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LIFE HISTORY INTO STORY

Abstract. Biological perspectives can often deepen our understanding of human nature and raise new questions about human culture. Life history theory, focusing on the unique life contours in different species, and their biological reasons, prompts the question: does literature reflect the different phases of human life history equally, or in proportion to their role in our lives? And if not, why not? I suggest that it does not. The centrality of sexual love and violent death in literature reflects the two key factors in biological evolution, reproduction and survival. But these are familiar themes, and stories need to break through the film of familiarity. Nothing makes for more volatile changes, and therefore more arresting unpredictability, than conflicting motives brought into active opposition. Stories therefore tend to focus disproportionately on conflicts of wills around love (mate choice, mate retention) and death (social oppositions, transgressions and punishments). Shakespeare's *The Winter's Tale* offers an illuminating example. Cultural shifts can modify the tendency, and original writers, Shakespeare of course included, can seek new ways to encompass the whole of life—but the tendency will also persist.

Denis Dutton was for many years a member of the philosophy department of the University of Canterbury in Christchurch, New Zealand, where Karl Popper held his first academic appointment and wrote *The Open Society and Its Enemies*.¹ I am an alumnus of Canterbury (I

left as a student exactly a decade before Denis arrived as a teacher) and in the throes of researching a biography of Popper. I was invited by Denis to speak at Canterbury on evolution and art, and would have been invited by him again, had he lived, to speak on Popper. Just over two weeks before his death, he asked me for a Popper passage he wanted to cite for his imminent acceptance speech for the University of Canterbury Research Medal, awarded after the triumphant success of *The Art Instinct*.² He still had a twinkle in his voice when he told me that it wasn't normal to give an acceptance speech for this award, but he would have to be taken to the ceremony by ambulance, so they wouldn't dare to stop him talking. He was right.

Denis was proud to serve in Popper's former department—indeed, we are currently trying to implement his wish to have the building that houses the philosophy department named the Karl Popper Building--and he would appreciate the Popperian spirit of the conjecture I offer in this paper. Popper stressed that science or scholarship should offer bold conjectures ready to risk refutation, rather than wait for meek compilations of data to suggest hypotheses that would in any case still have to leap beyond the accumulated facts.³

Over the last four decades, the intense emphasis in literary studies on race, class, and gender has often meant underplaying the importance in life and literature of our different life-history stages. Two three-year-olds, two thirty-three-year-olds, or two sixty-three-year-olds, randomly selected from anywhere in the world, will be likely to have far more in common with each other than two people randomly selected from the same ethnicity, class, and/or gender but at markedly different life stages. Human life-history theory, a subfield within evolutionary biology for twenty years, offers another area in which evolutionary perspectives can enrich literary studies, not least by stressing, and explaining, how strange is the shape of a human life compared with that of even our closest animal relatives. It offers comprehensive

explanations for the changing capacities, purposes, emotions, and efforts within the shape of a human life.⁴

The question I want to pose is this: does literature reflect the different phases of human life history equally and evenly, or in proportion to their role in our lives? And if not, why not? And my answer: no, it does not. I claim this only on the basis of my reading and my evolutionary hunches, rather than on the basis of comprehensive cross-cultural data or rigorous statistical analysis—which would be welcome and revealing, and may well refute or complicate my conjecture, or add historical and geographical nuance.⁵

Parodying the titles of grand Russian novels like *War and Peace* and *Crime and Punishment*, Woody Allen made a film called *Love and Death* (1975), echoing critic Leslie Fiedler's much-ballyhooed *Love and Death in the American Novel* (1960).⁶ Love and death do dominate literature, both narrative and lyric: romance or romantic comedy on the one side, tragedy, thriller, or murder mystery on the other. "Love" in this formulation is not usually love of family, work, cause, or country, but romantic and sexual love. As David Lodge writes in his novel *The British Museum Is Falling Down*: "Literature is mostly about having sex and not much about having children; life's the other way round."⁷ We must qualify this, in the light of life-history theory: *human* life. Having offspring to care for, for so long, even after *they* become parents, is uniquely human, and even in most other mammals it is rare for any but the mother to provide or care for the offspring at all. And actual or threatened "death" in fictional narrative disproportionately focuses, not on its most common modern human forms, dying peacefully of old age or painfully of disease, but dying prematurely, especially at human hands, one's own or those of others, and usually involving some violation of social norms.

