activists were hoping the ruling would mean a ban on all human embryo cloning in the UK. But then, in January, 2002, the British Court of Appeals reversed the High Court decision, saying that Parliament would have included human embryo cloning in the 1990 law if they had known it was on the horizon.

France is debating a bill that would ban both reproductive and therapeutic cloning and impose 20-year prison sentences on violators. But the bill would allow research on 'surplus' frozen embryos from fertility

research purposes continues to be banned, has decided that importing human embryonic stem cells for research is permissible. At the end of January, 340 lawmakers voted in favour of restricted imports, and 106 favoured unrestricted imports and eventual production of the cells in Germany. This compared with 265 lawmakers who wanted to ban stem-cell imports completely, a stance supported by both the Roman Catholic and Lutheran churches. Government officials were divided along party lines, with Chancellor

embryonic cells are better than somatic cells for stem-cell research with further investigation; the research must come first.

Others agree. Caplan declared that research carried out in countries where the use of human embryos is permitted will be key to solving the legal problems elsewhere and rescuing therapeutic cloning, especially in the USA. 'I think we'll get some answers, they'll just come more slowly. Answers will come from England or Sweden or Australia about the potential. If the potential looks very strong, then I think the demand from patients will overwhelm any moral objections on the pro-life side. It's a little hard to argue potential cure against real harm to a human embryo. It's not so hard to argue the moral priority of curing your child of diabetes or getting somebody out of a wheelchair—if it works—against that same standard.'

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clinics. Like lawmakers everywhere, French politicians know that endorsing any position on cloning will inevitably alienate some of their constituents, so any law is unlikely before French elections this spring.

Last summer, France joined with Germany to ask the United Nations for an initiative banning human reproductive cloning. But even Germany, where the Nazi spectre hovers over all human experimentation, and where human embryo creation for

Gerhard Schroeder favouring limited imports and the Federal President opposing it. Calling the decision 'necessary for German scientists', Anna M. Wobus, a researcher working with human stem cells at the Institute for Plant Genetics and Crop Plant Research in Gatersleben, Germany, noted that the vote was a compromise between scientific aims and ethical and social concerns. She said that it will only be possible to decide whether

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A right for family planning

The benefits of contraception for women's health and social status

Once upon a time in babyland, where babies pop out of giant, baby-making flowers, Mr Stork picked up a cheeky baby for early-morning delivery. But this time, things would be different. Close to his final destination, Mr Stork bumped into a huge brick wall. He flew back a little, shook his dizzy head, gathered all of his strength, and surged into the brick barrier once more. To cut the story short, the persistent bumping would have gone on forever if someone had not told poor Mr Stork that from now on, baby home-delivery would be carried out upon request and according to the will of the parents. The well-known baby deliverer had hit the wall of contraception, the most effective method of controlling reproduction.

Contraception was indeed the Big Bang in the evolution of baby-making strategies. In Western countries, it is now as easy to get effective contraception as it is to get an antibiotic against, say, an ear infection. Women can walk into their doctor's surgery, get a prescription that they hand in at the nearest

Contraception was the Big Bang in the evolution of baby-making strategies

pharmacy and receive a pack of pills that—if taken appropriately—will effectively prevent pregnancy. Although contraception has its roots in ancient times, the ease with which modern contraceptives can be used and their efficiency have made them a

highly attractive measure for women to improve their well-being. Indeed, given the complications and stress that a pregnancy can entail for a woman, controlling her number of children has become one of the major measures to ensure her long-term health and quality of life. What is more, modern contraception has given women the means to rise above breeding and child-bearing and fight for their rights and equality. As Natalie Angier, science reporter for the *New York Times* and author of the book *Women*, bluntly put it, 'Women, like all female primates, have two basic goals: to control their reproductive lives and to have access to resources. A woman who is prevented from doing either is less free than a female chimpanzee or gorilla.'

Contraception is also an important topic on a larger scale. 'Foremost, there is the overwhelming evidence that the planet is overpopulated with humans who are destroying the ecology,' John Riddle, Professor of History at the North Carolina State University in Raleigh, NC, and author of *Eve's Herbs: A History of Contraception and Abortion in the West*, said. 'Second, the publicity of the birth control pill developed in the 1950s brought back—and I stress "back"—the realisation by the opinion makers that women have the means to control their fertility,' he added. Clearly, it has moved away from being a taboo, but it still remains on the political agenda, particularly when it is drawn into the heated debate about its less-accepted relative, abortion.

Nowadays, the increasingly wide variety of contraceptive methods—available to both sexes—suggests an oxymoron, namely that people are spending most of their reproductive life avoiding reproduction. But the roots of contraception trace back into antiquity. The early civilisations of

they became extinct, leaving only pharmacists who lacked the ability and the will to give precise instructions on

how to use herbal contraceptives. 'Strangely, historically, contraception has been more condemned than abortion,' Riddle said, while 'abortion, most especially early-term abortion, was thought for so long to be a matter of women simply regulating their menstrual cycle.' In the interim between those distant times and modern family planning, many books and guides instructed women to chop the

From Nature's perspective, where 'everything has a purpose otherwise it's a waste', using contraception has significant medical benefits, improving a woman's health simply by preventing pregnancy. Given that a woman has an average of 360 menstrual cycles before menopause, each of which would allow her to become pregnant, this results in an amazing number of potential children even if the time for pregnancy and lactating is subtracted. But there is a limit to the strain the human body can take. In the absence of contraception, consecutive pregnancies would lead to progressive weakening of the mother and endanger her health. And 'abortions cannot be the answer to undesired pregnancies, since there is the danger that the surgical procedure itself may induce permanent scarring of the uterus, severe haemorrhage, inflammation, repetitive miscarriages, blockage of the fallopian tubes, even infertility,' Aristotelis Bogdanis, Head of the Obstetrics Department at the Hospital of Kos in Greece, said. These risks are even more prominent when abortions are carried out under unsafe conditions, as is the case for women who live in countries where abortions are illegal or beyond the means of the majority.

