Conflicts between male and female reproductive agendas continue to play out in contemporary issues of sex, power, and politics. Viewing gender through the lens of biologic evolutionary psychology reveals persistent controversies surrounding women's rights. The history of oral contraceptives compared with that of erectile dysfunction drugs is just one example of the disparity between female and male reproductive choices. Contraceptives, maternal mortality, abortion, and domestic violence are issues directly influenced by politics, religion, and gender biases. Ultimately, everything that we can do to give women control over their bodies and their fertility is not only just and humane, but it also changes the world for the better. The United States must restore its leadership in international family planning—ensuring reproductive freedoms could be the genesis of other freedoms.

In accepting the presidency of the American College of Obstetricians and Gynecologists, Professor Vivian Dickerson set out a Women's Health Bill of Rights (box). Human behavior is a rich, complex, ever-changing interaction between our inherited predispositions and the influence of our culture, and this commentary uses the lens of biologic evolutionary psychology to ask why women’s rights remain so controversial. Evolution is not about what is fair, moral, or just, but about what works. What Charles Darwin called the “war of nature” exists not only between species but between the 2 sexes of the same species. Evolutionary psychology posits that certain behaviors have evolved to be universal because they helped our ancestors’ genes to survive and that human behavior is a complex, ever-changing interaction between our inherited predispositions and the culture. I suggest that sexual competition not only extends to genomic imprinting but also that it can be found in church pulpits and courts of law. In My Fair Lady, Henry Higgins laments, “Why Can a Woman Be More Like a Man?” but it might be better if men were more like women.

SEXUAL CONFLICT

Primatologist Sarah Hdry has written that “The demands of reproduction have led to the evolution of two quite different creatures, two sexes caught in the bounds of irreconcilable conflicts. In only a few cases will the self interest of consort overlap.” Behavioral and anatomic competition between the sexes is found in all species. In the praying mantis the female often supplements her food supply by eating the head of the male during copulation. In the tiny marsupial mouse, Anticinus stuartii, males mature in the year of their birth and engage in an orgy of sex, manifest signs of stress, and die. The females live to the second year, when they deliver equal numbers of male and female pups and the cycle repeats. It is interesting that in our species women live longer than men. Castrated male Anticinus stuartii, like females, live to the second year and remarkably, castrated men live a remarkable 12 years longer than men with intact testes. It might be said that not only does life seem longer for a eunuch—it is longer!

In the long run, injectable contraceptives and intrauterine devices may prove more powerful weapons against conflict and terrorism than Abrams tanks or F-16 war planes—the Pill, I suggest, is mightier than the sword.

Fred H. Bixby Endowed Chair, University of California School of Public Health, Berkeley, California

Corresponding author: Malcolm Potts, MB, Bchir, PhD, University of California School of Public Health, 314 Warren Hall #7360, Berkeley, CA; e-mail: pottsmalcolm@yahoo.com.

Originally presented as the Samuel A. Cosgrove Memorial Lecture at the 53rd meeting of the American College Obstetrics and Gynecology, San Francisco, California, May 9, 2005.

© 2005 by The American College of Obstetricians and Gynecologists. Published by Lippincott Williams & Wilkins.

ISSN: 0029-7844/05
will tend to be cautious in mating choices, while the one that makes the least investment will be more competitive, less discriminating, and more risk taking. Men are more competitive and risk taking than women (e.g., young men fracture their long bones more often than young women). Interestingly, Jane Goodall found that among chimpanzees—whom we share 98.4% of our genes—males fall out of trees more often than females.

From an evolutionary perspective, it is in the interest of women to choose their partners from as wide a variety of males as possible and to have the ability to decide when to have children. Conversely, it is in the male’s interest to secure the greatest possible freedom in his own mating while making sure any female he impregnates is faithful to him and unable to exercise choice over the timing or number of her pregnancies. Conflicts between male and female reproductive agendas continue to play out in contemporary issues of sex, power, and politics.

**THE PILL AND VIAGRA**

In the 1950s, Margaret Sanger coaxed a private research laboratory in Boston into developing the Pill. At the time, contraception was illegal in Massachusetts and the National Institutes of Health was forbidden to develop an oral contraceptive. Flash forward to the 1990s and the accidental discovery that sildenafil overcame some cases of erectile dysfunction. With no laws prohibiting the study of male erections, there was immediate investment and eventually a blockbuster drug.

