of literary Darwinism over the past two decades.

I taught three of the interdisciplinary seminars twice each and five once each. I use the seminars to integrate teaching with my current research interests, which change over time. Describing the seminars will in part reflect my own personal trajectory but will also suggest a range of possible evolutionary topics, angles of approach, and organizational strategies.

Looking back over these courses gives me one main impression: that both evolutionary social science and evolutionary literary study have been steadily becoming more mature and sophisticated. In the past twenty years, evolutionary social science has seen four major developments: (1) incorporating general intelligence in its model of human cognition, thus radically modifying the "massive modularity" of early evolutionary psychology; (2) incorporating a more sophisticated understanding of adaptations for group life; (3) developing a systemic understanding of the total organization of human motives through the life span; and (4) beginning

to develop an understanding of the crucial way in which genetic changes and culture have interacted in human evolution.¹

Darwinian literary theorists have assimilated the developments in evolutionary social science, produced plausible hypotheses about the adaptive functions of literature and the other arts, made effective use of human life history theory as a framework of interpretive critique, and succeeded in giving systematic biocultural accounts of specific literary works within their total cultural setting. They have offered cogent alternatives to historicist accounts of cultural identity and Freudian accounts of psychosexual development. They have integrated personality psychology with the analysis of individual characters, incorporated the idea that reading fiction is a form of simulated social activity, used evolutionary concepts to analyze tone and authorial persona, and developed specifically evolutionary concepts of particular genres such as horror and dystopian fiction. They have produced many essays on individual literary works and several in-depth studies of specific authors.²

The Graduate Course in Literary Theory

The first half of the literary theory course is devoted to basic concepts and topics: genre, period, realism and symbolism, and scientific realism vs. epistemic constructivism (Popper vs. Kuhn). I begin the course with overview essays representing traditional humanism, poststructuralism, and biocultural theory. The various theoretical schools included in the second half of the course include psychoanalysis, Marxism, deconstruction, Foucauldian cultural critique (New Historicism), feminism, and (since 1999) literary Darwinism. Between 1992 and 1998, evolutionary essays were distributed through the whole course but not given a slot of their own as a distinct school of literary theory.

The class meets once a week, and each literary school is allotted just one week. Assigned readings for any one week come to between 200 and 300 pages. For each topic, so far as possible, essays are assigned that represent opposing perspectives. Classes devoted to literary schools include essays by founders such as Freud or Derrida, essays by some of their most prominent followers, essays critical of their theories, and one or more essays illustrating the application of the theories in interpretive literary criticism. I use three sets of primary texts as focal points for the essays in interpretive literary criticism: a cluster of Romantic poems, *Hamlet*, and *Heart of Darkness*. *Hamlet* and *Heart of Darkness* are in casebooks that contain essays representing the various theoretical schools (though not literary Darwinism). The cluster of Romantic poems is introduced along with a set of major essays defining the Romantic period. Those poems and essays all occupy the class devoted to the concept of literary period. Other essays in that class deal

with nineteenth-century realism and with “symbolism” as a period at the end of the century. The class session on Romanticism leads into the sessions devoted to realism and symbolism and to epistemic realism vs. conventionalism. Interpretive essays on Romantic poetry are also assigned for the classes devoted to Marxism, feminism, and psychoanalysis. One class period early in the semester is devoted to *Hamlet* and *Heart of Darkness*, with only scholarly background material included along with the primary texts. The idea there is to give students a chance to discuss the texts in their own terms before evaluating theory-laden interpretive essays on the primary texts.

From the beginning, I have used evolutionary epistemology and evolutionary psychology to counter the cultural constructivism that is a defining feature of poststructuralist thought. The first chapter of Konrad Lorenz’s *Behind the Mirror* is a classic essay in evolutionary epistemology. Karl Popper had a running feud with Thomas Kuhn, author of *The Structure of Scientific Revolutions*, a seminal text in constructivist thinking—the idea that reality does not strongly constrain our ideas. Constructivist epistemology extends easily into constructivist psychology and sociology. In other class sessions, I include essays on the biological basis of human nature, gender, and sociality. Derek Bickerton and Steven Pinker have supplied essays on language as alternatives to Derridean linguistic philosophy. I have often used Thorstein Veblen’s classic Darwinist essay on Marx in the class session devoted to Marxist literary criticism. Hans Eysenck, a biologically oriented psychologist, has supplied critical commentaries on Freud and an empirical essay on the psychological basis of ideology. Daly’s and Wilson’s *Homicide* (1988) has a good section evaluating Freud’s Oedipal theory from an evolutionary perspective. For the class session on feminism, various essays over the years have contributed information on the biological basis of gender identity. In 2008, I added the first chapter of Vandermassen’s *Who’s Afraid of Charles Darwin?*; that chapter provides an astute comparison of biocultural and culturalist views of gender identity.

The Literary Animal was published in 2005 and became an assigned text until it could be replaced, in 2010, with *Evolution, Literature, and Film: A Reader*, which contains many of the photocopied essays I had been assigning for years. The selections in *ELF* have a cut-off date of early 2008. Already, then, if one uses this volume as a base text, one must supplement it with essays and book excerpts that have appeared since it was produced.

