

## **Rape and Evolution: A Reply to Our Critics**

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Rape generates tremendous misery for its victims and for their friends and families throughout the world. Greater knowledge of rape's causes could reduce rape's incidence. Evolutionary theory is an indispensable tool for guiding productive research on the causes of human behavior. Thus, vigorous study of the evolutionary biology of rape should be a priority in any truly humane society.

For the last quarter of a century, attempts to prevent rape have been guided by a widespread social-science explanation that holds that rape's causation has little, if anything, to do with sexual desire. Instead, it holds that rape is motivated by men's attempt to dominate and control women. It also contends that rape occurs only when males are taught (by their culture) to rape. In *A Natural History of Rape: Biological Bases of Sexual Coercion* (MIT Press, 2000), we scientifically criticize this social-constructionist view of rape. We argue that, although a given rapist may have numerous motivations for committing a rape, social constructionists have not seriously and honestly considered the vast evidence showing that rapists are sexually motivated. Although we agree that culture (that is, social learning, or learning resulting from experience with other members of the same species) plays a significant role in causing rape, we challenge the notion that rape occurs only when males are taught by their

culture to rape. The ethnographic record of anthropology indicates that rape occurs in all known cultures. It also occurs in a wide variety of other species in which there is certainly no cultural encouragement of such behavior. We emphasize in our book that the best way to obtain a better understanding of the role of culture in human rape is to approach the subject from the only generally accepted scientific explanation of the behavior of living things: evolution by natural selection. We then show that rape is definitely caused by men's evolved sexual psychology, and we discuss why this knowledge may be important to society's efforts to reduce rape.

Why did we choose to challenge existing dogma and examine the evolutionary bases of rape, knowing full well the criticisms that would be rained down upon us? The answer is that fictional accounts about the causes of behavior hinder attempts to change behavior, and we want very badly to eradicate rape from human existence. The social constructionists have fought the message of our book with continued fiction, and we want to refocus the discussion onto the serious issues by correcting the major misunderstandings found in media accounts and reviews of the book.

In view of the great amount of media attention *A Natural History of Rape* has received, we think the best way to summarize the book and respond to its many critics is to contrast what you may have heard about it with what it actually says. It is disheartening that certain individuals who talked to the media about the book, and certain reviewers, so profoundly misrepresented its basic contents, thereby promoting

confusion about the connections between rape, biology, evolution, morality, and determinism. We will start with some of the common misrepresentations made in the media coverage of the book, then examine some of the equally inaccurate portrayals of our book in supposedly scholarly reviews.

### **Media Accounts**

You have probably heard in the media that our book says that rape is good because it is a part of the natural, biological world. If so, you may be surprised to find that we state the following on pages 5 and 6:

There is no connection here between what is biological or naturally selected and what is morally right or wrong. To assume a connection is to commit what is called the *naturalistic fallacy*.

The naturalistic fallacy erroneously sees the facts of how nature is organized as moral truths. Modern thinkers emphasize that nature is as nature is period, and that right and wrong in the moral sense derive from humans' pursuing their interests, not from the facts of nature.

You may have also heard that our book excuses rapists for their hideous acts. You will recognize this as a version of the naturalistic fallacy. What we really say (p. 154) is this:

Contrary to the common view that an evolutionary explanation for human behavior removes individuals' responsibility for their actions, . . . knowledge of the self as having evolved by Darwinian selection provides an individual with tremendous potential for free will. Moreover, refusal to refrain from damaging behavior in the face of scientific understanding could be seen as a ground for holding irresponsible individuals *more* culpable, not less so.

This is why, far from claiming that rapists should not be punished, “we have stressed the value of punishment for changing human behavior” (p. 199). Evolution allows the understanding of why certain experiences are punishments and others are rewards. We don't suggest particular types of punishment for rape. We leave up to voters the hard decision of how much cost to impose on this heinous crime.