In one sense, we could see the centrality of love and death to literature as reflecting the two key terms in biological evolution, reproduction and survival. Evolution has naturally

built into us strong emotions of desire and fear, ultimately reflecting, respectively, reproductive benefits and survival costs. And because we are social animals, it has also built into us strong emotions associated with sexual rivalry, like jealousy and ambition, and emotions associated with warding off dangers to ourselves or to others close to us. Because we are ultrasocial animals,⁸ nature has also made humans particularly attuned to the emotions of others, so long as they are not at odds with our aims, and compulsively interested in monitoring the situations of others, especially when major differences to their life chances—and that means, above all, to their prospects of reproduction or survival—are at stake.

In another sense, we could see the centrality of love and death as reflecting not biology alone but bioculture as well: the need that stories have to hold audiences' attention.⁹ Even in ordinary life, mental processes and whole minds pay less attention to the routine and utterly expected and much more to the unexpected or only partially predictable. If literature is to be worth our diverting attention from the here and now, then it has to offer high stakes—and there are none higher than love and death—and elements of unpredictability.

Nothing makes for more volatile changes, and therefore more unpredictability, than conflicting motives brought into active opposition.¹⁰ Stories therefore tend to thrive on the conflict of wills, on the tension between cooperation and competition that lies at the heart of social life. In love, the initially (and sometimes subsequently) imperfect alignment of the wills of lovers during the testing phases of courtship, or their relation to others—rivals or disapproving parents or jealous partners—offers big-stakes drama. After potential couples sort out their differences or overcome their obstacles, reproduction tends to follow; but gestation and childbirth, for all their strain and danger, lack the elements of conflict and choice that most often drive stories. And in death, at least as it most often features in story, the conflict of wills, rather than mere natural processes, is again usually central, even in the case of suicide. Macbeth kills Duncan and is killed in turn by Macduff. Anna Karenina kills

herself because the alignment of her will and Vronsky's has slipped so badly, into constant near conflict.

Or take *The Winter's Tale* (1609–10). Although I now offer this essay as a tribute to Denis Dutton, it began with an invitation from Stephen Greenblatt to participate at Harvard University's Radcliffe Institute for Advanced Studies in a workshop on life history and story that would focus on *The Winter's Tale*. Denis, who had long championed evolutionary perspectives on the arts, would have been delighted with this additional sign that major players in the world of academic criticism recognize that we do after all need to consider not just culture but also human nature and the evolutionary pressures that have made that nature what it is.

In *The Winter's Tale*, unusually—but not coincidentally, surely, because it was begun the year after the birth of his first grandchild—Shakespeare represents almost all phases of human life history, from Perdita's *birth* to Mamillius's *childhood* to Perdita's and Florizel's *early adulthood*, to Hermione at her *reproductive peak*, to *postreproductivity* in Antigonus, Paulina, the Shepherd, and others, to *death*, or the appearance or threat of death, for four characters at different life stages.

Nevertheless, to maximize the intensity of his drama, Shakespeare focuses on two compact, self-contained phases of his story's action, even if they stand a generation, or two life stages, apart, separated by the sixteen-year gap between Perdita's birth and her sexual maturity. He focuses on *love*—sexual and romantic love, that is—in two forms: a negative one, sexual jealousy, the emotion behind what biologists call “mate-guarding,”¹¹ in the tragic head of the tragicomedy; and a positive one, the pairing off of the young prince and the young shepherdess-cum-princess, the biologists' “mate choice,” in the comic tail. And he focuses on *death*, brought about prematurely by the wintry tragedy of sexual jealousy: the deaths of Mamillius, apparently of Hermione, possibly of the baby Perdita, and of Antigonus,

thrust in the path of a hungry bear; and a kind of antidote to death in the spring-and-summer comedy section, as death gives way to revival and the prospect of new growth: Perdita and Florizel's union, Hermione's seeming resurrection, the restoration of her marriage with Leontes, and the comic curlicue of the pairing off of Camillo and Paulina.