In addition to essays in Darwinist literary theory and criticism, *ELF* contains background readings in evolutionary biology and a sampling of essays contributing to the debate on the adaptive functions of the arts. At more than 500 pages of

small print, the volume is too large to be consumed in its entirety in a course that contains heavy reading in other areas. To use it in its entirety, a whole course has to be designed around it. I'll talk about two such courses in a subsequent section of this essay.

Frederick Crews's *Postmodern Pooh* (2003), which contains parodies of all the main theoretical schools, includes a parody of literary Darwinism. I assign Crews's parodies for each of the theoretical schools, including the parody of literary Darwinism. Unfortunately, Crews knew less about literary Darwinism than about the other schools, and indeed, in 2003, there was less to know. Still, he gets in a few good licks. Along with his parody, there are also now several attacks on the field (for instance, Deresiewicz; Kramnick; Levine; and Peterson). One or more of these can be assigned along with Crews to give the contra voice.

The Problem of Advocacy

Whether using my own work or that of others, I am of course biased in favor of a biocultural perspective. Throughout the course, I emphasize a point explicitly included in the list of topics for essays: "You may agree or disagree with any of the theorists you discuss (including me). The reasoned character of your arguments will be the primary criterion for assessing the quality of your essay. The quality of reasoned discussion, not agreement or disagreement, is what will count." I have received intelligent essays defending deconstructive philosophy, Marxist ideology, psychoanalytic depth psychology, and feminist gender theory. Nonetheless, to lay all cards on the table, I occasionally get course evaluations in which students declare that the course seems something like a going out of business sale. "Here's Marxism. It's wrong. Read hundreds of pages in it and about it to find out why and how it's wrong." I see their point. Going through a paradigm change can be awkward. I tell students that commentary without a point of view is pointless, and that I shall make my own views clear. I expect them to do exactly the same. As it happens, discussions in this course tend to be lively, absorbed, sometimes contentious, but almost always good humored. There is a good deal of laughter.

One strategy for countering my own bias against the various theoretical schools is to ask students to take a few minutes and write down as best they can why the tenets of a specific theoretical school might seem plausible to its adherents. I write out that exercise along with them. I tell them to approach this exercise the way a defense lawyer would, in a spirit of pure advocacy. One can then flip that record over and play the other side: what would the prosecuting attorney say in response? Or one can have half the class write the pro arguments and half the contra. After they finish writing, I have everyone read out what they have written. Another

strategy, at the very beginning of the class session, is to have students write out an impromptu commentary on some issue basic to the topic of the session. For the class session on Marxism, for example, I ask this question: “Can a class-oriented theory of political economy provide an encompassing explanatory framework for literary study? Does economically generated social identity provide a primary nucleus for themes and symbols in literature?” For the session on deconstruction, I ask: “Do words and statements have some relatively stable, determinate significations? Or are all words and statements linked into a web of significations that render them unstable, ambiguous, and self-inverting or self-cancelling?” We all read out our responses, and we go from there.

I don’t give midterm or final exams. I’m not very interested in seeing how much information recall the students can display. I’m more interested in seeing how they can put their knowledge to use in constructing coherent arguments in essays. Consequently, in place of exams, I assign two short papers at spaced intervals during the course and a longer paper at the end. Paper topics for each assignment consist of the topics for each class session covered so far, a question about defining literature, and invitations to discuss or compare particular theorists or specific schools, identify the purpose of criticism, or make an argument about whether or not a theoretical paradigm exists in literary study at the present time. After identifying a topic in bold font, I put in a series of questions designed merely as prompts for thinking about the topic. I warn the students not just to go through the series of questions giving answers but to formulate their own coherent argument on the topic. I tell them that if they like they can simply ignore the prompts. Here below are three sample questions on which students can choose to write essays:

- 1. Is there a paradigm in literary theory at the present time?** If so, what is it? What are its common features? What are its elementary assumptions and characteristic attitudes? What is its relation to other forms of mental activity or other academic disciplines? What are its motives or purposes? What is its rationale or justification? If no paradigm exists, what set of dispersed, heterogeneous practices and doctrines does exist? Is this heterogeneity right or at least necessary and inevitable? Is it a peculiarity of the historical moment? Is it a reflex of the incomplete or indeterminate character of all knowledge?
- 2. What is the relation of any ONE of the following theories to literature or literary theory: Marxist social theory, Foucauldian cultural theory, psychoanalysis, deconstructive philosophy, and feminist social critique?** You might want to consider some of the following issues. What

are the basic principles at work in these disciplines? Is there a coherent body of accepted scientific principles in the discipline? Are there fundamental differences in the way different people or different schools conceive of their activity? What bearing does the discipline have on literature or criticism? What are the connections between the subject matter of the discipline and the subject matter of literature or criticism? What similarities of method or principle are there? Can criticism be subordinated to any of the disciplines, or can the principles at work in the disciplines be adapted to literary study but contained within principles peculiar to literary study?

3. **Compare the value of any TWO schools of theory.** You could consider those listed in the previous question and add to them evolutionary biology. For example, you could consider the relations of psychoanalysis and Marxism, feminism and deconstruction, or evolutionary biology and Foucauldian cultural critique. You would need to examine the basic principles in each discipline, determine what fundamental forces and causal relations each would identify, how these forces and relations would be correlated, and what kind of implications they would have for practical criticism.

