

## Paleolithic Politics in British Novels of the Longer Nineteenth Century

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### Moving Past the Two Cultures

Scientists typically operate by formulating testable hypotheses and producing data to test the hypotheses. Students of literature, in contrast, typically proceed by way of argument and rhetoric. In their most scholarly guise, they aim at producing objective textual and historical information, but all such information must ultimately be interpreted within some larger order of ideas. During roughly the first two-thirds of the twentieth century, the most prominent theoretical systems taken from outside the humanities and used for literary study were Marxist social theory, Freudian and Jungian psychology, and structuralist linguistics. Even in their own fields, these systems were only quasi-scientific, more speculative than empirical, and in literary study, speculative ideas served chiefly as sources for imaginative stimulation. Most critics operated as eclectic free agents, spontaneously gleaning materials from every region of knowledge—from philosophy, the sciences, history, the arts, and especially literature itself. Although using selected bits of information from the sciences, students of literature commonly regarded their own kind of knowledge—imaginative, subjective, qualitative—as an autonomous order of discourse incommensurate with the quantitative reductions of

science. Over the past three decades or so, these older forms of literary criticism have been superseded by a new theoretical paradigm designated variously as poststructuralism or postmodernism. It incorporates psychoanalysis and Marxism in their Lacanian and Althusserian forms, but poststructuralists explicitly reject the idea that scientific methods secure the highest standard of epistemic validity. Instead, they include science itself within the rhetorical domain formerly set aside as the province of the humanities.

As literary culture has been moving steadily farther away from the canons of empirical inquiry, the sciences have been approaching ever closer to a commanding and detailed knowledge of the subjects most germane to literary culture: human motives, human feelings, and the operations of the human mind. Evolutionary psychology and affective neuroscience have been penetrating the inner sanctum of the “qualitative” and making it accessible to precise empirical knowledge. Since the early 1990s, a few literary scholars have been assimilating the insights of evolutionary social science and envisioning radical changes in the conceptual foundations of literary study. These “literary Darwinists” have produced numerous theoretical and interpretive essays. Until recently, though, most literary Darwinists have remained within the methodological boundaries of traditional humanistic scholarship. Their work has been speculative, discursive, and rhetorical. They have drawn on empirical research but have not, for the most part, adopted empirical methods. Instead, they have used Darwinian theory as a source of theoretical and interpretive concepts. In respect to method, then, their work is similar to that of old-fashioned Freudians and Marxists.

In the project we describe here, we aimed to move past the barrier that separates the methods of the humanities from the methods of the social sciences. Building on research in evolutionary social science, we aimed to (1) construct a model of human nature consisting of motives, emotions, features of personality, and preferences in marital partners; (2) use that model to analyze a specific body of literary texts and the responses of readers to those texts; and (3) produce data—information that could be quantified and used to test specific hypotheses about those texts.

### Project Design

We created an online questionnaire, listed about 2,000 characters from 201 canonical British novels of the nineteenth and early twentieth centuries, and asked respondents to select individual characters and answer questions about each character selected. We identified potential research participants by scanning lists of faculty in hundreds of English departments worldwide and selecting

specialists in nineteenth-century British literature, especially scholars of the novel. We also sent invitations to multiple Listservs dedicated to the discussion of Victorian literature or specific authors or groups of authors in our study. Judging from demographic information provided by the respondents, approximately 519 respondents completed a total of 1,470 protocols on 435 characters.

The questionnaire contains three sets of categories. One set consists of elements of personal identity: age, attractiveness, motives, criteria of mate selection, and personality. (The sex of the characters was a given.) The second set of categories consists of readers' emotional responses to characters. We listed ten possible emotional responses and asked the respondents to rate the intensity of their response on each of the ten emotions. The third set consists of four possible "agonistic" role assignments: (1) protagonists, (2) friends and associates of protagonists, (3) antagonists, and (4) friends and associates of antagonists. Dividing the four agonistic character sets into male and female sets produced a total of eight character sets. We conducted statistical tests to determine which scores on various categories differed significantly among the character sets. The patterned contrast between protagonists and antagonists is a contrast between desirable and undesirable traits in characters—a contrast we designate "agonistic structure." We also calculated degrees of correlation among the various categories of analysis—motives, criteria for selecting mates, personality factors, and the emotional responses of readers (for more technical statistical details on the project, see Johnson et al.).

#### TESTING A HYPOTHESIS

The questionnaire we used to collect data is couched in the common language and pitched at the level of common understanding, but it is also formulated within the framework of an evolutionary model of human nature. The questions we posed are thus situated at the point at which the evolutionary model converges with the common understanding. The questions register the common understanding, quantify it, and locate it within the context of empirical social science. Quantification enabled us to conduct an objective, formal analysis of the common understanding and to assess statistically the structural relations among its conceptual elements. One chief purpose of our study was simply to demonstrate that major features of literary meaning

can be effectively reduced to simple categories grounded in an evolutionary understanding of human nature.

