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OF HOGGAMUS AND HOGWASH: EVOLUTIONARY PSYCHOLOGY AND GENDER RELATIONS

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Evolutionary psychologists argue that genes determine not just human physical, but human behavioral tendencies to a much greater degree than many people want to believe. In particular, they argue that certain behavioral tendencies distinguishing men from women are reflective of different male and female reproductive strategies which evolved during the early history of the human race. In this article, evolutionary psychology's claims to be a rigorous science are questioned, with particular reference to its conclusions about gender relations. In addition, evolutionary psychology as a metaphysical world view is contrasted with the biblical creation account, which calls for gender co-operation, not competition, and which does not see pair-bonding as a reductionistic strategy for getting individuals' genes copied in the next generation.

In the late 19th century, philosopher and psychologist William James was credited with inventing a two-line piece of doggerel that went as follows: "Hoggamus, higgamus, man is polygamous; higgamus, hogamus, woman monogamous." James, it can safely be surmised, knew nothing about genetics, let alone about evolutionary psychology, though he had an ambivalent attraction to Darwin's theory of natural selection (Donnelly, 1992). Indeed, the published results of Gregor Mendel's mid-19th century experiments with pea plants had gone unread even by Charles Darwin, who went to his death without having invoked any specific biological mechanism to support his theory of natural selection. They continued to be ignored by scientists until 1900, sixteen years after Mendel's death and eight years after James relinquished the directorship of the Harvard Psychology Laboratory to return to philosophical scholarship (Henig, 2000). Nevertheless, James' doggerel anticipated the substance, if not the reasoning, behind a central tenet of what was later to be called the 'science' of evolutionary psychology, one of the most strongly defended *and* criticized intellectual currents circulating today. The purpose of this article is to examine its claims about gender relations in the context of a Christian worldview, but also against the criteria for scientific credibility that its adherents claim to honor.

In brief, evolutionary psychology defends the view that not only do genes largely determine human *physical* characteristics but *behavioral* tendencies as well, and that this occurs because certain behaviors–including those that differ by sex–are adaptive for survival and reproduction. Darwinian mechanisms of natural selection are presumed to have favored genes for behaviors and mental habits that solved survival problems faced by early humans, thus contributing to further survival and the passing on of those gene-based habits. Many ways of solving those survival problems–such as finding food and shelter –are presumed to have been common to all our human ancestors, regardless of sex. But to meet the challenge of getting their genes into the next generation, evolutionary psychologists postulate that men and women evolved quite different strategies which are enshrined in their respective genes to this day (Buss, 1995; Cosmides, Tooby, & Barkow, 1992; Wright, 1994, 1999).

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What Evolutionary Psychology is Not

Before examining this hypothesis and the evidence invoked to support it, some brief remarks need to be made about what evolutionary psychology is *not*. It is not, first of all, to be confused with behavior genetics, an interdisciplinary field of study that attempts to weigh the relative power of genetic and environmental influences on behavior by studying the behaviors and traits of actual people of varying degrees of biological relatedness. Two kinds of events—the formation of twins and the formation of adoptive families—aid in assessing the relative effect of nature and nurture on a number of conditions.

For instance, identical twins (whose origins are in a single fertilized ovum that splits in two) have 100 percent of their genes in common, whereas fraternal twins (who develop from two separately fertilized eggs) share only 50 percent, and thus are no more genetically similar than ordinary siblings. So, for example, when we find that the shared lifetime risk of developing schizophrenia is almost 50 percent for identical twins, but less than 20 percent for fraternal twins, we can conclude that the disease has a strong genetic component. But because the shared risk decreases to less than 10 percent in siblings born at separate times in one family, we know that environmental differences also have some effect. The practice of adoption creates two parallel groups of relatives—biological and non-biological—and thus gives us another opportunity to tease apart the contribution of genes and environment to individual differences. So when we find that adopted individuals are more susceptible to alcoholism if one or both of their biological parents had a history of alcoholism—even if they never lived with those parents—then again we can conclude that there is genetic vulnerability to this problem (Bouchard, 1995, 1996).