Other possible topics include commentaries on one or more specific major theorists whose work has been assigned in the class. For all topics except commentaries on a single theorist, students must reference at least two of the theorists they have read.

Many of the graduate students in the English department at UMSL are high school teachers getting further accreditation. Some students work as editors or in business and are seeking further enrichment. Some are students in our MFA program. A few are planning to go on for a PhD at some other institution. Those who do go on for the PhD will for the most part be under great pressure to accommodate themselves to the prevailing doctrines in the academic literary establishment. My course will at least have exposed them to those doctrines and will have demonstrated that any specific idea can be encompassed within alternative explanatory frameworks.

High school teachers and students continuing their general education can benefit from this course because it gives them an insight into the major conceptual issues that occupy the mental landscape in which they live. High school teachers must constantly deal with issues of interpretation. This course emphasizes that all interpretation is necessarily lodged within some framework of theoretical assumptions. Teachers come out of the course being better able to identify those assumptions in themselves and their students. They understand the larger context of specific ideas and, hopefully, also register that no one set of ideas has a priori

validity—that the ideas are subject to rational discussion and reasoned differences of opinion. Those same forms of insight would presumably benefit students who are not high school teachers. Even if MA students go into the business world, they are likely to retain some cultivated curiosity about matters that involve ideology, social dynamics, gender, human psychological development, and the relations of science to art and to social policy. This course should provide such students with the most synthetic overview on all those topics they are likely to encounter.

Courses Dedicated Specifically to Evolutionary Topics

I started teaching courses dedicated to evolutionary topics in 1993. That first course, an undergraduate Honors College seminar, is the only one that consisted exclusively of books in evolutionary biology and evolutionary social science. Along with the selections by Darwin in the Norton *Darwin*, I included Wilson's *On Human Nature*, Symons's *The Evolution of Human Sexuality*, Bowlby's *Attachment*, Lorenz's *Behind the Mirror*, Popper's *Objective Knowledge*, Eccles's *Evolution of the Brain*, and Bickerton's *Language and Species*. The rationale for selecting texts was to cover as many different areas of human behavior as possible. Wilson served as an overview.

I have never taught this sort of course again because it violates one of my basic principles of scholarly composition: never give only a second-hand exposition of works in a field in which one does not have primary expertise; always bring secondary information to bear on some topic in which one can claim primary expertise. True, teaching and writing for publication are not the same thing, but psychologically the same principle applies. All the subsequent evolutionary courses I taught bring evolutionary research to bear on a subject in literary or cultural history. I taught that first course because I wanted to read and take notes on several of the books included in it. That was part of the research that went into *Evolution and Literary Theory*.

After that first course, the subsequent courses can be grouped into two main categories: (1) seven courses focused on a specific theme, a specific historical period, or both; and (2) four courses dedicated to Darwinian literary theory and criticism.

The historical theme courses include (1) an undergraduate seminar on ideology, utopia, and dystopia, from Darwin to the present; (2) an undergraduate seminar on “the two cultures,” literature and science, from Arnold and Huxley, through Leavis and Snow, to the Science Wars of the 1990s; (3) a graduate seminar on “the naturalistic imagination” in fiction and non-fiction prose in the later nineteenth century; (4) both graduate and undergraduate seminars on “The Evolutionary Imagination”—evolution as a theme—in fiction and non-fiction prose from Darwin to the present; and (5) an undergraduate seminar on evolutionary family psychology, the history of the family in the nineteenth century, and Dickens's *Bleak House*.

The courses on “The Evolutionary Imagination” included paleo fiction (Golding’s *The Inheritors*, for example) and science fiction (for example, Wells’s *Island of Dr. Moreau* and Vonnegut’s *Galapagos*.) The non-fiction assignments included works by Darwin and his contemporaries or predecessors and also works by evolutionary biologists and social scientists writing now.

I have taught two versions each of two courses dedicated to Darwinian literary theory and criticism: “Psychology and Narrative” in 1999 and 2009 (both undergraduate seminars); and “Evolution, Literature, and Film,” an undergraduate version in 2010 and a graduate version in 2011. *Evolution, Literature, and Film* was the core text for courses in 2010 and 2011.

For both courses on “Psychology and Narrative,” I used a large anthology of short stories. For each class session, I assigned several short stories, a few essays in evolutionary social science, and a few essays in Darwinist literary theory or ordinary narrative theory (commentaries on realism and symbolism, point of view, meta-fiction, and the formal organization of short stories). I designed this course to feature the kind of material I wanted to use in creating a framework for practical evolutionary criticism. Along with essays in evolutionary psychology and anthropology, I assigned handbook articles on emotions and personality psychology.