Knowledge from evolutionary biology, then, cannot tell us that rape is morally good or bad. People, including us, have deemed rape to be immoral. Our book helps explain why people have evolved to abhor rape. Rape reduced female reproductive success throughout human evolutionary history because it interfered with their ability to choose their offspring's father. Because women's interests are thwarted by rape, so too are the interests of their significant others—that is, of people in general. More basically, our book is about how evolutionary knowledge may be useful for achieving the desirable social goal of reducing rape.

The naturalistic fallacy remains too common today, despite having

been discarded in intellectual circles. The pervasiveness of the naturalistic fallacy is evident, for example, in Nancy Pearcey's suggestion in a recent congressional hearing that *A Natural History of Rape* threatens the moral fabric of the United States. (Ms. Pearcey is with the Discovery Institute, which promotes the teaching of divine creation mythology in U.S. schools as a scientific alternative to Darwinism.) On his radio show, the ultra-conservative Rush Limbaugh implied that we wrote *A Natural History of Rape* to morally justify President Clinton's affair with Monica Lewinsky. Limbaugh suggested that the book was part of a Democratic effort to improve Clinton's reputation. (Clinton's behavior should be excused because his biology motivated it.) Henry Gee, an editor of the web site of the journal *Nature*, committed the naturalistic fallacy in his comment (July 6, 2000) that "to propose that [rape] serves some evolutionary function is distasteful." Gee apparently doesn't understand that the falsity of a scientific hypothesis can be determined only by scientific methodology, not by whether it is politically incorrect. This misunderstanding is seen commonly in people with limited knowledge of science.

To say that rape is biological is to state the obvious. Rape involves living beings. In biology and in English dictionaries, the word "biological" means of, or pertaining to, life; all life. Human behavior is not an exception. "Biological" is not synonymous with "genetic," as is sometimes assumed. Genetics is just one of many subdisciplines of biology. All features of all living things are developmental products of complex interaction between genes and environmental factors such as

nourishment; for many behavioral features, learning is a causal environmental factor too.

It should be obvious that rape is an aspect of nature. Each of the three natural sciences—biology, chemistry, and physics—uses the scientific method in order to know a component of the natural world; biology’s component is all life. In our book, we use the term “natural” in contrast to supernatural. The social-constructionist theory of rape rests on assumptions about the causation of behavior that are transcendental—that is, are not part of empirically verified reality. For example, the view that learning is all-powerful in causing rape is based on ideology, not actual knowledge of how behavior comes to exist. Social learning appears to be an immediate (proximate) cause of rape, but it is just one of a multitude of equally important immediate causes. Also, in addition to the many proximate causes, rape is the result of ultimate (= evolutionary) causation as well.

Another frequent depiction of our book claims that we say rape is inevitable because genes determine it. But in fact on page 110 we emphasize modern evolutionary biology’s conclusion that genetic determinism is, in the words of John Maynard Smith, “an incorrect idea.” We go on to explain that genetic determinism means that genes play an all-important or primary causal role in the development of the behaviors of the individual, a grossly inaccurate depiction of the process of biological development. In scientific reality, genes and environment equally cause each and every trait of the individual. Thus, environmental

determinism—the idea that an individual’s features are solely or primarily influenced by environmental causes such as learning—is as scientifically erroneous as genetic determinism. Modern biology’s conclusion that the influences of genes and environment are equally important in the developmental creation of all of every human’s features, and therefore that both are necessary and neither alone is sufficient, is why we can state that “the evolutionary approach holds that no behavior is inevitable” (p. 153) and that rape can best be prevented by manipulating the “environmental factors” that lead to it (p. 154). We emphasize two reasons why manipulating the genetic underpinnings of rape is not an option: (1) it is immoral to artificially select (selectively breed) people; and (2) such breeding probably wouldn’t work at all, and if it could be made to work the effort would take too long.

