

Joseph Carroll  
*University of Missouri, St. Louis*

## The Truth about Fiction: Biological Reality and Imaginary Lives

### Three Scenarios

For about two decades now, some few literary scholars have been working to integrate literary scholarship with an evolutionary understanding of the human mind. The ideas promoted by these scholars are still at odds with the ideas that prevail in the academic literary establishment, but the Darwinists have been steadily gaining in numbers, visibility, and influence (Kean). I can envision three alternative scenarios for the future development of literary study: one in which literary Darwinism remains outside the mainstream of literary study; another in which literary Darwinism is incorporated as just another of many different “approaches” to literature; and a third in which the evolutionary human sciences fundamentally transform and subsume all literary study (Carroll, *Reading Human Nature* 71–87). If one were to base predictions on the current status of evolutionary study in the humanities, the first or second scenario might seem the most plausible. If one bases prediction on the inherent appeal of developing knowledge, the third will seem most plausible. No other currently active theory lodges itself in a biological view of the human mind. No other theory thus makes it possible to integrate literary study with the rapidly developing body of knowledge from evolutionary psychology, paleoanthropology, primatology, behavioral ecology, comparative ethology, cognitive and affective neuroscience, behavioral genetics, and personality psychology. If consistency with empirically grounded forms of knowledge is the criterion by which we assess the validity of literary theories, the currently active alternatives to literary Darwinism are out of play from the beginning. They willingly disqualify themselves. Only the Darwinist understanding of literature offers the prospect for a cumulative development of literary research consistent with a broad range of scientific knowledge.<sup>1</sup>

In the third scenario — that in which the evolutionary human sciences transform and subsume all literary study — literary Darwinism will absorb the most comprehensive ideas in the evolutionary human sciences and integrate them with ideas specific to literary study. That integration will have to work from both sides. The evolutionary human sciences are still in the process of forming a paradigm.

Their model of human nature is not yet complete because it has not yet taken adequate account of the experience that forms the subject matter of the humanities. This essay is designed to help correct that deficiency. In the first part of the essay, I explain how scholars in the humanities can help construct the still developing model of human nature. In the second part, I argue that the proper subject of literary commentary is “meaning” and that meaning can be localized in the interaction of perspectives in authors, readers, and characters. In the third part, I argue that the main categories of human life history are also the main themes of fiction. In the final section, I offer suggestions about directions for future research.

### **A Developing Model of Human Nature**

Over the past forty years or so, major changes have taken place in evolutionary theories about human nature, with each change bringing us closer to a comprehensively adequate understanding. Sociobiology, the first important movement in modern evolutionary social science, emerged in the 1970s. Like generals grasping too eagerly for a single decisive victory, the sociobiologists lunged at a single, all-purpose explanation for human behavior. They suggested that “fitness maximization” — having as many offspring as possible — is a direct motive in human life (Betzig; Chagnon). That suggestion stripped out too much detail in human behavior. Evolutionary psychology (EP), emerging in the late 1980s, corrected this mistake by insisting on an intermediate causal stage. Evolutionary psychologists agreed that fitness maximization is an “ultimate” causal explanation, but actual human motives, they argued, are “proximate,” not “ultimate.” People do not want children, they said; they just want sex. Lust is a proximate motive; the children, before the pill and the condom, were just the “ultimate” consequence (Pinker, *How the Mind Works*; and Symons). Common observation should tell us that this corrected formulation still was not quite right. A great many people, probably the majority, want sex *and* children, though of course some people want neither, and some want either sex or children but not both.

Early evolutionary psychologists envisioned “human nature” as a set of hardwired motives and mental traits adapted to the hunter-gatherer ecology of the Pleistocene, a geological period extending back about 1.6 million years. The favored metaphor for this conception of “the adapted mind” was a Swiss Army Knife. Think of the brain as a compact toolkit with a corkscrew, say, for mating, a tiny pair of scissors for hunting, tweezers for gathering, a file for favoring kin, an awl for gaining dominance, and so on. Lots of little tools dedicated to specific tasks, but no flexibility in any single tool. At most, one might use the stubby main blade to pry up a tuber or saw through a bit of gristle. Otherwise, “general-purpose” mechanisms

were ruled out of play — too much like the general purpose computers envisioned in Standard Social Science (Tooby and Cosmides, “Psychological Foundations”).

Evolutionary psychologists drew a sharp contrast between the stone-age conditions for which our neurological toolkit had supposedly been adapted and the radically different conditions that prevail in post-agricultural societies. Subtract the differences between the cave and the farm, and you get “mismatch” — a word that covers most of what early EP had to say about human achievements during the past 50,000 years. Sir John Seeley once remarked that the British acquired an empire in a fit of absent-mindedness. In the EP vision of history, the human race went the British one better; during its fit of absent-mindedness, the human race acquired all of civilization — permanent dwellings, domesticated plants and animals, vocational specializations, towns and cities, public buildings, complex technologies, roads, vehicles, armies, ruling castes, artistic traditions, philosophies, science, and all the rest.

Traits that now characterize the human species do not begin in the Pleistocene. Humans have motives and emotions that have been conserved since the last common ancestor they had with chimpanzees (A. Buss; Foley; Irons; and Potts). But of course conserved characteristics go much further back than that — they go all the way back through mammalian adaptations for mother-infant bonding, fight or flight reactions shared with reptiles and fishes, nervous systems organized around a central spinal column, physiological processes shared with all multicellular organisms, and chemical processes identical within all nucleated cells, including those of single-celled organisms (Lane; Panksepp; and Shubin).

Adaptations that characterize human nature do not begin in the Pleistocene, and they do not stop there, either. Beginning somewhere between 100,000 and 40,000 years ago, the pace of change in human behavior began to pick up dramatically — so dramatically that many scientists refer to this period as “the Human Revolution.” It is during this period that humans first produced complex multi-part tools and created sculptures, paintings, and musical instruments. Debate still rages over whether this revolutionary change was precipitated by some decisive bit of neurological re-wiring or was merely the result of cumulative “cultural” acquisition reaching a tip-over point in self-perpetuating acceleration (Mellars; Mellars and Stringer; and Wade). So far, the best candidate for the re-wiring hypothesis is a mutation in the FOXP2 gene, which influences complex language skills (Enard et al.). But whatever the cause, *something* happened. People got smarter, or at least acted smarter. They developed much more complex skills and invented more effective ways of acquiring

food and providing shelter. They also began to leave archeological evidence of their fascination with abstract designs and representational images.

