

## Population, Nature, and What Women Want (part II of review)

Contributed by John T. Wertime  
11 September 2008

With the bounty of the world now quantifiable, storable, and controllable by those who could defend food surplus, new ideas of property, wealth, and inheritance emerged. All these shifts tended to favor males with their upper-body strength and brought them to the fore as authorities and leaders. Women dropped back, and their value as childbearers came to overshadow the roles they had had in societies more oriented toward natural life.

Women's interest in reproductive timing and raising fewer children under better circumstances collided with male rulers' growing interest in having and controlling more and younger subjects to assure a consistent supply of followers, workers and soldiers.

Women in pastoral societies, to which they contribute little in the way of actual food production, fared no better. As they directed the reproduction of livestock and horses, men in these societies also took responsibility for human reproduction, often equating women with the animals under their control. With penetrating insight, Engelman says: "The idea that men are the appropriate decision makers on reproduction...eventually linked with male enthusiasm for population growth that even today often recoils at the prospect of low birthrates and demographic stability." The author doesn't cite the Roman Catholic Church as a classic example of this mindset in the contemporary world, but there is no doubt he had it firmly in mind.

Deepening the loss of status and respect that women had once enjoyed were the views of sexuality and reproduction found in the world's great organized religions and the civilizations molded by them that arose from the Mediterranean Sea east to China in what has been called the "Axial Age", the period from around 800 to 200 BC. This was a time when food surpluses made possible by new Iron Age tools stimulated the fastest urban growth ever experienced until that time. Above all else, the concept of transcendence--of what lies beyond this world -- distinguished Axial civilizations from those that preceded them. In this new way of thinking, kings were no longer gods who personally embodied the cosmic order and provided bounty to their people in the tradition of "Big Men"; rather, they were reduced to the role of secular rulers who had to answer to a less immediately accessible higher order. The profound changes seen in religion (a shift towards the inner life and the afterlife), philosophy, government, and social order, Engelman argues, were a response to dwindling natural resources brought on by demographic and environmental change. Relief for shortage and suffering in the present life -- something beyond human capabilities -- was relegated to the next one.

In times of growing environmental stress and natural disaster experienced during the Axial Age, people increasingly turned to the figure of the male Creator God in the sky for succor rather than to the more accessible great mother-goddesses and spirits of fertility. The trend toward more power and authority for male gods culminated in the elimination of goddesses altogether in the monotheistic religion of Judaism and its later offshoots, Christianity, and Islam, all of which, one can add to Engelman's implied explanation, came out of this patriarchal sky god tradition. In the Greco-Roman pantheon, goddesses ended up in reduced roles as lovers, wives, and mothers, as did mortal women.

"Every one of the Axial societies institutionalized the subjugation of women," Engelman says, some by being confined and veiled in harems, others secluded in their homes, and still others treated as male property. "Such female subjugation helped guarantee that maximum childbearing would grow the local population." Rulers of the time, rather than linking population growth and scarcity, encouraged growth as a way to extract more from nature and increase their own power over their people. Sex, contraception, and abortion hardly figure in the scriptures of these religions. They didn't need to, the author says, for "Women and Children were male property. And the seclusion of women in most of these societies limited access to the female networks that in the past had disseminated ancient wisdom on these issues."

Despite the subjugation of women and the discouragement of birth control, population growth slowed, leveled off, or even went negative in most Axial societies in the fifth century BC or shortly thereafter. Then, for the next two millennia, human population either remained fairly constant or declined around the birth of Christ before rising in the Middle Ages. To explain this Axial Age slowdown, Engelman cites pestilence due to crowded living conditions in the urban centers of the time as one possible limiting factor. Another reason may be that women did not lose total control of their own reproduction in this period, and during its waning may have regained more. To back this point up, Engelman notes several sources, both ancient and modern, that show women's continuing capabilities to control unwanted births. As the Axial Age began to fade, the matter of population attracted growing attention:

The diversity of views on population growth in the Axial Age parallels the ambivalence human beings have felt about their numbers ever after. It also illustrates the difficulty of judging the costs and benefits of ongoing demographic growth. Even though Axial Age civilizations were chronically stressed by their rising numbers, they remained wedded to a value system in which women had little choice but to produce as many children as chance and the constant attention of their

husbands dictated. Yet these societies were also hotbeds of technological, institutional, and cultural innovation.

