

# Children without sex is what the future holds, claims inventor of the Pill

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Let us take a journey through time to the year 2050.

Our time machine has landed in the spacious drawing room of Barbara, the 45-year-old owner of a smart advertising agency, and Michael, her equally high-flying husband, in their London townhouse.

Barbara's career ambitions have been realised, and she is at the top of her game, wealthy and happily married. The time is right to start a family.

If she'd had a baby in her 20s or 30s, setting up her own agency — what with all those 15-hour days — would have been virtually impossible. But now it's not a problem. Barbara simply puts in a call to the baby bank, where her eggs are kept in "cryopreservation". Barbara deposited them there when she was 20, when they were in their prime.



Sex without children; children without sex - who knows what the future may hold

The eggs are transported to the lab, along with Michael's sperm — which he has taken the precaution of having frozen, too — and an embryo is produced and returned to her womb. Nine months later, their "ice baby" is born.

Barbara is not alone. In the year 2050, thousands of middle-aged women like her — and some even older — are putting motherhood on ice until the time is absolutely right.

One might think this Huxleyesque vision of a Brave New World just a few years from now sounds a little fantastical. Yet it is the prediction of one of the world's most eminent scientists, Carl Djerassi.

Professor Djerassi is the man who invented the Pill, the first oral contraceptive, which triggered the sexual revolution of the 1960s, and which many would argue changed the face of society and sexual morality for ever — and not necessarily for the better.

The Pill gave us sex without children. Now Djerassi has turned that concept on its head. He believes the developed world is heading towards its next cultural revolution — children without sex.

"It is my own prediction that within the next 30 to 50 years in the Western world, many women, when young, will bank their eggs or ovarian tissue, have them frozen, and use them when they feel the time is right for them to have a child," he says. "It will become commonplace.

"The world has changed. The days are past in which women in countries like Britain have economic dependence on their husbands and take care of the children.

"The days are past when women looked after children and nothing else. Women have careers now. They are better educated, more affluent and healthier on the whole, and many are now living into their 80s.

"They postpone having children until later and then they forget — or remember too late. Soon there will be nothing to stop a woman freezing her eggs when they are at their healthiest and then using them later on in life."

Less than a decade ago, such a scenario would have seemed impossible. But even now, there are indications that Professor Djerassi's prediction will come true. A handful of babies have already been born using frozen eggs.

A couple of years ago, freezing and thawing human eggs was a highly-complicated procedure used only as a last resort — for example, when a woman has been made infertile through cancer treatment.

There was no guarantee of success because while sperm freezes well, when an egg is frozen, its high water content means the ice crystals that form inside can severely damage or destroy it.

Egg-freezing techniques are being increasingly refined. A new process called vitrification, in which water is drawn out and anti-freeze chemicals added, is improving success rates to the same level as normal IVF treatment.

Widespread freezing of eggs, if Djerassi's prediction is correct, is bound to prove controversial. Is it ethical for women to have children in their 60s? How will the child born using such a procedure be affected both emotionally and physically? Even today we do not know what the long-term consequences of IVF will be on those children it has helped to create.

And then, of course, there is the question of women choosing to defrost and fertilise eggs without bothering to find a partner to help raise the child. Do we really want science to create a generation of ageing mothers who've chosen to corrupt nature for the sake of their careers by having children late in life — with or without a man?

Djerassi is dogmatic in his rejection of these moral and social concerns. Controversially, he believes advances in egg freezing techniques would be greatly beneficial to the human race. "There are so many unwanted children in the world," he says.

"This would be a way of helping to reduce the number of unwanted children. Every child born to a woman who has taken a conscious decision to have a child at that time would be wanted and loved and properly cared for.

"Is there not something to be said for wisdom, affection and maturity? Why shouldn't a woman have a child when she is older if the science is there to help her? Nowadays it is not thought peculiar if a man in his 50s or 60s has a child. So should it be different for a woman?"

Today, Djerassi is a sprightly 83. Until just last year he was still skiing but has had to put any sporting adventures on hold after falling and breaking his hip.



Looking into the future: Carl Djerassi with his wife Diane

He lives with his wife, the author and poet Diane Middlebrook — whom he met in 1977 — in a spacious apartment which covers two floors of a grand townhouse in North London.

Djerassi, whose family fled Vienna for America after Hitler's troops marched into Austria, remains consumed by his work and locks himself away for ten hours every day in his study.