Generating empirical knowledge in this way has an intrinsic value, but empirical findings clearly gain in value when they are brought to bear as evidence for specific hypotheses about important problems. Perhaps the most important problem in evolutionary literary study concerns the adaptive functions of literature and other arts—whether there are any adaptive functions and, if there are, what they might be. Our central hypothesis was that protagonists and their associates would form communities of cooperative endeavor and that antagonists would exemplify dominance behavior. If this hypothesis proved correct, the ethos reflected in the agonistic structure of the novels would replicate the egalitarian ethos of hunter-gatherers, who stigmatize and suppress status seeking in potentially dominant individuals (Boehm). If suppressing dominance in hunter-gatherers fulfills an adaptive social function, and if agonistic structure in the novels engages the same social dispositions that animate hunter-gatherers, our study would lend support to the hypothesis that this specific body of literary texts fulfills at least one adaptive social function.

*Getting Motivated* All species have a "life history," a species-typical pattern for birth, growth, reproduction, social relations (if the species is social), and death. For each species, the pattern of life history forms a reproductive cycle. In humans, that cycle centers on parents, children, and the social group. Successful parental care produces children capable, when grown, of forming adult pair bonds, becoming functioning members of a community, and caring for children of their own. "Human nature" is the set of species-typical characteristics that form adaptively functional parts of the human reproductive cycle.

For the purposes of this study, we reduced human life history to a set of twelve basic motives—that is, goal-oriented behaviors regulated by the reproductive cycle. For survival, we included two motives: survival itself (fending off immediate threats to life) and performing routine work to earn a living. We also asked questions about the importance of acquiring wealth, power, and prestige. We asked respondents to rate characters on how important acquiring a mate was to them in both the short term and the long term. In the context of these novels, short-term would mean flirtation or illicit sexual activity; long-term would mean seeking a marital partner. Taking account of "reproduction" in its wider significance of replicating genes that one shares with kin ("inclusive fitness"), we asked about the importance of helping offspring and other kin. For motives oriented to positive social relations beyond one's own kin, we included a question on "acquiring friends and making alliances" and another on "helping non-kin." And finally, to capture the uniquely

\*A copy of the questionnaire used in the study can be accessed at <http://www-personal.umich.edu/~kruger/carroll-survey.html>. The form is no longer active and will not be used to collect data.

human dispositions for acquiring culture, we included “seeking education or culture” and “building, creating, or discovering something.”

Factor analysis is a statistical process in which terms that correlate with one another are grouped together to form a smaller number of terms designated “factors.” When we submitted scores on the twelve separate motives to factor analysis, five main factors emerged: we refer to these as Social Dominance, Constructive Effort, Romance, Subsistence, and Nurture. Seeking wealth, power, and prestige all have strong positive loadings on Social Dominance, and helping non-kin has a moderate negative loading. (That is, helping non-kin correlates negatively with seeking wealth, power, and prestige.) Constructive Effort loads most strongly on the two cultural motives—“seeking education or culture” and “building, creating, or discovering something”—and has substantial loadings on two pro-social or affiliative motives: making friends and forging alliances, and helping non-kin. Romance is a mating motive, chiefly loading on short-term and long-term mating. Subsistence combines two motives: survival and performing routine tasks to earn a livelihood. Nurture loads most heavily on helping offspring or other kin, which correlates negatively with short-term mating. Helping non-kin also loads moderately on this factor, bringing affiliative kin-related behavior into association with generally affiliative social behavior.

Both male and female antagonists display a pronounced and exclusive emphasis on Social Dominance (figure 39.1). Male protagonists score higher than any other character set on Constructive Effort and Subsistence. Female protagonists score higher than any other character set on Romance, but their positive motives are fairly evenly balanced among Constructive Effort, Romance, and Nurture. In the novels in this study, female protagonists are largely restricted to the nubile age range. That restriction corresponds with a pronounced emphasis on Romance as a motive.

The opposition between dominance and affiliation in the novels is clearly linked with a robust and often replicated finding in psychological studies of motives and personality. Summarizing research into basic motives, David Buss observes that in cross-cultural studies, the two most important dimensions of interpersonal behavior are “power and love” (*Evolutionary Psychology* 21). Surveying the same field and citing still other antecedents, Delroy Paulhus and Oliver John observe that in debates about “the number of important human values,” there are two, above all, that are “never overlooked” (1039). They designate these values “agency and communion” and associate them with contrasting needs: the need for “power and status,” on the one side, and for “approval,” on the other (1045).

