Reproduction in History
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Who should reproduce, and how? Is it acceptable to manipulate DNA to make a ‘designer baby’ or clone a favourite pet? Ought everyone to have smaller families to limit the environmental impacts of population growth? Why do hundreds of thousands of women and millions of babies still die at the time of childbirth every year? Reproduction is in the news because the subject has such wide scope, from the most intimate experiences to planetary policy, and because it raises such large and difficult questions. Innovation fuels controversies over science and technology, economics and politics, ethics and religion, while children keep on being born.

Activists, politicians, scientists and scholars have called on history to celebrate progress or condemn present practices, to understand where we are and how things might take a turn for the better or worse. They have argued that family planning produced prosperity or that fertility control followed social change; that male obstetricians developed techniques to make childbirth safe or increased the danger by edging midwives out. Tales are still told of advance or decline, sudden ruptures or long traditions, but the relevant research has become so vast and diverse that it is hard to see the big picture. Even historians may lose their way in the forests of books and journals.

This volume, the first large-scale history of reproduction, works against this dispersion of scholarship by bringing together and extending some of the best studies. It comes out of conversations between experts in different epochs and approaches, and invites readers to join in the attempt to grasp the whole, to revise old stories and tell new ones. Focusing on the Mediterranean, western Europe, North America and their empires, we span from antiquity to the present day. The book also combines histories of science, technology and medicine with social, cultural and demographic accounts. It aims to set agendas for research, to introduce students and non-specialists to the field and to deepen public debate.

What Was Reproduction?

In the sense of procreation alone, reproduction has had extraordinary reach. Efforts to control fertility and manage births have linked bedrooms to courtrooms, and laboratories to farms and clinics, while involving midwives and embryologists, farmers and anti-abortionists. Explanations have referred to seeds and embryos, eggs and sperm, monsters and clones, sex and the life cycle. Reproduction has been bound up in more general concerns about creation and evolution, race and gender, degeneration and
regeneration, not to mention those other meanings of the word: copying and social transmission. The birth of a baby may imply investments in maternity and paternity for families, lineages, even dynasties, and states. The Roman Emperor Augustus legislated to encourage marriage and childbearing, a much-repeated endeavour, while recent Indian governments have run mass sterilization camps, and China launched and eventually loosened a one-child policy. Demands of growing populations for food, and hence land, have propelled migration and been used to justify wars; they have fostered plant and animal breeding, transforming the environment and our diets. Populations that did not reproduce themselves have relied on immigration, with profound effects on economies, politics and cultures.

We can look back like a biologist or demographer and find reproduction in every century, but for historians ‘reproduction’ also means a set of ideas and practices that are specifically modern. Before the nineteenth century, most educated people wrote not of ‘reproduction’, but of ‘generation’, a larger, looser framework for discussing procreation and descent. ‘Generation’ was an active making, and commentators likened the genesis of new beings to artisanal processes such as brewing, baking and moulding clay. Generation encompassed not just animals and plants, but minerals too, though the human soul received special attention. Only in the mid-eighteenth century did the word ‘reproduction’, literally ‘producing again’, begin to gain any currency as the common property of all living organisms (and only them) to beget others of their own kind. Used most influentially in this sense by the director of the King’s Garden in Paris, Georges-Louis Leclerc, Comte de Buffon, in 1749, the concept meant a more abstract process of perpetuating species, which were then increasingly defined as ‘populations’.

Reproduction, whether as biological universal or time-bound practices, should be central to the writing of history. It has not been, because activities associated with sex, and wrongly perceived as just concerning women, were sidelined for a long time. Since ‘reproduction’ itself was consolidated as a somewhat unified discourse only in the late nineteenth century, and became prominent only in the mid-twentieth, accounts of the various aspects of its history are scattered.

In the 1970s, some scholars recognized history of reproduction as a broad field comprising individuals and populations. As new social movements fought for women’s and gay liberation, and civil as well as workers’ rights, people started to talk about ‘the politics of reproduction’. Feminists played the leading part. Campaigners for women to take on new social and economic roles demanded the power to choose whether, when and how to conceive, carry, deliver and raise a child. They rediscovered the famous statement about the importance of reproduction by Karl Marx’s collaborator Friedrich Engels in 1884: ‘the determining factor in history is … the production and reproduction of immediate life … On the one hand, the production of the means of subsistence, of food, clothing and shelter … on the other, the production of human beings themselves, the
propagation of the species. Feminist intellectuals argued that reproductive labour was fundamental to history and social life, and that it should be organized more equitably.