Secondly, evolutionary psychology is not to be confused with molecular genetic research, which by careful field and laboratory investigation has generated findings of medical and even historical significance for many groups. For example, the risk of sickle cell anemia is higher in people of African origin, although, interestingly, it turns out that one gene causing it also helps prevent another disease—malaria—that is common in mosquito-infested parts of Africa. Another intriguing finding comes from the fact that every human father passes on to his sons a nearly exact copy of the genetic information on his Y chromosome. This is because, unlike other chromosomes, the Y chromosome does not undergo a reshuffling of its genes with a partner (in this case an X chromosome) when sperm are being produced. The virtually fixed nature of the Y chromosome from generation to generation was what enabled researchers to conclude that Thomas Jefferson, the third president of the U.S., could have fathered the child of one of his slaves, Sally Hemmings. At the same time, the fact that genetic mutations do occur at a slow but constant rate through history enables population geneticists to calculate how long ago migrating groups with common ancestors separated from each other. By examining saliva samples submitted for genetic analysis, this kind of research is helping African-American descendants of slaves to find out which part of Africa their more immediate ancestors came from (Cavalli-Sforza, Mennozi, & Piazza, 1994).

The Plausibility of Micro-Evolution

Genes are thus important contributors to human differences—both indirectly, in their contribution to the remarkable adaptive flexibility of every human brain, and more directly in their contribution to specific physical and psychological problems. But can we appeal to genes as a partial explanation for *more complex* and *common* behaviors? Centuries before humans even knew about the existence of genes, they were breeding horses, dogs, and other animals not just for desired physical but also behavioral traits. As a result of such 'artificial selection' we have sheepdogs who herd, bloodhounds who track, pit bulls who fight, and lap dogs who sit serenely in people's laps. Dogs, to be sure, are on a much tighter 'genetic leash' than humans—which means they pretty much do only what they've been bred to do. No amount of environmental engineering will make a lap dog behave like a bloodhound. But a Vietnamese baby adopted into an American setting will grow-up behaving like other Americans. The legacy of a large cerebral cortex puts humans on a much looser genetic leash, with the result that, more than any other species, we are hard-wired for behavioral flexibility—for passing on what we have produced culturally, not just what we have been programmed to do genetically.

Nevertheless, it is conceivable that over thousands of years certain adaptive psychological tendencies—just like certain skin tones and disease resistances—were genetically strengthened in various

human groups by the 'breeding forces' of their environments. This is the theory of *natural selection* advanced by Charles Darwin in the mid-19th century. According to this concept, in any species that lives in a given ecological niche, those members who happen to have the genes (by mutation and/or inheritance from parents) that allow to them cope more successfully with their environmental challenges are the ones most likely to survive and reproduce (Darwin, 1859, 1871). This scenario is, of course, about *micro-* rather than *macro-*evolution—that is, the possibility of small, environmentally driven (and not even necessarily permanent) genetic changes *within* species. It is not about the claim that, over time, new species emerge from older ones, or the even larger claim that all species are descended from a common ancestor, or that life originally emerged from non-living matter. These are claims about which there is continuing debate among Christian and non-Christian scholars alike (Hunter, 2001).

But as Catholic biochemist Michael Behe has observed, among biologists of all religious stripes micro-evolution "is now about as controversial as an athlete's assertion that he or she can jump over a four-foot ditch" (Behe, 1996, p. 15). Darwin's notion that relatively tiny changes could occur in nature is supported by studies as diverse as laboratory experiments with the fruit fly *Drosophila* and field observations of generations of finches in the Galapagos Islands, not to mention all those practical experiments with plant and dog breeding that humans have been doing for centuries. Such variation over time does not happen equally often in all species: Fruit flies undergo trait mutations more easily than dogs, and dogs more so than humans. But genetic changes do take place at all levels of species complexity. Indeed, as noted above, it is the record of such changes that now allows the American descendants of slaves to trace their geographic roots in Africa.

Assumptions of Evolutionary Psychology

How do these relatively cautious claims about genes differ from the claims of evolutionary psychology, and particularly that part of it claiming to explain motivational and behavioral differences between men and women? First formalized a quarter of a century ago under the rubric of 'sociobiology' (Wilson, 1975, 1978) the field now called evolutionary psychology rests on certain controversial assumptions, most of which concern the structure of the human brain. Although evolutionary psychologists do not deny that human beings have *somewhat* greater latitude for adaptive learning than other species, they insist that past environmental challenges have produced certain uniform 'design features' in human brains everywhere. Some of these are common to male and female brains, but (more controversially) others are said to be sex-specific. We look first at behaviors said to be selected for humans regardless of sex.