If the status of women in Axial Age societies was bad, in some ways, it was worse in those places where the Christian Church held sway. Engelman has this to say on the subject: "The Church used its power for social control, seeking to impose order and morality on increasingly populous and complex societies. Stringent codes of sexuality were ascribed to the scriptures, though no consistent message about women and their reproductive entitlements is inherent in the text. Like the Axial Age societies from which it had sprung, the Church allowed no input from women in developing its views on these matters." Furthermore, Roman Catholicism prohibited sex on the part of those who shaped religious doctrine. Some of these clerics broke their vows of celibacy, others did not and therefore lacked personal knowledge of sex and women, while others came to the Church with prior negative experience that colored their views, all of which may well have influenced the development of doctrinal matters and the Church's policy on sex and reproduction.

Early Christianity gave the fullest expression yet to the patriarchal attitudes males had developed about sex and reproduction as their roles became dominant in farming and settled life. For example, Clement, a first century pope, limited all sexual relations solely to the act of procreation of children by married couples. Augustine, the most influential Church father, held that as the children of Adam and Eve and the product of carnal relations, even newborn babies were guilty of "original sin," which made all humans dependent of religious authority to avoid eternal damnation. Later Church fathers came up with the idea that Eve, who rebelled against the rule of God and his earthly surrogate, Adam, represented the irrational body and Adam the rational mind. "Through their domination by males, all women were punished for the first sin of Eve, the temptress," Engelman remarks.

The first millennium AD began and ended with a global population of no more than 250 to 300 million. It's uncertain whether this demographic stasis was due to high death rates or low birth rates, we are told, but well documented attempts to prevent pregnancy, at least in Europe, are known. Large families, especially among the wealthy, existed there, but were not a routine occurrence in the Middle Ages, nor is there much evidence that the efforts of the Church to discourage contraception and non-procreative sex resulted in infrequent sex or high fertility. The person who best understood how to prevent or abort an unwanted pregnancy was the midwife, the woman who was the near universal deliverer of babies until fairly recent times. "Such knowledge," Engelman says, "eventually may have proved deadly to midwives and to the wisdom they had carried across the generations. A perfect storm of three historical currents seems to have converged on Europe beginning in the late fourteenth century, shaping societal attitudes toward midwifery, reproductive health care, and women for centuries to come." This storm came in the form of the mass hysteria accompanying the identification, trial and execution of tens of thousands of purported witches that riled much of Europe from the fifteenth through the early eighteenth century as well as colonial New England for a much briefer time.

What helped bring this hysteria on, in Engelman's view, was first of all, an uptick in wealth and population in Europe during the thirteenth century that was followed in the fourteenth by a series of famines in the north, then by the Black Death, which killed approximately a third of the European population. Only three or four centuries later would human numbers in Europe once again reach early fourteenth-century levels. Engelman attributes the sluggishness of population growth in the post-Black Death recovery in part to the documented use of contraceptives despite the teachings of the church. This and other family-limiting methods helped cap the supply of labor, which in turn raised the status and pay of workers, especially women, who were able to take on economically important positions and enjoy greater wealth. The newfound leverage of wage earners and their growing militancy slowly caused the newly moneyed classes and the landowning magnate, the Catholic Church, to realize that stable populations were not in their own best interests. Related to these was a third current, what Engelman calls "the growing conviction of the church that it was time to enforce its prohibitions on the common practices of contraception, abortion, and the "overlying" or other killing of unwanted infants." Engelman further notes that none of the doctrinal differences that Protestants had with the Catholic Church related to sexuality, reproduction, or the place of women in society. "Indeed," he says, "the prevailing Protestant misogyny and sexual phobia may have spurred on the Catholic authorities."

While the exact percentage of the executed "witches" who were midwives or counselors on birth control is not known, it is clear that many midwives, usually older women, did perish in the witch hunts of the time. Different explanations for these persecutions have been offered. One suggests that female competitors to the emerging male and university dominated science and practice of medicine, especially those dealing with women's concerns, were eliminated this way. Others see religious and secular leaders behind a move to eliminate contraception and abortion in order to promote the unfettered growth of population in Christian Europe. Still others argue that population trends drove the witch trials, more taking place when stagnation prevailed and fewer when growth occurred. "Whatever was behind the witchcraft frenzy," Engelman says,