The media also have interpreted our proposal that all men are potential rapists as meaning that all men will rape. Actually, we mean that at conception essentially all human males have genes that might lead to raping behavior if, and only if, those genes interact with certain specific environmental factors during the development of the individual. On p. 173 we state: “Many men don’t rape and are not sexually aroused by laboratory depictions of rape. This suggests that there are cues in the developmental backgrounds of many men that prohibit raping behavior.” Recent research by Neil Malamuth and his colleagues, detailed in our book, suggests that these cues or environmental factors may include growing up with adequate resources, father presence, and enduring social

relationships. At the same time, this research identifies “rape proneness” in men as arising from developmental backgrounds that include poverty, father absence, and limited enduring relationships.

The recent research on developmental factors in rape proneness in men was inspired by evolutionary theory. The evolutionary approach focuses on the specific environmental factors mentioned because they would have correlated in human evolutionary history with limited social status and economic resources at the time a boy reached adulthood. In the deep-time history of the human past, these limitations would have reduced access to consensual female sex partners. As other research has shown, female evolutionary ancestors preferred high-status mates with resources to low-status males without resources, everything else being equal. The vast evidence from evolutionary psychology that women today have psychological adaptation that functions to guide their romantic interests toward men with resources and status demonstrates this ancient preference.

Although we emphasize that additional scientific investigation is needed to fully clarify how social learning during a boy’s development affects a man’s rape proneness, current knowledge may offer promise for reducing rape through new social policy. Though we are not policy experts and cannot formulate concrete social programs, we can imagine numerous avenues for the exploration of possible policy directions. For example, to reduce the number of boys raised under conditions of poverty in industrial societies, some people might advocate taxation policies that

lower wealth inequalities, coupled with more taxation revenues directed at socially disfranchised families. Others might instead suggest that divorced fathers be given tax credits when they reside near their sons and provide the sons with support. These are just a few of many possibilities that come to mind for using knowledge of rape's developmental causes to attacking the problem.

Contrary to numerous media reports, we do not argue that rapists are driven by desire to reproduce. As we explain in detail in chapter 1, this assertion confuses the motivations that form the immediate or proximate causes of a behavior with the evolutionary or ultimate effects of a behavior during countless past generations of evolutionary history. Rapists may be motivated by many different proximate desires, but a desire for reproduction is probably one of them in only the rarest of instances. We argue that a desire for sexual stimulation, not a desire to produce offspring, is a proximate cause of raping and is the common denominator across human rapes of all kinds. Men's sexual ardor is, in ultimate terms, a product of past selection pressure that favored it because it increased sexual access to many females of reproductive age.

In addition to the false claim that we excuse rapists, you have probably heard that we blame victims. This is also not true. We emphasize on page 180 that "educational programs aimed at reducing the vulnerability of women to sexual coercion are dependent on the acquisition of information concerning risk factors." We also claim that a woman's appearance and behavior might have some influence on these

risk factors. Camille Paglia introduced this same reality into the discussion of rape on page 50 of her book *Sex, Art, and American Culture* (Vintage, 1992): “Feminism keeps saying the sexes are the same. It keeps telling women they can do anything, go anywhere, say anything, wear anything. No, they can’t. Women will always be in sexual danger . . . feminism, with its pie-in-the-sky fantasies about the perfect world, keeps young women from seeing life as it is.” On page 182 of our book, we characterize assertions that “a victim’s dress and behavior should affect the degree of punishment a rapist receives” as “unjustified.” We also feel that women should be free to decide to dress in whatever way they wish. All we are suggesting is that their decisions should include consideration of the possible risk associated with certain manners of dress in certain situations. Identifying risk factors and encouraging women to take these into consideration during their daily activities have been elements of sex education for some time and have not been subjected to accusations of “blaming the victim.” Many popular textbooks on human sexuality address this matter—see, for example, Elizabeth Allgeier and Albert Allgeier, *Sexual Interactions*, third edition (Heath, 1991). Fully aware that we would be condemned for it, we chose to address the risk factor associated with appearance because, as we say on page 182, “the failure to distinguish between statements about causes and statements about responsibility has the consequence of suppressing knowledge about how to avoid dangerous situations.”