For early EP, evolution, for all practical purposes, stopped at some indeterminate point in the Pleistocene, well before the Human Revolution. Most of what we think of as distinctive features of civilization — the arts, religion, science, philosophy — was relegated to a discard bin labelled “by-products.” Over the past ten years or so, evolutionary psychologists with broader views have radically altered this inadequate model of human nature. They have kept what EP identified as basic adaptive dispositions but have added one major element: flexible general intelligence (Geary; MacDonald and Hershberger; Mithen; and Sterelny).

Adding general intelligence gives a more satisfactory account of science and other rational and technical features of civilization, but the model still gives no good explanation for art and other products of the imagination. The early EP explanation for art as by-product remains active in the more recent, broader model that includes general intelligence. In contrast to both narrow-school EP and broad-school EP, several evolutionists in the humanities and sciences have argued that the imagination is functionally integral to the specifically human way of coping with the world. Humans live in the imagination; they create imaginative virtual worlds that contain past and future and that contain also their sense of relations with people and forces outside their immediate ken. Humans are the only species that can die for an idea. That is because they are the only species that lives by ideas, or more precisely, by emotionally charged imaginative constructs like religions and ideologies.<sup>2</sup>

As used by evolutionists in the humanities, the word “imagination” does not signify some numinous and indefinable faculty more or less equivalent to “spirit.” It signifies an interactive set of mental operations that include discursive reason, representation, symbolic imagery, aesthetic form, and emotional responsiveness. Working together, these operations produce emotionally charged mental images that significantly influence human behavior. All tribes and nations have myths of origin. Every ethnic group and religious sect has its distinctive symbols, modes of dress, styles of decoration, and historical narratives (Brown; and Hill, Barton, and Hurtado). We share in the collective imagination of our social groups, and within those groups, we constantly weave the story of our own individual lives, collecting the moments of our past into a sense of personal identity and projecting that identity into the future. People imagine themselves as doctors, lawyers, teachers, champion athletes, or business tycoons, and they then set about becoming those things. Some people imagine themselves as priests or nuns and agree to suppress some of the most basic human needs — sex, procreation, and family. Others imagine themselves as

religious martyrs and willingly turn themselves into human bombs. And still others imagine themselves as warriors and heros, translating the ugly work of murder into honorable service. People imagine themselves as sinners transformed by the grace of God, saints foreordained to salvation, romantic rebels defying convention, good citizens fulfilling their civic duties, or cunning predators taking the weak and foolish as their prey. Unless we register the crucial ways in which imagination characterizes specifically human forms of experience, we can make no convincing claim that we have understood human nature.

The human species has specialized in cognitive and behavioral flexibility. Human behavior is not regulated primarily by “instincts,” that is, narrowly channeled dispositions activated automatically by environmental stimuli or internal prompts. Human behavior is largely regulated by cultural norms. Those norms are articulated in imaginative form through myths, legends, rituals, images, songs, and stories. The cultural constructionists got that much right. Where they went wrong was in severing cultural norms from “human nature”: the genetically transmitted dispositions that characterize humans as a species. Cultural norms do not arise out of nothing. They arise out of the elements of human nature, variously combined, in different environmental circumstances, developing over time.

Across the whole spectrum of current evolutionary thinking about human nature, there are thus now three main models: narrow-school EP, broad-school EP, and what we can call humanist EP. Broad-school EP contains everything narrow-school EP contains but adds general intelligence. Humanist EP contains everything in broad-school EP but adds imagination (figure 1).

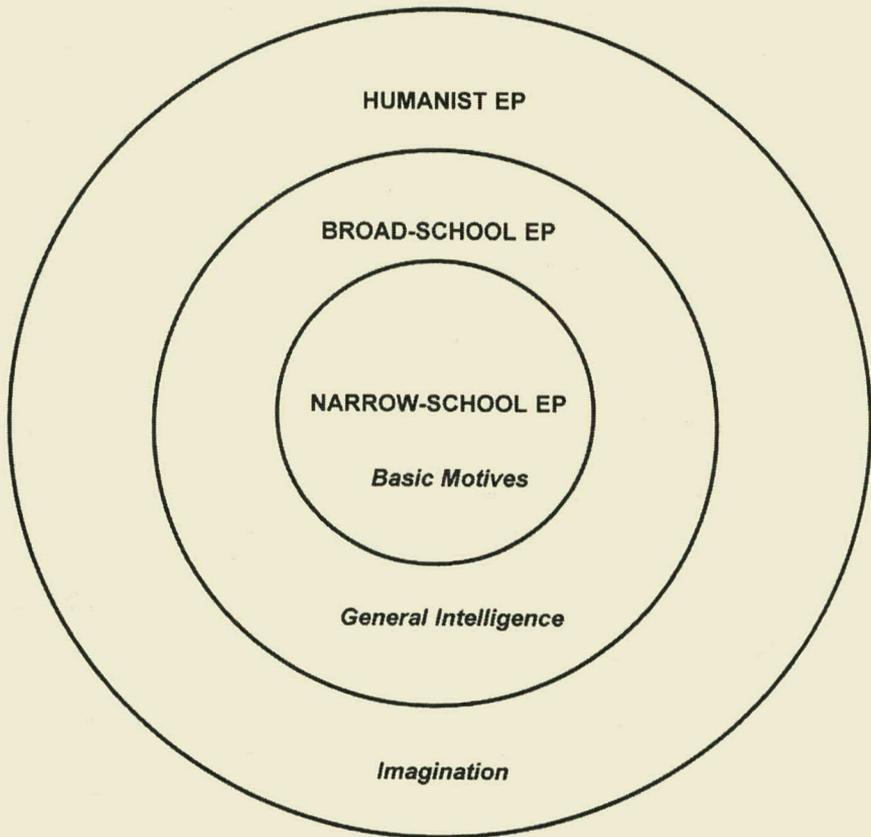
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| <p><b>Narrow-School EP:</b></p> <p>Hunting<br/>Gathering<br/>Predator avoidance<br/>Kinship<br/>Mating<br/>Parenting<br/>Sociality<br/><b>and</b><br/><b>side effects:</b><br/>art, pornography, religion,<br/>drugs</p> | <p><b>Narrow-School EP</b><br/><i>plus</i><br/><b>General Intelligence</b><br/><i>equals</i><br/><b>Broad-School EP:</b></p> <p>Technology<br/>Trade<br/>Social Institutions<br/>Philosophy<br/>History<br/>Science</p> | <p><b>Broad-School EP</b><br/><i>plus</i><br/><b>Imagination</b><br/><i>equals</i><br/><b>Humanist EP:</b></p> <p>Religion<br/>Art<br/>Music<br/>Stories<br/>Myths<br/>Ideology</p> |
|--|---|---|