At the dawn of human history, so this story goes, human beings faced certain common challenges: how to find food and shelter, how to avoid or overcome predators, and how to get copies of their genes into the next generation. Over time, the genes that gave their carriers the greatest edge in meeting these challenges gradually spread through the species to become universal. Thus, according to evolutionary psychologists, little can be learned by studying behavioral variation, whether intra- or cross-culturally. By meeting survival challenges of their early 'environment of evolutionary adaptation' human brains all ended up pretty much the same, with only a light dusting of flexibility and variability. It is the behavioral tendencies said to have endured from this common genetic legacy that are deemed more important to describe and explain.

To evolutionary psychologists the mature brain is thus seen less as a general-purpose, flexible problem-solving organ than a collection of fixed 'modules' or 'programs' that push all humans to behave in similar ways, even though they are largely unaware of this programming (Cosmides et al., 1992). On this account, "virtually every human action feeling, including depression, homosexuality, religion, and consciousness was put directly into our brains by natural selection....Evolution becomes the key—the only key—that can unlock our humanity" (Coyne, 2000, p. 27). It is not just basic physiological and perceptual processes that have been hard-wired by natural selection, but just about everything else too. For evolutionary psychologists, humans are on a tighter genetic leash than most of them would like to believe.

Thus, depression is said to be favored by natural selection because it enabled our ancestors to solve problems by withdrawing from threatening situations, thus surviving to reproduce. Homosexuality is adaptive because, according to the concepts of 'kin selection' and 'kin altruism,' even if gay people do

not have children of their own, they share a quarter of their genes with their nieces and nephews, and by helping them can keep copies of those genes circulating. Religion is adaptive because its teachings about loving our neighbor point us beyond the narrow tribalism of kin altruism to a wider sense of sharing, or 'reciprocal altruism,' which enhances the reproductive chances of all who practice it. All human inclinations, if examined closely enough, are simply gene-driven ways of enabling their bearers to survive long enough to get those genes copied (Wright, 1994, 1999).

A further assumption of evolutionary psychology is that the specialized, modular brain humans acquired in their primal environment has not changed appreciably. It took many thousands of years to develop, and given the slow rate at which natural selection and mutation proceed, it is presumed to be with us still. Thus, no matter how odd some human behaviors may seem today, they are still said to make sense in terms of that primal setting. The world has changed faster than our genes are able to, so some behaviors have become maladaptive—for example, eating as much high-fat food as we can get our hands on, or having very large families. Yet the urge to engage in those behaviors endures. In our innermost genetic beings, we are all Pleistocene hunter-gatherers (Buss, 1995).

Is This Science?

Perhaps now you can see why earlier I used inverted commas when I called evolutionary psychology a 'science.' In the words of Ian Tattersall, a curator at the American Museum of Natural History, "it provides a perfect foil for reductionist story-telling, since with enough imagination almost any characteristic of an organism can be identified as an 'adaptation' with a distinctive role to play in the evolutionary scenario" (Tattersall, 2000, p. 35). Indeed, because we cannot get into a time machine to gather data from the Pleistocene era, and because "behavior leaves no fossils" (Hubbard, 1998, p. 149), there is no way to confirm or disconfirm the basic tenets of the theory. As a result, it is possible to explain apparently quite incompatible behaviors using *ad hoc* evolutionary psychological concepts. Why are mothers willing to die for their children? Of course, to maximize reproductive fitness (by protecting the presumably good genes they've passed on). Well then, why do some mothers kill their children? Of course, to maximize reproductive fitness (by getting rid of the presumably bad genes they've passed on). Why do adults invest more resources in children the more closely they are related to them biologically? Of course, the closer the relationship, the greater the number of one's own genes that are shared! Well then, why would people ever adopt biologically unrelated children? Of course, because of the more generic gene for reciprocal altruism! Auxiliary concepts are multiplied to explain away whatever data are embarrassing to the main theory. Thus evolutionary psychology becomes "simply a theory of everything" (Ferguson, 2001, p. 33).

It's not that theorizing—even visionary, faith-based theorizing—is inimical to scientific work. Indeed it is vital to good science (Popper, 1959; Polanyi, 1962; Van Leeuwen, in press). But as a philosopher of science, Karl Popper noted any theory that *routinely* explains away contradictory data is not scientific at all. As Popper would put it, a theory that explains everything explains nothing (Popper, 1959; Polanyi, 1962). Ironically, although evolutionary psychologists believe they are being 'scientific' in a way that classical Freudians are not, their theories are just as reductionistic and resistant to empirical challenge. In the words of biologist Jerry Coyne (who thinks evolutionary psychology is far closer to phrenology than to physics), "Now that Darwin is ascendant, [you can] blame your genes, not your mother" (Coyne, 2000, p. 27). An interesting cocktail party game perhaps, but it should not be mistaken for science (Gould, 1981).