These days he is a playwright and novelist, specialising in what he terms "science in fiction". To date he has written five novels, seven plays, two memoirs and a book of essays. He has just returned from New York following the Broadway premiere of his play Phallacy.

Djerassi believes putting eggs on ice will have benefits to the health of "babies born to older mothers".

Biologically, the ideal age to have a child would be 18-20, after which the woman could go to university and have a career.

"In those circumstances, society would have to make arrangements for childcare, which it does not do, so women are waiting till their careers are established and they can afford good childcare," he says.

"The problem with this is that the moment a woman hits 35 the risk of her having a child with Down's syndrome increases four to six times.

"At that age she has lost 90-95 percent of her eggs, and those that are left are ageing rapidly. Storing her eggs is her insurance policy against the future. I think you will get the odd woman of 60 or 70 who will decide to have a baby, but most will be in their 30s and 40s."

But isn't the idea of mass child production without sex somehow, well, cold?

"Women, especially, romanticise the moment they conceived," he says, "but the truth is many don't actually know. And besides, is it such a high price to pay for a healthy child born at a time that is right for the mother?"

It is certainly a radical idea, but then Djerassi has always been a radical. History was made in a small laboratory in Mexico City on October 15, 1951, when he synthesised norethindrone, the first oral contraceptive, recognised worldwide as one of the most significant advances in steroid chemistry.

He was stunned by the impact it had on society: "I could not anticipate the impact the Pill would have. No one really knew that women would accept the Pill so readily."

The Pill gave women freedom from the fear of pregnancy and the horror of backstreet abortion, but many see it as a cursed invention that is almost single-handedly to blame for the sexual revolution which brought about — as its critics see it — a wholesale collapse of moral values across the Western world.

Djerassi does not concur with this damning verdict on the legacy of his invention. He argues that society was changing anyway; the Pill just smoothed the way.

"The sexual revolution of the Sixties coincided with the introduction of the Pill — the Pill did not bring it about," he says bluntly. "The Pill came along at the right time, in the same period as hippy culture, the drug culture and rock 'n' roll culture.

"That the Pill facilitated that direction is absolutely true, but I believe it would have happened anyway. Not as explosively, but more gradually. It would have happened in exactly the same way."

And he says it is a myth that everyone started having a lot more sex with multiple partners — that his invention effectively allowed the risk-free one-night stand to flourish as it never could before.

"Women were having sex before the Pill, but they were getting pregnant and having abortions. The Pill helped to stop that," he says.

What about the side effects of the Pill? "There is nothing without side effects," says Djerassi. "Does it increase the risk of breast cancer? Well, there have been thousands of studies and the question is still debated. But we must not forget that it has been proven that the Pill reduces the risk of ovarian cancer by 50 per cent — that is crystal clear."

He has been unable to escape his "father of the Pill" tag, though he prefers to think of himself as the "mother of the Pill". "In order to give birth to anything, you need three people," he says. "A father, a mother and a midwife."

Djerassi was the chemist who provided the raw chemical ingredients — the "egg". The biologist Gregory Pincus, who co-ordinated its experimentation as a contraceptive, might be seen as the "father". And the physician John Rock, who oversaw the first clinical trials, was the "midwife".

Djerassi's invention made him a very wealthy man. Unlike many, he had enough belief in what he was doing to buy shares in Syntex, the small Mexican company where he did his research.

"They were shares I bought on the open market," he says. "Other people could have bought them but no one believed in the future of the company, which developed very much because of work that I and other colleagues conducted. We deserved it."

With his fortune he bought a 1,200-acre ranch near San Francisco and indulged his passion for art, becoming a leading collector of the works of the painter Paul Klee. He also became a professor of chemistry at Stanford University — which he is to this day.

With his second wife, Norma Lundholm, Djerassi has a son, Dale, a documentary filmmaker. He and Norma also had a daughter, Pamela. It was her suicide at the age of 28 that has been the great tragedy of his life. It came a year after he met his third wife, Diane.

After Pamela's death, her father set up an artists' colony on the ranch. He sold his Picassos, Giacomettis and Henry Moores in order to fund the colony, which continues today. Djerassi's London flat is filled with artwork produced by artists who've lived there.

He also bequeathed his entire Klee collection to the San Francisco Museum of Modern Art. "Well, you

can't take it with you," he says.

But it is not his art collection for which Djerassi will be remembered: the Pill will be his true legacy. Given that he has already fundamentally altered the relationship between sex and procreation, perhaps we should take seriously his alarming predictions for the future.

Sex without children; children without sex. A Brave New World indeed.