Fig. 1. Three Versions of Evolutionary Psychology

Proponents for the humanist EP conception of the mind recognize that pornography and recreational drugs are largely non-adaptive ways of using brain processes that evolved for adaptive purposes. People are both clever enough and foolish enough to manipulate the pleasure centers in their own brains by ingesting chemicals that give them a rush of unearned dopamine or damp down signals of pain. Religion and art can serve a similar purpose, offering a rush of feel-good sensation that disconnects the brain's reward system from actual circumstances. The junkie or religious fanatic too blissed out to look for food or tend to children is doing no favors to his or her inclusive fitness. From the humanist EP perspective, though, religion and art can also serve adaptive functions. Among other things, religion can create a coherent collective narrative that bonds individuals into a community (D. S. Wilson). Both religion and art help people regulate their behavior according to a total vision of the world and their place in the world.<sup>3</sup>

Take the Catholic Church as an example. For many centuries, the Church provided a comprehensive imaginative structure for almost everybody in the European population. Within that imaginative structure, individuals understood the cosmos as a sphere limited in time and space and invested with inherent properties of good and evil. Individual human lives were clearly delineated into two distinct parts, the mortal flesh and the eternal soul. The central challenge of life was to behave and believe in ways that corresponded to the universal code identified by the Church, and thus to earn eternal happiness and avoid eternal misery. This universal code stipulated the forms of sexual behavior and the kinds of family relationships that were permitted and excluded. The code also stipulated a social ethos and automatically included all its members within a community of shared values and beliefs. Within that community, the arts helped produce shared forms of imaginative experience. People did not merely believe Christian ideas in an abstract way. Their lives were organized around the churches in which they were christened, wed, and prepared for burial. In those churches, people were surrounded by visual images, music, stories, and aesthetically dense rituals that gave imaginative form to the main motives and passions in their lives. Most members of the intelligentsia no longer share the Christian world view, even in Europe, but people everywhere still need aesthetically and emotionally rich images of the world and their place in the world. They still need imagination to help them assess the shape of their lives and thus to regulate their behavior.

The three tables in figure one are not like the stages of a rocket, used and then jettisoned. They are more like Russian dolls, with smaller dolls inside larger (figure 2).



**Fig. 2. A disciplinary doll**

A still closer analogy is "the triune brain." The neurologist Paul MacLean coined this term to register that there are three main components of the human brain: the reptile brain that organizes reflexive fight or flight reactions and simple seeking behavior for food and sex; the mammalian brain that contains hormonal mechanisms for affectional bonding between a mother and her offspring; and the specifically human brain that contains an expanded neocortex capable of abstract thinking, planning, and inhibiting impulse (MacLean). The expanded human neocortex has not suppressed the mammal and the reptile lurking within. All the main structures in the brain are connected and interactive. So it is also with the models of human nature in the expanded humanist version of EP.

Imagination can radically modify or even stifle the expression of the most basic human impulses. Working through cultural norms, imagination can affect child-rearing, mating, social interactions within or between groups, and even the

instinct for survival. It can make some people celibate and lead others to suicide; compel some populations to bear children without restriction and strictly limit or even prohibit procreation among others; idealize brotherly love or glorify cruelty and brutality; and it can make romantic love the central motive in life or stigmatize it as a foolish self-indulgence that violates the sanctity of the family. Human nature is not infinitely flexible. Every form of human behavior is prompted by some biologically grounded impulse. Nonetheless, those impulses combine in ways that produce behavioral variations wider than those in any other species — wider by orders of magnitude.

Within each individual human mind, all motives are locked into a total system. Change one part of the system — suppress sex, say, or glorify war — and you alter the behavioral output and emotional tone of the whole. Works of imagination — myths, songs, stories, paintings — make this total motivational system subjectively intelligible, illuminating the underlying structures in ways we can sense and feel. We live or die by ideas not because they make good logical sense to us but because we can feel their emotional force. Works of imagination help us do that.

The imagination brings new things into the world, but those things are not made out of nothing. They are made out of human nature, which includes the imagination. The most mature form of interpretive critique will thus necessarily take account of human nature. And there's a flip side to that coin: the most mature form of evolutionary psychology will necessarily take account of the imagination.

We are at a historically decisive moment in the evolutionary human sciences. For the first time, we have the theoretical materials necessary for developing a comprehensive evolutionary understanding of human experience. By integrating ideas from three overlapping theoretical fields — human life history theory, personality psychology, and gene-culture co-evolution — we can identify the broad patterns of human behavior, locate unique individuals within those patterns, and explain how genetically transmitted dispositions and cultural conditions interact in reciprocally causal ways.