Sexual Selection and Games People Play

But thus far the evo-psychological scenario, though highly reductionistic and dubiously scientific, is still pretty generically human. It holds that natural selection for certain brain-mapped behaviors happened because of early environmental challenges common to everyone: how to obtain adequate food and shelter and stay safe from predators. However, when it comes to explaining how our ancestors adapted to the actual business of reproduction, evo-psychologists have written very different scripts for men and women. At this point *natural* selection is augmented by what Charles Darwin called *sexual* selection. This is the idea that although women and men may share the same survival interests—and hence the same behavioral tendencies—with regard

to routine things like food and shelter, when it comes to reproduction they are programmed for quite different values and behaviors.

The basic idea behind sexual selection is this: If all motives and actions are ultimately in the service of getting one's genes copied as often and as reliably as possible, then men and women have evolved markedly different, genetically hard-wired 'reproductive strategies' to ensure that this happens. In terms of sheer biology, men can generate many more offspring than women, who are infertile during each nine-month pregnancy (and often after birth if they are nursing) and whose supply of eggs runs dry at an earlier age than men's sperm-producing capacity. As explained by evolutionary psychologist Stephen Pinker (1998, p. 23), "a prehistoric man who slept with fifty women could have sired fifty children, and would have been more likely to leave descendants who inherited his [promiscuous] tastes. A woman who slept with fifty men would have no more descendants that a woman who slept with one." If this is so, then human males are said to have two possible reproductive strategies, while females really only have one.

On this account, females need (and thus *want*, albeit unconsciously) to make sure that the limited number of offspring they can gestate during their fertile years are brought to maturity so that they can continue to pass on copies of their genes. And so women are sensibly choosy about which males they mate with. They look for evidence of a good genetic pedigree in the form of strength to defeat rival males for their affections (the 'deer strategy') or in the form of impressive body or other resource markers (the 'peacock strategy'). It is such males—or so women's genes are said to reason on their behalf—who will be most likely to pass on copies of well-selected genes, raising the probability that their offspring will themselves survive to reproduce (Miller, 2000).

On this account, a woman gains nothing by being endlessly promiscuous. She can only get pregnant a limited number of times, and so as a result of the forces of sexual selection, she is inclined to focus on mating with the one, perfect 'alpha' male—younger or older, it matters not, as long as he has genetic and material resources. Hopefully, he will also stay around long enough to help raise any children she has by him, but this is an iffy proposition, as we will see shortly. A man, by contrast, has two possibilities for multiplying copies of his genes. On the one hand, he can aim for *quantity* of offspring: impregnating as many young, fertile females as possible, but not staying around to help raise any of the resulting children. The (again, unconscious) calculation is that by virtue of the sheer numbers conceived, enough will survive to adulthood to keep passing on copies of the father's genes, even if some die in infancy or childhood for lack of dual-parent protection. Alternately, he can embrace the *quality* strategy: He can stick with one female partner, because their jointly-generated offspring, though fewer in number than if he were promiscuous, are more likely to survive and reproduce with their father's long-term care and protection added to their mother's. These contrasting male scripts have been labeled the 'cad strategy' and the 'dad strategy' (Draper & Harpending, 1982).

Now why would any red-blooded male whose true purpose in life is to get his genes copied as often as possible ever settle for the 'dad' strategy when being a 'cad' seems to deliver the best of both worlds: sexual variety and lots of offspring without any long-term responsibility? Here is where the plasticity of evolutionary psychology allows it to be invoked for quite contrasting ideological agendas. If you wish to support monogamous, permanent unions as a moral (and realistic) ideal, you can fantasize as follows: Human females' sexual receptivity is not narrowly limited to seasonal periods of 'heat' or estrus, as is the case with other mammals. Furthermore, their fertile period is not registered in externally obvious body changes (again, unlike other mammals). Therefore, since a man can never be sure which of his sexual acts will yield him offspring, and since it would be a genetic disaster to end up raising the children of other men, it's generally a better reproductive strategy to 'pair bond'—that is, to stick by one woman, copulate with her regularly, and keep her away from other men. Not only is this compromise the best guarantee of a man's 'paternity certainty,' but it will probably help him live longer, since other males will not take kindly to his attempts to get his gametes into females *they* are trying to impregnate (Ferguson, 2001).