In both of the courses using *Evolution, Literature, and Film* as a core text, I assigned the whole book. Creative works assigned in the course included *Hamlet*, three short stories by Zora Neale Hurston, three works of graphic narrative (Art Spiegelman’s *Breakdowns* and the two volumes of *Maus*), and two films, *Citizen Kane* and the Zeffirelli version of *Hamlet*. As critical references for the graphic narratives, students read Scott McCloud’s graphic textbook *Understanding Comics*. The undergraduate version also included *The Picture of Dorian Gray*. The idea in the selection of creative material was to cover as broad a spectrum as possible: film, graphic art, a play, realist stories, and a novel rich in psychosexual symbolism and dense with cultural references. For the graduate version of the course, I included a three-hour NOVA series on human evolution (*Becoming Human*), showing one-hour episodes on three separate days.

The graduate and undergraduate versions of this course had dramatically different outcomes. For many of the undergraduates, it was too much reading at too high a level of difficulty. They struggled. That was not the case with the graduate version of the course. On the basis of the performance of the best of the undergraduates and all the graduate students, I infer that the full version of the course could be successful for undergraduates at universities with highly selective criteria of admission—universities that accept only students who score in the

top quartile of standardized tests. For undergraduate students at less selective universities, this course could be successful if the amount of reading is reduced to two-thirds or one-half of the total required in the syllabus appended at the end of this essay. On the basis of my experience with graduate students in the course on literary theory, I can affirm that graduate students at universities like UMSL can perform effectively at the level required by this course. Undergraduates at UMSL and similar universities can perform effectively in all the other undergraduate courses mentioned in this essay.

The graduate version was an intensive summer seminar for international students at Aarhus University in Denmark. The course lasted four weeks, met three hours a day, and had a reading load that took up most of the rest of the students' time. The students got a full semester's credit for the course, and earned it. The only concession to the condensed time frame was to eliminate *The Picture of Dorian Gray* and *Maus* from the reading list. All but one of the students had native languages different from English, but European students start learning English early, and those who go on to graduate school typically have an excellent command of English.

For this version of the course, we made intensive use of the course website. Students were divided into teams and assigned responsibilities for constructing Wikis and posting critical commentaries on specific reading assignments. The students became absorbed in their online activities and created a discussion forum in which they initiated a good many topics on their own. The morale in this class was very high. The class took place in the morning, in a building in which there was also a café. After class, most of the students had lunch together at the café and talked with animation about the material in the course.

How My Students Respond

Many evolutionary ideas about human nature converge with intuitive folk psychology—for instance, ideas about sexual preferences, maternal instincts, dominance behavior, and ingroup/outgroup differences in morality. Many students are pleased to see that it is possible to construct theoretical ideas that correspond to their own perceptions. They are relieved to see that higher education in literary study needn't mean learning to use formulas one does not believe and saying things that don't really make sense. However, one intuitive belief—the dualism that segregates reality into a physical nature and a subjective, imaginative, or spiritual world—works against the kind of unified causal analysis required in biocultural critique. Even when students are able to rise above that kind of intuitive dualism, they face a special challenge in using evolutionary ideas effectively. They must make connections between elementary evolved motives, the configurations of

values and beliefs in specific cultural ecologies, and the complexities of meaning in literary texts.

The levels of causal connection in biocultural critique run deeper than in forms of analysis that presuppose the autonomy of culture or elide intentional meaning in authors. Reading student papers and sometimes even essays from other professional Darwinian critics, I see how easy it is to go wrong, how difficult not to produce false thematic reductions, treating characters and behavior crudely as allegories of evolutionary processes. *Hamlet* is hardly animated solely by the desire for status. He does not in fact seem particularly worried that because Claudius has usurped the crown he himself, Hamlet, will have fewer mating opportunities. Few female protagonists can be adequately evaluated by registering that they are young, healthy, attractive, and thus presumably fertile. All such crude and unsatisfactory forms of premature reduction can be met the same way such reductions are met in criticism affiliated with other theoretical schools: by appealing to the evidence of the text and by explaining that adequate explanatory principles encompass subordinate terms; they do not lop them off.

Professional Darwinian critics who already had a good deal of previous experience as literary critics have been only gradually figuring out how to do Darwinian study. Even now, much of the time, literary Darwinists do not go far beyond using concepts from evolutionary psychology to produce re-descriptions of depicted behavior in novels or plays. Small wonder that students sometimes seem both excited by the imaginative force of evolutionary ideas and baffled about how to use them in literary study. To help students overcome this problem, I give them lessons in identifying authorial perspective and analyzing interactions between authors and readers, have them construct ad hoc arguments in class about the relations between authorial meaning and the social norms that can be inferred from the work, and conduct discussions on the relations among biocultural context, authorial perspective, and the elements of style (word choice, imagery, rhetorical rhythms, etc.). I also have them read essays that exemplify this kind of multi-level analysis.

To give an example, in discussing *Hamlet*, we look at essays examining universal features of Hamlet's motives and personal characteristics (Carroll, "*Hamlet*"; and Scalise-Sugiyama, "Cultural Variation"). We also read other essays that focus on the culturally specific features of the world depicted in the play (~~Shakespeare, *Hamlet*~~). We discuss the particular beliefs and values at work in a late medieval and aristocratic socio-cultural context and ask how the characters position themselves explicitly within that context. I ask students to try to formulate, explicitly, how they

feel about Hamlet and the other characters, why they feel that way, and what beliefs and values are implied in those judgments. When, as inevitably happens, students have different responses, we compare the standpoints implied in those differences. “Hamlet is a spoiled brat” signals one common standpoint. Other students agree with Horatio and Fortinbras on Hamlet’s princely character. Such differences are thoroughly compared. Having discussed differences in student responses, we also discuss whether it is possible to infer Shakespeare’s own evaluative stance from the actions and words of the play. We talk of differences in rhetorical style among characters, compare them with features of personalities and ethical judgments, and ask whether there is common ground in the responses we have evaluated. (For other examples or readings that include multi-level analysis, see the works referenced in note 2.)