Human life history theory is a subset of the theory of life history that encompasses all of biology. The life history of all organisms can be analyzed as a distribution of effort toward somatic and reproductive functions — that is, toward building and sustaining the organism and toward passing on genes. Human life history theory offers a systemic framework for all the phases and social roles of human life. Within that framework, we can connect elementary biological principles to both human universals and individual identities. The somatic and reproductive principles correlate with the common division of basic life goals into survival and reproduction, and

those terms correlate with two key motives explored in personality theory: power and love, or agency and communion. Gene-culture co-evolution converges with human life history theory, explaining the way the expanded human brain has complicated the primate ground plan. Life-span psychologists characterize distinct “life-phases” that can be closely integrated with the main phases in human life history theory. Narrative psychologists focus on the autobiographical “life story” that all humans construct. That life story provides a sense of “meaning” in a life — a sense of unity and purpose. The idea that every individual person creates a life story dovetails with the implications of gene-culture co-evolution and with one main argument about the adaptive function of the arts: the idea that people create imaginative constructs within which they can envision their lives as a whole, locate their lives in relation to their social groups and to the world in general, and thus direct their behavior in purposeful ways. By integrating human life history theory, personality theory, and gene-culture co-evolution, we can now create a continuous explanatory sequence that leads from elementary causal principles in biology through human universals to individual human lives and works of imagination.<sup>4</sup>

## Literary Meaning

### The Subjects of Stories

Human beings create imagined virtual worlds that have seemingly endless variety on the phenomenal surface, but beneath those surfaces the central themes in literature are relatively few and simple. The central themes reflect deep human passions that are rooted in elementary human concerns. Hence the similarity and mutual intelligibility of folk tales around the world. Hence also the frequency with which great works of literature are translated into other languages and transmuted into other media such as film and opera. Shakespeare’s plays offer a striking instance. The plays are four hundred years old and are written in an idiom that is now archaic; Shakespeare uses imagery from customs and practices long obsolete; but the plays nonetheless continue to be translated into dozens of languages and are constantly adapted to films, operas, graphic narratives, animations, short stories, and novels. Shakespeare had the gift for seeing deep into human nature and finding language adequate to what he saw.

The life cycle of any species is necessarily a reproductive cycle. The logic of that cycle regulates the whole array of evolved dispositions in the species. Reproduction does not of course just mean sex. Parenting species form attachments to their young, and their young to them; dual-parenting species form pair-bonds between the parents. Any evolutionarily successful organism must survive long

enough to reproduce. Social species negotiate dominance hierarchies, sometimes form alliances, and sometimes differentiate into specialized social roles such as warriors and workers. Individual organisms compete for resources and fend off predators or seek prey. Humans, like chimpanzees, organize socially to compete with other social bands. All these dispositions, though shared with other species, are part of the specifically human life cycle. In addition to these basic animal dispositions, humans also feel a need to satisfy their minds — to form images and narratives of their own lives and of the world they inhabit.

### **The Interplay of Perspectives**

The dispositions generated by human life history manifest themselves at the proximal level as motives that are driven by emotions such as desire, love, gratitude, jealousy, guilt, shame, frustration, resentment, rage, and hatred. Narrative and dramatic fiction depicts such emotions, evokes them, and makes them available to readers, who experience them vicariously. An author and a reader inhabit an imagined world created by the author, who chooses a subject, adopts a stance toward that subject, organizes the presentation of the subject, and modulates style and tone to affect the reader's responses. Readers register the images and sensations thus evoked and also situate them in their own analytic and evaluative frameworks.<sup>5</sup>

Literary meaning derives not only from depicted events but also, and more importantly, from the interpretation of depicted events — from the author's stance; the reader's response to both the depicted events and the author's stance; and the author's anticipation of the reader's responses. Meaning in literature cannot be reduced to plot. Meaning consists in an imaginative experience at least partially shared between an author and a reader. It is a form of social exchange. In representational literature (stories, plays, and novels, as opposed to lyric poems), a third perspective enters the picture: that of characters. In this situation, meaning arises from an interplay of perspectives among characters, authors, and readers. Characters have impressions about one another; the author has an attitude toward the characters and anticipates responses in potential readers; and actual readers have impressions about all these relations, including what the author anticipates readers will think and feel. All of this perspectival play is the locus of literary meaning; it is where meaning takes place: in the interaction between human minds. Perspectival interplay is thus an appropriate focal point for interpretive criticism.

Consider a relatively simple example, Edgar Allan Poe's story "The Tell-Tale Heart." The story is very short. The first-person narrator is also the protagonist. He describes having murdered an old man with whom he lives. He has cut up the old man's body and buried it beneath the floorboards. The story culminates in a

confession. Police have come to question him about hearing a cry in the night. As he talks with them, he hears ever louder the beating of the old man's heart beneath the floorboards. He imagines that the police also hear it and are toying with him. Finally, he can bear it no longer. "Villains!" I shrieked, "dissemble no more! I admit the deed! — tear up the planks! — here, here! — it is the beating of his hideous heart!" (559).

This case is relatively simple because it is an instance of an unequivocally unreliable narrator. The narrator repeatedly assures us that he is perfectly sane. Poe, the author, clearly expects that we will recognize that the narrator is in fact deranged. We stand apart from the narrator, sharing Poe's critical stance toward him. At first, no doubt, many readers are amused at the patent absurdity of the narrator's assertions that he is sane. But if the story affects us the way Poe wants it to, we also share the protagonist's own sensations. We experience the overwrought intensity of his own terror. Throughout the story, the narrator boasts about how lucid and controlled he is. To support these contentions, he recounts in minute detail his plan to kill the old man. He acknowledges he has no rational motive for killing the old man, nor even any hostility toward him. He says only that he has developed a fixation about the old man's eye. As we gradually feel our way into the narrator's state of mind, we intuitively understand that the carefully planned murder is in reality a hysterical and futile effort to gain command over an irrational and irrepressible terror. That is the nature of the narrator's insanity. He is suffering from a continuous, prolonged panic attack: a terror that arises from within, spontaneously, without external cause (*Diagnostic and Statistical Manual*). His final outburst to the police is simply the ultimate collapse of all effort at controlling his own terror.