That a woman’s manner of dress may affect her risk of rape is

eminently reasonable in view of what is known about certain sexual adaptations of men. The following combination of sexual adaptations is expected to lead some men to rape: eagerness to have sex with new partners, impulsiveness in the pursuit of such partners, sexual motivation upon viewing women's secondary sexual traits, and tendency to conclude that a woman is signaling sexual interest when she is not. This is not to say that most rape victims will be wearing miniskirts, or blouses that reveal their breasts. It is to say that dress is anticipated to be a risk factor in some situations, especially when coupled with other risk factors that stimulate men's sexual motivation.

That physical attractiveness increases risk of rape victimization is consistent with women at the ages of peak attractiveness (the teens and the early twenties) being the most frequent victims of rape. It is also consistent with descriptions of rape in other cultures—descriptions made by people completely unaware of the political and ideological issues that have come to dominate most discussions of rape in our society. An illustrative example is the following statement made by Ongka, a leader among the Kawelka people of Mount Hagen in Papua New Guinea, while recalling the rapes that took place during the tribal wars he lived through: “When we left our women behind and went out to fight, they were in danger. Men came to find them, chasing them down to the edges of streams till they seized hold of them, especially if their bodies were good to look at.” (Andrew Strathern and Pamela J. Stewart, *Collaboration and Conflicts*, Harcourt, 2000, p. 41) Because rape is motivated at least in part

by sexual attraction, our book summarizes the recent research that has identified the body features that affect female attractiveness (bilateral symmetry, sex-hormone markers, and age).

Although we sometimes have been portrayed as anti-feminist in the media, we emphasize that there is nothing anti-feminist in our arguments. We are only against inaccurate explanations of rape, such as the “not sex” argument. Therefore, if our arguments must be cast in opposition to some specific category, they can probably be most accurately described as anti-*gender*-feminist. This is because the social-constructionist explanation of rape is at the foundation of what Christina Hoff Sommers, in *Who Stole Feminism?* (Simon and Schuster, 1994), calls “gender feminism”: feminism that is based on inter-gender conflict, with virtually all that is male denounced as domineering, evil, untrustworthy, out-group, and enemy. Sommers demonstrates the philosophical and ideological schism between gender feminism and liberal, traditional feminism (“equity feminism”). “There are sexual differences that are based in biology,” Camille Paglia, an outspoken critic of gender feminism, writes in *Sex, Art, and American Culture* (p. 50). “Academic feminism,” Paglia continues, “is lost in a fog of social constructionism. It believes we are totally the product of our environment.” Of academic feminists, Paglia says (*ibid.*, p. 51): “[Their] view of sex is naive. . . . [They] have drilled their disciples to say, ‘Rape is a crime of violence but not of sex.’ This . . . nonsense has exposed young women to disaster.” Wendy McElroy’s book *Sexual Correctness* (McFarland, 1996) documents that gender feminism began to strongly

influence the feminist movement in the 1970s and that it is the dominant ideology among most of the movement's leadership. Gender feminism's "sexual correctness" is an intolerant hostility, an almost religious bigotry, that hears no criticism or alternative viewpoints. We ask all those who have endorsed the "not sex" explanation of rape, regardless of what label they apply to themselves, to reevaluate their position in the light of the arguments we make in our book.

It has also been claimed that *A Natural History of Rape* is not a "study" but only a "theory" with no evidence to support it, since we didn't talk to rapists or rape victims. Those making this argument reveal their limited understanding of scientific procedure. Testing alternative hypotheses against the data collected by others (there are about 600 references in our bibliography) is a common, valid method in science. Further, *A Natural History of Rape* contains an extended discussion of why the statements made by rapists do not support the social-constructionist "not sex" explanation of rape (pp. 135–136) and an entire chapter devoted to the reactions of victims to this horrible crime (chapter 4, titled "The Pain and Anguish of Rape").