The subjective intellectual impact of evolutionary thinking is strongest on students who feel a profound need for fundamental coherence in their own theoretical outlook. My greatest success with students has been with highly qualified graduate students at other universities and in other countries. One can offer editing and other mentoring help through email. Some students feel a powerful need for synthesis. They want to contribute to progressive, cumulative knowledge that is integrated with empirical knowledge in contiguous disciplines. Students like that are self-directing, autonomous, self-motivating. They are willing to engage their own senior faculty in reasoned discussion about fundamental principles. Those are the students who will ultimately change the theoretical character and the intellectual ethos of the profession.

An Ideal Future

The evolutionary human sciences are moving steadily toward greater integration. All the social sciences will ultimately, I think, be at least tacitly incorporated within the evolutionary framework. Hardly a day passes without some new scientific information on the genetic or neurobiological basis for human behavior. Almost all good popular social science writing—writing aimed at educated general readers—is now informed by neurobiology and other forms of evolutionary social science. Well-informed people who are not blinded by culturalist ideology recognize the influence of hormones on sexual behavior and the influence of neurochemicals on mood disorders. The central challenge for researchers in all the human sciences, including the humanities, is to integrate information on the biological basis of human behavior with the complexities of historical cultural analysis. Until recently, one chief link has been missing in the ultimate integration of knowledge about human behavior: biocultural analysis of specific forms of political and socioeconomic

organization in specific periods of cultural history. We have already entered a new phase in that kind of analysis.³ Biocultural critics are well positioned now to make progress in knitting together biologically informed socioeconomic history with the analysis of literature: individual works and authors, genres, schools, and periods.

I often receive letters from undergraduates telling me that they are excited by the possibilities of literary Darwinism and asking if I can give them advice on where to apply to graduate school. I tell them that unless they are willing and able to go to New Zealand to study with Brian Boyd, there is no PhD program in the Anglophone world that is overtly friendly to evolutionary thinking. Even for PhDs who follow the accepted doctrines, employment prospects are dismal. For students who identify themselves as renegades, prospects are worse. I tell people about Jonathan Gottschall's extraordinary record of accomplishment, and also tell them that he has received no tenure-track job offers, and has seldom even snagged an interview. That's discouraging. I encourage students to pursue a doctorate in English only if they have so much talent and so much vocation that any alternative would be a catastrophic diminution in the quality of their lives. That criterion eliminates most potential candidates.

My most serious professional fantasy is being given the opportunity to create an interdisciplinary graduate institute, with authority to construct the curriculum and resources sufficient to hire faculty who can provide courses for a few dozen highly qualified graduate students. The institute would be oriented toward research in literature but would include instruction in the evolutionary social sciences and in empirical methods. Some semblance of that program already exists, for undergraduates and/or graduate students, in about three dozen universities that participate in the Evolutionary Studies consortium (EvoS) (<http://evostudies.org/>). The original program was devised by David Sloan Wilson at SUNY Binghamton. An undergraduate version has just come into existence at my own university. Students getting a minor or certificate in Evolutionary Studies take a core course in evolutionary biology and a prescribed distribution of courses in other fields.

An interdisciplinary program like EvoS is an add-on, providing some integration but still presupposing the traditional division of disciplines into the natural sciences, the social sciences, and the humanities. I envision a future in which those boundaries will become much more fluid. The institute I have in mind would have a core course that traces out the conceptual, causal linkages among evolutionary biology, social organization, and culture, including literature and the other arts. Like EvoS, it would have distributional required courses, but all the courses would be built from the ground up as part of the evolutionary studies program. They would not be courses

in departments that had not originally been conceived from within a consilient world view. The new courses would nonetheless emphasize different aspects of an evolutionary view of human life: human evolution, human life history theory, hunter-gatherer ecology, social neuroscience, evolutionary behavioral psychology, the evolutionary analysis of social and political organization, and biocultural courses in literature and the other arts.

Students in this imaginary institute would be required to take or to test out of an introductory year-long course in statistics and empirical methods. Students coming into the institute from biology or the social sciences would already have that background and would have the option of taking more advanced statistical courses when they needed them. The pedagogical outcomes envisioned for this program would extend across a range occupied by two polar extremes: (1) pure empirical social science oriented to the study of literature—the kind of thing being done now by researchers like Raymond Mar and Keith Oatley; and (2) purely discursive, essayistic commentary on literature, like that produced now by the majority of literary Darwinists. Students engaging in predominantly empirical, quantitative research would also have taken intensive courses in cultural history and literature. Students engaging in predominantly discursive forms of commentary would have taken courses that involve hands-on empirical research. They would thus at the least have expertise sufficient to evaluate the results of empirical research and to engage in collaborative work with empiricists. If all went according to plan, most work done in the institute would fall somewhere in between the two polar extremes.