A reader who follows this story as Poe intends becomes involved in an overlapping set of contradictory mental states. He or she feels the narrator's rising panic but stands apart from the narrator, sharing Poe's critical and detached perspective on him. Neither perspective cancels the other. They are superimposed. This is already a complex perspectival situation. For most readers, there is a third complication in this perspectival structure. We feel the sensations Poe expects us to feel, and we also admire his skill in producing this simulated social interaction. We are aware that he has successfully manipulated our state of mind, and we do not resent it. Quite the contrary. We delight in the power of his imagination, his psychological acuity, and his command over language. We admire him, and are even grateful to him. He has increased our own capacity to recognize extreme and aberrant psychological states, and as a result he has also enriched our appreciation

for literary genius. He has himself become a major feature in our mental landscape. He is now part of our own perspective, just as we have already been part of his.

### **Human Universals and Individual Identity**

Human life history theory gives us a basis for a scientifically grounded set of analytic categories about the central themes in literature. Personality psychology that sorts personality into major factors and components gives us an empirically grounded point of entry into individual identity. Individual people fall into bell-shaped distributions on personality factors, with extreme introverts and extreme extraverts, for instance, at the tails, and with the bulk of people falling more toward the middle of the scale. Divergences in individual factors and components combine to produce subtle differences in temperament. Those differences influence attitudes and judgments. They thus influence the stance authors take toward their subjects.

Personality psychology is often characterized as the study of “individual differences,” but there is a deeper level at which the factors of personality are human universals. People vary on scales derived from the dimensions of personality, but they share the dimensions (DeYoung; DeYoung et al; Kosslyn et al; McAdams and Pals; and MacDonald, “Personality”). Consider for instance the five-factor model derived from English and some other languages. Except in cases of extreme pathology, virtually all humans have some capacity for seeking pleasurable sensation (Extraversion) and reacting to pain (Neuroticism), feel some impulse toward affiliative interaction with other people (Agreeableness), are capable of organizing and directing their own behavior to some degree (Conscientiousness), and respond in some measure to the allurements of stories, jokes, music, art, and ideas (Openness to Experience).

Personality traits tend to remain relatively stable over the course of a life. They are core parts of individual identity but not the whole story. They are essentially synchronic. They are only dispositions: tendencies to behave in one way rather than another (Fleeson; McAdams, *The Person*; and McAdams and Pals). Individual identity also has a crucial diachronic dimension. Identity develops over time. Different phases and conditions of life evoke different motives. Individual identity is profoundly shaped by the circumstances that vary from life to life: material conditions, family experiences, social relationships, and the larger political or religious traditions in which people are raised. Illness, misfortune, success or failure in love or career — all such incidents shape the autobiographical narratives people are perpetually constructing.

Novels, stories, and plays are about imagined people. Universal motives, emotions, and dimensions of personality provide a common basis of experience

through which readers can participate in the imagined lives of characters (McEwan). Differences in personal identity stimulate ordinary human curiosity about other people. Authors of stories and plays are typically people of strong imagination. They envision the lives of others more fully than the rest of us do, with greater penetration and sensitivity. That is one main reason we read their works. Authors also shape their imagined worlds in ways that indirectly reveal their own inner lives — the qualities of their minds and temperaments. That is another reason we read their works. We see into the lives of characters, and we also become acclimatized within the imagined worlds authors create. As readers, we respond not just to characters but to authors. We like or dislike authors by the impulses of affinity and judgment that also guide us in our responses to people we know in person.

All these features of qualitative, subjective experience — motives, emotions, personalities — are subjects of empirical psychological research. They are within the range of subjects about which we can say things that are either true or false, trivial or important. They can all be integrated within the network of explanatory principles from an evolutionary perspective on human life.

### **The Central Themes of Fiction**

Major literary works are of course complex and typically involve multiple themes. Nonetheless, one can reasonably isolate specific themes that predominate in particular parts of particular works. In this section, I identify major themes rooted in human life history and comment briefly on some of the possible authorial stances toward them. The themes include survival, growing up, love and sex, family life, life within a social group, relations between social groups, and the life of the mind.

#### **Survival**

Life is precious, always in danger, and always ultimately transient. The awareness of death hovers over our lives and weaves in and out of literary imagining. The business of preachers is to use death as a threat to make us believe or behave, or to console us with illusory extensions of life. The business of literary authors, in contrast, is to give to airy nothing a local habitation and a name, to fix our vague horror and wonder in vivid images. Horror writers like Poe and H. P. Lovecraft tap into ancient sources of fear and satisfy our need to fixate on our revulsion from death (Clasen, "The Horror!" and "Primal Fear"). Stories of survival thrill us with primal sensations of triumph. By driving conflicts to a terminal extreme, tragic authors illuminate the basic forces that shape our lives. Our misty sense of some uncanny separation of spirit and body has been populated by supernatural images of the afterlife from Homer, Virgil, and Dante through the short stories of Maupassant, Henry James, and Edith Wharton, up to current practitioners of

the ghostly such as Stephen King and the multitudes of vampirists. The ancient philosophical precept that the purpose of life is to know how to die overstates the case. But it is no overstatement to say that all our images of life are encircled by images of death. To know what to make of our lives, we must go to the poets and novelists to feed off images of death.

### **Growing Up**

The first mission in life is to stay alive. Humans are dependent on parental care much more intensively and for a much longer period than any other species. For children in ancestral environments, and through most of human history, staying alive has required having the care of parents. Evil stepmothers are such a pervasive theme in folk and fairy tales because having a parent who would prefer you dead has so often been a reality (Daly and Wilson, *Homicide* and *Cinderella*). Serious literature probes the sore spots and weak spots in human life. Not surprisingly, then, in fictional depictions of children, orphaned, abandoned, neglected, or abused children bulk very large. It is Charles Dickens' most pervasive theme — *Oliver Twist*, *David Copperfield*, *Pip*, *Esther Summerson*, among others. The protagonists in Francis Hodgson Burnett's classic tales *A Little Princess* and *The Secret Garden* are both orphans. In the first paragraph of Roald Dahl's *James and the Giant Peach*, James' parents are eaten by a rhinoceros. Harry Potter, protagonist of one of the most successful children's series of all time, is an orphan.