Birth is a particularly risky time in the human life cycle, thanks to the uneasy trade-off between the large heads necessary for our intelligence and the small pelvises necessary for our obligate bipedality. Yet in *The Winter's Tale* Hermione is quickly delivered of Perdita, and Shakespeare focuses instead only on the conflict of adult wills, as Leontes repudiates the babe Hermione has borne and at first orders them both to be burned.

To shift from adult-adult conflict: parent-offspring conflict of the kind common in other animals, early in the offspring's life cycle, is natural also for humans, as natural as parent-offspring love. But although it can create dramatic "scenes" in the supermarket or perhaps the savannah, the disparity of power ensures it has rarely been the stuff of classic drama: it may take time and emotional energy in the short term, but it's rarely consequential in the long term. Unusually, Shakespeare shows a moment of the parent-young offspring discord rarely seen in older stories, when Hermione, focused on the child in her womb, asks for Mamillius to be taken from her. This is the classic conflict as explained by Robert Trivers: the child's interest is 100 percent in its own fate, its own genes; the mother's, equally, in *this* child, *and* the child in her womb, *and* in her future childbearing prospects.¹² But as soon as the discomfort of carrying her new child has passed, Hermione is ready to return to lavish her attention on her son. In most other species, parent-offspring conflict revolves around food. Here, aptly, Shakespeare shows it in terms of the unique importance that sharing attention has among humans. Mamillius forfeits his mother briefly, but he finds recompense in the wholehearted attention of his allomothers, until Hermione can return and put *her* attention completely at his disposal.¹³

This is a small incident, a mere hint of the reality of parent-offspring conflict that nevertheless also underwrites the reality of the love between mother and child, and demonstrates the precocious charm of the boy:¹⁴ so that we see, and not merely hear, that he is “a gentleman of the greatest promise” (1.1.35–36),¹⁵ and so that we sense the loss, the waste, and Hermione’s anguish when the shame of the charge against her causes the boy’s death.

Shakespeare is unusual here in showing this moment of parent and young child not perfectly aligned, but *not* unusual in focusing on a child about to die, especially because of a conflict of wills among an older generation: think of Euripides’s Medea, murdering her children, or Shakespeare’s Richard III and Macbeth orchestrating the killing of young children, or the ambiguous death of Prince Arthur in *King John*.

In humans, parent-offspring conflict over food and attention can be noisy but rarely consequential (although stepparent-child conflict, without a shared genetic interest, can often be dangerous in literature as in life).¹⁶ But parent-offspring conflict can occur in a biologically highly consequential way at a later stage in human life, and literature regularly tracks that more-precarious path: conflict between the mate choice of the young and their parents’ wish to restrict or direct their choice. Florizel and Perdita are in love, enchantingly and honorably, but King Polixenes is apoplectic at the thought that his son and heir should marry a mere shepherd’s daughter, whatever her natural grace and intelligence. Opposition between lovers and their parents is a stock feature of romance—in Shakespeare, whether comic, as in *A Midsummer Night’s Dream*, tragic, as in *Romeo and Juliet*, or tragicomic, as in *Cymbeline* or *The Winter’s Tale*, or in Austen or Wharton or Forster.

Since at least the invention of agriculture, human culture has allowed the accumulation of surplus resources and, therefore, the possibility of passing on resources and status. In other species, too, status makes a difference to reproductive success and to survival

rates early in life, and can even be passed on. But unlike in other species, human parents can withhold their resources from offspring who choose mates in ways that the parents deem unfavorable: from a competing group, as in *Romeo and Juliet*, or from a social position unlikely to maximize resources and status, and therefore to jeopardize offspring success in future generations, as in *The Winter's Tale*. This kind of parent-offspring conflict, between young adults and their parents, provides the kind of conflict of wills, and the serious life consequences, that has made it repeatedly a focus of fiction. The wrath of Polixenes at his son's intention to marry a shepherd's daughter drives the young couple away from Bohemia, following a common pattern of dispersal for those whose status prospects may be better away from home territory.