At the end of his classic essay “The Function of Criticism at the Present Time,” Matthew Arnold famously likens himself to Moses, whom God allowed to see the promised land but forbade to enter it (Deuteronomy 32: 48-52; 34: 1-6). As Arnold sees his own generation, “That promised land it will not be ours to enter, and we shall die in the wilderness: but to have desired to enter it, to have saluted it from afar, is already, perhaps, the best distinction among contemporaries; it will certainly be the best title to esteem with posterity” (285). It was no doubt immodest of Arnold to compare himself with Moses, and is immodest of me to compare myself with Arnold, but the parallel is irresistible. I shall in all likelihood never have in my hands any institute like the one described here. But other scholars, now still young, will have. Of that I feel fairly confident. Barring nuclear or environmental holocaust, the long-term trend moves unmistakably toward the integration of knowledge about human beings within an encompassing evolutionary framework. The educational curriculum will eventually follow the course of knowledge.

End Notes

¹ On incorporating general intelligence, see Geary, *Origin*; Sterelny. On the evolution of sociality, see Boehm, *Hierarchy, Moral Origins*; D. S. Wilson; and E. O. Wilson. On human life history, see Carroll, "Truth"; Muehlenbein and Flinn. On gene-culture co-evolution, see Cochran and Harpending; Richerson and Boyd; Roth; and Wrangham.

² For overviews of current Darwinist literary theory, see Boyd, Carroll, and Gottschall, 1-17; and Carroll, "Truth." On the adaptive function of the arts, see Boyd; Dissanayake; Dutton; Carroll, "Evolutionary Paradigm," 119-28, 349-68; Carroll et al., *Graphing Jane Austen* 81-92; Gottschall, *Storytelling Animal*. On the use of human life history theory, see Carroll, "Correcting," "King Lear"; and Carroll et al., *Graphing Jane Austen*, "Human Nature." For examples of systemic biocultural analysis, see Boyd; Cooke; Gottschall, *Rape of Troy*. For alternatives to historicist accounts of cultural identity, see Boyd; Carroll, "Extremes"; *Reading Human Nature* 91-108; Gottschall, *Rape of Troy*; and Headlam Wells. For alternatives to Freudian psychology, see Carroll, "Correcting"; Dissanayanke; Easterlin, "Psychoanalysis"; and Scalise Sugiyama, "New Science." For works using personality psychology, see Carroll, "Hamlet"; and Johnson et al., "Portrayal." On reading as simulated social activity, see Mar and Oatley; Carroll et al., *Graphing Jane Austen*. For analyses of tone and authorial persona, see Carroll, "Correcting"; Carroll et al., "Quantifying Tonal Analysis"; Jonsson; and Winkelman. For evolutionary studies of horror, see Clasen, "Horror," and "Monsters Evolve." For evolutionary studies of dystopia, see Cooke; Jonsson; Swirski; and Williams. For examples of studies of individual works and authors, see Boyd, Carroll, and Gottschall; Carroll, *Reading Human Nature*; Carroll et al., *Graphing Jane Austen*; Clasen, "Attention"; Cooke; Gottschall, *Rape of Troy*; Headlam Wells; Nordlund; Saunders, *Edith Wharton*.

³ See Clark; Cochran and Harpending; Flannery and Marcus; Fukuyama; Smail; and Turchin.

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Filmography

Becoming Human: Unearthing Our Earliest Ancestors. Director Graham Townsley, 2009.

Citizen Kane. Director Orson Welles, 1941.

Hamlet. Director Franco Zeffirelli, 1990.

The Picture of Dorian Gray. Directed by Albert Lewin, 1945.

Appendix One: Readings Assigned Each Week for a Graduate Course in Literary Theory

Texts ordered for the class:

Critical Theory since 1965, ed. Adams and Searle (**hereafter referred to as CTs1965**)

Evolution, Literature, and Film: A Reader, ed. Boyd, Carroll, and Gottschall (hereafter referred to as **ELF**)

Literary Theory: A Very Short Introduction, Jonathan Culler

Hamlet, William Shakespeare, ed. Susanne L. Wofford (hereafter referred to as *Hamlet* casebook)

Heart of Darkness, Joseph Conrad, ed. Ross C. Murfin (hereafter referred to as *Heart of Darkness* casebook)

Winnie the Pooh, A. A. Milne

Postmodern Pooh, Frederick Crews

Overviews of Literary Theory: perspectives from humanism and from biology

Winnie the Pooh, first two chapters

Postmodern Pooh, Preface (a parody of Gerald Graff and “Teaching the Conflicts”)

Postmodern Pooh, chapter 9 (“Virtual Bear” a parody of cyberpunk)

Postmodern Pooh, chapter 10 (“Twilight of the Dogs,” a parody of Roger Kimball and reactionary traditionalism in general)

Photocopied Essays:

Abrams, “Poetry, Theories of”

Abrams, “The Transformation of English Studies: 1930–1995”

Carroll, response to an email questionnaire on the professional study of English (2 pp.)