Paulhus and John link the contrasting needs for power and approval with contrasting forms of bias in self-perception. “Egoistic” bias attributes

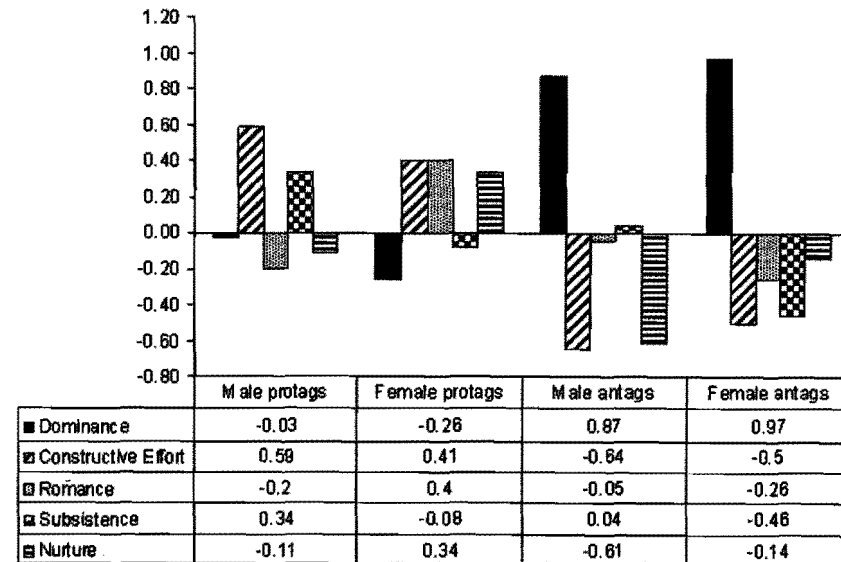


FIGURE 39.1 Motive factors in protagonists and antagonists.

exaggerated “prominence and status” to oneself, and “moralistic” bias gives an exaggerated picture of oneself as a “nice person” and “a good citizen” (1045, 1046). Adopting these terms, we can say decisively that the novels in this study, taken collectively, have a moralistic bias. In protagonists, striving for personal predominance is strongly subordinated to communitarian values. Protagonists and their friends typically form communities of affiliative and cooperative behavior, and antagonists are typically envisioned as a force of social domination that threatens the very principle of community.

Most of the novels included in this study are “classics.” One chief reason novels become classics is that they gain access to the deepest levels of human nature—not necessarily because they produce mimetically accurate representations of human nature, but because they evoke elemental human passions and deploy elemental forms of imaginative organization. The novels contain a vast fund of realistic social depiction and profound psychological analysis. In their larger imaginative structures, though, the novels evidently do not just represent human nature; they embody the impulses of human nature. Those impulses include a need to derogate dominance in others and to affirm one’s identity as a member of a social group. Our evidence strongly suggests that those needs provide the emotional and imaginative force that shapes agonistic structure in the novels.

The novels create a virtual imaginative world designed to give concentrated emotional force to the opposition between dominance and affiliation. This virtual imaginative world provides a medium in which readers participate in a shared social ethos. The social ethos shapes agonistic structure, and agonistic structure in turn feeds back into the social ethos—affirming it, reinforcing it, integrating it with the changing circumstances of material and social life, and illuminating it with the aesthetic, intellectual, and moral powers of individual artists

*Choosing a Partner* Most of the novels in this study are “love stories.” Plots usually include choosing a marital partner. Along with questions about motives, we asked questions about the criteria that characters use to select mates. Evolutionary psychologists have identified mating preferences that males and females share and those in which they differ (Buss, *Evolution*; Gangestad; Geary, *Male, Female*; Gottschall, “Greater Emphasis”; Kruger, Fisher, and Jobling; Schmitt; Symons, *Evolution*). Both males and females value kindness, intelligence, and reliability in mates. Males preferentially value physical attractiveness, and females preferentially value wealth, prestige, and power. These sex-specific preferences are rooted in the logic of reproduction. Physical attractiveness in females correlates with youth and health in a woman—hence with reproductive potential—and wealth, power, and prestige enable a male to provide for a mate and her offspring. We anticipated that scores for mate selection would correspond to the differences between males and females found in studies of mate selection in the real world. We also anticipated that protagonists would exhibit a stronger preference for intelligence, kindness, and reliability than would antagonists (figure 39.2).

In the results of the factor analyses for mate selection, the loadings divide with the sharpest possible clarity into three distinct factors: Extrinsic Attributes (a desire for wealth, power, and prestige in a mate), Intrinsic Qualities (a desire for kindness, reliability, and intelligence in a mate), and Physical Attractiveness (that one criterion by itself).

