

Someone who publishes four separate accounts of his life is either vain and self-regarding or has an extraordinary range of accomplishments and ideas to communicate. As a serial autobiographer, Carl Djerassi falls firmly in the second category.

Best known for the leading role he played in the development of the contraceptive pill in the 1950s, Djerassi had a distinguished career in organic chemistry. Later in life he morphed into a novelist, playwright and public intellectual, focusing on the morality of science in general and human reproduction in particular. Most recently he has spoken out in favour of the controversial new egg-freezing technology offered by Facebook and Apple to young female employees who want to postpone having babies until their career is well established.

The 91-year-old Djerassi greets me on a bright autumn morning in his elegant Maida Vale apartment, one of three homes he maintains in London, Vienna and San Francisco. He moves between them to follow a “workaholic” schedule of professional, cultural and social commitments.

As the sun streams through the floor-to-ceiling windows, Djerassi starts by explaining why he has re-entered autobiographical territory. “In some respects it smells of megalomania,” he says, “but I think of my latest book



Djerassi at a laboratory in Vladivostok, in the Soviet Union, in 1989

as autopsychanalysis. I wrote my main autobiography [*The Pill, Pygmy Chimps and Degas' Horse*] more than 20 years ago and I have become a very different person since then, both professionally and introspectively. I am not covering the same ground.

“Most chemists are not self-reflective,” he adds. “We analyse the world around us, we do it at the molecular level and not at the personal level, we don’t turn the mirror around and see how we behave. Chemistry is a more self-circumscribed subject than most – unfortunately.”

What turned Djerassi outward, he says, was “my third – and most important – marriage, to Diane Middlebrook, who was a professor of English at Stanford and a distinguished biographer. We found that we came from two very different worlds, even though we were professors on the same university campus.”

Middlebrook, who died in 2007, encouraged Djerassi to write about the world beyond chemistry. He started with his own life and then turned to the thinly populated genres of science-in-fiction and science-in-theatre – novels and plays in which the principal characters are scientists. Djerassi turned out to be elegant and eloquent as a writer and speaker.

His debut novel, *Cantor's Dilemma*, which looks at scientific fraud, was an immediate success on publication in 1991. His plays, which have been translated and performed around the world, include *An Immaculate Misconception*, about human reproduction, and *Oxygen*, a powerful drama about late 18th-century discovery, written with fellow chemist Roald Hoffman.

Djerassi retains an appreciable Austrian accent, left over from his upbringing in Vienna, which ended at the age of 15. His Jewish family emigrated to the US (via Bulgaria) in 1938 following the Nazi takeover.

Ironically, Vienna is now the city where Djerassi feels most at home and Austria has happily readopted him as a favoured citizen, even (to his immense pride) issuing a postage stamp in his honour. Still, in a fascinating discussion of *Heimat* – a German term implying much stronger emotional and personal attachment to a particular place than “home”, its closest English equivalent – Djerassi makes clear that, in this deep sense, he has never felt truly at home anywhere since 1938.

The location of Djerassi’s greatest chemical achievement was Mexico. There he worked with a small but world-class research team in the early 1950s, discovering new ways to make steroid compounds such as cortisone and, most notably, norethindrone, the pill’s active ingredient – a synthetic hormone that prevents conception by mimicking the effect of pregnancy.

Djerassi became rich through his shareholding in the company responsible, Syntex. He invested much of his wealth in 20th-century art – collections that have been donated to public galleries and museums – as well as in charitable support for artists.

He laments the ultimate fate of one of the developing world’s very few successful science-based companies. In 1994, Syntex was bought by Roche of Switzerland “and promptly swallowed and digested. In that digestive process, the entire research division of



With his third wife, the late writer Diane Middlebrook, in 1991



‘What about a pill for men?’

Sixty years after his work led to the contraceptive pill, Carl Djerassi has also found fame as a novelist and playwright. He talks to Clive Cookson about how there still hasn’t been enough research into birth control and why he believes freezing women’s eggs is the future

‘If I want a child, I’ll do it by IVF; if I want sex, I’ll do it the usual way’

Syntex in Mexico, which had just moved into new premises in Cuernavaca, was closed and all research personnel dismissed,” he says. “To me, the cold-bloodedness of this corporate amputation seems unforgivable. I know of no other pharmaceutical company in Mexico that has currently any significant research presence.”

By then, the pharmaceutical industry had wound down its work on contraception, scared off by the threat of lawsuits over side effects and choosing to focus instead on more lucrative fields such as arthritis and diabetes, cancer and cardiovascular diseases. Djerassi was disappointed by this withdrawal. “I thought [the success of the pill in the 1960s] would be the beginning of an explosion of research into many areas of birth control,” he says. “What about a pill for men? What about women who do not want to take hormonal contraceptives? There could have been many areas of research. None of this was in the end funded.”

At the same time, scientists outside the drug companies were switching the focus of research from contraception to conception. They have succeeded in turn with sperm preservation, in-vitro fertilisation, storing fertilised embryos and most recently freezing unfertilised human eggs. Today it is technically possible to produce a



With his son, grandson and father in 1984

healthy embryo by injecting a single sperm into an egg that has been thawed after several years storage.

Djerassi welcomes the new option that is opening up for young women who want to establish themselves in a career before having children. Since about 2010 it has been possible to have human eggs extracted through a super-ovulation procedure and, he says, all the evidence suggests that, like sperm, eggs can be deep-frozen for many years without undergoing any deterioration.

When the woman wants a child, her eggs can be thawed and fertilised, and the resulting embryos tested for genetic abnormalities and implanted. Ovaries and eggs age more quickly than the uterus and womb, Djerassi says, so implantation could be carried out safely until her mid-forties.

He congratulates the Silicon Valley companies that are offering egg freezing as an employee benefit. “People forget that these are options,” he says. “They are decisions only a woman can make, in consultation with her partner and her close family... The procedure is expensive at the moment. If the company offers up to \$20,000, I find it very enlightened.”

Looking further ahead, Djerassi foresees a complete break between reproduction and sexual activity. “Why not go to the logical extreme?” he asks. “If you want to have one or two children, use the best artificial means. The hundreds of times when you have sexual intercourse you do it for reasons of fun or love or lust or curiosity or whatever.

“I predict that by 2050, if I am a young woman and I store my own young eggs, I would then get sterilised. Why would I want contraception? If I want a child, I’ll do it by IVF; if I want sex, I’ll do it the usual way.”

Such thoughts are, of course, provocative – and not welcomed by all IVF specialists, let alone upholders of traditional religion. Djerassi may have written his last autobiography but while his energy remains high, we can look forward to more interventions in the big scientific debates of the day. **FT**

Clive Cookson is the FT’s science editor. “In Retrospect: From the Pill to the Pen” by Carl Djerassi is published by Imperial College Press, £19