As new methods swept the social sciences and humanities, historians took up topics that their profession had largely ignored: women and gender, the family, the body and sexuality. Reproduction was a magnet for research, but ‘history of reproduction’ did not acquire an independent identity. Focusing on babies, especially as women’s business, risked reinforcing the very assumptions that needed to change, though it might have strengthened ties to the burgeoning studies of procreation in anthropology, sociology and demography. A half-century later, and after much important work, reproduction still invites more concerted historical attention. This book seizes that opportunity.

Frameworks from the 1970s

We begin by going back to the 1970s, when frameworks for the history of reproduction were built in encounters between critical political and intellectual agendas, particularly within feminism, and pre-existing disciplines. Histories of medicine, demography, the family and ideas supplied foundations, component parts and narratives to critique.

Of these, history of medicine was most important. In the 1970s, doctors were at the summit of their power, but denounced for ‘medicalization’: claiming authority over areas of life that had not been medical at all. The disapproval extended to physicians’ and surgeons’ dominion over the past through bold, often technology-driven stories of the rise of specialties such as obstetrics and gynaecology. The then largely male practitioners applauded the progress of rationality against female ignorance and incompetence, while obscuring the mutual shaping of technology and society (Fig. 1.1). Activism against hospitalized childbirth, and for improved access to contraception and abortion, spawned histories that decried the denigration of women’s contributions to generation and a takeover of childbirth by forceps-wielding men.

The best-known history of reproduction had its origins in 1972 as a talk at a conference on women’s health. Barbara Ehrenreich and Deirdre English, teachers at SUNY College at Old Westbury, ‘a hotbed of political debate’, wrote Witches, Midwives, and
Figure 1.1 ‘Graph showing progress of obstetrics and gynecology.’ The line is ‘almost horizontal’ until Ephraim McDowell’s ovariotomy of 1809 begins ‘an abrupt upward trend’. The figure was reproduced for criticism in William Ray Arney’s Foucauldian Power and the Profession of Obstetrics in 1982. From Theodore Cianfrani, A Short History of Obstetrics and Gynecology (Springfield, IL: Thomas, 1960), p. viii. 23 × 15 cm.
Nurses ‘in a blaze of anger’ (Fig. 1.2). The pamphlet linked the demise of midwives and the rise of male medical professionals, though its premise, that the majority of midwives and other female healers were witches, has been debunked. Another revisionist classic, Linda Gordon’s 1976 history of birth control, drew on A Medical History of Contraception (1936), which a counterpart of the (American) Birth Control League had funded sociologist Norman Himes to research. Himes contended that for ‘half a million years’ humans had desired to restrict fertility with ‘techniques, now bizarre and pathetically ineffective or injurious, now strangely ingenious, original and workable’, but that ‘democratized knowledge’ of effective methods was ‘ultra-modern’. Gordon broadened the scope to encompass politics, from the free-love, socialist and feminist beginnings of the modern movement to states’ cooption of contraception to limit the reproduction of the poor and non-white. She horrified conservative historians, but prompted the sympathetic to seek more evidence of how people behaved in the past.

The new politics of reproduction also engaged with population control. Its much-rehearsed history went back to the ‘principle of population’ articulated by the Reverend Thomas Robert Malthus in 1798: the number of mouths to feed increases geometrically, but resources rise only arithmetically. As nineteenth-century governments re-established the practice of censuses, and instituted civil registration and statistical bureaux, debates over the strength of nations, migration, eugenics and birth control invoked historic trends. After World War II, demographers at the Princeton Office of Population Research offered the European transition to low fertility between 1850 and 1940 as a model for progress in the ‘Third World’. ‘Demographic transition theory’ presented modernization from uncontrolled ‘natural’ fertility to smaller, planned families as the basis for stable economic growth. Population controllers argued that access to family planning could accelerate this last stage even without social and economic change, but in the 1970s their methods and concepts came under sustained attack from the Left.