Carroll, “Three Scenarios for Literary Darwinism”

Carroll et al., from Introduction and Conclusion to *Graphing Jane Austen* (excerpts, typescript)

Delbanco, “The Decline and Fall of English Literature”

Overviews of Literary Theory: the perspective from postmodernism

Culler, *Literary Theory: A Very Short Introduction*

Winnie the Pooh, chapters 3 & 4

Postmodern Pooh, chapter 1 (“Why? Wherefore? Inasmuch as Which?” a parody of deconstruction)

Postmodern Pooh, chapter 2 (“A Bellyful of Pooh,” a parody of Stephen Greenblatt and New Historicism generally)

Period and Genre: Romanticism, Realism, Symbolism

Photocopied Essays::

Sheaf of poems by Wordsworth, Coleridge, Keats, Byron, and Shelley

Wellek, “The Concept of Romanticism in Literary History” (pp. 128–29, 158–98)

Abrams, “Structure and Style in the Greater Romantic Lyric”

Eichner, “The Rise of Modern Science and the Genesis of Romanticism”

Fowler, “Systems of Genre”

Wellek, “The Concept of Realism in Literary Scholarship”

Wilson [Edmund], “Symbolism”

Realism and Symbolism as theoretical concepts

Bakhtin in *CTs1965*

Frye in *CTs1965*

Photocopied Essays:

Watt, “Realism and the Novel Form”

Jung, “On the Relations of Analytical Psychology to Poetry”

Frye, “The Archetypes of Literature”

Carroll, “Biology and Poststructuralism”

Primary texts and the contextual material

Heart of Darkness (also read the contextual material pp. 3–13, 97–112)

Hamlet (also read the contextual material pp. 3–26, 181–207)

Constructivism and Epistemic Realism

Kuhn in *CTs1965*

Fish in *CTs1965*

Kermode in *CTs1965*

Bordwell (ch. 23, pp. 270–85) in *ELF* (“What Snakes, Eagles, and Rhesus Macaques Can Teach Us”)

Gottschall (36, pp. 457–68) in *ELF* (“Literature, Science, and a New Humanities”)

Reader-response criticism section in *Heart of Darkness* casebook (including Rabinowitz’s essay)

Winnie the Pooh, chapter 5

Postmodern Pooh, chapter 11 (“You Don’t Know What Pooh Studies Are About, Do You?” a parody of Stanley Fish)

Photocopied Essays:

Popper, “Normal Science and its Dangers”

Lorenz, “Epistemological Prolegomena” to *Behind the Mirror*

Dworkin, “My Reply to Stanley Fish (and Walter Benn Michaels)”

Bono, “Science, Discourse, Literature: The Role/Rule of Metaphor in Science”
(read only through page 67)

Literary Darwinism

In *ELF*, read the following selections:

Introduction (1–17)

Darwin, ch. 2 (pp. 41–54)

Darwin, ch. 4 (pp. 75–78)

Brown, ch. 6 (pp. 83–95)

Wilson, ch. 7 (pp. 96–104)

Pinker, ch. 8 (pp. 104–10)

Pinker, ch. 10 (pp. 125–34)

Wilson, ch. 11 (pp. 135–43)

Boyd, ch. 16 (pp. 197–210)

Carroll et al., ch. 17 (pp. 211–18)

Slingerland, ch. 18 (pp. 219–23)

Headlam Wells, ch. 20 (pp. 231–45)

Smith, ch. 22 (pp. 258–69)

Scalise Sugiyama, ch. 38 (pp. 483–90)

Winnie the Pooh, chapter 6

Postmodern Pooh, chapter 7 (“Gene/Meme Covariation in Ashdown Forest,” a parody of sociobiological criticism)

Photocopied Essays:

Carroll, “Intentional Meaning in *Hamlet*: An Evolutionary Perspective”

Deresiewicz, “Adaptation: On Literary Darwinism”

Freudian psychology

Bloom in *CTs1965*

Lacan in *CTs1965* (pp. 734–39 only)

Scalise Sugiyama in *ELF* (ch. 25, pp. 306–16, “New Science, Old Myth”)

Easterlin in *ELF* (ch. 28, pp. 348–59, “Wordsworth, Psychoanalysis, and the ‘Discipline of Love’”)

Psychoanalytic criticism section in *Hamlet* casebook (including Adelman's essay)

Winnie the Pooh, chapter 7

Postmodern Pooh, chapter 5 ("The Importance of Being Portly," a parody of Harold Bloom),

Postmodern Pooh, chapter 8 ("The Courage to Squeal," a parody of recovered memory syndrome)

Photocopied Essays:

Freud, "Creative Writers and Daydreaming"

Coleridge, "Kubla Khan"

Fruman, excerpt on "Kubla Khan" from *Coleridge: The Damaged Archangel*

Daly and Wilson, excerpts on Freud from *Homicide*

Marxism

Lukacs in *CTs1965*

Althusser in *CTs1965*

Marxist criticism section in *Hamlet* casebook (including Bristol's essay)

Cultural Criticism section in *Heart of Darkness* casebook (including Brantlinger's essay)

