A Critical Analysis of

Why Sex Matters: A Darwinian Look at Human Behavior

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Critical Analysis Paper

Bobbi S. Low's (2000) book, *Why Sex Matters: A Darwinian Look at Human Behavior*, provides a frank, scientific discussion of the sex differences in human males and females as related to reproduction by building upon genetic data from throughout the animal kingdom. Behavioral ecology is the theme—defined by Merriam-Webster as "a branch of ecology concerned with the relationship between an animal's behavior and the conditions of its environment." Evolutionary principles serve as a basis for her theory about the importance of reproductive success and how behaviors are dictated by the drive for that success. With the subconscious calculation of costs versus benefits/gains, Low asserts that men and women operate in ways that secure the survival of their genetic heritage. Leaving no room for emotion or cognizant choices, this book is not likely to be palatable for readers who are not steeped in the *hard* sciences.

An academic herself, Evolutionary Zoology Professor Low's concentration is in the areas of evolutionary and behavioral ecology according to the University of Michigan School of Natural Resources and Environment's web page. Low is well-qualified to speak about human behavior as viewed from an evolutionary perspective. This is evidenced by her sixty-plus pages of notes accompanying the text of this book, the comprehensive glossary of terms, and the volume of resources cited. She has clearly done her research and knows her material. In his review of this work, Iver Mysterud discusses the dual meaning of the word *sex* in the English language, bringing into focus the fact that Low has managed to link the importance of the physical attributes that constitute a female or male classification with the intimate act that leads to reproduction (2003, p. 290). This is important to note because it is central to Low's theme—our motivations and actions toward procreation are very much influenced by our prescribed sex.

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To start, Low in her introduction talks about our need to explain things we see happening around us—to ascribe meaning to phenomena (p. 5). Folklore has long been used to pass down our ideas about causation for things like, in her example, unexpected deaths. In the absence of scientific data, people over the course of history have had some pretty creative ways of explaining symptoms (e.g., a ruddy complexion or skin and nail growth after death) to make sense of fears and impose behavioral expectations. Other members of the animal kingdom, however, cannot make use of folklore and practice more overt behaviors (e.g., screaming of juvenile ravens to alert others of potential food sources and to congregate and outnumber adult ravens, p. 7) to protect and provide for themselves. All of this to say, there are reasons *why* we behave in the ways that we do and they serve a purpose in ensuring our survival as a species.

Much of the early part of this work is dedicated to genetic benefits and costs and how the balance of the two leads to the acceptance of behaviors as common to a species. Although potentially difficult to grasp for the reader who is not a student of the biological sciences, this highly-technical writing sets a good foundation for the bridge between genetics and behavior. Many species are examined and, in each, observations are made about the presence of reproductive practices that promote Richard Dawkins' *selfish gene* that insists on its own constant reproduction (p. 19).

According to Low, behaviors are identified as either *selfish* or as *altruistic;* meaning—either they have either costly or profitable effects (p. 24). This can mean two different things depending on whether we are talking about *apparent* effects (those with benefits other than to reproduction) or about *genetic* effects (those that promote reproductive success). Our genetic material is patterned in ways that shows preference to those closest to us on the family tree—we are predisposed to favor the people we share family ties with. This serves an evolutionary

purpose, according to Low—because we are invested in seeing our family members survive and thrive, we will do the things that ensure their safety and ability to procreate. In appearance, this is altruistic behavior in which we show compassion and caring for our family members. In genetic terms, however, Low asserts that it is a selfish act that serves the purpose of protecting our own genetic heritage. If our family members have lots of children, grandchildren and so on, our selfish purpose has been served and our heredity will continue on in future generations. As the degree of separation increases (cousins, second cousins, etcetera), less and less is shared between us genetically and we are less inclined toward this type of altruistic behavior.