Female protagonists and antagonists show a stronger preference for Extrinsic Attributes than do male protagonists and antagonists, but female antagonists exaggerate the female tendency toward preferring Extrinsic Attributes. The emphasis that female antagonists give to Extrinsic Attributes parallels their single-minded pursuit of Social Dominance. Female protagonists display a more marked preference for Intrinsic Qualities than do male protagonists.

We did not anticipate, though, that male protagonists would be so strongly preoccupied with Physical Attractiveness relative to other qualities,

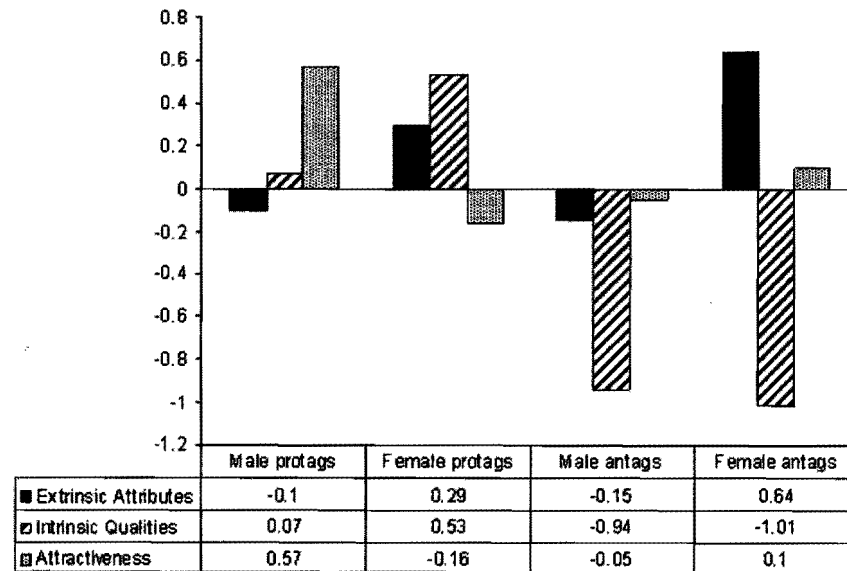


FIGURE 39.2 Criteria used by major characters for selecting marital partners.

nor did we foresee that male antagonists would be so relatively indifferent to Physical Attractiveness. The inference we draw from these findings is that the typically male desire for physical beauty in mates is part of the ethos of the novels. It is part of the charm and romance of the novels, part of the glamour. The relative indifference of male antagonists to Physical Attractiveness seems to reflect their general indifference to the quality of their personal relations.

If one were to look at only the motive factors, one might speculate that male antagonists correspond more closely to their gender norms than do female antagonists. Male antagonists could be conceived of as personified reductions to male dominance striving. The relative indifference of male antagonists to any differentiating features in mates might then look like an exaggeration of the male tendency toward interpersonal insensitivity. Thought of in this way, male antagonists would appear to be ultra-male, and female antagonists, in contrast, would seem to cross the gender divide. Their reduction to dominance striving would be symptomatic of a certain masculinization of motive and temperament. They would be, in an important sense, de-sexed. Plausible as this line of interpretation might seem, it does not bear up under the weight of the evidence about male antagonists' relative indifference to Physical Attractiveness in a mate. Like female antagonists' dominance striving, male antagonists' indifference to physical beauty

is a form of de-sexing. Dominance striving devoid of affiliative disposition constitutes a reduction to sex-neutral egoism. The essential character of male and female antagonists is thus not a sex- or gender-specific tendency toward masculinization, but a tendency toward sexual neutralization in the isolation of an ego disconnected from all social bonds.

*Developing a Personality* When we speak of “human nature,” we focus first of all on “human universals”—cognitive and behavioral features that everyone shares and that thus merge individuals into the common mass of humanity. We typically use personality, in contrast, to distinguish one person from another—for example, a friendly, careless extravert in contrast to a cold, conscientious introvert. The factors of personality can nonetheless themselves be conceived as stable, shared components of human nature. Each factor has a common substratum; individuals differ only in degree on each factor.

Current research into personality commonly distinguishes five broad factors (Buss, “Social Adaptation”; Costa and McCrae; MacDonald; Smits and Boeck). Extraversion signals assertive, exuberant activity in the social world, versus a tendency to be quiet, withdrawn, and disengaged. Agreeableness defines a pleasant, friendly disposition and a tendency to cooperate and compromise, versus a tendency to be self-centered and inconsiderate. Conscientiousness refers to an inclination toward purposeful planning, organization, persistence, and reliability, versus impulsivity, aimlessness, laziness, and undependability. Emotional Stability reflects a temperament that is calm and relatively free from negative feelings, versus a temperament marked by extreme emotional reactivity and persistent anxiety, anger, or depression. Openness to Experience describes a dimension of personality that distinguishes open (imaginative, intellectual, creative, complex) people from closed (down-to-earth, uncouth, conventional, simple) people.