In the sunny comic phase of *The Winter's Tale*, Polixenes's wrath clouds the action only briefly, and we know Perdita will prove to be a princess, not a shepherdess, and a means of uniting the now-hostile kings of Bohemia and Sicilia. But in the wintry phase, those kings had been lifelong friends when a sudden access of jealousy prompted Leontes to think that he had been cuckolded by Polixenes, and that even his firstborn, Mamillius, might not be his own. If "mate choice" has offered one focus for story, either fulfilled and romantic or thwarted and tragic, then pairing with a mate already chosen by another—or, to see it from the other side, the failure of "mate-guarding"¹⁷—has repeatedly been the subject of tragedy, from Menelaus's failure to guard Helen, sparking the whole Trojan War, and Agamemnon's failure to guard Clytemnestra, while he sought to help Menelaus regain *his* wife, to the dramas of jealousy in Shakespeare, in *Othello*, *Cymbeline*, and *The Winter's Tale*, or the nineteenth-century classics of tragic marital infidelity like *Le Rouge et le Noir*, *Madame Bovary*, and *Anna Karenina*. The conflict of adult wills and the centrality in terms of life—and genetic—consequences of mate choice and reproduction explains why stories so often focus on the intergenerational tensions around choosing mates or the intragenerational

tensions around *securing* mates, in a species like ours, designed for the unusual combination of pair bonding and the temptations of our multimale, multifemale social system.

But conflicts of will are not only sexual. Our species thrives on cooperation but does not have the close genetic relatedness of eusocial species. We have strong conflicts of will, reflecting our conflicts of genetic interest, and in order to secure the substantial benefits of cooperation we need to punish those who transgress cooperative norms. As Robert Boyd and Peter Richerson note, cooperation (or almost anything) can evolve with punishment.¹⁸

Stories, in order to maximize their attention-earning power, tend to focus on the high stakes where transgression involves or deserves death: the war story, the revenge tragedy, the crime story. No wonder stories so often appeal to our desire for characters to get their comeuppance:¹⁹ Penelope's suitors; *Hamlet's* Claudius; Uriah Heep. In *The Winter's Tale*, unusually, it's the horror of the innocent Hermione's being *wrongly* punished that constitutes the tragedy. Only the fact established at the beginning of the countermovement that Leontes has already had *his* comeuppance, a self-imposed sentence of profound repentance, licenses the comic upswing of the play's second movement.

If deaths caused by conflicts of wills are disproportionately the stuff of story, death even from undramatic causes haunts human life and literature in other ways. The evolution of human intelligence, and especially our capacity to imagine from other perspectives, allows us to foresee our own deaths, our absence from the living world, the pain of bereavement our death will cause, and the likely fading of even any memory of our existence. A recent psychological subfield, terror management theory, a kind of empirical existential psychology, shows that even unrecognized reminders of death powerfully inflect our motives and drive us to earn esteem within the community whose values we share, so that our reputation, at least, can outlast physical death.²⁰

In other words, death, simply the last life stage for other animals, affects *us* throughout life. Leontes's suspicion that all regard him as a cuckold, that he has lost face, amplifies the anger driving him to punish Hermione and Polixenes. Then recognition that his drive to punish was unfounded, that he has caused the death of his innocent wife, makes him feel he has lost *all* esteem, and so has entered a kind of living social death. The depth and constancy of his repentance earn him a new esteem, but the pain of his regret and his bereavement offers him little comfort until Hermione returns to life.

Hermione's return to life replies to our troubled questions about death in multiple ways. It embodies the promise of renewal in the next generation, in Perdita in her mother's arms, and, looking forward to yet another generation, in Florizel's; the promise of resurrection, of immortality, that many faiths have added as an eternal coda to the human life cycle; the promise of repentance, of spiritual rebirth and revival, even after deadly failings, in Leontes, and a restored reputation that will endure beyond him; and the promise of art as a kind of immortality, in the statue that comes to life, or in the immortality Shakespeare's sonnets or so many other artists and their audiences see art as offering.²¹

For most of the history of story, fiction, in its pursuit of audience attention, has tended to focus not on all phases of life but on those phases that offer the greatest consequences, those that lead to reproduction or survival, and those that offer the most local unpredictability, through conflicts of will, especially when they have love or death, or both, at stake.