This type of thinking is in line with what we have learned about intimate relationships from Rowland Miller (2012). For the purpose of understanding intimate relationships (those that may lead to reproduction), Miller states that proximity is *rewarding* and distance is *costly* (p. 72). *Mere exposure* to others, whether they be siblings, parents, or potential mates, tends to increase our liking for them and increases the likelihood that we will behave altruistically toward them. The behavioral ecologist sees this as a win because we will do what we can to ensure their health and well-being and, ultimately, their reproductive success. There are selfish gains from increased quality of relationship, but clearly there are genetic gains as well. Conversely, according to Miller, long distances/separations cause *inconveniences* to relationships that hinder their success. And lack of connectedness genetically will hinder the likelihood that we will take measures to ensure the reproductive success of non-relatives.

Low's mention universal acknowledgement of physical attractiveness are supported by the work of Miller (2012, p. 82-83). These include: newborn babies displaying a preference for faces also found attractive by adults, male attractiveness being linked with sperm mobility, preference for long hair in women and its association with good health, increased emphasis on

physical attractiveness closer to the equator where parasites and pathogens are more common, and fluctuations in what females find to be attractive depending on where they are at in their menstrual cycles. No matter the culture, many things seem to hold across the lifespan and between the sexes.

Now to the differences between males and females. Low asserts that males are concerned more with the sheer volume of their reproductive successes, while females are concerned with the survival of the products of their reproductive activities. That is, men want to be prolific and women want to nurture their offspring to increase the likelihood of their survival. Both goals are important. To put it in other terms, seeds must be planted for crops to grow and, once successfully planted, they must be tended to so that they can reach their full potential. Ultimately, those crops will in part go to seed and the whole process will repeat itself. The *selfish gene* mentioned earlier is served well when both roles are fulfilled.

But, *why* are there differences between the sexes? According to Low, looking back through evolutionary history, "a woman's value was usually her reproductive value, and a man's value was his resource value" (p. 83). Differences in physical structure (e.g., higher muscle mass and broader shoulders in males and greater ability to store fat in females) serve purposes that are of critical importance to reproduction. Males must be more physically imposing, according to Low, so that they can demonstrate dominance and attract mates (p. 45). Males in the animal kingdom and in humans must content with competitors for the attention and loyalty of females. Therefore, their physical appearance has to be a priority. When there is a lack of stature, strength, or good looks, males must compensate in other areas to be competitive. As we learned from Miller, this compensation can come in the form of increased resources (income). Miller states that for men who are not tall (shorter than 5'5") there would need to be an additional

income of $221,000 per year to achieve the same attraction value to females as a man who is 6'1" (p. 80). This may sound frivolous or shallow, but in keeping with Low's theory it speaks to a man's ability to provide resources for his mate and offspring. Concerned with the availability of adequate resources, Low might project that this compensation goes a long way toward ensuring the reproductive success of a short man's genetic heritage.

As for women, the attributes that are considered attractive are also indicative of increased fertility according to Low. She indicates that the youthful appearances we typically consider to be appealing are related to health and, consequently, to potential reproductive value. Of importance in both Low and Miller's writings is a woman's wait-hip ratio. Miller states that the "most attractive waist-to-hip ratio, or WHR, is a curvy 0.7 in which the waist is 30 percent smaller than the hips" (p. 79). This is a standard of beauty that is observed cross-culturally and even appreciated by blind men who sense the hourglass shape by touch. Low relates this to *steatopygy* which involves storage of fat in the buttocks area indicating a woman's ability to thrive in harsh environments where resources may be scarce (p. 82). When a woman can store fat and sustain herself, she will be able to nourish and care for her offspring. We may think our preferences are of our own creation, but Low asserts that even these little things have evolutionary foundations that work to ensure the survival of our genes.

Knowing some of what we find attractive in the opposite sex, how does this inform our mate choices? It seems to be a more complex process than that observed in other animal species—for instance, grasshopper females who observe males' foraging habits or cockroach females who can pick up on "pheromone cues" that indicate a male's health (Low, 2000, p. 78). There are many marriage systems in the human world that dictate appropriate mate selection. In traditional cultures families are often involved—suggesting a concern with choices that would

best ensure proliferation of their genetic material. Whether extended families are involved or not in selection of a mate, Low suggests that females demonstrate interest in males who can provide resources and males are concerned with women's ability to reproduce.

