I want to thank all of you for being here today. You’ll all be acknowledged in the sequel to my book, *More and More*. I’m going to acknowledge Matt Connelly in my sequel as well because I really wish I’d had his book to read when I was working on my research. Matt and I share a fascination with this topic, population, and what people try to do to influence it. Now as in the past, it’s a pretty interesting topic and as they say in the newspaper business, it’s really a hell of a story. And I think Matt’s book brings that out, and I try to in mine.

I was struck in reading *Fatal Misconceptions* that we make some of the same points and we even tell some of the same stories. And darn it, his book came out first, but that’s just kind of the way it goes. We both argue, for example, that most attempts to control population have in fact forced women to have more children than they wanted to have, not fewer. We both have pretty harsh assessments of certain actions of the Catholic Church. We both describe the sexual inventiveness that allowed the French to reduce their fertility way back in the 18th century and we both mention the two famous eugenics enthusiasts with whom birth control pioneer Margaret Sanger had affairs in the 19-teens. We present a similar cast of characters, although I have a lot fewer of them, since I had one chapter in my book that covers the material that Matt did in nearly 400 pages.

One thing I like about Matt’s book is that he lays out his premises and his values clearly and early. I think that’s important in a book, particularly one dealing with a topic that’s as complicated as this one. In my own I tried to state my hypothesis on the very first page and I recapitulate it more fully on the very last page.

I’m not going to share the end of the book, I wouldn’t deny you that pleasure, but what I say on the first page is that, years ago I was a newspaper reporter here in Washington and I was covering science health in the environment I happened to meet a woman named Sharon Camp, who worked at the time for something then called the Population Crisis Committee. I’m sure a number of people in the room know Sharon well. And she happened to suggest to me that if all the world’s women could decide for themselves when and when not to have
children, population problems would resolve themselves with no need for government control. And this was about four or five years before the international conference on population and development in Cairo.

So I was a journalist at the time and I was still a little bit skeptical of that, I had a lot to learn about this field, but I really wondered whether that could possibly be true, but it struck me as a rare and really interesting plausible hope in the midst of what I was writing about as a considerable gathering of environmental risk going on in the world. And what Sharon was telling me was that a conviction that I share with Matt, which is that people should determine for themselves when and when not to have children, might in fact be on its own the greatest guarantor and source that population change could be a positive force for the environment and for human well-being generally, particularly when women are the decision makers who are making the key decisions on this. Because after all, women are the child bearers, all of the child bearers last time I checked the data, and the principle child raisers; in the word of one Bolivian women I quote, “They approach the door of death every time they give birth.”

I wanted to get at the heart of the differences between men and women when it comes to reproduction, reproductive intention, reproductive timing, the population and the impacts of all of these that are played out in history. So mine is a book about population growth: why has it happened, what have been its impacts, how it might continue to slow down and eventually end and even reverse now that it’s no longer particularly helpful and instead a source of risk?

The book is also about nature because natural constraints have interacted with population growth ever since the species emerged; and because frankly our relationship with the natural world is especially worrisome right now. Happy Earth Day, by the way.

Finally, it’s a book about women because women are continually and forever on the front lines of population change. All populations, and this is another area where I agree with Matt, all populations are out of control. There’s no hope; they always will be. But women, in the words of one of my chapter titles, are the original population growers when that’s what we needed to survive as a species; and for Lady Humanity the population shrinkers. And when they’re allowed to manage their own reproductive timing, I try to argue in this book, they’re the nearest we have to true population controllers, and that’s exactly as it should be. But there are a lot of caveats and limitations in that statement.
In large part this too is a historical book, but since my own training has been in journalism, the book leans much more in that direction. So I felt free to explore in the research and writing a suite of ideas and hypotheses that I find intriguing without necessarily settling the matter in any particular case or feeling that I had to convince readers not to believe something they didn’t previously believe. And that was somewhat liberating. It allowed me to just really look at a lot of interesting things and see where they led me. And they led me to some places that really interested me.

I wanted to tell compelling stories. I wanted to share the words of some women and some men in history and others with whom I’d spoken with over the years about sexuality, contraception and child bearing. I wanted to write a book about population, the environment, and women’s lives that was simply a good read and that also broadened the audience for the message that had so excited and energized me that I heard Sharon Camp way back around 1990.

