

# The evolutionary biology of rape

For the last quarter of a century, attempts to prevent rape have been guided by the social science explanation of rape (also commonly referred to as the feminist theory of rape). This explanation holds that the motivation to rape has little, if anything, to do with sexual desire. Instead, it holds that rape is an attempt by men to dominate and control women. It also contends that rape only occurs when males are taught by their culture, directly or indirectly, to rape. In our new book, *A Natural History of Rape*<sup>1</sup>, we challenge this established social science explanation of rape. We argue that although a given rapist may have numerous motivations for committing a rape, social scientists have failed to prove that sex is not one of these. Nor have social scientists seriously and honestly considered the vast evidence showing that rapists are sexually motivated. Although we agree that culture (= social learning) plays a major role in the cause of rape, we challenge the notion that rape only occurs when males are taught by their cultures to rape. Rape not only appears to occur in all known cultures, but in a wide variety of other species where there is certainly no cultural encouragement of such behavior. We also argue that the best way to obtain a better understanding of the role of culture in the cause of human rape is to approach the subject from the only generally accepted scientific explanation of the behavior of living things: Darwinian evolution by natural selection.

Why have we chosen to make such an argument knowing full well the criticisms that challenging such a widely held position would cause to be rained down upon us? The answer is that inaccurate knowledge about the causes of behavior hinder attempts to change behavior, and we want very badly to eradicate rape from human existence. Rape is a horrific act that violates a fundamental civil right of its victims. Sexual autonomy—the right to choose who will have sexual access to one, as well the timing of the access—should be a freedom that is given highest priority in modern society. This basic freedom depends upon knowledge of the causes of sexual coercion.

## What Our Book Really Says

Given the great amount of media attention our book *A Natural History of Rape* has received, we thought the best way to summarize the book would be to contrast what you may have heard in the media with what the book actually says.

You have probably heard that our book says that rape is good because it is a part of the natural, biological world. If so, you might be surprised to find the following statement at the book's outset: "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" (p. 5 – 6). This fallacy erroneously sees the facts of how nature is organized as moral truths. This fallacy still remains too common today, despite having been discarded in intellectual circles. The pervasiveness of the naturalistic fallacy is seen, for example, in Nancy Pearcey's comments at a recent U.S. Congressional Hearing in which she claimed that *A Natural History of Rape* threatens the moral fabric upon which America is founded.<sup>2</sup> Modern thinkers emphasize that nature is as nature is, period; right and wrong in the moral sense derive from humans pursuing their interests, not from the facts of nature.

To say that rape is biological and natural is simply to state what should be obvious. The

word “biological” means of or pertaining to life. Rape is part of the component of nature that is in the domain of biologists’ study, which is all of life. We use the term “natural” in contrast to supernatural. As we explain in detail in our book, the social science theory of rape rests on assumptions about the causation of behavior that are supernatural because they are not part of natural reality. For example, the view that learning is all powerful in causing rape is based on ideological faith, not actual knowledge of how traits come to be. Social learning appears to be an immediate cause of rape, but it is just one of a multitude of equally important immediate causes. Also, rape is the result of ultimate or evolutionary causation.

You may have also heard that the book excuses rapists for their hideous acts. You will recognize this as another version of the naturalistic fallacy. What we really say is that: “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.” (p. 154, emphasis in original). This is why, far from claiming that rapists should not be punished, the reader of our book will find that “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 rewards. We don’t suggest particular types of punishment for rape. We leave up to people the hard decision of how much cost to impose for this crime. Knowledge from evolutionary biology, then, cannot tell us that rape is morally good or bad. People decide that distinction and have deemed rape horrific. Our book is about how evolutionary knowledge may be useful for achieving the desirable social goal of reducing rape.

Another frequent depiction of our book claims that we say rape is inevitable because it is determined by genes. We are actually in full agreement with the evolutionary biologist John Maynard Smith’s observation that genetic determinism is “an incorrect idea.”<sup>3</sup> We further point out on page 111 that “Most evolutionary works on humans (including ours—see Chapter 1) include an extended discussion of the inseparable and equally important influences of genes and environment ...” This is why we can state “(t)he evolutionary approach holds that no behavior is inevitable” (p. 153), and that rape can best be prevented by addressing the “environmental factors” that lead to rape (p. 154).