Another common objection to *A Natural History of Rape* is that it is based only on evidence from insects. Readers who have heard this objection and who are interested in insects will be disappointed at how few of our hundreds of references concern insects. We do discuss research on scorpionflies that has identified a clamp on the top of the male's abdomen as an adaptation specifically for rape. This illustrates what an

adaptation for rape is. It does not follow that, because scorpionfly males (and males of other non-human species) have adaptation for rape, men do too. This is erroneous extrapolation of the sort that modern biologists don't engage in. The significance of rape's occurrence in many non-human species is that it scientifically falsifies the social-constructionist theory of rape, which claims that rape is solely the result of human-specific learning experiences that are capricious.

Another common media claim is that the evolutionary analysis of rape cannot account for the rape of boys, men, and non-reproductive-age females. Although the majority of rapes involve pubescent and young adult females, some rapes do involve other victims. As we clearly state on page 60, rape of these other victims is a maladaptive incidental effect of men's strong libido for obtaining many mates of fertile ages. Every adaptation has incidental effects, or by-products, that are maintained because the adaptation enhanced the overall reproductive success of its bearer, even when the adaptation's incidental effects lowered reproductive success in some circumstances. The bone of the human skeleton was directly favored by natural selection because of its structural strength, which increased survival and offspring production, despite bone's maladaptive by-products (osteoporosis and certain other bone diseases). Non-reproductive rape is widespread across animal species—see Sarah L. Mesnick, “Sexual Alliances: Evidence and Evolutionary Implications,” in *Feminism and Evolutionary Biology*, ed. P. Gowaty (Chapman and Hall, 1997). Across many species, males and infertile

females of the same species as the rapist are common rape victims. In some species, males rape females of other species. Adult male seals rape juvenile seals and even copulate with seal corpses. Males of every animal species have an evolved preference for fertile females of the same species, but the libido that motivates the dogged pursuit of this preference results in some maladaptive matings.

Being aware of the limited evolutionary knowledge of media personalities, we discussed all the above points in detail in our book. We assumed that people in the media would read the book and consider these points before pontificating. Obviously we were naive when we made that assumption. For the most part, we were also wrong in our assumption that the explanation of our book we provided to reporters would be objectively considered and presented. Much more disreputable and shameful than the statements of some media personalities, however, are those made by some scholarly reviewers who are supposedly educated in evolutionary theory.

### **Scholarly Reviews**

Many of the scholarly reviews of *A Natural History of Rape* are astounding in the way they ignore much of its content and distort its fundamental argument. Indeed, much of the criticism of our book in scholarly reviews is directly traceable to a single gross misrepresentation about its central scientific goal.

Frans de Waal (“Survival of the Rapist,” *New York Times Book Review*, April 2, 2000) and Craig Stanford (“Darwinians Look at Rape, Sex and War,” *American Scientist*, July–August 2000) assert that the book is exclusively an argument for the hypothesis that human rape is an adaptation, then accuse us of forcing the data to fit this position. In doing so, these reviewers, despite obviously having access to the book, evidently failed to read, or chose to ignore, much of the book’s content. This failure can be seen in de Waal’s claim that “the greatest flaw of *A Natural History of Rape* is that it quotes, but then blithely ignores the warning of the evolutionary biologist George Williams [in his 1966 book *Adaptation and Natural Selection*] that ‘adaptation is a special and onerous concept that should be used only when it is really necessary.’” This portrayal of our book as arguing that human rape is an adaptation, and ignoring all other possibilities, is a classic “straw man” argument. In fact, we consider no fewer than ten distinct evolutionary hypotheses about rape. We then describe why eight of these (rape as a phylogenetic holdover, rape as a result of mutation-selection balance, rape as a result of genetic drift, rape as a result of evolutionarily novel environments, rape as an unusual pathology, rape as an adaptation for male dominance, rape as a product of psychopathy, and rape as a female mate choice adaptation) can be rejected on scientific grounds because they suffer from fatal logical flaws and/or are clearly inconsistent with available data on rape. We then examine the two remaining evolutionary hypotheses (rape as an adaptation for reproduction through increasing the number of reproductive-age female