That's a wide claim, but only a tendency, not an absolute or a universal. Culture can inflect the bias of stories in many ways. In Western culture the fascination with the growth of the imagination from Rousseau on ensured a new literary prominence to childhood, in Goethe, Wordsworth, and Chateaubriand, in the stories of children under duress in the Brontës and Dickens and after, in the autobiographical fictions of Tolstoy, Proust, Joyce, and

many more. The increasing freedoms of women writers over the last two centuries have allowed more literary space both for parent-offspring conflict in children's early years, and for the postreproductive years, although in both cases even writers like Alice Munro will still be likely to focus on the dramas of mate choice and mate guarding. And both the postromantic stress on the formation of young minds and the spread of early mass education have fostered the development of children's fiction focused on children's concerns.

Over the last century and a half, writers have also turned away from or even critiqued narrative's natural concentration on the dramatic. Tolstoy has always been recognized for focusing on incremental changes and almost imperceptible minutiae, rather than what seem to be decisive turning points of history or story.²² But his sense that every moment matters also led him to explore birth—Kitty's giving birth, and Anna's puerperal fever—with, as Nabokov comments, a depth of detail that we couldn't imagine in a Homer or a Cervantes,²³ and to explore death, like the death of Lyovin's brother, from illness and with no consequences for the story, no legacies or revelations, except for Lyovin's taking stock with new urgency of death as the end of all life. Chekhov learned from Tolstoy how to focus entirely on the undramatic, and his example taught other writers around the world.

Stories need not deal only with conflicts with others. The inward, reflective turn in thought after Montaigne, Locke, and Kant, and the appeal of new ways of representing internal conflict, could make high literary fiction, such as Woolf's, much less external. But even in more psychological fiction external conflicts persist. Where Tolstoy encompasses all phases of life partly by virtue of extending his story over years, Joyce in *Ulysses* moves further inward by shrinking his story to a single day. Yet he still seeks to encompass life within that scope, having Bloom attend the funeral of a Dublin acquaintance and a maternity hospital where a woman at last gives birth after three days of labor. And even this unconventional story selects a day when Bloom fails in mate guarding, where Molly makes

love with Blazes Boylan, even if Bloom, despite knowing as much, repudiates the rampaging reaction of an Odysseus or an Othello. Nabokov sought another way of trying to deal with the whole of a life, by explicitly repudiating drama and conflict as central to life and as necessary for story and seeking in his richest works for artistic ways to represent the individual pattern of a whole life, running though it must through the regular channels of childhood, pubescence, early adulthood, and later years.²⁴ Yet even he includes murders and suicides with a frequency not found in life.

I predict that stories will continue to focus more on the promise of love and the danger of death than evenly on all phases of the life stage, but the most ambitious writers will continue to search for ways of incorporating as much of life as they can, even in its less decisive phases—as Yasujiro Ozu in film has miraculously managed to find ways to include every phase of life from childhood to old age and death, and to show them all interacting.²⁵

Emily Perkins's recent novel *The Forrests* offers a telling example of the problems serious writers face.²⁶ Picked as a 2012 Man Booker Prize winner by the Hay Festival, which has a good record of predicting the prize, *The Forrests* did not even make the long list. One sympathetic and astute reviewer described its coverage of its heroine's life course thus:

The novel opens in the early '70s with a father filming his family, and it shares the jerky, fragmentary structure of a home movie. . . . Dorothy grows up, marries, has children, suffers losses, works, grows old, dies. . . . Chapters typically jump, without explanation, between different phases in the characters' lives. . . . Certain chapters recount turning points—deaths, celebrations, decisive meetings—while others focus on characters or events that lead nowhere much. The sense of caught-on-the-wing reality is strong: as

in life, what does and doesn't matter isn't immediately clear and only emerges over time. . . . Here, time is a series of disconnections.²⁷

But precisely because of those disconnections, because Perkins dares to challenge expectations by refusing to focus on a decisive love story or the decisive impact of death, or sustained conflicts of wills, many prize judges, reviewers, and readers have felt cheated in the narrative contract. Because Perkins chose to emphasize the texture of the moment and the texture of a life rather than love or death as biological be-alls and end-alls, even many sophisticated literary readers found *The Forrests* not the “story” they were expecting.