Staying alive comes first. What comes second is achieving emotional maturity. For human beings, that means developing the capacity for intimate personal bonds, becoming integrated into a social network, and achieving satisfaction in developing necessary skills (Bauer and McAdams; Goleman; and Sheldon). Since secure attachment to a mother or primary caregiver is usually necessary for successful emotional development, orphans must have surrogates and use the power of their own imagination to construct images of their parents. Serious stories about children in dangerous or impoverished conditions concentrate on their quest to achieve a whole and adequate sense of individual identity.

### **Love and Sex**

The ultimate evolutionary function of the sexual pair-bond, in humans as in birds, is parenting. Thus Benedick, in *Much Ado about Nothing*, justifying his submission to the promptings of romance: "The world must be peopled!" Romantic love is evidently a human universal (Gottschall and Nordlund; and Nordlund). though it is not universally sanctioned in cultural norms. In courtly love, romantic love is fetishized; it becomes an end in itself, segregated from the larger logic of human life history and explicitly set apart from marriage. Pornography isolates and fetishizes

not love but sex, reducing humans to erotic sensations indulged independently of social bonds and reproductive functions. D. H. Lawrence integrates eroticism with the mutuality of a fulfilled pair-bond but in his later novels fetishizes the pair bond, isolating it from the logic of reproduction, family relations, and social connections. In contrast to these fragmentary and exaggerated forms of literary eros, "romantic comedy" resonates with the larger patterns of life history. Romantic comedies — whether in Shakespeare, Jane Austen, or a contemporary film — end in a marriage, that is, a public and socially sanctioned ritual for the organization of reproductive relations centered on the pair bond. In classic romantic comedies, resolving conflicts for the happy couple also tacitly affirms the health of the larger social order. Conversely, tragedy in romance — *Romeo and Juliet*, Goethe's *Faust*, *Tess of the d'Urbervilles* — typically involves not just the personal failures of an individual couple but failure in a larger social order — failures so severe that they disrupt the central social relationship in the reproductive cycle.

### Family Life

Family is the core social group in the human reproductive cycle. The bonding between mother and offspring is the deepest conserved social instinct in human nature — common to all mammals and vital to healthy human emotional development (Bowby; Fraley and Shaver; Mikulincer and Shaver; Posada and Lu; and Shaver and Mikulincer). Because humans take so long to mature and are dependent for so long on maternal care, through most of human evolutionary history, successfully raising offspring has required the presence of an adult male committed to provisioning and protecting his wife and children. The logic of inclusive fitness has shaped human motives and passions around this reproductive economy. In all cultures, family comes first. Family members share genes, but with the exception of identical twins, the fitness interests of family members are not identical. Families are intense emotional systems riven by forces that simultaneously draw them together and pull them apart. Such systems are a natural environment for works of imagination.

The first story in the Bible, after the expulsion from Eden, is the murder of one brother by another. In *Hamlet*, Claudius murders his brother to steal his crown, and in silent meditation envisions himself as an actor in that ancient Biblical plot. Oedipus inadvertently murders his father and has sex with his mother. In his anguish, he gouges out his own eyes. Agamemnon sacrifices his daughter Iphigenia to appease the Gods. He is in turn murdered by his wife Clytemnestra, who is in turn murdered by her son Orestes. As these classic instances suggest, the great tragedies turn often on family conflict. Other mythic tales achieve resolution by restoring harmony among members of a family. God allows Abraham to spare Isaac. Joseph, wealthy

and honored in Egypt, forgives the brothers who tried to murder him. The Prodigal Son is restored to his father. Multi-generational sagas, like Emily Brontë's *Wuthering Heights*, Emile Zola's *Les Rougon-Macquart*, Thomas Mann's *Buddenbrooks*, and John Galsworthy's *Forsythe Saga* envision families almost as individuals, systems of disease or ambition working themselves out across the generations. Moreover, such family groups are themselves only local nodes within imaginary kinship networks constituted by race, religion, or nationality: the Children of Israel, brothers and sisters within Mother Russia or the Fatherland. Such imaginary lineages are the breeding ground for all national literary traditions. More than any other feature in human life history, family shapes the imagination.

### Social Life

Apart from kinship bonds, dominance regulates chimpanzee social organization. The largest male dominates, unless two males form a coalition to share power (Boehm; and de Waal). Dominance means first access to food and sex. No principle of "justice" enters the picture, just sheer brute strength and aggression. Human social organization adds three crucial elements to the basic chimpanzee scheme: egalitarianism, shared ethical norms, and imagination.

Hunter-gatherer bands are universally egalitarian (Boehm). They use collective coercion to suppress dominance behavior in individuals. Humans have not eliminated dominance behavior from their repertory. Far from it. But they have developed collective forms of imagination organized around the polar opposition between dominance and egalitarianism. We love power, but in others it often threatens our own status, offends our sense of equity, and violates our sense of shared social norms (Boehm; and Hill, Barton, and Hurtado). The conflict between dominance and equality is an active theme in most literature. In many great works, it is the central theme, for instance, in *The Iliad*, Shakespeare's history plays, Friedrich Schiller's *Wallenstein Trilogy*, and the whole body of canonical British novels of the nineteenth century (Carroll et al., *Graphing Jane Austen* and "Human Nature"; and Johnson, et al., "Hierarchy" and "Portrayal").