My historical range is pretty wide, starting about 6 million years ago, with the emergence of bipedalism in human beings. Demographers know that it’s not fertility ultimately that grows populations but the survival of third children that really determines whether populations are going to grow. And it was really a series of innovations that can be pretty securely credited more to women than to men that guaranteed that enough third children would survive and grow to their own parenthood, that sufficient proportions of first Homo erectus, one of our ancestral species, and eventually Homo sapiens grew their populations and again, we can all be very thankful for this particularly here in Washington -- which is far from where the species originated -- that they eventually left Africa and they migrated and they spread all over the world.

This is one of the little things that I take a look at to try to make sense of in this book in terms of looking at history and pre-history in trying to first answer the question, “Why did we grow in the first place, and who was most responsible?” It really wasn’t until women entered the field of anthropology and flooded graduate schools, around the time, frankly, that I was just going to college and graduate school, that ideas about these things really began to change from the man or the hunter supplying everybody with food to other things that were happening.

This particular illustration is based on the work of Wenda Trevathan and in Karen Rosenberg, who are anthropologists who were looking at how becoming bipedal and
standing up on two feet actually changed the birth process. Paradoxically, and somewhat unintuitively, it made it much, much, much more dangerous; it’s the nature of the change of the pelvic structure in a woman’s body that requires that what simple, used to be a very simple act that in a birth, the mother of a four-footed animal particularly just simply can reach down, grab the newly emerging newborn, and bring it up to her breast and begin breast feeding. But that couldn’t happen in humans because of the natural positioning of the body, of the baby’s body, as it leaves the birth canal; because of the position of the pelvis.

It’s too much to go into much detail at the moment, but if you think about almost all mammals including your kitty cats and your dogs that you’ve had that always seek total isolation. They disappear into the garage or the basement or who knows where when they give birth. Humans couldn’t do that or bipedals never would’ve survived. And one of the first things that women had to do once they were standing on two feet was go against this instinct from long evolution and ask for help. This was a really remarkable thing. It may have had an influence on language because after all, how did they ask, but it certainly had an influence on relations that women develop around this critical business of getting human beings through the most dangerous instant of life and then beginning a partnership; it’s called aloe parenting technically, which is sort of a cooperative arrangement about parenting and mothering to bring them to their own survival. It became an emblem for the fact that women were very much engaged in this.

It was really the beginning of midwifery, which I argue. This was really the beginning of midwifery, and I argue that midwifery has the best claim to be the oldest profession. And in fact, that reproductive health may well be the oldest form of health care, which right away is interesting. And we could say well men could’ve been doing this too, how do we know it’s women, except that in almost all populations studied it has been primarily a women’s role to assist in birth.

And there are artistic representations of this. I’m envious that Matt got to put in his book illustrations; Island Press wouldn’t let me do that in mine, so I get to show you the illustrations I would have put in if I’d been able to. This is one of my favorites because it’s just characteristic. Here are the guys; they’re the astrologers. It’s like they’re looking out the window while the birth is happening. They’re saying, “I think Saturn is just about to go into conjunction with Jupiter there, could be good.” And the women are doing the hard slogging work with equipment, with the water, and making sure that the baby is actually being born, and that was the way it worked through much of history until fairly recently.
One of the themes of More is that population is a constant in human thought, and in fact predates human thought, by millions of years. All organisms are acutely aware of their group size and many are pretty strict about it, a lot stricter than people are even in some of Matt’s stories. You’ll never see a flying V of migrating geese and be able to count more than about two-dozen birds. And the increase in typical group size among humans is among the more distinctive aspects of the species and our own evolution.

We started writing about our numbers pretty much as soon as we started writing, and we’ve kept at it ever since. I suspect a lot of people here in the room read yesterday reporter Blaine Harden’s article in the Washington Post. It was headlined, “Population Pressures: Birth Rights Help Keep Filipinos in Poverty.” And without either agreeing or disagreeing with that thesis, the point that I make is that the issue is never going to go away, it’s just to basic to who we are.

I recall when I worked at PAI often getting into discussions with various groups who worked on reproductive health and said, you know we just really don’t want to deal with population, we don’t feel it’s necessary. And I often said in response, you know I wish at PAI we had that luxury. We get calls from reporters; they are interested in population. It’s just an issue that’s never going to go away. And particularly lately it is again perking up and whatever you think of it, it’s not surprising that it would perk up again.

But just as we change our populations, our population changes change us. I found it fascinating as I worked on this book how much new research often by women is supporting the importance of population growth as a shaper of interactions between natural resources in human well being and even as a direct force in cultural evolution.

Contemporary historians, probably not Matt, but a lot of contemporary historians are using the adjective Malthusian suddenly, or recently, to describe dynamics between historic natural resource scarcity, technological innovation, and population change. Some archaeologists are now arguing that ups and downs of human population numbers in prehistory are the best single explanation for why things like body decoration, art, and language flowered at certain times and not at others.