Genre writers make the most of our high alertness to the opportunities of love or the dangers of death, and even serious literary writers aiming to encompass the whole shape of a human life find it difficult to avoid structuring their stories around these nodal points. We know from our own experience that there is so much more to a life, and life-history theory now emphasizes how and why that should be. The best storytellers will continue to search for new ways to incorporate all the life they can, but they will still have to struggle against our natural sense that reproduction and survival shape our chances, and against, therefore, our deeply ingrained expectations of stories.

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¹ Karl R. Popper, *The Open Society and Its Enemies*, 2 vols. (London: Routledge, 1945).

² Denis Dutton, *The Art Instinct: Beauty, Pleasure, and Human Evolution* (New York: Bloomsbury Press, 2009).

³ Karl Popper, *Conjectures and Refutations: The Growth of Scientific Knowledge* (New York: Basic Books, 1962).

⁴ For a summary of human life-history theory research, see Michael Muehlenbein and Mark Flinn, “Patterns and Processes of Human Life History Evolution,” in *Mechanisms of Life History Evolution*, ed. Thomas Flatt and Andreas Heyland (Oxford: Oxford University Press, 2011), pp. 153–68. For arguments for the centrality of life-history theory to literary studies, see Joseph Carroll, *Literary Darwinism: Evolution, Human Nature, and Literature* (New York: Routledge, 2004) and *Reading Human Nature: Literary Darwinism in Theory and Practice* (Albany: State University of New York Press, 2011).

⁵ For arguments for the application of statistical methods to literary studies, see Willie Van Peer, Sonia Zyngier, and Frank Hakemulder, eds., *Scientific Methods for the Humanities* (Amsterdam: John Benjamins, 2012); and Jonathan Gottschall, *Literature, Science, and a New Humanities* (London: Palgrave, 2008). As examples, see Franco Moretti, *Graphs, Maps, Trees: Abstract Models for a Literary Theory* (London: Verso, 2005); and Joseph Carroll, Jonathan Gottschall, John A. Johnson, and Daniel J. Kruger, *Graphing Jane Austen: The Evolutionary Basis of Literary Meaning* (New York: Palgrave Macmillan, 2012).

⁶ Leslie Fiedler, *Love and Death in the American Novel* (New York: Criterion Books, 1960).

⁷ David Lodge, *The British Museum Is Falling Down* (1965; London: Vintage, 2011).

⁸ Robin Dunbar, *Grooming, Gossip and the Evolution of Language* (London: Faber, 1996).

⁹ For the centrality of attention in story, see Brian Boyd, *On the Origin of Stories: Evolution, Cognition, and Fiction* (Cambridge: Belknap Press of Harvard University Press, 2009).

¹⁰ For a compendious and forceful summary of the need to track volatile social information as driving the evolution of the human mind, see David C. Geary, *The Origin of Mind: Evolution of Brain, Cognition, and General Intelligence* (Washington, D.C.: American Psychological Association, 2005).

¹¹ For classic studies of human mating and jealousy in evolutionary terms, see David M. Buss, *The Evolution of Desire: Strategies of Human Mating* (New York: Basic Books, 1994) and *The Dangerous Passion: Why Jealousy Is as Necessary as Love and Sex* (New York, Free Press, 2000).

¹² Robert Trivers, “Parental Investment and Sexual Selection,” in *Sexual Selection and the Descent of Man: 1871–1971*, ed. Bernard G. Campbell (Chicago: Aldine, 1972): 136–79, and *Natural Selection and Social Theory: Selected Papers of Robert Trivers* (New York: Oxford University Press, 2002).

¹³ For an analysis of the singular and central role of alloparents, especially allomothers, in human life history and sociality, see Sarah Blaffer Hrdy, *Mothers and Others: The Evolutionary Origins of Mutual Understanding* (Cambridge: Belknap Press of Harvard University Press, 2009).