Social status in females' selection is important to note because it is indicative of the male's prospects. Males of higher social status are likely to have extended families who can provide resources in times of want and connections to opportunities for gaining resources. Females seeking out mates who can provide *maximum rewards* (through resource provision) supports the theory of *social exchange* as promoted by Miller (2012, p. 175).

Males appear to also be concerned with maximizing rewards (through reproduction). But, for them the motivation is to gain an attractive (youthful) mate with the highest possible reproductive value. This value, according to Low, is the number of potential offspring a woman is likely to have from her current age-point through menopause, the end of her fertile years (p. 330). Social status is less of concern to males when choosing a mate because, according to Miller, they prefer warmth and loyalty. This is important to note because they are also good indicators of a woman's ability to nurture offspring, thus increasing reproductive success (p. 102).

In comparison with our closest genetic relatives, other primates, Low remarks that our long life span is *unexpected* (p. 93). This, she says, is related to traits specific to humans that "help set the stage for the things we can do in our lives, and for the patterns of sex differences we see" (p. 92). We have longer gestation periods, are born with larger brains, and nurture our young much longer than other primates. We reach sexual maturity later and women spend more years of their lives post-fertility than other mammals. Low makes the distinction that males have a greater capacity for overall fertility because they can impregnate multiple women in the same

time period and maintain the ability to impregnate throughout their life span as opposed to women who lose the ability to reproduce generally in their late 40s or early 50s. Women, however, make up for this discrepancy by altruistic acts of caring for subsequent generations. Through caring for their adult children and grandchildren, women continue to support and promote genetic continuity within their families.

We may attribute longer life spans to our intelligent edge over our fellow primates and to advancements in medicine, but Low states that this is a faulty assumption (p. 110). Historical record shows that generations of our distant ancestors had long lives as well. Low argues that we owe lengthening life spans to evolution. Here, again, we see differences in the sexes. She asserts that, by virtue of differing sex chromosomes in genetic makeup, males appear to be more vulnerable than females. However, she indicates that it is more likely that risk-taking behaviors account for shorter lives for human males than females. This fits with what we've learned about the ways that males, both human and other animal, attract females with flashy displays to set themselves apart from their competitors.

So far Low has focused mostly on biologically predetermined factors as they relate to resources and our ability to gain them. None of us can control our physical build, stature, or other inherent factors associated with beauty. But, surely our actions are as important as the way we look. Can our personalities affect our ability to attract mates and care for our families? Low addresses this in her chapter on whether "nice guys can win" (p. 146). She says they can under certain circumstances. By sharing and cooperating with one another, we promote ourselves as selfless beings. Low argues that, in doing so, we are simply exercising *genetically profitable* behaviors. This harkens back to what was said earlier about *apparent* versus *genetic* costs. We may give to others in ways that have no apparent benefit to ourselves, but ultimately all sharing

comes back to preservation of our mates or families. We are less likely to demonstrate this altruism with those who are not related to us in some way. Examples given include: nursing of infants costing the mother lots of calories and helping one's neighbors in hopes that they will help us in our own times of need. The second example appears to defy our tendency to care primarily for or own. In actuality, to show generosity toward non-family members in close proximity to oneself is an insurance policy of sorts—buying the opportunity to have assistance close by when our own family needs preservation. Even the most selfless of acts that help portray us as *good guys* have underlying selfish motives. In the case of the nursing mother, there are no immediate benefits to her; benefits come into play with the increased survival rate of her offspring and continuation of her genes. Low's theory remains intact—our behaviors are consistent with our drive to ensure reproductive success.

Low has thus far talked a lot about behaviors that are adaptive for our genetic survival. But, what about traits that are maladaptive? She addresses these as well in saying, "culturally transmitted traits…that are clearly costly tend to diminish over time" (p. 160). She gives the example of Shakers and their rules dictating celibacy—clearly a cost to their continuance. Without reproduction they would rely solely on conversions to continue on with their way of life. That did not work out so well for them and they no longer exist. In today's world, we are seeing reduced rates of fertility as average household incomes rise (on the whole, not in all segments of population) and environmental factors (clean water and air, global warming) are less favorable. We could, as with the lengthening-life-spans-of-humans example, explain this away as pure choice. But, Low's theory points to the likelihood that this is an evolutionary trend. We are programmed somehow to reproduce in smaller numbers when the earth's resources are becoming scarce or compromised. Furthermore, with the increasing attention to same-sex relationships

(not really covered by Low in this work), it could be supposed that there are more homosexuals today because an evolutionary control over population has been activated as we near the earth's carrying capacity. This is a popular mindset, though there appears to be little science thus far to support such a theory.