One chapter in my book explores what’s known as the axial age, not a theme that I was very familiar with before I worked on the book, which is an area of around a few centuries that
center on 500 BC. 500 BC was a time that Socrates was doing his thing in Athens and Confucius was active; the Buddha was meditating in Northern India, Southern Nepal. Daoism was being founded. A lot was going on that was a real ferment in societies. And there were also very dramatic changes across all the societies of Europe and Asia in the nature of rulers, in the nature of religions, and even gender relations. It was an era of almost universal subjugation of women.

And these parallel developments may reflect, I’m hypothesizing, population growth and environmental degradation after the Iron Age began. Copper and tin were the essential resources of the Bronze Age, which came before the Iron Age. That’s what bronze is: copper and tin. Interestingly, the outcrops of both of these metals are kind of rare to begin with. They didn’t crop up in very many parts of Europe and Asia so they were sort of rare, and they got rarer as the Bronze Age began.

As a matter of fact around 1300 BC there was apparently a period of what we could call peak tin and it really just started to run out altogether. Who knows maybe because of population growth and over consumption, I’m not sure, worked together to really cause this to get scarce. But the good news since when the tough gets going, the tough get patents or the equivalent in prehistory, is that iron ore was scattered pretty much everywhere. Iron ore is very, very common in the ground all over the world. And once we had the technology to burn wood hot enough to smelt iron, suddenly we could create, and we could produce and make plows, axes, swords, and everything kind of went into overdrive. Forests were leveled; food surpluses began, at least for a while until population growth caught up. All of these things interacting together probably had an impact on why the Axial Age happened.

I spend large parts of several chapters exploring the idea that women in these times and before and afterwards have always sought or wanted the ability to time their reproduction. I think part of that on my part is I’m not a woman, obviously, but part of it just seems logical to me. Women were engaged in gathering, they got to know plants extremely well. They may have had some involvement in hallucinogens. There’s a lot of thought that early human art was based on a knowledge of hallucinogens and was made literally under the influence. It just seems logical, especially because women probably got it a little bit before men did, this connection between sexual intercourse and then becoming pregnant a little later. They might have thought at certain points in history, maybe at a lot of points in history, “Gee, is there some way I could be having sex with some other guy at some other time and have a baby, but not with this guy right now?” It just seems logical to me and in fact when I looked at that as
a question, I found that there was a lot of evidence that that was indeed true that women were both trying to time pregnancy all over history, and in fact, potentially having some success, including delaying first births well before the age of contraception. And that it’s possible, and this is really intriguing to me, that their efforts in this regard actually influenced past demographic trends. Now there’s not much documentation of ancient contraception, but then there’s not much documentation of anything involving the lives of women before recorded history.

But what can be found is pretty fascinating. There’s a wealth of medical literature on contraception and abortion -- most of it, admittedly, written by men in Greek and Arabic literature. There are instructions to priests in a 9th Century kingdom in North Central Europe, not far from Belgium, Luxemburg -- a very, very densely populated piece of Europe at that time, before that time, and food scarcity was a constant problem for people living there -- in which priests were counseled on how to stop their parishioners from practicing withdrawal to postpone pregnancy.

There’s a 14th century account by a woman of her own affair with a priest on the border between Spain and France, and together they used an herbal pessary, which she describes, which from the description has been guessed at or analyzed to probably have been an ancient emmenogogue. Now that’s a word that I didn’t know before I started working on this book, and it’s a word I guarantee you’re never going to see in a spelling bee or on an SAT exam, because an emmenogogue is a substance that induces immediate menstruation.

Why would anybody want to do that? Because it gets rid of any evidence that you might have been or might have been about to be pregnant. If you’re a woman you don’t need to know about it and nobody else needs to know about it. There’s a certain elegance to the way emmenogogues operate that makes it much easier to imagine natural substances being emmenogogues than actually acting as a kind of birth control pill, and all the more so pessaries because they provide a physical obstacle to conception in addition.

So through all of this wanders this interesting figure of the midwife. Now midwives are obviously about helping to bring on healthy births, and that’s what most people associated with them and that’s most obviously what they do even today. But midwives have always been with women -- that’s what the word means -- when they’re giving birth and often a woman’s first question is, how do I prevent the next one? That’s not a man’s first question, but it’s very frequently a woman’s first question. A man’s first perspective as I quote in the
book, an Irish male friend of mine said, “What’s the first thing a baby does when being
born?” Cry, breathe, I don’t know, get spanked? No, it makes room for the next one. That’s
the way guys, none the worse for wear, tend to think about these things.