mates by force and rape as a by-product of various evolved differences in men's and women's sexuality). Most important, we do not conclude that human rape is an adaptation. Instead, we conclude "the question whether rape is an adaptation or a by-product cannot yet be definitively answered" (p. 84). This is a position perfectly in line with the approach that George Williams endorsed in 1966, as is the fact that we then outline how further research could test for the existence of six hypothetical psychological adaptations for rape.

Scientific proof of the existence of a psychological adaptation for rape would be conclusive evidence that men's brains contain an information-processing mechanism (or multiple mechanisms) that was (were) specifically for promoting rape in human evolutionary history. Just as the human psychological adaptation for color vision is specifically for assessing color, a rape psychological adaptation would be functionally specific for raping. To put this differently: The adaptation would give rise to maximum motivation to rape when evolutionary historical benefits of rape (copulation with a female of fertile age) exceed evolutionary historical costs of rape (injury, punishment of the perpetrator). The failure to find such evidence would scientifically falsify the adaptation hypothesis.

Jerry Coyne ("Of Vice and Men," *New Republic*, April 3, 2000, pp. 27–34) dismisses evolutionary hypotheses about rape as "untestable," but in fact the deep-time past is scientifically knowable. It is well known to biologists that Darwin invented the method of historical science, and this

powerful method is routinely practiced in all sciences that explore the distant past, including biology, geology, and astronomy—see Michael Ghiselin’s widely known book *The Triumph of the Darwinian Method* (University of California Press, 1969). Actual historical causes will have left consequences. Proof of these consequences provides the definitive evidence for past causes that cannot be observed directly. This is why the existence of a psychological adaptation in men functionally specified for rape would demonstrate effective, direct selection for rape during human evolutionary history.

We also stress that, whether or not evidence of a psychological rape adaptation is found in the future, there is already vast evidence that rape arises out of evolved sexual psychologies of men and women. Women are evolved to choose mates carefully, men to be less selective and to pursue many partners (including without commitment). Rape is one of the many behaviors that result from this evolved difference in male and female sexuality. The two reasonable hypotheses for rape (the “rape adaptation” hypothesis and the “by-product hypothesis”) are attempts to specify how evolution and rape are related. It is a given that rape is evolved. The same can be said of every biological trait. The only question is “What was rape’s specific evolutionary history?” Under either of these reasonable evolutionary hypotheses for rape, increased knowledge may contribute to reducing rape. If rape is an incidental effect of men’s psychological adaptation for obtaining a high number of mates without commitment, reducing the incidence of rape would depend upon complete knowledge

of the adaptations involved and of the circumstances under which they give rise to rape as a by-product. If rape were itself an adaptation, reducing rape would depend upon full knowledge of the evolutionary historical cues that stimulated reproductively successful rape by males during human evolutionary history. Such knowledge, for example, could reduce the high incidence of rape in war, where the evolutionary historical benefits of rape are high and the corresponding costs are typically trivial; the policy implication is to increase costs (e.g., by punishment).