Social historians were already giving the history of the family a more distinct identity by going beyond numbers to include sentiments, attitudes and households within their purview. History of the family had started – or so Engels claimed – when Das Mutterrecht (Mother right, 1861), by the Basel jurist Johann Jakob Bachofen, disputed the permanence of patriarchy. The American anthropologist Lewis Henry Morgan, drawing on wider research into past kinship, noted the early absence of private property

9 Peter Laslett, The World We Have Lost (London, 1965); Louise A. Tilly and Miriam Cohen, ‘Does the family have a history? A review of theory and practice in family history’, Social Science History 6 (1982), 131–79.
Figure 1.2  Cover of the forty-five-page pamphlet that Ehrenreich and English self-published in 1972 and distributed in old boxes from Pampers nappies; the Feminist Press took it over the following year. The woodcut of a woman in labour, assisted by midwife and birth attendant, is after Eucharius Rösslin’s handbook for midwives, first published in 1513. 21 × 14 cm.
and the state, and proposed a universal shift from ‘savage’ group marriage and maternal clan to ‘civilized’ monogamy and ‘father-family’.

Historians were slow to expand their remit, but around 1900 anthropologists classified societies according to practices of family formation and sexual mores, and inquired into understandings of the relations between intercourse, pregnancy, and paternity. "Sexologists" such as Havelock Ellis, author of an early medical textbook on homosexuality, explored human sexual variety past and present. Here were powerful resources for questioning the naturalness of the bourgeois family and its gender roles, a project later developed in feminist philosophy and anthropology.

Fresh approaches enlivened histories of biological and philosophical ideas, in which generation loomed large. By the 1970s, critical scholars were rewriting chronicles of the growth of thought by postulating radical breaks in making the modern world.

Most influential has been a French tradition, especially Michel Foucault’s notion of ‘power-knowledge’, the pervasive ways in which power defines thought and the thinkable. Analysing ‘apparatuses’ rather than intellectual lineages, Foucault had proposed in the 1960s that knowledge could reorganize suddenly, and that a break around 1800 made the medical, life and human sciences possible. In 1976, the introductory volume of his *History of Sexuality* distinguished two forms of ‘biopower’, a new authority over life that expanded from the seventeenth century. On the one hand, ‘anatomo-politics’ controlled, trained, and shaped individual bodies by disciplines that promoted efficiency and productivity. On the other, a ‘biopolitics’ of the population, now a phenomenon managed by nation-states, acted through a set of regulations to define peoples, principally workforces, including their racial composition. Anatomo-politics and biopolitics intersected in procreative sex.

Written in the same city, Paris, around the same time, a history of genetics by the molecular biologist François Jacob was the first to locate a break, much like Foucault’s, in the late eighteenth-century move from ‘generation’ to ‘reproduction’, the framework within which researchers formulated modern concepts of eggs and sperm, genes and populations.

Feminist historians of medicine argued further that, between 1750 and

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1850, medicine, demography and political economy replaced ‘generatio’, or ‘fruitfulness’, with ‘reproduction’, which under industrial capitalism became linked to production.15

By 1980, then, accounts of loss confronted tales of progress, and claims of sudden ruptures defied assumptions of the smooth advance of knowledge and skill. As histories of medicine and science professionalized, past reproduction stayed unusually politicized. Histories of midwifery fed into battles over high-tech hospital birth,16 while the Ford Foundation, promoting women’s choice about childbearing, supported James Mohr’s <em>Abortion in America</em> (1978), which was read out during a filibuster in the United States Senate.17 Histories of eugenics fuelled demands for compensation to people sterilized against their will.18 Histories of reproductive medicine criticized gender bias and discriminatory provision.19

The core insights from the 1970s have enduring value. The feminist attention to the gendered division of labour is fundamental, and now interprets the roles played by men as well as women.20 It is hard to imagine the field without the idea of ‘biopolitics’, even if the accumulation of empirical information has qualified Foucault’s description of the eighteenth-century rise of ‘population’ and revealed the limitations of generalizing from France. Jacob named the big shift from generation to reproduction that structures this book, but his history of ideas wants enrichment and re-examination. By pooling expertise, we can reassess these frameworks and ground long views in the latest research.

Challenges of the Long Term

Between the 1980s and the early 2000s, historical practice shifted away from grand narratives while the volume of nuanced studies grew. That has made it harder to draw big pictures, and all too easy to revert to the old ones by default. Instead, we should renew and replace the existing outlines by building on writing that embraced a multiperspectival conception of culture and on histories of science, technology and

medicine that took a 'practical turn'. Historians now pay closer and more integrated attention to everyday activities and experiences, knowledge and technology, as well as empire and globalization. These approaches have inspired the contributors to this book.