Women are asking questions about timing, and timing is really more important in so many
ways than this idea of limiting that has pervaded the field. I think timing is limiting, but the
real question is, do women really want to have a certain desired fertility size the way DHS
studies tend to assume? They don’t. What women have, in fact, is one pregnancy at a time in
changing circumstances and often with changing partners.

So midwives are all about this, and they’re also about contraception. And as Socrates, the
son of a midwife, found in notes from one of Plato’s dialogues, they’re often providers of
abortions.

So were there times and places where this was actually functioning in a way that actually
provided for fairly stable populations and even maybe environmentally sustainable
populations? In history did women actually manage their own reproductive timing so
effectively that this could’ve happened? Well it’s impossible to know and you could argue
that it’s not likely. Even in the United States with our presumably pretty sophisticated health
care system a pretty steady 45 percent or more of pregnancies are not welcome at the time
that they announce themselves to women. So we can’t expect that women did much better in
the days before modern contraception.

Still, you get glimpses of hunter-gatherer societies that were very stable in their populations
over time and were probably using breast-feeding to keep family size quite low. World
population itself was remarkably stable from pretty much the height of the Roman Empire all
the way until the Norman conquest, pretty much the whole first millennium. There were
about 300 million people, the same population that we have in the United States right now,
by the best estimates. And there were 200 years or more after the Black Death ended in the
14th century when populations in most European Countries did not rebound and there wasn’t
any more plague or Anthrax. And nobody’s quite sure why, but I’ll say something about that
in a second.

In a more documented way, there was a total stasis of population in the Tokugawa Shogunate
in the late 18th century of Japan. In this case the dominant cause, because Japan had good
records at the time, was family size that was around two children per family.
So in terms of this European population stasis that happened for a couple of centuries after the plague of the Black Death was over, it’s interesting to speculate, and some have, that part of the whole witchcraft hysteria was around the time the Catholic Church became more and more powerful and influential with European governments. The European governments themselves were allying with the mason mercantile movement, which needed customers, traders, sailors, and soldiers. This was a very vibrant period of European history. There were good reasons to be very concerned about static populations. And there were good reasons to be aware that contraception was happening in spite of the teachings of the church.

It’s an interesting speculation that that part of the witchcraft hysteria was out of concern that in fact midwives, who were certainly older women, were disproportionally executed in the witchcraft hysteria, and were the wise women that were teaching ancient, ancient wisdom about how to postpone or prevent a pregnancy and childbearing. Although we can’t prove that’s the case, certainly the primer of the witchcraft hysteria, this book the *Malleus Maleficarum, The Witches’ Hammer*, that was published in 1496 and disseminated with the printing press all over the world, talks specifically about this idea of witch midwives who stopped birth from happening.

This is a propaganda scroll from late 18th century Japan and I owe this to Fabian Drixler, who was a student of mine in Yale some years ago and provided this to me. This was the work of a society, of a government, a municipal government in this particular case, in Northern Japan, that was very concerned about the small size of Japanese families.

Now, as it happens there’s good evidence that the way Japanese women were successfully able to maintain families of about two children for decades in late 18th century Japan was not through using IUDs and contraceptive pills, duh, or from using natural contraceptives, which don’t seem to have been very available to them. They had a clear unmet need for modern contraception. The dominant means of controlling their family size appears to have been infanticide, which is not by any means a pretty picture.

One of the points I make in the book is that regardless of our moral view of infanticide it’s a completely bonkers reproductive strategy. You have to go to all the trouble of going through pregnancy and then undergoing the risk of birth when you know you don’t want to have a child. Women do not use infanticide, although it’s been used a lot in history, because they have that option, they use it because they don’t have options.
But regardless of that, in this particular scroll you’ve got these Shinto and Buddhist Deities overlooking a scene where a woman is throttling her baby while the midwife shakes out the mat and the dad over here, or the would-be dad, would-have-been dad, is nonchalantly brewing tea. And then in punishment for this, remember this is a propaganda poster, not an illustration of sort of everyday life in Tokugowa, Japan, the woman is sort of thrown down into hell where she’s shown the infanticide in a magic mirror and then dropped upside down into a burning cauldron while babies that have been dispatched bathe in a pool of blood.