¹⁴ “The human infant is physically altricial, but mentally precocial” (Muehlenbein and Flinn, “Patterns and Processes,” p. 167), and the appeal of cognitive development to parents and alloparents may be as much an adaptive part of the human life course as

the appeal of neonates and neotenous physical features (Sarah Blaffer Hrdy, *Mother Nature: A History of Mothers, Infants, and Natural Selection* [New York: Pantheon, 1999]).

¹⁵ William Shakespeare, *The Oxford Shakespeare: The Complete Works*, ed. Stanley Wells, Gary Taylor, John Jowett, and William Montgomery, 2nd ed. (Oxford: Oxford University Press, 2005).

¹⁶ Martin Daly and Margo Wilson, *Homicide* (Hawthorne: Aldine de Gruyter, 1988) and *The Truth about Cinderella: A Darwinian View of Parental Love* (New Haven: Yale University Press, 1999).

¹⁷ See n. 11.

¹⁸ Robert Boyd and Peter Richerson, “Punishment Allows the Evolution of Cooperation (or Anything Else) in Sizable Groups,” *Ethology and Sociobiology* 13 (1992): 171–95.

¹⁹ See William Flesch, *Comeuppance: Costly Signaling, Altruistic Punishment, and Other Biological Components of Fiction* (Cambridge: Harvard University Press, 2007).

²⁰ For a retrospective overview, see Sheldon Solomon, Jeff Greenberg, and Tom Pyszczynski, “The Cultural Animal: Twenty Years of Terror Management Theory and Research,” in *Handbook of Experimental Existential Psychology*, ed. J. Greenberg, S. L. Koole, and T. Pyszczynski (New York: Guilford, 2004), pp. 13–34; for a recent meta-analysis of data, see Brian L. Burke, Andy Martens, and Erik H. Faucher, “Two Decades of Terror Management Theory: A Meta-Analysis of Mortality Salience Research,” *Personality and Social Psychology Review* 14 (2010): 155–95; for the compatibility of terror management theory (TMT) and evolutionary psychology, see Mark J. Landau, Sheldon Solomon, Tom Pyszczynski, and Jeff Greenberg, “On the

Compatibility of Terror Management Theory and Perspectives on Human Evolution,” *Evolutionary Psychology* 5 (2007): 476–519; for TMT and art, see Mark J. Landau, Daniel Sullivan, and Sheldon Solomon, “On Graves and Graven Images: A Terror Management Analysis of the Psychological Functions of Art,” *European Review of Social Psychology* 21 (2010): 114–54.

²¹ For a discussion of the promise of the immortality of art in Shakespeare’s sonnets in light of death and TMT, see Brian Boyd, *Why Lyrics Last: Evolution, Cognition, and Shakespeare’s Sonnets* (Cambridge: Harvard University Press, 2012).

²² He makes this explicit in *War and Peace* (1864–69). Gary Saul Morson has focused on this aspect of Tolstoy’s fiction in *Hidden in Plain View: Narrative and Creative Potentials in “War and Peace”* (Stanford: Stanford University Press, 1988), *Narrative and Freedom: The Shadows of Time* (New Haven: Yale University Press, 1996), and *Anna Karenina in Our Time: Seeing More Wisely* (New Haven: Yale University Press, 2007).

²³ Vladimir Nabokov, *Lectures on Literature*, ed. Fredson Bowers (New York: Harcourt Brace Jovanovich / Bruccoli Clark, 1981): 86–87.

²⁴ For Nabokov on this theme, see “The Tragedy of Tragedy,” in *The Man from the USSR and Other Plays*, trans. Dmitri Nabokov (London: Weidenfeld and Nicolson, 1984), p. 341; for an analysis of its place in his fiction, see Brian Boyd, *Stalking Nabokov: Selected Essays* (New York: Columbia University Press, 2011), pp. 172–75.

²⁵ *Tokyo Monogatari (Tokyo Story)*, 1953, is only the best known of many such films within the Ozu canon. For a rich analysis of Ozu, see David Bordwell, *Ozu and the Poetics of Cinema* (Princeton: Princeton University Press, 1988).

²⁶ Emily Perkins, *The Forrests* (London: Bloomsbury, 2012).

²⁷ Michelle de Kretser, “Out of Auckland,” *The Monthly* (July 2012), accessed 22 November 2013, <http://www.themonthly.com.au> .