Recent research indicates that these environmental factors include certain learning experiences during boys’ upbringing such as the conditions of poverty, limited enduring relationships and father absence. The evolutionary approach focuses attention on specific experiences that would have been correlated with limited social and economic resources when boys achieved adulthood in human evolutionary history. These limitations would have, in the deep-time history of the human past, reduced or eliminated access to consensual female sex partners because recent research has shown that the female evolutionary ancestors of people preferred mates with status and resources. This preference is demonstrated by the vast evidence from evolutionary psychology that women today have a psychological adaptation that functions to guide their romantic interests toward such men. Rape bypasses this preference and thereby circumvents a fundamental aspect of female reproductive strategy.

The learning experiences that are suggested by recent research to influence men’s rape proneness offer promise for reducing rape. The number of boys raised under conditions of poverty in industrial societies could be greatly reduced by taxation policies

that lower wealth inequalities, coupled with more taxation revenues being directed at socially disfranchised families. Father-absence rearing environments would decline if fathers, following divorce, were given tax credits when they resided near their sons and provided sons with emotional and financial support<sup>4</sup>. These are only two of many possibilities that come to mind for attacking the social problem of rape from knowledge of its developmental causes.

The reader may also be surprised to find that, contrary to media reports, we do not argue that rapists are driven by an urge to reproduce. As is explained in detail in our book's Chapter 1, this assertion confuses the motivations that form the immediate (what evolutionists call "proximate") causes of a behavior, with the evolutionary (what evolutionists call "ultimate") effects of a behavior during countless past generations of evolutionary history. Rapists may be motivated by many different immediate desires, but a desire for reproduction is probably one of them in only the rarest of instances. Sexual stimulation is a proximate cause of raping and is the common denominator across human rapes of all kinds. Men's strong libido is an ultimate product of selection pressures in human evolutionary history that was favored because it resulted in accessing many mates of fertile ages.

In addition to the false claim that we excuse rapists, you have probably heard that we blame victims. This is also not true. Instead, we emphasize that "educational programs aimed at reducing the vulnerability of women to sexual coercion are dependent on the acquisition of information concerning risk factors." (p. 180) We also make a claim (which has been seen by some people as both an insane idea and a mortal sin, but by most others as too obvious to be worth debate) that a woman's appearance and behavior might have some influence on these risk factors. We stress, however, that it is completely "unjustified" to argue that "a victim's dress and behavior should affect the degree of punishment a rapist receives." (p. 182) The identification of risk factors, and the encouragement of women to take these into consideration during their daily activities, has long been an established part of rape prevention programs without anyone claiming that it constitutes blaming victims. Despite full awareness of the misguided criticisms that would rain down upon us, we chose to address this issue because "The failure to distinguish between statements about causes and statements about responsibility has the consequence of suppressing knowledge about how to avoid dangerous situations" (p. 182).

That a woman's dress may affect risk of rape is eminently reasonable from knowledge of certain of men's sexual adaptations. The combination of men's eagerness to have sex with new sexual partners and impulsiveness in pursuit of such partners, men's sexual motivation upon viewing women's secondary sexual traits (breasts, thighs and buttocks), and men's tendency to conclude that a woman is signaling sexual interest when she is not is expected to, lead some men to rape. This is not to say that all or most rape victims will be wearing mini-skirts or blouses that reveal their breasts. It is to say that dress is anticipated to be a risk factor, especially when coupled with other risk factors that stimulate men's sexual motivation such as youth and other features of physical attractiveness in women.

The view that physical attractiveness influences risk factors is consistent with women at the ages of peak attractiveness (late teens and early twenties) being the most frequent victims of rape. It is also consistent with descriptions of rape in other cultures, made by people completely unaware of the political and ideological issues that have come to dominate discussions of rape in our society. For example, consider this statement made by Ongka, a leader among the Kawelka people of Mount Hagen, 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*” (emphasis added).<sup>5</sup> It has also been claimed that our book is not a “study”, but only a “theory” with no evidence to support it because we didn’t talk to rapists or rape victims. Those making this argument reveal their scientific illiteracy because testing alternative hypotheses against the data collected by others (there are about 600 references in our bibliography) is a very common and valid method in science. Further, we have an extended discussion on why the statements made by rapists do not support the social science explanation of rape (pp. 135 – 136), and an entire chapter devoted to the reactions of victims to this horrible crime (Chapter 4).