Low spends several chapters of her work covering conflict and war and how they affect human evolution. Conflicts arise whenever there is competition for resources. The connections between the stressor and the resource may not be well-defined as in the case of the colonial New England Witch Trials. The majority of land at that time was owned by a minority of the wealthy and powerful (p. 163). Fear and misunderstanding led the people to view many women and some men as having dark powers. The notable victims of this tragedy, Low points out, were widows and otherwise unattached women who did not have mates or male heirs to help them protect their assets. Additionally, if the women were of low reproductive value—barren or beyond their fertile years—they were accused, tried, and often executed for crimes that they did not commit. The Witch Trials are a brutal page in America's history and we see, thanks to Low, how this had motivations related to resources and fertility. This allows us to look at today's social climate and see how power and resources are withheld or taken from those who have no means of protection or reproductive value. This is applicable, again, when we look at the persecution suffered by homosexuals and transgendered individuals who offer little or no hopes for genetic productivity.

Much attention is given to game theory, defined by Low as a "mathematical analysis of optimal choice of strategies when one's payoffs are affected by other actors" (p. 326). There are lots of intricacies involved in how to best play the game that is balancing cooperation and defection—knowing when to work with one's competitors and when to walk away. This has

ramifications when it comes to obtaining and controlling resources. Perhaps difficult to apply for the reader, this section does the adaptive ways in which we punish those who defy societal rules in competition and how we carry biases against those who fail to punish cheaters. We see much of this dynamic as we look at modern-day politics and warfare. Politicians are constantly under scrutiny for not being swift enough with their reprimands or action against those who we deem as threats to our ability to gain and control resources (e.g., petroleum). And why are we so concerned with controlling resources? To ensure our survival and that of our offspring. Low paints a compelling argument.

Perhaps one of the most important warnings Low shares is to guard ourselves against the "particularly dangerous trap" of *naturalistic fallacy* in which we perceive what *is* as what *ought to be* (p. 166). We should not become complacent, but our behaviors should line up with the values and morals we claim to possess. Our collective drive toward improvement of society is likely in keeping with evolutionary trends. Though much of this work focuses on evolution from a biological standpoint, our actions are also indicative of evolutionary progress. Low states that, "it is easy to say that we believe in… environmental protection, or civil rights in China, but the real test is what we will sacrifice to achieve those ends" (p. 167). To ensure reproductive success for ourselves and our fellow human beings, we should act in ways that protect the likelihood that we will be able to continue to reproduce.

Low's work is a challenging read and communicates a very black-and-white understanding of human motivations and actions. There is little here to address diversity of any kind. Very thorough and detailed, much sense is made of the subconscious preferences and rituals involved in mate selection and reproduction. While it is disappointing that she has not

addressed variation of any kind, she is successful at demonstrating how the behaviors of males and females are adaptive toward reproductive success and continuation of the human species.

References

Behavioral ecology. (n.d.). In *Merriam-Webster online.* Retrieved from http://www.merriam-webster.com/dictionary/behavioral%20ecology

Low, B.S. (n.d.) In *University of Michigan: School of Natural Resources and Environment.* Retrieved from http://www.snre.umich.edu/profile/bobbilow

Low, B.S. (2000). *Why sex matters: A Darwinian look at human behavior.* Princeton, NJ: Princeton University Press.

Miller, R. S. (2012). *Intimate Relationships* (6th ed.). New York: McGraw-Hill Companies.

Mysterud, I. (2003). Review: Why sex matters. *Population and environment, 24*(3), 287-290. Retrieved from: http://www.jstor.org/stable/27503839