We predicted (1) that protagonists and their associates would on average score higher than antagonists and their associates on the personality factor Agreeableness, a measure of warmth and affiliation, and (2) that protagonists would score higher than antagonists and minor characters on the personality factor Openness to Experience, a measure of intellectual vivacity.

Female protagonists score higher than any other set on Agreeableness, Conscientiousness, and Openness, and they score in the positive range on Stability (figure 39.3). Male protagonists look like muted or moderated versions of female protagonists. The personality profiles of male and female antagonists are very similar to each other—both somewhat extraverted, highly disagreeable, and low in Stability and Openness. Female antagonists are somewhat more conscientious than male antagonists.

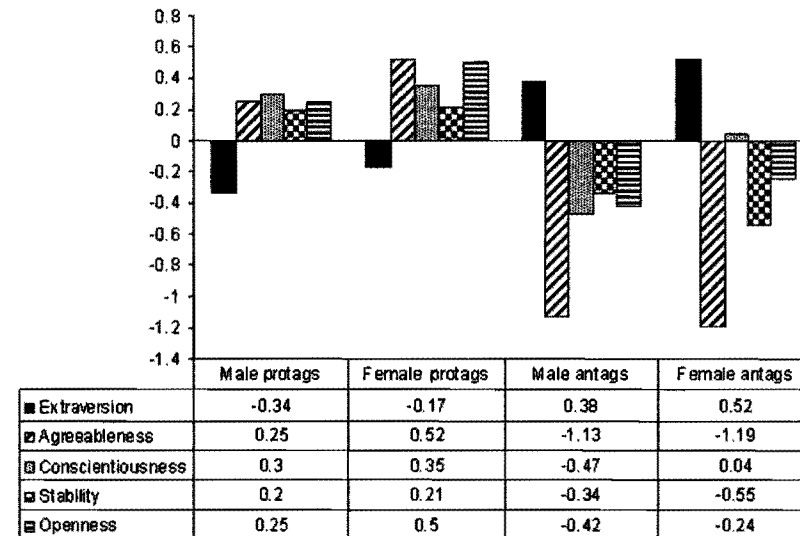


FIGURE 39.3 Personality factors in protagonists and antagonists.

In the value structures implicit in the organization of characters in agonistic structure, Introversion, Agreeableness, Conscientiousness, Stability, and Openness are all positively valenced features. Agreeableness is the most strongly marked component of this normative array. Being agreeable is a trait that distinguishes good characters generally, but being conscientious and open to experience are more specifically characteristic of protagonists. With respect to personality, female protagonists are clearly the normative character set.

The value system embodied in agonistic structure links a volatile temperament with relatively weak self-discipline and a bad temper. Openness would be associated with the desire to seek education or culture and to build, discover, or create, and that whole complex of cognitive features is one of the two basic elements in Constructive Effort. As one would anticipate, then, Openness correlates moderately with Constructive Effort ( $r = 0.41$ ). The total profile for protagonists is that of quiet, steady people—curious and alert but not aggressive, friendly but not particularly outgoing. The antagonists, in contrast, are assertive, volatile, and unreliable, but also intellectually or imaginatively dull and conventional. The main antagonistic motive factor is Social Dominance, which correlates strongly and negatively with Agreeableness ( $r = -0.54$ ). Antagonists score in the extreme range on both Agreeableness (negatively) and Social Dominance (positively).

Repudiating a conventional distinction between "the novel of character" and "the novel of incident," Henry James poses a set of rhetorical questions: "What is character but the determination of incident? What is incident but the illustration of character? What is either a picture or a novel that is not of character? What else do we seek in it and find in it?" (55). In *The Mayor of Casterbridge*, more succinctly but in an equally emphatic way, Thomas Hardy (following Novalis) declares, "Character is Fate" (chap. 17). In what, then, does character consist? Strip away the now standard triad of race, class, and sex, and what is left? More than has been taken away. Beneath ethnic and class identity, beneath even the two basic human morphs of male and female, there are elemental features of human nature, the bedrock of personal identity. The composition of that bedrock can be assessed with the five factors of personality: the biologically elemental interaction between an organism and its environment; the capacity of all higher organisms to feel pain and react against it; the disposition of all mammals for affiliative bonding; and the specifically human capacities for organizing behavior over time, carrying out plans, and generating imaginative culture.