According to this more morally-traditionalist or 'softcore' reading of evolutionary psychology, pair bonding is good for children too. Because the time needed for human infants to reach self-sufficiency is so much longer than in other species, it is more likely to be successful with two highly invested caretakers than with just one. Thus, men's genes for pair-bonding may trump (if barely) their genes for bed-hop-

ping, provided that the pair-bonding tendency is reinforced by cultural incentives and sanctions (Popenoe, 1996; Browning et al., 1997). This 'soft-core' version of evolutionary psychology already biologizes a lot of questionable stereotypes—such as men's insatiable sex drive and their jealous need to guard access to their mates. But the more widely-disseminated 'hardcore' version goes even further.

Rape as a Reproductive Strategy

If you are a male who favors sexual freedom and material acquisition, the 'hardcore' version of evolutionary psychology can help you clothe an age-old double standard in the mantle of science. In this version, polygamy, not pair-bonding, is men's basic nature. Colin McGinn offers this ironic summary:

> Males will fight, seek resources and posture in order to gain access to females, and the tougher and richer the male, the more copulatory success he will enjoy.… It is the old, old story: men look for youth and beauty in their mates, while women seek men who will put a roof over their heads, the fancier the better, even if that means sharing their husband with another woman. (McGinn, 2000, p. 12)

Or as expressed by William James, "Hoggamus, higgamus, men are polygamous; Higgamus, hoggamus, women monogamous" (Angier, 1999, p. 324).

New York Times science writer Natalie Angier has rephrased James' anticipation of hardcore evolutionary psychology as follows: "Higgamous, hoggamus, Pygmalionus, *Playboy* magazine eternitas, Amen"—indicating that she sees the enterprise more as a faith-based ideology and an excuse for male sexual license than an example of cutting-edge science (Angier, 1999, p. 326). Evolutionary psychologists, in turn, regard feminism—with its claim that gender stereotypes are more the product of nurture than nature—as a misguided movement that underestimates the biological strength of men's motivation to be philanderers and women's to be gold diggers (Buss, 1994). So it's not surprising that feminist critics of both sexes have gone over hardcore evolutionary psychology with a fine-toothed critical comb, and found it wanting. Angier readily concedes that humans are "not above the rude little prods and jests of natural selection." But she concludes that hardcore evolutionary psychology, "as it has been disseminated across mainstream consciousness, is a cranky and despotic Cyclops, its single eye glaring through an overwhelmingly masculinist lens. I say 'masculinist' rather than 'male' because the view of male behavior promulgated by hardcore evolutionary psychologists is as narrow and inflexible as their view of womanhood is" (Angier, 1999, p. 325).

Perhaps the most egregious example of evo-psychology's endorsement of negative male stereotypes appeared in the volume *A Natural History of Rape*, by two American academics, Randy Thornhill and Craig Palmer (2000). Many analysts believe that rape is driven less by sexual arousal than by men's culturally-learned desire to subjugate women (Brownmiller, 1975; Griffin, 1979; Gordon & Riger, 1989; Schecter, 1982). By contrast, Thornhill and Palmer argue that rape tendencies have been favored by sexual selection to give socially unsuccessful males a chance to beget offspring, and also to give males who do have mates an extra chance to get their genes copied. Such tendencies might be activated when men are unable to attract women by the usual evolutionary routes of looks, wealth, or status. Or it might happen when men's—*any* men's—genes inform them that the reproductive benefits of rape might outweigh the risks—for example, when a woman is alone and unprotected, or when they have such a clear physical advantage that they cannot be injured by the woman in question.

Thornhill and Palmer hasten to add that they do not by their analysis intend to commit the naturalistic fallacy: Just because men *are* biologically primed for rape does not mean such behavior is justified. But the obvious question is: why on earth not? Once you have reduced all behavioral tendencies to inexorable genetic mechanisms, then humans are no more responsible for their behavior than my local ATM machine is when it fails to give me the money I'm trying to withdraw from my account. You cannot get ethics from mechanics, so the obvious evolutionary default setting is simply that might makes right.