the social upheaval it sowed cast a chill for centuries on contraception, the use of emmenagogues, and abortion....After evolving and enduring for countless generations, traditional woman-centered birth control disappeared from most of Europe. Eventually, men assumed nearly complete control of reproductive health care and childbirth, as they did of medicine generally...The demise of birth control may have contributed, along with steady improvements in infant and child survival, to demographic impacts that were direct, cumulative, and substantial. In the five centuries that followed the Black Death, the population of Europe more than tripled. Human numbers on the continent would have multiplied even

more, but Europe's newly populous nation-states and their expanding business enterprises were cascading into the rest of the world. By the eighteenth and nineteenth centuries, populations of Europeans were ballooning in the faraway Americas, Australia, New Zealand, southern Africa, and pockets of Asia. It would be some time before women once again would seek help to prevent childbearing while remaining sexually active. Even when they did, the intermingled fears of sex, contraception, women's autonomy, and population stasis would endure, throwing up barriers to the use of birth control all over the world, right up to the present day.

Agile minds in a Europe of increasing human numbers and growing social upheaval were becoming more aware of the benefits and hazards of population growth and began offering strong views on the subject as early as the sixteenth century. With the flourishing of science and philosophy in the Age of Enlightenment in the seventeenth and eighteenth centuries came the birth of statistical demography in the mathematical contributions of a Londoner, John Graunt, and arguments on both sides of the population question. The optimistic cornucopian conviction that "the earth is inexhaustible and increases its fertility in proportion to the number of inhabitants who cultivate it" expressed by a Frenchman known by the pen name Fénelon was countered by the pessimists, the best known of whom was another Englishman, Thomas Robert Malthus. "Reduced to its essence," Engelman tells us, "what Malthus argued was that no plant, animal, or human population can grow indefinitely in the finite physical space of a planet. At some point, something has to give." What has given Malthus a bad name since the appearance of his *An Essay on the Principle of Population* in 1798, Engelman says, is the dark way in which he expressed this concept -- "The power of population is so superior to the power of the earth to produce subsistence for man, that premature death must in some shape or other visit the human race." Because of the differential growth rates of population and food production, population always tended to outrun food production until brought back into equilibrium by famine, war, or disease. Poverty is a natural and inevitable consequence of population growth and can't be prevented because populations tend to grow beyond their means of subsistence. It was "his conviction of the inevitability of poverty as populations grow that has most animated his critics since his short essay was first published," Engelman tells us.

Ironically, and somewhat to the detriment of his reputation, the long European experience that helped mould Malthus's ideas -- agricultural innovation being negated by subsequent population growth, hunger and disease -- ended about the time Malthus wrote. What followed was a two hundred-year long era in which food production expanded faster than the number of food consumers because farm acreage and crop yields more than doubled. In the light of current trends in world food production and a population of 850 million malnourished, adherents of the above mentioned Fénelonian view (recently exemplified by the late Julian Simon, a university professor who influenced the Reagan administration's thinking on population by arguing that natural resources are effectively limitless), now have a harder time refuting Malthus's predictions, Engelman points out. Furthermore, only after world population passed 3 billion people in the 1960's did the phenomenon of entire nations almost perpetually in need of foreign food supplies occur. What will things be like in 2050 with a projected population of 9.2 billion? "Will we keep innovating successfully, expanding our prosperity with our numbers?", our author asks.

"From at least the Axial Age until the late eighteenth century," Engelman writes, "most organized efforts to influence the size of population aimed at boosting it. Women have been extolled, pressured, or coerced into having children early and often, whether or not they would have timed their own childbearing that way if left to their own devices (contraceptive or otherwise)." "Moral restraint", that is, marrying later in life, Malthus's only suggestion for addressing the forces behind his "principle of population, worked to an extent by stretching out the succession of generations over longer time periods and by allowing women fewer years in which to bear children. It did not, however, keep population rates from rising at a fairly rapid rate. To counter this trend and increasing poverty, various suggestions for more effective strategies for slowing demographic growth by reducing family size and birthrates through contraceptives and other methods appeared in Malthus's time and thereafter in England and Europe. Engelman singles out Francis Place, a self-educated working class Englishman active in the early 19th century, as "the world's first birth control theorist and propagandist" as well as "the first true promoter of actually acting on population issues," and cites him for establishing "a standard for judging population-related policies and programs: their conformance with individual rights and choices."

"Across the Atlantic," however, "the winds of change blew in the opposite direction,' Engelman says.