Imagination makes it possible for individuals to envision their shared life as a set of norms and ideals. Internalizing those norms means that the social body becomes an integral part of the autobiographical narrative continuously being constructed by every individual (Fivush and Haden; McAdams, "Personal Narratives," *Redemptive Self, Stories We Live By*; and McAdams, Josselson, and Lieblich). In his eulogy to England, John of Gaunt, in Shakespeare's *Richard II*, encapsulates the spirit of exaltation in collective identity. "This happy breed of men, this little world, / This precious stone set in the silver sea . . . / This blessed plot, this earth, this realm,

this England” (2.1.45–46, 50). Land is a particularly potent symbol for collective identity, but religious and political traditions can inspire similar sentiments, coalescing not around a geographical location but around symbols like the cross, the flag, the Roman Eagle, or the hammer and sickle. Elevated sentiment about corporate life has a complement in satire that pricks facile grandeur or casts doubt on the legitimacy of authority. Few works celebrating the hammer and sickle have entered the canon of world literature. George Orwell’s *1984* is already part of our common cultural heritage.<sup>6</sup>

### **Aliens and Enemies**

Once humans had become the dominant predators within their environments, the greatest threat to any group consisted in other human groups. Conflict between groups has been a main selective force driving the evolution of cooperation within groups (Eibl-Eibesfeldt; Flinn, Geary, and Ward; Potts and Hayden; Puurtinen and Mappes; Thayer; and Turchin). War has been a constant theme in literature, from Homer and Virgil through the history plays of Shakespeare to modern novels such as *War and Peace*, *The Red Badge of Courage*, and *Catch-22*. Science fiction projecting possible future scenarios circles obsessively around the theme of hostile encounters with aliens, as in, for instance, H. G. Wells’s *War of the Worlds*, Robert Heinlein’s *Starship Troopers*, and Joe Haldeman’s *The Forever War*.

Because male coalitional violence has been so powerful and pervasive a force in human evolution, humans are predisposed toward making ingroup-outgroup distinctions, restricting ideas of fair play to the in-group, and dehumanizing alien groups (Baumeister; Grossman; Kurzban and Neuberg; Pinker, *Better Angels*; and Smith). That kind of psychology is at work in propaganda that represents the enemy as an inhuman monster. It is also at work in fantasy literature that structures its action around an epic clash between forces of good and evil, as in, for instance, *The Lord of the Rings*, C. S. Lewis’ Narnia series, *Star Wars*, and the Harry Potter series. Other depictions of war adopt a more detached perspective. The Greeks and Trojans in the *Iliad* are caught up equally in the grim dynamics of a warrior ethos geared toward raiding alien peoples (Gottschall, *Rape of Troy*). The French and Russian armies in *War and Peace* are like waves or winds, mindless natural forces propelled into violent movement by mysterious disturbances elsewhere within nature. Naturalistic depictions of war such as Ambrose Bierce’s stories of the American Civil War or Norman Mailer’s *The Naked and the Dead* strip warfare of all sentiment and idealism, reducing it to the grisly physical reality of mutual butchery. Psychologically complex war stories such as Erich Maria Remarque’s *All Quiet on the Western Front* depict the blend of naïve patriotism, heroic impulse,

camaraderie, and enslavement to mass social movements that motivate soldiers. They also evoke the intense and ambivalent blend of emotions that enter into the soldier's experience of war: exaltation and terror, love of his companions, grief, rage, resentment, self-pity, and even guilt.

### **The Life of the Mind**

Human beings cannot not envision their own lives as imaginative structures. They have self-images that locate them in relation to their families, their friends and enemies, and the larger social and cultural order of which they are a part. They envision their lives as a developing narrative sequence in which they are the primary agents or victims. When young, they look forward, adopting goals and self-images that correspond to those goals. They grow into their occupations and relationships over time, adjusting their self-images to correspond with changing circumstances. As they age, they progressively look back, envisioning their present lives as a consequence or outcome of previous events. In fashioning images of themselves and the world they inhabit, individuals adopt roles and narrative structures that prevail within their own cultures, but those roles and plot lines display strong cross-cultural similarities: mother, father, child; warrior, laborer, priest, ruler; privileged elite, criminal, neighbor, enemy; heroic victor, tragic victim, loyal servitor. We can understand the inner lives, including the self-images, of people from all cultures.

Everyone shares in the life of the mind. Everyone participates in the collective consciousness of his or her culture, and everyone fashions some sense of his or her identity in relation to that culture and to the natural world. In common usage, though, the phrase "life of the mind" refers to something more specific: to occupations that involve consuming and producing works of imagination or intellect. At some level, every person sings or draws, tells stories, or offers explanations. In the division of labor that characterizes complex societies, only a few people specialize in producing music, painting, or sculpture, writing plays or novels, performing scientific experiments, or writing works of scholarship and philosophy.

Intellectual passions are less common than erotic and social passions, and less susceptible to dramatic depiction. Scientists, artists, and scholars are more often the subjects of biography and criticism than of fictional narratives. Nonetheless, they do figure in literature. George Eliot's *Middlemarch* depicts the scientific passion of a young medical researcher and the despairing failure of an aging scholar. Sinclair Lewis' *Arrowsmith* focuses on a passion for medical research. Wordsworth, Yeats, and Joyce all depict themselves as the heroes of their own artistic quests. Virginia Woolf's *To the Lighthouse* achieves resolution in the successful completion of a painting. Thomas Mann's *Magic Mountain* and Hermann Hesse's *Glass Bead*

*Game* take the joy of intellectual adventure as their main themes. Mann's *Faustus* fictionalizes the life of the composer Schoenberg, and W. Somerset Maugham's *The Moon and the Sixpence* fictionalizes the life of the painter Gauguin.

Fiction that takes the artist, scientist, or philosopher as hero is a special class. Virtually all fiction, though, has characters who care not only about achieving their goals — love or money, friendship or survival — but also about creating their own autobiographical narratives, deriving meaning from events, and affirming or imposing their own vision of the world. Every author creates an imagined world that bears the impress of his or her own mind. Every imagined world is an affirmation of an identity — replete with attitudes, values, needs, compulsions, emotional tones, characteristic themes and preoccupations, imaginative forms, and aesthetic qualities. If our goal as literary scholars is to capture meaning, and not merely to summarize plots, we need always to take account of the minds in a fictional work, and of the mind that created it.

### **Universal Themes and Individual Perspectives**

There is no one universal way of organizing the cosmos in religion or philosophy, and there is no one universal way, in fiction, of envisioning life and death, growing up, mating, family, social life, war, or the life of the mind. We share elemental passions like fear of death and the need for love and friendship, but the forms of such passions can be radically modified by larger cultural images and by individual perspectives influenced by temperament and circumstance. The large themes delineated here are universals not because everyone experiences them in exactly the same way but because they are main elements in the species-typical form of human life. The human life cycle is the source of human universals and is itself a universal, but individuality, too, is universal. We all know intimately in our own experience what it is like to become an individual person, and we understand that other people have that same sense of being individual people. Fiction helps educate us in understanding both our common humanity and our individuality.

