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“All couples and individuals have the basic right to decide freely and responsibly the number and spacing of their children and to have the information, education and means to do so.” Few would disagree with this statement, agreed by world leaders at the United Nations’ International Conference on Population and Development in Cairo, a decade ago.

The arrival of a child is a life-changing event — one that we would all like to control, and plan for. Alas, it often doesn’t work out that way. Infertility curses many couples, whereas lives are turned upside down every day by reproductive ‘accidents’. That’s especially true in the developing world, where access to contraception is limited. But even in the United States about half of all pregnancies are unplanned.

Meeting the UN conference’s goal will not be easy. Religious and moral agendas often complicate the picture, arguing — unrealistically — that unwanted pregnancies are best avoided through sexual abstinence. Economic and social factors weigh heavily: the trend in many rich countries to delay reproduction until later in life helps to explain why many couples then have trouble conceiving. But reproductive empowerment will require a vigorous research agenda, which provides the backdrop to this Outlook.

Mention the science of human reproduction, and thoughts turn to *in vitro* fertilization and similar technologies. In this area, science fact often seems to blur into science fiction. For a glimpse of what might lie ahead, a leading exponent of that genre has devised a brochure for a reproductive services company operating 75 years from now.

Other articles look at the nearer term. One of the most exciting — and controversial — frontiers of fertility is the removal of the menopause. Here, the science is moving fast. So too in other areas, such as how imprinting — the differential expression of genes, depending on whether they come from the mother or the father — controls fetal nutrition.

But many of the field’s frontiers are shrouded in ignorance — and, in some cases, blighted by inaction. Is our biological fertility declining? If so, is environmental pollution to blame? And why are millions of people, even in the developed world, using contraceptive methods that are unreliable and fail to deploy the latest findings in molecular biology?

Our authors don’t claim to have all the answers. But we hope that this Outlook will frame the questions from which a brighter reproductive future can emerge.

Peter Aldhous and Natalie DeWitt



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