Even if we ignore this ethical contradiction, the authors' ideas for rape prevention border on the absurd. Women, they write, should stay away from secluded places, keep their eyes averted, and not expose too much skin. (Would they have prescribed similar precautions to African-American men to avoid being lynched during the era of Jim Crow laws?) When women do get raped, Thornhill and Palmer continue, they can be comforted by knowing that their trauma and depression are nature's way of making them withdraw temporarily to lick their wounds. And men? Well, if we just explain to them the evolutionary roots of their impulses, then they might be able to avoid behaving in an adaptive fashion that is harmful to others. To which suggestion

mainstream biologist Jerry Coyne replies, "Does anyone imagine that young men will be *less* inclined to rape when they are told it is in their genes?" (Coyne, 2000, p. 33).

Scientific Rationality or Rationalization?

Thornhill and Palmer assume that anyone who resists their conclusions is a mindless ideologue or an obscurantist bent on impeding rigorous inquiry. But among evolutionary psychologists, respect for scientific rigor is often more apparent than real. For example, Thornhill and Palmer claim that women of reproductive age are overly-represented among rape victims, just as one might expect if rape is a strategy for getting more of one's genes copied. Yet their own data indicate that over half of such victims are either pre-pubertal or post-menopausal women. Moreover, if the goal of rape is to increase the probability of offspring for individual males, how are we to explain gang rapes, or wartime soldiers' bordellos? In terms of hardcore evolutionary psychology, such group behaviors are *maladaptive*, because competition between multiple rapists lowers each individual's chance to fertilize a possibly waiting egg. How are we to explain the substantial proportion of rapes accompanied by murder, or at least by such egregious violence as to lower chances of a viable pregnancy? How are we to explain homosexual rape in prisons and elsewhere?

Selective use of evidence and ignoring contrary data are the stock in trade of many evolutionary psychologists, not just the authors of *A Natural History of Rape*. For example, University of Texas psychologist David Buss makes much of the fact that his surveys in thirty-seven countries show men consistently rating youth and beauty as important traits in a sexual partner, whereas women give greater weight to ambition and wealth. This apparently explains why men have more extra-marital affairs than women because, Buss tells us, asking a man not to lust after attractive young women is like asking a carnivore not to eat meat (Buss, 1994). But data collected by Annette Lawson of the Berkeley Institute of Human Development show that since women have entered the waged workforce in large numbers, the number of extramarital dalliances by young women now slightly *exceeds* the number reported by men. This suggests that the frequency of such behavior– however we might judge it morally–depends less on evolutionary selection of sex-specific motivations than on sheer opportunity and changing gender-role norms (as reported in Gottman & Silver, 1999, p. 16).

Even Buss' own data undermine his argument. In his cross-cultural surveys of mate preference, when asked what qualities are *most* important, both sexes on average ranked love, dependability, emotional stability, and a pleasant personality as the highest four. Only in the fifth ranking did his predicted differences emerge, in a modest way, between the sexes. Moreover, there is a large social psychological literature affirming that men and women generally marry people like themselves–people who are close in education, economic status, religion, politics, age, and even appearance. They marry people they feel comfortable with; empirically it is less the case that 'opposites attract' than that 'birds of a feather flock together' (Byrne, 1971). That powerful older men marry gorgeous younger women more than the opposite scenario is undeniably true. But, as with the appeal to differential rates of infidelity, this data is uninterpretable as long as opportunity remains unequal between the sexes. As Natalie Angier wryly comments, "If some women continue to worry that they need a man's money because the playing field remains about as level as Mars–or Venus, if you prefer–then we can't conclude anything about innate preferences" (Angier, 1999, p. 331).

The significance of differing opportunities for men's and women's mate choices has been further examined by two social psychologists, Alice Eagly and Wendy Wood. These scholars took the thirty-seven cultures of Buss's study and rank-ordered them according to two indices of gender equality devised by the United Nations Development Program. One is the Gender-Related Development Index, which rates nations on the degree to which their female citizens approximate male citizens' life-span, education, and basic income. The other is the Gender Empowerment Measure, which rates nations on the degree to which women, in comparison to men, have entered the public arena as local and national politicians, and as professionals and managers (United Nations, 1995). Eagly and Wood found that as gender equality in Buss's thirty-seven nation list *increased*, the tendency for either sex to choose mates according to the so-called sex-selection criteria of evolutionary psychology *decreased*.