Another common objection to our book is that it is based only on evidence from insects. The reader who has heard such a depiction will be disappointed to find how relatively few of our hundreds of references concern that subject. We do discuss research on insects called 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, but it does not follow that because scorpionfly males, and males of other non-human species, have adaptation for rape, that, therefore, men do too. This is an erroneous extrapolation that modern biologists don’t engage in. The existence of rape in many non-human species scientifically falsifies the social science theory of rape, which claims that rape is simply the result of human-specific learning experiences.

One hypothesis about how evolution and human rape may be related is that men have rape-specific adaptation, but located in the brain. We outline in the book how further research could test for the existence of six potential rape psychological adaptations. Scientific proof of the existence of a psychological adaptation for rape would be conclusive evidence that men’s brains contain an information-processing mechanism(s) that is (are) specifically for promoting adaptive rape in human evolutionary history. Just as the human psychological adaptation for color vision is specifically for assessing color, a rape psychological adaptation would give rise to maximum motivation to rape specifically when evolutionary historical benefits of rape (copulation with a female of fertile age) exceed historical costs of rape (injury, ostracism and punishment of the perpetrator).

Readers who have also heard that we assume every aspect of human behavior, including rape, is an adaptation directly favored by Darwinian selection will be surprised also to find an extended discussion in the book of the alternative hypothesis that rape itself is not an adaptation, but instead a by-product or incidental effect of other adaptation such as men’s psychological adaptations that motivate their pursuit of partner variety without commitment. Under the by-product hypothesis, Darwinian selection indirectly led to rape as a result of directly favoring men’s sexual adaptations that give rise to rape as an incidental effect. The vast evidence that rape arises out of evolved sexual psychologies of men and women is discussed in the book. Women are evolved to choose mates carefully and men to be less selective and pursue many partners, including without commitment. Rape is one of the many behaviors resulting from this evolved difference in male and female sexuality. The two hypotheses for rape we have mentioned (the rape adaptation hypothesis and the by-product hypothesis) are attempts to specify how evolution and rape are related. In our book, we discuss why these two hypotheses exhaust ultimate (= evolutionary) explanations of rape. Also there, we examine the copious data on rape, but conclude that more research is necessary to determine which of the two hypotheses best accounts for rape.

Jerry Coyne and Andrew Berry describe our consideration of alternative hypotheses, not as the rigorous scientific procedure that it is, but as a “rhetorical trick”<sup>6</sup>. They have training in science (biology) and therefore must understand the necessity of alternative hypotheses in scientific investigation. This kind of criticism is a desperate attempt to derogate scientific analysis of rape in the eyes of the many people who lack any understanding of the scientific method. It also indicates that these authors are unaware that determining whether a trait is an adaptation or a by-product has been a cornerstone of evolutionary theory since the publication of George Williams’ book *Adaptation and Natural Selection* in 1966. It is unfortunate that scientists with such a large gap in their own education should present themselves as speaking for evolutionists in general.

Even more puzzling is Frans de Waal’s criticism of our book for supposedly not even considering any alternative to the rape-as-adaptation hypothesis<sup>7</sup>. We have no explanation of how he could have either overlooked, or consciously ignored, our discussions of both the by-product and other alternative explanations of rape in Chapter 3.