*Becoming Emotionally Involved* One of our chief working hypotheses was that when readers respond to characters in novels, they respond in much the same way, emotionally, as they do to people in everyday life. They like or dislike them, admire or despise them, fear them, feel sorry for them, or are amused by them. In writing fabricated accounts of human behavior, novelists select and organize their material in order to generate such responses, and readers willingly cooperate with this purpose. They participate vicariously in the experiences depicted and form personal opinions about the qualities of the characters. Authors and readers thus collaborate in producing a simulated experience of emotionally responsive evaluative judgment.

In building emotional responses into our research design, we sought to identify emotions that are universal and that are thus likely to be grounded in evolved features of human psychology. Emotions at that conceptual level would be on the same level as the basic motives extrapolated from human life history. Over the past forty years or so, adaptationist psychologists have made substantial progress in identifying basic emotions. Much of this work was pioneered by Paul Ekman. By isolating emotions that can be universally or almost universally recognized from facial expressions, Ekman and other researchers ultimately produced a core set of seven "basic" emotions: anger, fear, disgust, contempt, joy, sadness, and surprise. Different researchers sometimes use slightly different terms, register different degrees of intensity in emotions (for instance, anxiety, fear, terror, panic),

organize the emotions in various patterns and combinations, or link them with self-awareness or social awareness to produce complex social emotions such as embarrassment, shame, guilt, and envy (M. Lewis; Panksepp 143). The core group of seven emotions nonetheless has widespread support as a usable taxonomy of basic emotions (Lewis and Haviland-Jones; Plutchik, *Emotions*).

Our questionnaire includes a list of ten emotional responses. To produce this list, we started with seven basic emotions defined by Ekman and adapted them for registering graded responses specifically to persons or characters. We used four of the seven terms unaltered: "anger," "disgust," "contempt," and "sadness." We also retained "fear" but divided it into two distinct items: fear *of* a character, and fear *for* a character. Ekman observes that the positive emotions have been less carefully observed and differentiated than the emotions that reflect emotional upset. The simple terms "joy" and "enjoyment" cover a wide spectrum of possible pleasurable or positive emotions, ranging from "amusement" to "schadenfreude" to "bliss" (Ekman, *Emotions* 191). In adapting the term "joy" or "enjoyment," we sought to register some qualitative differences and also devise terms appropriate to responses to a person. We chose three: "liking," "admiration," and "amusement." "Liking" is an emotionally positive response to a person, but it does not contain a specific element of approval or disapproval. "Admiration" combines positive emotionality with a measure of approval or respect (Darwin, *Expression* 289; Dutton 190-92; Plutchik, "Nature" 349). By itself, "surprise," like "joy," seems more appropriate as a descriptor for a response to a situation than to a person. Consequently, we did not use the word "surprise" by itself. Instead, along with "admiration," we used "amusement," which combines the idea of surprise with that of positively valenced emotionality. "Amusement" extends emotional response to take in responses to comedy. (Fear and sadness take in responses to tragedy; and anger and contempt, mingled with amusement, take in responses to satire.)

We included one further term in our list of possible emotional responses: "indifference." A number of researchers have included a term such as "interest" to indicate general attentiveness, the otherwise undifferentiated sense that something matters, that it is important and worthy of attention. "Indifference" can be regarded as the inverse of "interest." "Indifference" provides a qualitatively neutral measure of emotional reaction to a character.

We predicted (1) that protagonists would receive high scores on the positive emotional responses "liking" and "admiration"; (2) that antagonists would receive high scores on the negative emotional responses "anger," "disgust," "contempt," and "fear *of*" the character; (3) that protagonists would score higher than antagonists on "sadness" and "fear *for*" the character; and

(4) that major characters (protagonists and antagonists) would score lower than minor characters on "indifference."

Factor analysis produced three clearly defined emotional response factors: (1) Dislike, which includes anger, disgust, contempt, and fear of the character as well as negative correlations with liking and admiration; (2) Sorrow, which includes sadness and fear for the character as well as a negative correlation with amusement; and (3) Interest, which consists chiefly of a negative correlation with indifference.

Male and female protagonists score relatively low on Dislike and relatively high on Sorrow (figure 39.4). Male and female antagonists score very high on Dislike—higher than any other set—low on Sorrow, and somewhat above average on Interest. Female protagonists score high on Interest, whereas male protagonists, contrary to our expectations, score below average on Interest. They score lower even than good minor males, although not lower than the other minor characters.