In a uniquely American development, a Protestant moral arbiter named Anthony Comstock crusaded for laws to criminalize as obscene the advertising and sale of contraceptives. A receptive U.S. Congress in 1873 rushed through passage of what came to be known as the Comstock Act to accomplish these objectives. For the District of Columbia and federal territories, the act banned even the possession of contraceptives...Comstock himself was deputized as a special agent of the Post Office Department, authorized to inspect suspicious mailings and to make arrests. State laws along the same lines as the federal one soon followed and in some northeastern states where the Catholic Church wielded political influence, legislatures prohibited physicians from prescribing or even advising on contraception. Connecticut made any use of contraception a misdemeanor, criminalizing pregnancy prevention until the U.S. Supreme Court found the law unconstitutional—in 1965.

Even more severe laws targeted abortion starting in the late nineteenth century, and midwives found themselves once

again tarred by association with the practice.

“The idea that women’s own decisions about their childbearing might be the best guarantor of demographic stability” arose not during the Enlightenment, but only in the last century or so. This belief animated Margaret Sanger (1879-1966), the founder of the Planned Parenthood Federation of America and nemesis of Andrew Comstock, during her long and influential, but not uncontroversial, career of promoting birth control in the United States and abroad. In the years after World War I when Sanger was traveling in Europe and the Far East, writing, and founding a new organization, world population approached 2 billion people. In the 1960’s, it passed 3 billion people and kept on climbing in the most dramatic increase in population the world had ever known. The combination of returning soldiers and the prosperity of post-World War II reconstruction yielded baby booms that surprised both demographers and campaigners for birth control. “U.S. fertility rates,” Engelman remarks,

approached four children per woman by the mid-1950s, having bottomed out at little more than two during the Depression. Western European and Canadian women were less fertile than the Americans, but minibooms occurred across the Atlantic and north of the forty-ninth parallel as well. For the many demographers who had argued that prosperity and small families marched in lockstep, the baby buggies of the affluent 1950s were an embarrassing reminder that science is perpetually a work in progress.

The larger influence on global demographic trends, however, was the growth seen outside of North America and Europe. Public health initiatives introduced in the remaining and former European colonies were reducing death rates dramatically—by 30 to 50 percent in some countries. Vaccination, improved water supply, sanitation, roads and railroads...[etc.] -- each of these steps, large and small, slashed away at the high rates of infant and child death that for centuries had clamped down population growth in Asia, Latin America, and Africa.

Birthrates, too, were rising modestly in some places, making their own small contributions to growth. Improved health and nutrition are the most commonly cited reasons for this, but a loss of traditional contraceptive methods may have played a role as well...

The surplus of births over deaths...was large and growing. Within a decade of the World War II’s end, populations were growing by more than 3 percent a year in many of Europe’s colonies and in newly independent nations. The world’s growth rate exceeded 1.8 percent.

The first policies to curb this unprecedented global phenomenon were not pushed by the West (“How could people in wealthy countries promote the use of birth control in poor ones?”, Engelman asks), but by national governments in Asia and North Africa. Steps taken by Japan’s Diet in 1948 brought the fertility rate down from four to two children per woman within a decade and helped pave the way for Japan’s ascent as a world-class manufacturing and trade powerhouse. By 1955, India, Taiwan, Ceylon, and Egypt had taken tentative steps to help married couples control unwanted pregnancies.

The governments of the industrialized nations were slower to take direct action on population growth, which, for the U.S., didn’t come until President John F. Kennedy, a Roman Catholic, supported an international family planning program. Family planning services for Americans with low incomes arrived in a program enacted in 1970. While coming nowhere close to eliminating unintended pregnancy in the United States -- “then, as now, nearly half of all pregnancies were wanted later or not at all by the women involved,” Engelman says -- it did have the effect of helping to lower U.S. total fertility rates from 2.5 children per woman in 1970 to fewer than 2 by 1980. “Later Congresses were less enthusiastic about the program, however, which helps explain why U.S. fertility later rebounded, reaching 2.1 children per woman today.”

Family planning assistance programs sponsored by the United Nations and many of the world’s governments, including that of the U.S., have operated on the assumption “that women able to decide at any given time whether to become pregnant would end up on average having two children,” an assumption that has been borne out by the facts, Engelman maintains. Contrary to the expectations of economists, countries like Cuba didn’t have to become wealthier to become less fertile. Furthermore, falling fertility and population growth rates have a closer correlation to government commitment to family planning and contraceptive prevalence than to the commonly cited one of average years of education completed by girls.