Under either evolutionary hypothesis for rape, increased knowledge is the key to reducing rape. If rape is an incidental effect of men’s psychological adaptation for obtaining high mate numbers without commitment, reducing the incidence of rape will 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 is itself an adaptation, reducing rape will depend upon full knowledge of the evolutionary historical cues that stimulated adaptive rape by males during human evolutionary history. Such knowledge, for example, could reduce the high incidence of rape in war, where evolutionary historical benefits of rape are high and corresponding costs are typically trivial. A 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 involve other victims. As we clearly state on page 60, rape of these other victims is an incidental effect of men’s strong libido for obtaining many mates of fertile ages. Every adaptation has incidental effects that are maintained because the adaptation enhanced 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 selected because of its structural strength (thereby increasing survival and offspring production). Bone’s by-products involve the maladaptive effects of osteoporosis and certain other bone diseases. Males engaging in non-reproductive rape is widespread across animal species.<sup>8</sup> Males and infertile females that are of the same species as the rapist are common rape victims across many species. In some species, males rape females of other species. Male seals even copulate with corpses, and living juveniles are also rape victims. 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 that preference results in some maladaptive matings.

The media often focus on the uninformed criticism that for evolution to apply to human rape, there must be a significant rate of pregnancy associated with rape in modern societies<sup>9</sup>. It is important to realize that all features of life, including rape, are ultimately the result of the evolutionary process. Even the computer is ultimately a by-product of evolution because certain psychological adaptations give rise to the behaviors and mentations responsible for the computer. It is never a question of whether evolution applies to a feature of living things, including any given human activity. The only question is how to apply evolution to fully understand the feature. The two ultimate hypotheses mentioned are attempts to illuminate rape by connecting it to a more specific evolutionary history.

Furthermore, some human adaptations are frequently maladaptive now. For example, the consumption of large quantities of refined sugar causes widespread health problems, but the sweet “tooth” (actually a psychological adaptation for pursuing ripe fruit) evolved because it resulted in nourishment in human evolutionary environments.

Rape may or may not be currently adaptive, i.e., promote net reproductive success despite its costs. And rape may be currently adaptive in some societies (e.g., in pre-industrial societies without contraceptives), but not others. In the U.S.A., pregnancy follows from rape in about 2.5% of the cases. Rape-pregnancy, however, is much higher during warfare.<sup>10</sup> 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 it may or may not be adaptive. Historically adaptive rape is demonstrated by the existence of an adaptation functionally specialized for rape.

The media also have commonly been amazed that we claim in our book that evolutionary biology includes procedures for knowing the deep-time past of the human species. Many erroneously believe that this past is unknowable. Darwin invented the method of historical science and this rigorous method is routine practice in all sciences that explore the past (biology, geology and astronomy). Actual historical causes will have left consequences. Finding these consequences provides the definitive evidence for past causes that cannot be observed directly. This is why the existence of an adaptation in men functionally specialized for rape demonstrates direct selection for rape during human evolutionary history.

Our proposal that all men are potential rapists has been interpreted by the media as meaning that all men will rape. Actually, we mean that at conception essentially all human males have genes which might lead to raping behavior if, and only if, those genes interact with certain specific environmental factors during the development of the individual. Hence, we emphasize that “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” (p. 173). These cues, in part, may involve boys growing up with adequate resources, father presence, and enduring social relationships with others. That all boys are potential rapists is only bad news from science if people continue to ignore the utility of evolutionary biology for understanding rape’s proximate causes.

The media has presented various inaccurate depictions of the book’s treatment of rape victims’ psychological pain following rape. This stems from, in part, the uncritical media picking upon a comment in the paper by Coyne and Berry.<sup>11</sup> Coyne and Berry state 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 Thornhill co-authored paper does not contain data showing that reproductive-age female rape victims have more mental pain than post-reproductive-age female victims. However, the data and analysis supporting this pattern are in Table 4 and Appendix 3 of the paper.<sup>12</sup> We invite readers to take a look for themselves at the data and its analysis and the full discussion of this evidence. Again, Coyne and Berry show their desperation.

Rape circumvents female mate choice and lowers the victim’s pair-bond mate’s paternity confidence, which may result in his reduction of investment or complete desertion. Thus, rape is an experience that would have reduced female reproductive success in human ancestral settings. Psychological pain is widely recognized in evolutionary biology as an adaptation that functions as a defense against social losses by aiding in

solving the problems involved and avoiding them in the future. As expected, research on rape victims indicates that reproductive-age women have greater mental pain than pre- and post-reproductive-age victims as rape can lead to pregnancy only in reproductive-age women. Also, married women seem to experience more psychological pain than unmarried victims. Raped married women may face a mate's divestment. Knowledge of the causes of rape victims' mental pain could be useful in treating rape victims by focusing therapy where it is needed. Also, given the likely function of mental pain, treating rape victims with psychotropic drugs to alleviate the pain may have the undesirable effects of reducing rape victims' ability to solve the social problems surrounding the victimization and avoid future rape.<sup>13</sup>