Once one has isolated the components of agonistic structure and deployed a model of reading that includes basic emotions as a register of evaluatively polarized response, most of the scores on emotional response factors are predictable. There is, however, one surprising and seemingly anomalous finding that emerges from the scores on emotional responses—the relatively low score received by male protagonists on Interest. It ran contrary to our

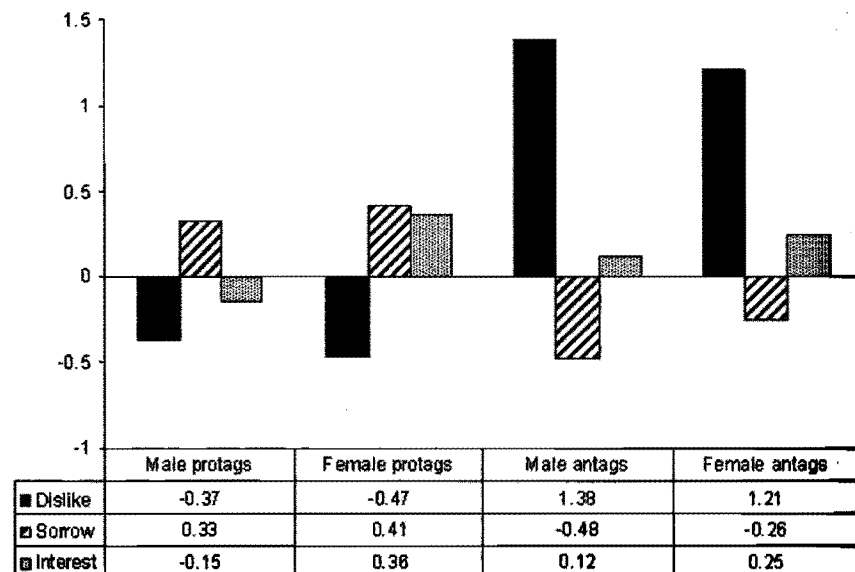


FIGURE 39.4 Emotional response factors for protagonists and antagonists.

expectation that protagonists, both male and female, would score lower on indifference than would any other character set. We think this result can be explained by the way agonistic polarization feeds into the psychology of cooperation. Male protagonists in our data set are relatively moderate, mild characters. They are introverted and agreeable, and they do not seek to dominate others socially. They are pleasant and conscientious, and they are also curious and alert. They are attractive characters, but they are not very assertive or aggressive. They excite very little Dislike at least in part because they do not excite much competitive antagonism. They are not intent on acquiring wealth and power, and they are thoroughly domesticated within the forms of conventional propriety. They serve admirably to exemplify normative values of cooperative behavior, but in serving this function they seem to be diminished in some vital component of fascination, some element of charisma. They lack power, and they thus also seem to lack some quality that excites intensity of interest in emotional response.

In the novels in this study, the aggressive pursuit of Social Dominance—wealth, prestige, and power—is morally demonized. The desire for Social Dominance is overwhelmingly the single most distinctive motivational trait of both male and female antagonists. That motivational trait correlates with low scores on the affiliative personality factor Agreeableness and high scores on the emotional response factor Dislike. Despite this strongly valenced cluster of correlations, male and female antagonists score higher on Interest (lower on indifference) than do male protagonists. Readers dislike antagonists, but antagonists are sometimes more exciting than protagonists, especially male protagonists.

### What Do We Make of It All?

Agonistic structure in these novels displays a systematic contrast between desirable and undesirable traits in characters. Protagonists exemplify traits that evoke admiration and liking in readers, and antagonists exemplify traits that evoke anger, fear, disgust, and contempt. Antagonists virtually personify Social Dominance—the self-interested pursuit of wealth, prestige, and power. In these novels, those ambitions are sharply segregated from prosocial and culturally acquisitive dispositions. Antagonists are not only selfish and unfriendly but also undisciplined, emotionally unstable, and intellectually dull. Protagonists, in contrast, display motive dispositions and personality traits that exemplify strong personal development and healthy social adjustment. They are agreeable, conscientious, emotionally stable, and open to experience. Protagonists clearly represent the apex of the positive values

implicit in agonistic structure. Both male and female protagonists score high on the motive factor Constructive Effort, which combines prosocial and culturally acquisitive dispositions. Their introversion, in this context, seems part of their mildness. The extraversion of antagonists, in contrast, seen in the context of their other scores, seems to indicate aggressive self-assertion.