### **Where to Next?**

Evolutionary literary scholars need to work toward a comprehensive synthesis in our models of a universal human nature, individual identity, and culture — with all three models grounded in evolutionary biology. Human universals are those features of culture so deeply rooted in the basic logic of human life history that they appear in all known cultures. Individual identity can be envisioned as the particular arrangement of the components of personality developing over time within a specific set of environmental conditions, including cultural conditions. Culture can be

envisioned as the system within which a given population organizes the elements of human nature into a functional social whole, imposing behavioral norms and providing collective meta-narratives through religions, ideologies, philosophies, artistic and literary traditions, and folk traditions encapsulated in superstitions, skills, homilies, jokes, games, rituals, ceremonies, icons, symbols, and other such forms of everyday imaginative life.

While working toward this comprehensive synthesis, evolutionary literary scholars need also to be developing skills in empirical research and collaborating with social scientists trained in empirical methods.<sup>7</sup> The methodological barriers separating science and the humanities are residual artifacts of a dying dualist metaphysic. The brain is the mind. Nothing happens in the mind that does not have its correlate and origin in neurological activity (Churchland; Damasio; Deacon; Frith; Linden; and Thagard). Literary scholars can use information from the biological and social sciences, but they also need to take the initiative in doing empirical research on problems that are particularly relevant to literary understanding. Since literature and the other arts are such important parts of human nature, and since scholars trained in the humanities are in a particularly good position to identify problems specific to the arts, empirically oriented literary scholars can and should produce empirical knowledge that is valuable also to the social sciences.

While helping to produce usable models grounded in empirical social science, evolutionary literary scholars must also continue to produce interpretive commentary on literary works.<sup>8</sup> The adequacy of models for literary meaning will be judged in good part on the degree to which they can provide a framework for literary commentary that other literary scholars admire and approve. Apart from conformity to established theoretical schools, admiration and approval depend on the incisiveness and sensitivity of interpretive criticism, on its ability to encompass previous criticism, assimilating the best of it and providing rational grounds for distinguishing that best from everything else, and on being able to produce new knowledge. For the past several decades, novelty in interpretive criticism has resulted largely from reduction to causal terms within theoretical systems heavily dependent on obsolete forms of sociology, psychology, and linguistics. We can do better.

### Notes

<sup>1</sup> For a sampling of work done in this field before 2009, see Boyd, Carroll, and Gottschall. For surveys of evolutionary literary study, see Carroll, *Reading Human Nature* 9–12, 31–33, and “Three Scenarios.” For critiques of efforts to reconcile Darwinist thinking with poststructuralism, see Carroll, *Evolution and Literary*

*Theory* 68–84, 449–65. For responses to critical commentaries on evolutionary thinking in the humanities, see Carroll, “Rejoinder” 308–411.

<sup>2</sup> For arguments on the adaptive function of literature and other arts, see Boyd; Carroll, *Reading Human Nature*; Dissanayake, *Art and Intimacy*; Tooby and Cosmides, “Does Beauty Build Adapted Minds?”; and E.O. Wilson, ch. 10.

<sup>3</sup> For an essay review of several books on evolution and religion, see Dissanayake, “In the Beginning.”

<sup>4</sup> On human life history theory, see Flinn, Geary, and Ward; Hill, Barton, and Hurtado; Kaplan et al.; Lummaa; and Muehlenbein and Flinn. On agency and communion, see Bakan; Digman; R. Hogan; McAdams, *Power*; McAdams et al., “Themes of Agency”; Paulhus and John; and Wiggins. On gene-culture coevolution, see Boehm; A. Buss; Carroll, “Human Life History”; Cochran and Harpending; Laland and Galef; MacDonald, “Five-Factor Model”; Schaller et al.; and Wrangham. On life-span psychology, see Fingerman et al.; Lamb and Freund; and McAdams and Olson. On narrative psychology and the life story, see Fivush and Haden; McAdams, *Power*; McAdams, *Stories*; and McAdams, Josselson, and Lieblich.

<sup>5</sup> On motives driven by emotions, see Ekman; Haidt; Plutchik; and Thagard. On readers experiencing emotions vicariously, see Bower and Morrow; Grabes; P. C. Hogan; Mar; Mar and Oatley; McEwan; Oatley, “Emotions” and *Such Stuff*; Özyürek and Trabasso; Storey; and Tan.

<sup>6</sup> In a special issue of *Critical Inquiry* devoted to “The Future of Criticism,” the cover design features the hammer and sickle — a curious instance of a disjunction between current academic literary attitudes and the attitudes exemplified not just in Orwell but in books such as Arthur Koestler’s *Darkness at Noon*, Varlam Shalamov’s *Kolyma Tales*, and Vasily Grossman’s *Everything Flows* and *Life and Fate*.

<sup>7</sup> For examples of empirical literary study from within an evolutionary framework, see Carroll, et al., *Graphing Jane Austen* and “Human Nature”; Gottschall, *New Humanities*; Gottschall and Nordlund; Johnson et al., “Hierarchy” and “Portrayal”; and Salmon and Symons.

<sup>8</sup> For a representative sampling of interpretive evolutionary criticism before 2009, see Boyd, Carroll, and Gottschall. More recent interpretive works include Clasen, “Primal Fear” and “Vampire Apocalypse”; Saunders; Vermeule; and Winkelmann. The first two volumes of the *Evolutionary Review: Art, Science, Culture* (2010 and 2011) also contain essays and reviews on literary subjects. My own most recent efforts in evolutionary literary criticism include “Intentional Meaning in *Hamlet*” and two forthcoming essays, “An Evolutionary Approach to *King Lear* and “A Reading of ‘Occurrence at Owl Creek Bridge.’” The essay on

“Owl Creek Bridge” will be part of a special evolutionary issue of *Style* dedicated to interpretive essays.

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