“The use of contraception expanded by 75 to 80 percent on average every decade beginning with the 1960s,” when the oral contraceptive pill and the IUD, “revolutionary contraceptives that for the first time in human history assured reversible prevention of pregnancy without actually interfering with sex itself” were invented. “Today,” Engelman says,

more than three-fifths of reproductive-age women or their partners use contraception, a proportion made more

impressive by the fact that another fifth of such women at any given time are either trying to get pregnant, are already pregnant, or are not engaging in heterosexual intercourse. One result of all this planning of families is that their size has shrunk in every part of the planet. The average woman gave birth to five children in 1965. Today, the average is just over half of that [2.6 children per woman].

The difference that family planning programs have made to childbearing patterns—and the difference these have made to the world—are truly revolutionary. As revolutions go, however, this one has been pretty shy. No loyal constituency touts the fact that most acts of human sexual intercourse today are protected against the risk of conception...[which] means healthier mothers and children, fewer abortions, and more opportunities for women.

The special case of China aside, it would have been difficult for policy makers and bureaucrats to legislate the huge change in childbearing patterns that have come about voluntarily. Claims that “changing ideas about the family” resulted in falling birthrates are dismissed by the author. “The history of women’s efforts to prevent pregnancy suggests,” he remarks, “that few have ever actually wanted frequent childbearing and large families, unless to conform to cultural norms.” “How much childbearing in excess of replacement fertility rates has arisen not out of women’s intentions, but out of their inability to prevent unwanted pregnancy?”, he asks. “What if the answer were ‘most’? What if that has been the answer for centuries?” Thinking in environmental terms, Engelman continues:

We can see the impact of contraception if we assume that most of the change in family size that has occurred since the 1970s stems from women’s success at avoiding births they did not want. If fertility rates had not fallen as they did from the 1970s to the present, with all else equal, population would now total about 8.5 billion people, instead of 6.7 billion. With a world population that size—growing economically at today’s rates and with today’s technologies—humanity would be a lot farther down the road toward a human-warmed planet, peak production of oil, freshwater scarcity, and the loss of nature and the wild.

Organized family planning in the early years of the twenty-first century in many ways suffers from its own success. “Its adversaries remain,” Engelman asserts, “the hierarchy of the Roman Catholic Church, joined by some evangelical Christian and Muslim leaders, and male political elites that see women’s control of their own sexuality and childbearing as threats to dreams of national power.” The effects of this way of thinking can be seen in El Salvador, where family planning services remain rare and underfunded, abortion is punitively criminalized, and population has ballooned from 3 to 7 million since 1963. People who lived fourteen hundred years ago in these same lands had better diets and houses than most of today’s residents, the author points out. Additionally, two or more million Salvadorians live in the U.S., many in difficult circumstances.

The population and family planning field’s early hopes of public acceptability were dashed when the Supreme Court legalized abortion in 1973. “The Catholic hierarchy effectively directed its political influence against modern contraception and the contention that human population could ever grow too large—scientific views to the contrary.” Pope John Paul II disowned the finding of his own Pontifical Academy of Sciences that replacement fertility rates were “the requirement to guarantee the future of humanity.” Presidents Ronald Reagan, George H. W. Bush, and George W. Bush built much of their political base among people embittered by legalized abortion. “Much of that base refuses to accept the logic that widespread use of birth control prevents abortions, preferring to believe that contraception just encourages sex, which ends up causing more abortions when contraception fails,” Engelman says.

The author continues:

Hostility to family planning among U.S. leaders spreads like an infection among governments, sapping energy and funding from programs that could lead to both healthy reproduction and demographic stability. But poor leadership isn’t the only problem. There’s not much “followership” on the issue either. Few people are aware that easy access everywhere to good family planning services is most of what’s needed to achieve a sustainable world population. As growth has slowed, news media worldwide—once influential in bringing the “population explosion” to public attention—have turned their attention to the seemingly fresher story of population aging and decline....How can the world be gaining 78 million each year when “there’s no more population ‘explosion’”?

As in the media, so in the world. If they think about population growth at all, most policy makers tend to see it as a twentieth-century worry that never matched its crisis billing and is no longer an issue. The topic couldn’t fade fast enough for many advocates of women’s interests....Rather than consider a strategic alliance with environmentalists and others who still express concern about human numbers, most advocates today prefer to leave population out of the picture altogether, discussing contraception as simply one aspect of women’s reproductive health. Such views work their way into governments and related bodies and carry weight in international discussions and negotiations.