In the past thirty years or so, more criticism on the novel has been devoted to the issue of gender identity than to any other topic. The data in our study indicate that gender can be invested with a significance out of proportion to its true place in the structure of interpersonal relations in novels and that it can be conceived in agonistically polarized ways out of keeping with the forms of social affiliation depicted in novels. In this data set, differences between males and females are less prominent than differences between protagonists and antagonists. If polarized emotional responses were absent from the novels, or if those polarized responses co-varied with differences between males and females, the differences between male and female characters would have to be conceived agonistically, as a conflict (as it is, for instance, in Gilbert and Gubar). The differences between male and female characters in motives and personality could be conceived as competing value structures. From a Marxist perspective, that competition would be interpreted as essentially political and economic in character (as it is, for instance, in Armstrong). From the deeper Darwinian perspective, it would ultimately be attributed to competing reproductive interests. The subordination of sex to agonistic role assignment, though, suggests that in these novels conflict between the sexes is subordinated to their shared and complementary interests. In the agonistic structure of plot and theme, male and female protagonists are allies. They cooperate in resisting the predatory threats of antagonists, and they join together to exemplify the values that elicit readers' admiration and sympathy. Both male and female antagonists are massively preoccupied with material gain and social rank. That preoccupation stands in stark contrast to the more balanced and developed world of the protagonists—a world that includes sexual interest, romance, the care of family, friends, and the life of the mind. By isolating and stigmatizing dominance behavior, the novels affirm the shared values that bind its members into a community.

In *Hierarchy in the Forest: The Evolution of Egalitarian Behavior*, Christopher Boehm offers a cogent explanation for the way interacting impulses of dominance and affiliation have shaped the evolution of human political behavior. In an earlier phase of evolutionary social science, sociobiological theorists repudiated the idea of "altruistic" behavior and restricted prosocial dispositions to nepotism and to the exchange of reciprocal benefits. In contrast, Boehm argues that at some point in their evolutionary history—at the

latest, 100,000 years ago—humans developed a special capacity, dependent on their symbolic and cultural capabilities, for enforcing altruistic or group-oriented norms. By enforcing these norms, humans succeeded in controlling "free riders" or "cheaters," and they thus made it possible for genuinely altruistic genes to survive within a social group. Such altruistic dispositions, enforced by punishing defectors, would have enabled some social groups to compete more successfully against other groups and would thus have made "group selection" or "multilevel selection" an effective force in subsequent human evolution. The selection for altruistic dispositions—and dispositions for enforcing altruistic cultural norms—would have involved a process of gene-culture co-evolution that would snowball in its effect of altering human nature itself (Darwin, *Descent*; Richerson and Boyd; Wade, *Before*; Wilson, *Evolution*).

Taking into account not just the representation of characters but the emotional responses of readers, we can identify agonistic structure as a simulated experience of emotionally responsive social interaction. That experience has a clearly defined moral dimension. Agonistic structure precisely mirrors the kind of egalitarian social dynamic documented by Boehm in hunter-gatherers—our closest contemporary proxy to ancestral humans. As Boehm and others have argued, the dispositions that produce an egalitarian social dynamic are deeply embedded in the evolved and adapted character of human nature. Humans have an innate desire for power and an innate dislike of being dominated. Egalitarianism as a political strategy arises as a compromise between the desire to dominate and the dislike of being dominated. By pooling their power in order to exercise collective social coercion, individuals in groups can repress dominance behavior in other individuals. The result is autonomy for individuals. No one gets all the power he or she would like, but then, no one has to accept submission to other dominant individuals. Boehm describes in detail the pervasive collective tactics for repressing dominance within social groups organized at the levels of bands and tribes (see also Salter 63–70).

An egalitarian social dynamic is the most important basic structural feature that distinguishes the social organization of humans from that of chimpanzees. In chimpanzee society, social organization is regulated exclusively by dominance—that is, power. In human society, social organization is regulated by interactions between impulses of dominance and impulses for suppressing dominance. State societies with elaborate systems of hierarchy emerged only very recently in the evolutionary past, about 10,000 years ago, after the agricultural revolution made possible concentration of resources and, therefore, power. Before the advent of despotism, the egalitarian disposition for suppressing dominance had, at a minimum, 100,000 years in



which to become entrenched in human nature—more than sufficient time for significant adaptive change to take place (Wade, *Before*). In highly stratified societies, dominance assumes a new ascendancy, but no human society dispenses with the need for communitarian association. It seems likely, then, that agonistic structure in fictional narratives emerged in tandem with specifically human adaptations for cooperation and specifically human adaptations for creating imaginative constructs that embody the ethos of the tribe.

In preliterate cultures, social dynamics take place in face-to-face interactions, through the perpetual hubbub of dialogue, gossip, and the telling of tales. That kind of interaction is necessarily restricted to relatively small populations, to bands or tribes. In literate cultures, in contrast, social dynamics can take place vicariously through the shared imaginative experience of literature. In responding to literary characters, readers join the community of all readers responding in similar ways to the social dynamics depicted in novels. Authors and readers thus collaborate in producing a virtual imaginative world. In this world, readers affirm and reinforce cooperative dispositions on a large social scale. Agonistic structure thus functions as a cultural technology that extends an adaptive social process across social groups larger than the band or tribe. It is a medium both for gene–culture co-evolution and for natural selection at the level of social groups. It is, in other words, an adaptively functional feature of human nature.