In the late 1960s deaths from the original high dose Pills hit the headlines and a 1970 Congressional hearing came close to having the Pill withdrawn from the market. By the end of 2001 over 500 deaths have occurred in sildenafil users. As with the Pill, the link between use and death is not always causal, but unlike the Pill there have been few headlines and no Congressional hearings. Senator Robert Dole endorses Viagra (Pfizer Inc., New York NY) but no woman with name recognition advertises she is using the Pill. Medical insurance companies have been quicker to pay for erectile dysfunction drugs than contraceptives.

The Harvard obstetrician John Rock, who led the clinical work on the first oral contraceptives, was a Roman Catholic who attended Mass every morning. In *The Time Has Come* (1963), he argued that the Pill was morally appropriate because it merely extended the natural suppression of ovulation during lactation. The Vatican established a Commission to study contraception. The majority agreed that the Pill was theologically acceptable, but in the encyclical *Humanae Vitae* (1968) Pope Paul IV condemned all actions “specifically intended to prevent procreation—whether as an end or a means.” He was reaffirming a tradition going back to Saint Augustine, 354–430, who held that Original Sin had been transmitted in the semen since Adam, like some latter day virus. Augustine not only condemned birth control but he interpreted spontaneous erections as proof positive of Original Sin, arguing that “…these members are rightly called pudenda (parts of shame) because they excite themselves just as they like, in opposition to the mind which is their master. . .” Revealingly, no theologian condemned Viagra, Levitra (Bayer Corp., West Haven, CT), or Cialis (Eli Lilly, Indianapolis, IN) for encouraging the “parts of shame to excite themselves.”

Such biases cut across cultures. In 1967, the Japanese Ministry of Health and Welfare rejected oral contraceptives on the grounds that Japanese women were physiologically unique; in 1990, it was sug-
gested availability would accelerate the spread of human immunodeficiency virus; and in 1998—with an obscurantism worthy of a medieval theologian—marketing was refused because artificial hormones in the sewage might feminize fish! When sildenafil was introduced into Japan, it received marketing approval in 6 months. The asymmetry between the 2 drugs had become so grotesque that the Pill was finally approved on sildenafil’s coattails—35 years after the initial application.

The male desire to enhance their erections while restricting access to the Pill can be interpreted in terms of evolutionary psychology. Safe, effective contraception for women is indeed a formidable challenge to the deeply ingrained male reproductive agenda. Superficially, it might seem that with the passage of time, the biases against fertility regulation would soften; however, when the acid of male hostility is contained on 1 subject, it tends to leak out and corrode women’s options in another. This is happening with emergency contraception. The expert advice of an FDA advisory committee to make emergency contraception available without a prescription was disregarded in the face of political pressure. From the Stone Age to the present administration, the male predisposition to dominate the lives of women has often held sway; ultimately, controversies over contraception may be less about morals and more about patriarchy.¹¹

MATERNAL MORTALITY

The lifetime risk of death from childbearing (the total fertility rate × maternal mortality ratio) varies from as low as 1 in 5,000 in the West to an appalling 1 in 24 in Africa.¹² Two to 3 times as many women will die from pregnancy, delivery, and abortion this year as the men, women, and children who were killed in the terrible December 26, 2005, tsunami. The international community responded generously to the tsunami, but America is turning its back on the needs of Third World women.

Fortunately, promising developments are occurring in the treatment of postpartum hemorrhage—the single most common cause of death in childbirth. Prata and Mbaru,¹³ working in Tanzania, have found a way traditional birth attendants can diagnose postpartum hemorrhage accurately, and they have gone on to demonstrate that even women who cannot read can stop hemorrhage safely and effectively with generic misoprostol. Most postpartum hemorrhage deaths occur during home deliveries without a trained birth attendant. The challenge will be for decision-makers to endorse a policy where misoprostol is made available to traditional birth attendants without prescription. Fortunately, the Ugandan and Kenyan governments held policy meetings last year to introduce the use of the drug.¹⁴

REPRODUCTIVE CHOICE

The mortality associated with unsafe abortion in Africa (6 to 700 deaths per 100,000 abortions) is up to 1,000 times higher than safe abortion in the West (0.2–1.2 deaths per 100,000).¹⁵ Yet abortion remains illegal in much of the world and abortion on request is under attack in America. Obviously, abortion presents deeply ethical choices, but extreme manifestations of the male desire to control women have clouded the possibility for thoughtful debate. Men—and it has always been men—have now murdered 7 abortion providers and clinic staff.