What will it take to stabilize population on a global scale? Engelman answers that the goal of reproductive health care for all must first become a public and political priority. The implementation of this goal would have significant costs, but the amount would be manageable. Expenditures on the order of \$45.8 billion a year “could achieve universal access to comprehensive family planning and reproductive health services while also paying for prevention and treatment for HIV/AIDS in developing countries.” However, more than financial support will be needed, Engelman adds.

Men will also need to let go of ancient anxieties about where the combination of autonomous women and effective contraception might lead. Many already have—others are beginning the process....All of us will need to rise above our genes and their urge for self-replication. Is it critical that my “nation,” however defined, survive for centuries or that my daughter carry on my own genetic lineage? [my italics]. Some elemental urge within me says yes. But that desire implies an us that at some point confronts a human them. Families, tribes, ethnic groups, and nations have accomplished great things, but frankly, not lately. Maybe we should simply appreciate their cultural and historical value, rather than putting all our resources into securing their long-term institutional future at the expense of humanity’s as a whole.

How will what Engelman calls “this grand, one-time-only experiment -- how many of us can the earth and we ourselves sustain?” end? Will fertility rates remain the same as they are now, causing rising death rates to set in, bringing with them the ultimate threat of extinction? Or will they peak and subside? The author says: “I don’t know what will happen. I’m more interested in what could unfold if societies choose to hasten the cresting of the demographic wave by supporting women in timing their reproduction and in living as equals with men.” Even if the latter happens, the planet we occupy will not be the same as it is now, for “we’ll never again know the paradise of plenty in which we once walked as prehistoric hunters and gatherers. The world of the future will be biologically poorer, warmer, and stormier than today’s. But we can nonetheless begin the long process that will allow nature and its life-sustaining resources to reverse their retreat....The clearest principle to guide us is that those who bear children should be the ones, more than anyone else, to decide when to do so. The rest will work itself out. We will not self-destruct through too much reproduction, nor will we fade sadly away through too little,” he says. “Humanity really could be as countless as the stars—just not all at once, but over millennia to come. Wanting not more people, but more for all people, we might find ourselves at home again, with more nature than we thought possible, in an Eden we can keep.”

As beautiful a thought as it is, any hope for a more enlightened humanity with “birth cohorts of consistently equal size across generations” that someday is able to regain its lost Eden, even if a diminished one, seemingly becomes more and more of an unrealizable dream with each year that passes, a reality of which Engelman is painfully aware. If scientists and environmentalists like James Lovelock, James Hansen, Al Gore, and the many members of the Intergovernmental Panel on Climate Change (IPCC) can be believed, we will reach the tipping point on carbon emissions well before any brake on population growth can become effective. If we give credence to the writing of J. Kenneth Smail, “...prudent and increasingly reliable scientific estimates suggest that the Earth’s long-term sustainable human carrying capacity, at what might be defined as an ‘moderately comfortable’ developed-world standard of living, may not be much greater than 2 to 3 billion. It may in fact be considerably less, perhaps in the 1 to 2 billion range, particularly if the normative life-style (level of consumption) aspired to is anywhere close to that currently characterizing the United States” (“Confronting the inevitable: Population reduction, voluntary and otherwise” J. Kenneth Smail, Culture Change, May 5, 2008).

Irrespective of stopping population growth in time to prevent catastrophic global warming, the ability and right of women to time and control their own reproduction are unquestionably good in themselves and properly emphasized in More. For many reasons besides environmental change, we need to understand the benefits and the costs of population fluctuation. For the opportunity to learn about this crucial phenomenon, however devastating its excesses will likely be, I personally am grateful to Robert Engelman.

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"Confronting the inevitable: Population reduction, voluntary and otherwise" by J. Kenneth Smail

[culturechange.org](http://culturechange.org)

"Unplanned Pregnancy (UP) is Integrally Linked to Climate Change" by Pett (Petya) Corby

[culturechange.org](http://culturechange.org)

Regarding witches and female subjugation; "Dead on Arrival: The Fate of Nature in the Scientific Revolution", by David Kubrin (republished by a witches' publication Reclaiming Quarterly). It was to be part of our next Culture Change magazine that never was printed; we could only afford online 2002 on.

[culturechange.org/issue20/deadonarrival.htm](http://culturechange.org/issue20/deadonarrival.htm)

See and hear Bob Engelman perform "The Pill" on Jan Lundberg's guitar, May 2008 in Washington, DC, and find interviews of Bob:

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