In the 1980s, cultural historians rediscovered the body. Norbert Elias’s civilizing process, with its internalization of self-restraint, and Mikhail Bakhtin’s notion of the grotesque body evoked a rupture between a messy world of sex, excrement, blood and monsters, and the modern bourgeois ideal of order, discipline and hygiene.21 Enlightenment writers presumed that nature, and bodies, provide a bedrock for society and culture – the assumption that underlay nineteenth-century sexism and racism.22 Tackling a topic close to reproduction, in 1990 Thomas Laqueur portrayed a concurrent transformation, from a ‘one-sex’ to a ‘two-sex body’: men and women, once seen as better and worse versions of the same basic structure, took radically different forms just as anatomy became destiny. Specialists have challenged Laqueur’s limited evidence and focus on structure over function and cosmology.23 These revisions point the way to a fuller appreciation of past experiences of generation and the making of reproductive bodies.

By exploring more scenes of action, historians of medicine again and again brought generation and reproduction to the fore, from the late medieval rise of anatomy and the gendering of early modern English political culture to the ‘sexual revolution’ since 1960.24 Historians of science similarly recognized not just universities and hospitals, but also homes and law courts, as places where knowledge was made and generation and reproduction were at stake, for example, in disputes over inheritance and identity.25 Research more systematically linked industry and agriculture to academic biology (Fig. 1.3).26

23 Thomas Laqueur, Making Sex: Body and Gender from the Greeks to Freud (Cambridge, MA, 1990); Helen King, The One-Sex Body on Trial: The Classical and Early Modern Evidence (Farnham, 2013).
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The new cultural history thus included more actors, while approaching their identities more critically. Investigating the making of kinds of practitioner and objects of study has produced guides to their coming into being and passing away. Professional midwives, for instance, seem to have re-emerged only several centuries after the fall of the Roman Empire in the west; the terms ‘reproductive sciences’ and ‘reproductive medicine’ were coined very recently. Cultural historians combined this interest in identity formation with a refusal to take seemingly obvious practices for granted, a

Figure 1.3 Staff of the Dutch pharmaceutical company Organon celebrate their use of the millionth litre of mare’s urine in the manufacture of female sex hormone (oestrone, an oestrogen) in the 1936–7 season. This photograph was reproduced in Nelly Oudshoorn’s Beyond the Natural Body (1994), a pioneering historical sociology of how manufacturing, measuring and marketing made sex hormones effective drugs. Central Archives, MSD, Oss, The Netherlands.

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sensibility that, with inspiration from the sociology of scientific knowledge, was extended to observation and experiment as well as collecting. 28 Historians of communication reconstructed the authorship, manufacture, distribution, reading and viewing of books and other media, and so embedded ideas in basic routines. Recognizing readers and other audiences as agents of change mirrored the move in history and sociology of technology to appreciate users’ power; it put advice books and contraceptives in the same frame. 29

Sharing the general aim of recovering perspectives from below, scholars sought most importantly to do justice to the agency of colonized groups. They moved subaltern studies to the centre of attention, and brought a more varied set of empires into view together with their medical regimes. 30 Historians of imperialism investigated how colonial enterprises depended on controlling reproduction. 31 Thinking globally highlighted the diversity of reproduction and questioned narratives centred in the metropoles. 32

In these and other ways, various historical projects converged on generation and reproduction. Yet higher standards of evidence and of contextualization favoured analyses of single topics, periods and places. It is harder to chart long-term transformation while maintaining dialogue with social, political and cultural histories than when the ‘Scientific Revolution’ was a taken-for-granted break in a long intellectual tradition. But we now have novel strategies for charting continuity and change, for example, by tracking a series of shifts in practices of communication. This volume draws recent work together, presents new research, encourages dialogue and, above all, reconsiders the longue durée. We seek to improve the big pictures for their own sake and to allow histories of every century to flourish. A longer view helps studies of short periods to evaluate stability and checks the tendency to overstate change, especially where claims about modern innovations are based on flawed or foreshortened assumptions about the ‘pre-modern’.


Thus, ancient historians and medievalists have disputed that childbirth was ever a matter for women alone. These findings put into perspective arguments about male surgeons’ greater involvement in normal births from the eighteenth century. The standard histories are also wrong to imagine that everyone resigned themselves to ‘barrenness’ until medicine offered treatments for ‘sterility’ in the nineteenth century and intervened to bypass ‘infertility’ in the twentieth; learned medical men have targeted female fertility since antiquity. The modern experience is nevertheless distinct in the way in which quests for children became projects in medical consumption on a significant scale.