Eagly and Wood concluded that sex differences in mate selection criteria–differences that Buss and other evo-psychologists claim are 'hard-wired' in all

humans by evolution—are more likely the result of the historically-constructed sexual division on labor, which has kept women dependent on men's income, and men dependent on women's domestic skills. As this wall of separation between men's and women's spheres breaks down (a process nicely traced in the two UN measures) both sexes begin to use more generically-human criteria—such as love, dependability, and a pleasing personality—to judge potential mates (Eagly & Wood, 1999).

There are other contradictions in hardcore evolutionary psychology. For example, if male promiscuity is such an adaptive reproductive strategy, why do sexually transmitted diseases persist, mutate, and multiply? If older, resource-rich males are so naturally attractive to young, fertile women, why do men routinely fret about going bald? There is no evidence that women admire, rather then merely tolerate, a receding hairline. "Yet," observes Angier, "the legend of the sexy older man persists—particularly among older men" (Angier, 1999, p. 331). She summarizes the methodological issues quite trenchantly: hardcore evolutionary psychologists "declare ringing confirmation for their theories in the face of feeble data. They suffer amusing contradictions of their data. They pick and choose, one from column A, one from column B, and good food, good meat, holy Darwin, let's eat!" (Angier, 1999, p. 326).

Evolutionary Psychology as World View

In view of its dubiously scientific status, why does evolutionary psychology—as measured by sales of its proponents' books—have such wide appeal? In part its popularity, like that of psychoanalysis or behaviorism in past times, rests on the naive hope of a comprehensive 'scientific' explanation for everything humans do. "Evolutionary psychology," writes University of Chicago biologist Jerry Coyne, "satisfies the post-ideological hunger for a totalistic explanation of human behavior, for a theory that will remove many of the ambiguities and uncertainties of emotional and moral life" (Coyne, 2000, p. 27). That it tries to reduce religious faith to just another reproductive strategy—while itself being a profoundly faith-based, totalizing world view—has not been lost on its critics. One group of scientists, referring to the academic gathering place of several famous evolutionary psychologists, jokingly calls the movement "the Santa Barbara Church" (Goode, 2000, p. F-9).

Pointing out the faith-based nature of their theory is lost on most evolutionary psychologists, who continue to see themselves as cutting-edge representatives of hard science. But there are telling exceptions. For example, evolutionary biologist Richard Lewontin has admitted that he and his colleagues' "willingness to accept scientific claims that are against common sense is the key to understanding the real struggle—that between science and the supernatural":

> We take the side of [evolutionary] science … *in spite of* [its] tolerance of unsubstantiated just-so stories, because we have a prior commitment to materialism. It is not that the methods and institutions of science somehow compel us to accept a material explanation of the phenomenal world, but on the contrary, that we are forced by our *a priori* adherence to material causes to create … a set of concepts that produce material explanations, no matter how counterintuitive, no matter how mystifying to the uninitiated. Moreover, that materialism is absolute, for we cannot allow a Divine Foot in the door. (as quoted in Neuhaus, 1999, p. 26)

Thus evolutionary psychology—like its doctrinaire psychoanalytic and behaviorist forerunners—is the latest academic attempt to have one's cake and eat it: to use the language of science while bending the rules for scientific evidence, while at the same time ruling religious explanations for *anything* out of order. It is the latest incarnation of repeated efforts to dismiss God both ontologically and ethically. Fortunately, many evolutionary psychologists do continue to distinguish between the might-makes-right implications of their materialist world view and the higher morals to which they agree we should all aspire. But since their worldview provides no basis for morality, this simply means that as human beings they are better than their theories. It does not make them more scientific or intellectually consistent. Nor does it guarantee that they or their intellectual descendants will not slide back to a more consistent, might-makes-right stance, also as regards gender relations. After all, boys will be boys, will they not? (Goldberg, 1973).

Can Anything Good Come Out of This?

If evolutionary psychology is less a science and more a materialist and libertarian ideology bent on excluding any appeal to revealed truth, does that mean nothing in it is redeemable? After all, classical psychoanalysis and behaviorism were equally anti-religious world views, yet the former taught us something about the role of the unconscious and the irra-

tional in human functioning, and the latter something about the role of environmental constraints and incentives in shaping behavior. Is there an analogous kernel of wheat amid the considerable chaff that I have documented in evolutionary psychology? I believe the answer to that question is a cautious yes.