Clearly, the use of contraceptives has many advantages: it limits complications at birth, generally improves women's health and reduces the number of abortions. But issues such as 'women at work', 'equality of opportunities', 'social standing of women', 'access to education' and 'financial support', place contraception in a much wider context. 'If women cannot control whether and how many children to bear, their other freedoms are much less important,' Riddle said about the

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Ancient Sumer and Egypt already recognised the power of various herbs to protect against unwanted pregnancies. Later, in 7 B.C., a group of Hellenic settlers colonised a stretch of land they named Cyrene in a part of today's Libya where they soon discovered the birth-control effects of silphium. This rare plant proved to be so effective in preventing pregnancy that its cultivation and commercialisation became a major source of the settlers' income.

Other, much cheaper and more abundant herbs were also utilised, among them celery, motherwort, birthwort, fig leaves, rosemary and thyme, although the purpose of certain potions was abortion and not a mere prevention of conception. Family planning in ancient Hellas became commonplace and moulded the random use of herbal contraceptives into a systematic pharmacopoeia mediated by physicians and midwives. However, in the Early Middle Ages, medics grew increasingly intolerant of these mysterious ways, and midwives were often denounced as witches and found themselves on the stake. By the dawn of the 14th Century,

tongues of frogs or to swallow the eggs of elusive insects, making contraception a painstaking and even dangerous practice. It was not until the 1950s with the discovery of the contraceptive effects of oestrogen and Carl Djerassi's invention of the pill that birth control became widely available again.

The biological fact, however, is that contraception was not invented by humans for humans, but by Nature. Natural contraception is the body's ability

to regulate the period when a female can conceive—during starvation, lactation, gestation and for most of their menstrual cycle women are not fertile. The logic behind developing artificial contraceptive methods is of course to supplement what Nature already offers, thus relaxing the tension of looking for the 'signs and symptoms' of fertility each month, and ultimately to make it safer and simpler to have sex without getting pregnant.

social implications. It is not accidental that the advent of the pill in the 1950s coincided with the most pronounced and radical women's movement to fight for equality in education, career, political representation and legal protection. But even in developed countries, teenage pregnancies, right in the middle of schooling, are still a problem and are not necessarily the most fruitful way to progress through life. Bogdanis thinks that

'If women cannot control whether and how many children to bear, their other freedoms are much less important'

the only constructive means of counter-acting these problems is by proper and guided sexual education concerning contraception, while highlighting 'that different types of contraceptive strategies are more appropriate and successful with regard to distinct age groups.' Family planning through contraception grants women power to choose *whether* to become mothers and *when*, which allows them to complete their education and thus have the essential knowledge to pursue prestigious careers.

Consequently, as more women choose to become pregnant later in life, there is a clear shift in the developed world now towards pregnancies at ages near menopause, which creates health problems of its own. Older women give birth to a higher number of premature or underweight babies. And those born to women aged 35 or older tend to have significantly higher blood pressure at birth, and thus a higher risk of elevated blood pressure and associated heart disease in later life, as well as an increased risk of developing diabetes. Complications at birth are more prevalent among first time mothers in their forties, and 40% of them deliver by Caesarean section, twice as many as younger mothers.

Most women, however, would consider these risks to be more than offset by their increased freedom and, clearly, the attitude towards sex has changed in the developed world with the advent of reliable and affordable contraception. Sex is there to have fun, and should the ideal partner come along and social and financial circumstances permit it, to have children. Just a few decades ago, it was considered normal for many families to have as many

as 15 children, some of whom would die at birth, some more to die before reaching age 10 due to malnutrition and poor sanitary standards. Over the years, birth rates have fallen sharply in the developed world, and families are now much smaller, focusing on raising fewer children better.

These benefits for population control, women's health and improving their social status add an international aspect to the availability and use of contraception. While contraception has become a basic staple in the developed world, in many other societies women still have the primary task of child-bearing, which consumes most of their life. And last year's estimates

standards of living on the continent. Primarily and almost exclusively this was a result of enlightened birth control and education policies.' But still too often, the benefits of birth control are either suppressed by intolerant beliefs or unfairly criticised in the wake of abortion policies. This January, for instance, the US administration, pressured by conservative senators, considered blocking US\$34 million to the United Nations Population Fund on the basis that the fund allegedly supports abortions and sterilisations in China.

In a world where 90% of women are still categorised as 'housewives'—or even worse as 'breeding devices'—where each

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that the earth's population is still growing faster than expected, as well as the abominable status of many women around the world, are just a reminder of the importance of proper family planning. It is because of these reasons that the United Nations Population Fund—among other organisations—stresses the need for voluntary family planning 'to support the right of couples and individuals to decide freely and responsibly the number and spacing of their children and to have the information and means to do so.' And there is clear evidence that birth control programmes contribute to progress. 'Tunisia had Africa's highest population density and extreme poverty until awareness by public and private leaders that something had to be done,' Riddle named an example. 'Now the country has a low birth rate, a healthy population, and one of the highest

year 2 million girls suffer genital mutilation and where women do not have access to the same resources as men, it becomes clear that there is still a long way to go. 'Even though some societies are better at accommodating sexually and socially liberated women,' yet 'nowhere have we progressed to the point where we can afford to be complacent,' Angier said. 'With the tyranny of the free market now sweeping unchecked across the globe, who is going to stand up and defend any further elaborations of the nanny state.'

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