Jerry Coyne, in his attacks on our book in media interviews, also portrayed the book as an argument that rape is an adaptation. After we pointed out the inaccuracy of Coyne's assertion, he and Andrew Berry acknowledged our consideration of the by-product hypothesis in their review in the scientific journal *Nature* ("Is This Contentious Hypothesis Advocacy, Not Science?" *Nature* 404, 2000: 121–122). Astonishingly, they described our consideration of alternative hypotheses, not as the rigorous scientific procedure that it is, but as a "rhetorical trick." This indicates that these authors may be unaware that determining whether a trait is an adaptation or a by-product has been a cornerstone of evolutionary theory since 1966, when Williams's *Adaptation and Natural Selection* was published. However, Coyne and Berry must surely be aware that Steven Jay Gould and Richard Lewontin, in their widely known paper "The Spandrels of San Marco and the Panglossian Paradigm: A Critique of the Adaptationist Program" (*Proceedings of the Royal Society of London B* 205:

581–598) also emphasized the importance of considering by-product hypotheses. “Rape is a spandrel” is the way Gould and Lewontin would phrase the by-product hypothesis of rape. A spandrel is an architectural by-product.

Other criticisms also suggest a disingenuous selectivity in the reading, or at least in the acknowledging, of the rest of our book by reviewers. Not only does Craig Stanford portray the book as an argument that rape is an adaptation; he seems to be under the impression that this question can be settled by determining whether rape is currently biologically adaptive (i.e., whether it currently leads to net reproductive success despite its costs to reproductive success). (Here we are using “adaptive” in a technical biological sense, not in the vernacular sense of “salubrious, healthy.”) Hence, in addition to skipping or ignoring our consideration of alternative evolutionary explanations, Stanford evidently missed our discussion on page 7 of why current reproductive success is not a means of determining whether a trait is an evolved adaptation (basically, because by-products are sometimes currently adaptive). That current reproductive success is not the criterion for distinguishing adaptation has been established for more than 30 years, beginning with Williams’s 1966 book.

As we explain in detail in our book, rape may or may not be currently biologically adaptive. Actually, rape may be currently adaptive in some societies (e.g., in pre-industrial societies without modern contraception) but not in others. In the United States, pregnancy follows

from rape in about 2.5 percent of cases. During warfare, however, the rate of rape-induced pregnancy is much higher. The current adaptiveness of rape is an entirely different issue than the evolutionary historical adaptiveness of rape. The claim of the “rape adaptation” hypothesis is that rape was adaptive in human evolutionary history but now may or may not be adaptive. Adaptive rape during evolutionary history would be demonstrated by the existence of an adaptation functionally specialized for rape.

Stanford further claims in his review that rape may or may not have “biological” causes. This suggests that he may have skipped our discussion of the meaning of “biological” in chapter 1. Similarly, de Waal’s claim that we dismiss the female perspective suggests that he may have skipped chapter 4, which is based almost entirely on the reports of female victims. De Waal’s claim that we failed to address the rape of a spouse indicates he may have missed our section on marital rape (pp. 77–78). His statement that he would have preferred “cross-cultural information” may have been due to his failure to read our section titled “cross-cultural evidence” (pp. 140–143).

An even more interesting example of selective reading is provided by criticisms of our analysis of the psychological pain experienced by rape victims. Coyne and Berry’s review asserts, in a statement that was repeated frequently in the media, that they looked at a reference in our book and that it doesn’t contain the information that the book claims it does. They claim (contrary to the book’s claim) that the 1990 paper by

Nancy Thornhill and Randy Thornhill (“An Evolutionary Analysis of Psychological Pain Following Rape. I. The Effects of Victim’s Age and Marital Status,” *Ethology and Sociobiology* 11: 155–176) does not contain data showing that reproductive-age female rape victims have more mental pain than post-reproductive-age female victims. In fact, data and an analysis supporting this pattern are to be found in table 4 and appendix 3 of the paper. Evidently, Coyne and Berry didn’t read the entire paper.