Historically, there has been a recurring pull towards Gnosticism among Christians–that is, a tendency to regard the material world as antithetical to an ideally disembodied spiritual existence. In its extreme form, this attitude downplays the created goodness of the body *and* the degree to which that goodness is compromised by sin. That is why Gnostic sexual ethics vacillate between asceticism and license: If the body is nothing but a trap for the spirit, then it should either be disciplined into complete submission or conversely, allowed to do whatever its whims dictate (Bloom, 2000; Jonas, 1963). Against such dualism, evolutionary psychology reminds us that biology does affect our behavioral impulses and limits our freedom of action. We do not have to endorse its genetic reductionism in order to acknowledge it as a salutary corrective not just to Gnostic tendencies among Christians, but to other historically anti-biological tendencies in psychology. These include behaviorism, and (oppositely) the kind of humanistic psychology that questions any limits–biological *or* environmental–on human freedom of action (Browning, 1987; Van Leeuwen, in press).

However, in contrast to the biblical world view and theologies that have been built on it, evolutionary psychology has no basis for sorting out what is created from what is fallen in human behavior. Thus Thomas Aquinas, in his *Summa Contra Gentiles,* was willing to concede that men's care for their wives and children has a 'natural' basis in their desire for paternal certainty and their desire, "in common with other animals and with plants … to leave behind them an image of themselves" (as quoted in Browning et al., p. 117). He also realized that these 'natural' ends could be very efficiently achieved in the practice of polygamy, which lets men–or at least some men–use their power to take multiple wives and monitor them closely to make sure that they bear no other men's children. At first glance this seems very much like a medieval anticipation of evolutionary psychology. But Aquinas rejects not only polygamy but also male-initiated divorce as practices unjust to women. Polygamy pits co-wives against each other for their husband's favor, thus allowing them to be "treated as servants," and undermining the ethical norm of marital friendship between spouses. As for the man who wants to divorce an older wife for a younger, more fertile one, Aquinas asserts that this too "does her an injury, contrary to natural equity" (Browning et al., pp. 119, 122).

Ultimately, Aquinas appeals to Christ's self-sacrificing action as the pattern for husbands and fathers. As practical theologian Don Browning has noted,

> This means that the husband is to imitate Christ both in the husband's unbreakable commitment to the family but also in his capacity for sacrificial love or charity. … The purpose of this sacrificial love is to endure in the relationship and restore it to the equity of friendship. Friendship with one's spouse, friendship with the neighbor, and finally friendship with God–these are the purposes of Christ's passion. (Browning et al., p. 123)

These standards of marital exclusiveness, equity, and friendship rest in turn on creation norms summarized in Gen. 2:24: "Therefore a man leaves his father and his mother and cleaves to his wife, and they become one flesh." David Fraser notes that this verse holds in tension three essential aspects of marriage–namely, public wedlock ('leaving'), sexual union ('one flesh'), and a love ethic of mutual regard ('cleaving'). Yet he also notes that "in this passage the couple is complete without children" (Fraser, 2000, p. 18).

In the biblical world view pair-bonding is not simply a way to get one's genes copied–though children are indeed part of God's promised blessing in creation. They are based on the deeper recognition that women and men are both created in the image of God, derive equal dignity and respect from that image, and are called to be God's earthly regents–not separately, nor in genetic competition with each other, but in cooperation with each other. The fact that God includes among their assigned tasks the command to 'be fruitful and multiply' in no way supports the selfish-gene reductionism of evolutionary psychology. Fecundity is an aspect–and a blessing–of the image of God in humans. But the image is much more than fecundity, and the pursuit of fecundity–if it is to be a blessing to all who are involved–must respect God's original intentions for life together.

Thus, in the words of theologian Don Browning, as Christians consider an ethic of human sexuality for the 21st century, they "should use the disciplines of biology last, not first. They should begin with the scriptures of the communities of faith that form them, with the Genesis ordinances about male and female leaving their families of origin and becoming one flesh" (Browning et al., p. 125). Careful genetic

research—such as the kind summarized earlier—may eventually help us understand some of the challenges our bodies pose in realizing these ideals. But the dubious science of evolutionary psychology, inasmuch as it aims to replace those ideals with a thoroughly materialist world view, is not the foundation on which to build a sexual ethic—either for men *or* women. It is the biblical world view to which evolutionary psychology must be held accountable, and not vice-versa.

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