It’s pretty gross, but what’s really interesting is how effective this was. This was a really, I mean talk about population-related propaganda; this was extremely effective population propaganda. In this particular community, which was fairly large, fertility immediately doubled within a few decades. And by 1920s, Japan had tripled. So it just, it’s all by way of showing, again this point that I made early on that population control can work in both directions. And historically, I think there’s a very, very good argument that it’s worked more in this direction getting women to have more children than they really wanted.

This disaffection for reproductive timing and slow population growth, which I argue work together very frequently in societies, hardly ended with a fading of witch hysteria or with the end of this particular area of Japanese history. Until the Supreme Court ruling in Griswold vs. Connecticut, in 1965, it was illegal for a married couple to use contraception in number of localities in the United States, including incidentally, right here in Washington D.C.

It was a criminal offense, and when our current President’s father George H.W. Bush was a Texas Congressman in the late 1960’s, he was derided by a colleague with the nickname “rubbers,” because he spoke out to make family planning available to people who wanted it abroad. And then George H.W. Bush had to erase his own history when he became the running mate of Ronald Reagan, vice presidential running mate of Ronald Reagan in 1980.

Even today I think most of us here are aware there are plenty of policymakers and quite a few writers who believe that contraception is all too easy to access and to use and it’s a big problem that women aren’t producing enough babies as a result.

I had a slide that showed two people who Matthew and I both write a fair amount about, Robert Malthus. Malthus and Margaret Sanger and Mary Wollstonecraft, who is not nearly as well known, but who was sort of an original bridge writer. She was a contemporary of
Malthus’ and she wrote a book called *A Vindication of the Rights of Women*. She was a prolific writer and was the first that I was able to document who made the point that if women could simply breast feed the way women naturally want to breast feed when their lives allowed them to, they wouldn’t have large families because in fact, frequent, active breast feeding to the response of your baby or your child is a pretty effective contraception, one that women knew about and talked about among themselves for thousands and thousands and thousands of years but was really only occasionally written up by men and was documented by Mary Wollstonecraft.

And there’s a sad story there in that when she was giving birth to her second child, she fell in with puerperal fever, a fairly common reproductive tract fever in those days called child bed fever, and she died shortly after the birth. And she wanted to breast feed her baby, but the doctor was concerned that her baby would get this fever. It wouldn’t have been likely but her doctor actually procured puppies to draw off the milk. That baby actually survived motherlessness, that wasn’t easy in those days, as it hasn’t been easy for much of history, and became Mary Shelley, the author of *Frankenstein*. So just one of these sad, poignant stories about the way history sometimes works.

Malthus apparently never read Wollstonecraft, had no awareness of her at all. And he certainly didn’t know that even though he was the father of three children, that breast feeding was a good contraceptive. Malthus talked about contraception as just pure viciousness and vice; I guess “wickedness with regard to women” was the phrase that he’d use.

In writing about Malthus and about Sanger, I quote a few things that both of them wrote that are very painful to read today. But I think, and I look at some of the things like the flirtation of Sanger and other’s in the movement – it was more than a flirtation – I do think eugenics was quite a bit different then. I try to draw out what some of those differences were but there’s no doubt that there was that alliance going on, which I think is misguided, obviously.

But I spent the time with both of them. I did little mini biographies of them. Part because I think that the world owes them a certain debt, a certain gratitude quite frankly, and because the way that most governments and many dedicated individuals have approached population and family planning for the past few decades, owes something to those two individuals and many others like them and primarily has been a plus for the world, a plus for society in multiple ways.
As in any human endeavor there are mistakes all around international family planning. You had to learn something entirely new, entirely revolutionary in many ways, world wide, globally, every step as it went along the way, and it doesn’t surprise me that it made some horrendous errors along the way. A lot of learning had to go on. A lot of people could have been more competent, could have been more empathetic. I think this is probably the case in a lot of human endeavors. And they probably could have been a lot less full of themselves. But there’s no doubt that the deaths that occurred, in quantity, have been much more in the realm not of societies that organize population and family planning programs, but in those that have discouraged, stigmatized and banned contraception and abortion.

And if the world’s 1.7 billion women of reproductive age, and that’s in developed as well as developing countries, I think this issue is equally important in both, are ever going to have the capacity to time their own reproduction, and they’ll never come close to real equality with men until they’re able to time their own reproduction, it will be because governments take seriously the need to make family planning services and commodities and reproductive health generally available to everybody who wants to use it and invests accordingly.

Now if slowing population growth is among the motivations for people and their governments to make such investments and if those investments succeed in slowing population growth, as they certainly have to date, then that’s a good thing. So long as the actual reproductive timing decisions belong to individual women and men acting freely and in good health. Thank you.