### **Conclusion**

We have not yet mentioned the more reasonable, informed, and productive discussions of our book in book reviews. For example, Geoffrey Miller’s review (“Why Men Rape,” *Evening Standard*, March 6, 2000) agrees with our general evolutionary approach, and Miller finds the widespread denial of the role of male sexuality in the etiology of rape “incomprehensible.” He proposes, however, that essentially all rape is committed by the small percentage of men (about 3 percent) who have clinically definable psychopathic personality. We discuss this possibility in the book, and we agree that psychopaths commit some rapes. However, as we show in the book, rape is too widespread to be explained generally by this hypothesis. In the context of war, across pre-industrial and modern societies, many men adopt rape. Date rape is also widespread in modern societies. The data support our view that rape is conditionally adopted by

many men when its unconsciously perceived benefits exceed its costs. Still, we strongly support future research to find the exact extent of the role that psychopathy may play in some rapes.

Other examples are the reasonable reviews by Todd Shackelford and Gregory LeBlanc (to be published early in 2001 in *Journal of Sex Research*) and Robin Dunbar (*Trends in Ecology and Evolution*, vol. 15, p. 427, 2000).

We also respect the opinions of many generally positive reviewers who have criticized us for being too dry in our writing style and too harsh in our attacks on the currently dominant explanation of rape. Our style is admittedly dry, and our criticisms are admittedly harsh. But, as we explain in the book's preface, this was intentional, and we were fully aware that there would be a backlash. The reason we took the tone we did is simple: Rape is no laughing matter, and sugar-coated arguments that leave fiction as the basis of attempts to prevent rape may be diplomatic but we do not find them ethical.

Though we are uncertain about how future research will answer the question of whether human rape is an adaptation or a by-product, we expect future historians of science to draw certain conclusions from the response to our book. First, the response will stand as clear evidence of the widespread misunderstanding of evolutionary principles. Second, it will demonstrate the apparent inability of the academic system to consistently produce individuals capable of objective, fair, thorough critical analysis of controversial topics. The poor showing made in this area by many reviewers of our book is tragic because the acceptance of

criticisms that are based on “straw man” arguments creates an atmosphere in which research on important but controversial topics is too risky, unpopular, and difficult for most scholars’ tastes.

It is our hope that people will increase their ability to look past ideological considerations and make an objective reevaluation of the social-constructionist explanation of rape. If they do this, they will see that it is not our alleged ideological leanings or our use of evolutionary theory that falsifies this explanation of rape; it is the actual behavior of males who commit rape.

Biologists are in a pivotal position to inform people about evolution as it applies to human behavior and associated social problems. We are very critical of the biologists who advocate that evolution applies to all life except certain aspects of human behavior and psychology, or except all aspects of human behavior and psychology. This pre-Darwinian view of human activity is due to the evidentiary blindness that arises from ideology and to selfish political goals. We invite all biologists to join the effort to create a science for all humanity—a science that sees knowledge of humans as its single goal for the sake of helping people, including reducing rape. We also invite educators to join this effort by establishing Darwinism applied to human behavior as fundamental knowledge to be gained by students at all levels.

People have the choice between ideology and knowledge. Perhaps the only hope for knowledge to replace ideology in the study of human behavior is for teachers of all types to stress critical, knowledge-based

thinking and how to avoid logical fallacies. In college, students could be given the opportunity to consider situations likely to tempt them into making the naturalistic fallacy. Starting in high school, students could be informed about the difference between arguing to win and arguing so that the evidence reveals the truth. Unless such an educational process takes place on a large scale, no amount of explaining will work.

Although the distortion of our book in the media and in certain published reviews has been extreme, it is understandable in view of the intense emotions the horrible act of rape produces in all people. This is why we don't begrudge these critics. We only hope that, as the initial emotions that so colored their responses subside, they will make an effort to read our book as it is, not as they feared it was. After all, we all share the same goal of trying to end the immense pain caused by rape. This being the case, let's all get on with the rational view of rape, which will require that it be depoliticized from the master symbol of gender-feminist ideology to a behavior that needs to be prevented through the identification of its causes. This change of attitude hinges upon an understanding that one can't logically be against rape and against the evolutionary approach to rape at the same time.