Winnie the Pooh, chapter 8

Postmodern Pooh, chapter 3 ("The Fissured Subtext," a parody of Marxism)

Photocopied Essays:

McGann, excerpts from *Romantic Ideology*

Eysenck and Glenn D. Wilson, Conclusion to *The Psychological Basis of Ideology*

Deconstructio 

Derrida in *CTs1965* (pp. 83–94 and 120–36 only)

De Man in *CTs1965* ("Semiology and Rhetoric" only)

Miller in *CTs1965*

Abrams in *CTs1965*

Deconstructive criticism section in *Heart of Darkness* casebook (including Miller's essay)

Deconstructive criticism section in *Hamlet* casebook (including Garber's essay)

(You might want to look back at chapter one in *Postmodern Pooh*)

Photocopied Essays:

Carroll, "Derrida among the Archetypes" [from *Evolution and Literary Theory*]

Carroll et al., "Determinate Meanings" [from *Graphing Jane Austen*]

Foucault and New Historicism

Foucault in *CTs1965*

Said (pronounced Sah-eed) in *CTs1965*

Carroll et al. in *ELF* (ch. 39, pp. 490–506, "Paleolithic Politics in British Novels of the Longer Nineteenth Century")

New Historicist criticism section in *Heart of Darkness* casebook (including Thomas's essay)

New Historicist criticism section in *Hamlet* casebook (including Coddon's essay)

Winnie the Pooh, chapter 9

Postmodern Pooh, chapter 6 ("Resident Aliens," parody of postcolonial criticism)

(You might want to look back at chapter two in *Postmodern Pooh*)

Photocopied Essays:

Carroll, "Foucault and Verbal Ballet" [from *Evolution and Literary Theory*]

Said, "Two Visions in *Heart of Darkness*"

Feminism

Robinson in *CTs1965*

Gottschall in *ELF* (ch. 24, pp. 289–305, “Homeric Women: Re-imagining the Fitness Landscape”)

Salmon and Symons in *ELF* (ch. 37, pp. 469–82, “Slash Fiction and Human Mating Psychology”)

Feminist criticism section in *Heart of Darkness* casebook (including Smith’s essay)

Feminist criticism section in *Hamlet* casebook (including Showalter’s essay)

Winnie the Pooh, chapter 10

Postmodern Pooh, chapter 4 (“Just Lack a Woman,” a parody of feminist criticism)

Photocopied Essays:

Mellor, “On Romanticism and Feminism”

Ellis, “Feminist Theory’s Wrong Turn”

Wells, excerpt from *Joan and Peter* (pp. 400–403)

Sommers, “Men—It’s in Their Nature”

Sullivan, “The He Hormone”

Cahill, “His Brain, Her Brain”

Sexton, “The Great Gender Gap”

Vandermassen, “Introduction” to *Who’s Afraid of Charles Darwin?*

Appendix Two: Readings Assigned Each Week for a Course in Evolution, Literature, and Film.

I have taught versions of this course on both the undergraduate and graduate level. The readings included here are appropriate for a semester-length course on the graduate level. At less selective colleges, an undergraduate version of the course would be most successful with a reduced volume of assigned reading.

ELF refers to *Evolution, Literature, and Film: A Reader*, edited by Boyd, Carroll, and Gottschall.

ELF through ch. 12 (to p. 155)

ELF through ch. 28 (to p. 359)

Photocopied essays:

Carroll, “Human Life History and Gene-Culture Co-Evolution”

Higgins: “Impassioned Speech about Poetry and Evolution”

ELF: chapters 29, 30, 31, 34, 36, and 37; that is, the chapters by Flesch (ch. 29), Carroll (ch. 30), Cooke (ch. 31), Bordwell (ch. 34), Gottschall (ch. 36), and Salmon & Symons (ch. 37)

Photocopied essay:

Vandermassen, “Woman as Erotic Object in Mainstream Cinema”

Hamlet

Historical material and critical essays in the Norton edition of *Hamlet* (2nd ed.)

ELF, chapter 38 (Scalise Sugiyama)

Photocopied essay:

Carroll, “Intentional Meaning in *Hamlet*: An Evolutionary Perspective.”

ELF, chs. 32 (Saunders) and 39 (Carroll, Gottschall, Johnson, and Kruger).

Photocopied stories and essay:

Stories by Zora Neale Hurston (“The Gilded Six-Bits,” “Sweat,” “Spunk”)

Vermeule, “Fiction: A Dialogue”

Citizen Kane (screening)

ELF ch. 33 (Anderson)

McCloud, *Understanding Comics*

Photocopied essay:

Boyd, “On the Origin of Comics”

Art Spiegelman: *Breakdown*; *Maus I (My Father Bleeds History)*; and *Maus II (And Here My Troubles Began)*

ELF, ch. 35 (Boyd)

The Picture of Dorian Gray; in-class screening of *The Picture of Dorian Gray*

In the Norton edition of *Dorian Gray* (2nd. ed.), in the criticism section, read the essays by Gillespie (pp. 387–403), Liebman (pp. 433–54), Ragland-Sullivan (pp. 470–90), and Riquelme (pp. 490–510).

Photocopied essays:

Carroll, “Aestheticism, Homoeroticism, and Christian Guilt”