We need to strip away the passions and see the core issues. The abortion debate is not deciding whether abortion is right or wrong, but accommodating in a respectful way to a variety of deeply held opinions on a complex topic. When the Supreme Court justices wrote Roe v. Wade in 1973 they reaffirmed the tradition of religious tolerance on which this country is founded, writing, “…we need not resolve the difficult question when life begins. When those trained in the respective disciplines of medicine, philosophy and theology are unable to arrive at a consensus, the judiciary, at this point in the development of man’s knowledge, is not in a position to speculate as to the answer.”

Religious assertions about when life begins are philosophically parallel to beliefs about life after death, and both are beyond the realm of science or theology to prove or disprove. It follows that in a society that separates church and state, it should be no more surprising to find an abortion clinic in a city where many people oppose terminating a pregnancy, than it is to have churches, synagogues, mosques, and Hindu and Buddhist temples in the same city.

DOMESTIC VIOLENCE

In every country, men make up the majority of convicted criminals. Male nastiness evolved precisely because of sexual competition, where aggression shaped the path to reproductive success. Testosterone is the primary hormone modulating male sexual activity, and it is also a hormone that can stimulate his temper and aggression. Darwin wrote, “…the male… seems to owe his greater size to his ancestors having fought with other males during many generations.”²

In genuinely monogamous mammals or birds, such as beavers or penguins, the 2 sexes are the same size, or the male is smaller. Although sexual dimorphism is not
as marked in *Homo sapiens* as in some other primates, it betrays our descent from a promiscuous or polygamous species where males fought for access to females.\textsuperscript{16}

The male predisposition to control women is so strong that sometimes women end up adopting the male agenda, as in wearing a *burka*, foot binding, or female genital mutilation. Violence against women is often nearer the surface than we care to think. One third of young American men asked to imagine what they would do if they could rape a woman and be certain they what they would do if they could rape a woman and be certain they would never be found out said they might rape.\textsuperscript{17,18} A pregnant woman

"...in America is more likely to be murdered, nearly always by a sexual partner, than to die of any single disease during pregnancy, such as heart or kidney failure.\textsuperscript{19}"

Even religion can express gender biases. Saint Augustine explicitly praised his own mother, Monica, for never complaining about his father’s infidelities. He argued that the way to escape domestic violence was for a wife not to criticize her husband, however badly he treated her. “Many women, although they had gentler husbands, bore the marks of blows on their disfigured faces and blame their husbands in conversation with their women friends. Monica laid the blame at their door for neglecting to keep silent.”\textsuperscript{17,18}

**Population and Peace**

Forty years ago, obstetricians such as Alan Guttmacher were effective advocates for international family planning. Although less discussed, rapid population growth remains significant. The world adds 1 million more births than deaths every 110 hours; India every 3 weeks. The trajectory of future growth will be highly influenced by whether women are given access to family planning.

In the 1960s East and West Pakistan both had a total fertility rate of 7. Each was desperately poor and highly conservative, but after the 1972 War of Liberation when former East Pakistan became Bangladesh, contraception backed up by manual vacuum aspiration became widely available and family size fell 50%, whereas in Pakistan, with less access to fertility regulation, the total fertility rate remains high. In Thailand, which has excellent family planning, the average family size is now below 2, whereas in the Philippines, where the church is actively obstructing family planning, it is well over 3. The difference may not look large, but in 1950 the 2 countries had exactly the same population, whereas in 2050 the Philippines will be twice as large. As the huge numbers of unsafe abortions in the Philippines demonstrate, it is not that Filipinos want more children; it is that a patriarchal interpretation of religion and male power prevent poor women from getting the contraceptives they want.

Rapid population growth both distorts the population structure, increasing the proportion of younger to older men, and exacerbates problems of unemployment. As stated in *The 9/11 Commission Report*,\textsuperscript{20} “By the 1990s, high birth rates and declining rates of infant mortality had produced a common problem throughout the Muslim world: a large, steadily increasing population of young men without any reasonable expectation of suitable or steady employment—a sure prescription for social turbulence.” This generalization has academic confirmation from regression analyses run by Mesquite and Weiner,\textsuperscript{21} who found approximately one third of the variance in the probability of violence in the contemporary world could be explained by the population structure. In the past decade, with the exception of Bosnia, every U.S. military operation of the past decade has been in 1 of these high fertility countries with a total fertility rate of 4 or more.