### Conclusion

Rape generates tremendous misery for all of its victims and their mates and families throughout the world. Only knowledge of rape's causes holds promise for reducing rape's incidence. Solutions not based on an understanding of causation can solve nothing. The causes are biological and totally so. Evolutionary theory is the tool for guiding the most productive research on life. Thus, the vigorous study of the evolutionary biology of rape should be a high priority in any truly humane society.

But humans have not come very far in understanding the scientific and humanistic value of applying evolutionary analysis to human behavior. This limited progress may reflect an adaptation not to understand, because evolution applied to human behavior threatens the use of ideology as a social strategy<sup>14</sup>. Cognizance of ideological opposition to scientific study of rape could help in the establishment of scientifically objective review committees to evaluate and fund research dealing with the biology of rape. Until then, such research 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 re-evaluation of the social science 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 falsify the social science 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 humans. We are very critical of the biologists who advocate that evolution applies to all life except human behavior and psychology. This pre-Darwinian view of human activity is not scientifically legitimate. It is due to the evidentiary blindness that arises from ideology and political correctness. We invite all biologists to join the effort to create a science for 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 the most fundamental knowledge to be gained by students at all levels.

Although the media's distortion of our book has been extreme, it is understandable given the high emotions the horrible act of rape produces in all people. This is why we don't begrudge our critics. We only hope that as the initial emotions that have so colored their responses subside, they will take the effort to read our book as it is, not as they have 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 feminist ideology to a behavior that needs to be prevented through the identification of its causes. This change of attitude hinges upon people understanding that one can't logically be against rape and against the evolutionary approach to rape at the same time.

### Notes

- 1 Thornhill, Randy; Palmer, Craig T. "A Natural History of Rape: Biological Bases of Sexual Coercion." MIT Press, Cambridge, MA. 2000.
- 2 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.
- 3 Genetic determinism means that genes play an all-important or primary causal role in the development of a given trait of an individual organism. This inaccurately depicts the process of development (= ontogeny) of an individual's features, including its behaviors. In reality, each trait of the individual is equally caused by genes and environment. Thus, environmental determinism—that an individual's features are solely or primarily influenced by environmental causes such as learning—is as scientifically erroneous as genetic determinism.
- 4 This tax credit could be modeled after the Australian tax credit given to grandparents who reside near or with their grandchildren.
- 5 Strathern, Andrew; Stewart, Pamela J. "Collaboration and Conflicts: A Leader Through Time," p. 41. Harcourt College Publishers, Fort Worth, TX. 2000
- 6 Coyne, Jerry, A.; Berry, A.. "Rape as an Adaptation: Is this Contentious Hypothesis Advocacy, Not Science?" *Nature*, Vol. 404, pp.121 – 122. 9 March 2000
- 7 de Waal, Frans B.M. "Survival of the Rapist", *N.Y. Times* Book Review, pp. 1 – 2. 2 April, 2000,
- 8 Mesnick, Sarah L. "Sexual Alliances: Evidence and Evolutionary Implications", in Gowaty, Patricia A. (ed.), pp. 207 – 257. N.Y., Chapman and Hall, NY
- 9 Thornhill, Randy; Palmer, Craig T. "Authors' Response: Just Why do Men Rape?" *The Sciences*, pp. 6 and 46. May/June 2000. See also reference in Note 7.
- 10 See evidence in Note 1.
- 11 Reference Note 5 above.
- 12 Thornhill, Nancy; Thornhill, Randy. "An Evolutionary Analysis of Psychological Pain Following Rape: I. The Effects of Victim's Age and Martial Status", *Ethology and Sociobiology*, Vol. 11, pp.155 – 176. 1990
- 13 See Note 1 above.
- 14 See Note 1 above; also Thornhill, Randy. "The Biology of Human Rape", *Jurimetrics J.*, Vol. 39, pp.137 – 147. 1999