The male reproductive agenda is spelled out in the life of Osama Bin Laden, who was the 17th child of a father who had 11 wives. The female agenda is encapsulated in the 120 million women in the developing world surveys show do not want another pregnancy but are unable to obtain the contraception or the correct information about it that they need. By 2050, global population will explode by between 1.1 and 3.7 billion—a difference greater than the world population in 1950. The real difference between these high and low demographic trajectories is the difference between a world of loved, wanted children in an increasingly democratic, economically prosperous society and a divided world where 1 part is increasingly poor, increasingly violent, and where many births remain unwanted.

Evidence of the power of offering women realistic choices over childbearing comes from an unexpected source. In 1987, economists in the Islamic Republic of Iran saw that the country’s population growth was steeper than its economic growth. The Holy Koran endorses family planning. With the permission of religious leaders, the government set up Pill and condom factories, male as well as female sterilization was made available, and all couples must attend family planning instruction before marriage. There are still many conservative aspects of Iranian life. For example, a woman cannot undergo a surgical operation without the written consent of a male relative. Remarkably, however, family size has fallen more rapidly than it did in China. As family planning became more available, the percentage of couples rose to the U.S. level..."
and the gap in total fertility rate between rural and urban areas closed (Fig. 1). Family planning save lives (up to one third of the decline in maternal mortality in the West during the twentieth century was due to family planning). Smaller families improved educational options. Today, there are now more women than men in Iranian universities.

It may be a long time before all traces of a patriarchal culture completely disappear in Iran, but a country with educated women able to decide to have small families is likely to be profoundly different from its neighbors, such as Afghanistan, Iraq, or Pakistan. In the specific case of Pakistan, if the United States continues to withhold support of the United Nations Population Fund and if the unmet need for family planning in that country is not met then, by 2050 Pakistan could have many more people than currently live in the United States—and Pakistan is just slightly larger than Texas.

Everything that can we can do to give women control over their bodies and their fertility enhances reproductive health; it is not only just and humane, but it also changes the world for the better. Without more attention to women’s opportunities and health, especially in the Middle East and sub-Saharan Africa, we can be sure that the frustrations of increasing numbers of unemployed young men will continue to spill over in acts of terrorism.

The biggest problem in rolling back male control of women—of making a man more like a woman—is not the different perspectives of Republicans and Democrats or of conservatives and liberals—those are merely healthy divisions in any pluralistic society. The damaging fissure in contemporary America is between science and antiscience, between fundamentalism and toleration. In the contemporary United States, when it comes to women’s reproductive health, ideology is trumping science. In a recent CBS poll, only 13% of those questioned thought human beings evolved without divine intervention. While the rest of us try to understand the problems confronting us in a complex, interdependent, twenty-first century society, fundamentalists respond intuitively and unthinkingly to their predispositions left over from the Stone Age and incorporate them into their mythologies.

In his second Inaugural address in January this year, President Bush called for “freedom in all the world,” and he spoke specifically of the “humiliation and servitude” that women still suffer in many countries. If we are to help lift women out of “humiliation and servitude” then we must restore U.S. leadership in international family planning. Not only is freedom from the tyranny of unwanted pregnancy a basic freedom, it is often the genesis of other freedoms—as is happening in Iran. In the long run, injectable contraceptives and intrauterine devices may prove more powerful weapons against conflict and terrorism than Abrams tanks or F-16 war planes—the Pill, I suggest, is mightier than the sword.

REFERENCES


Continuing Medical Education Credits Now Available for the Clinical Expert Series

Continuing medical education (CME) credits are now being awarded for the Clinical Expert Series. Follow these steps to receive credit:

1. Log on to www.greenjournal.org to view the article and take the CME quiz (note: you must activate your online subscription to gain access to the article and quiz)
2. Download the quiz (in Microsoft Word format)
3. Complete the quiz and save your answers
4. E-mail the completed quiz to cognates@acog.org

The American College of Obstetricians and Gynecologists (ACOG)* designates this educational activity for a maximum of 2 category 1 credits toward the AMA Physician’s Recognition Award or a maximum of 2 category 1 ACOG cognate credits. Each physician should claim only those credits that he/she actually spent in the activity.

*The American College of Obstetricians and Gynecologists is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.