Long views bring their own temptations, whether to talk up a revolution or claim that nothing changes and everything recurs. Special dangers lurk in tunnel histories. Histories of contraception and abortion rightly stress the antiquity of the desire to regulate fertility – and that all household and kinship systems have limited it somehow – but before the fertility transitions the majority were more interested in promoting than avoiding the birth of children. The false continuities imposed by casual anachronism are most troublesome. Deliberate anachronism may be less problematic (Fig. 1.4). The word ‘reproduction’, which was rare in its modern senses even in the early nineteenth century, is in our title, but we avoid putting it into the mouths of people who would never have said it. To grasp how the differences between the frameworks mattered, we both revisit the shift from ‘reproduction’ to ‘generation’ in the decades around 1800 and trace the longer and overlapping career of ‘generation’.

This Book

This book is divided into five chronological parts, each with a short introduction. Part I, ‘Inventing Generation’, is about ancient Greece and Rome, where fundamental notions of body and soul were articulated, and practitioners in dialogue with philosophy forged a domain of medicine concerned with generation. In the following centuries this framework gained influence across the Mediterranean and was Christianized. Part II,
‘Generation Reborn and Reformed’, considers the proliferation of discussions about generation in the Islamic and Christian worlds. Involving more laymen and women, debate was invigorated by translations, the foundation of universities and the renaissance of classical learning, the Protestant Reformation of the early sixteenth century and encounters across the Atlantic.

Part III, ‘Inventing Reproduction’, reassesses the claims that the age of revolutions around 1800 saw the replacement of ‘generation’ by ‘reproduction’ and that ‘population’ was framed as a phenomenon subject to its own laws. Part IV, ‘Modern Reproduction’, explores the era of capital and empire between 1848 and 1939, when declining birthrates caused consternation in industrialized countries, and governments, medicine and science increasingly intervened. Part V, ‘Reproduction Centre Stage’, is about how reproduction became politically prominent and was transformed by science and technology.
on a large scale. Moving from the high watermark of state power after World War II to neoliberalism, it shows how our reproductive world was made.

We thus track the reworking of an influential body of ideas and practices from Graeco-Roman antiquity onwards, emphasizing those territories for which the most scholarship is available. This is a western regional history, though we spotlight interactions with the rest of the world. Frameworks of generation began in the Mediterranean basin, spread with the Roman Empire and travelled east with the Arab conquests of the seventh century AD and the expansion of domains under Muslim rule. Crossing to the New World with European colonialism, the philosophical tradition of generation acquired global reach even as the paradigm of reproduction began to compete. We review the export and appropriation of western practices, and provide evidence of traffic the other way, from colonial Mexican paintings of racial ‘crossings’ to the Chinese invention of abortion by vacuum aspiration in the 1950s. We investigate imperial encounters and the discourse of world population, show how an international view decentres the pill, and analyse globalized reproduction today. We cannot do full justice to the spatial dimensions, but sketch connections and comparisons throughout.

The volume foregrounds questions of change and continuity from antiquity to the present, and selects topics that point to a broad history of procreation, without claiming to be comprehensive. Chapters encompass individual medicine and population management, of humans mostly, but also other animals and to a lesser extent plants. We discuss relations of reproduction with sexuality, from love lives in botany to the applicability of Foucault’s scheme to sex, gender and baby-making since the 1960s, but concentrate – non-normatively – on procreative sex. For the family and heredity, which overlaps with but came to be framed as distinct from reproduction, we deal with the intersections while referring to the rich histories that already exist.37 We promote synthesis by grouping topics that are too often separated, for example eugenics and animal breeding, and the various techniques of assisting conception; this lets us uncover the similarities, contrasts and transfers between methods and discourses for humans and livestock, women and men.

Each chapter situates generation or reproduction within a period and develops a theme that offers a path between the parts. Balancing the crowd scenes and long takes, the illustrations present evidence in close-up. Focusing on striking artefacts, the ‘exhibits’ in the colour sections display some vivid pictures and objects. They hint at the wealth of the archive, raise questions about the kinds of analysis needed to interrogate its contents and showcase topics that deserve more research. The items range from an

ancient Egyptian fertility figurine to a poster for a film about population control, from a phallic wall-painting at Pompeii to a photograph of cloned frogs. A select bibliography of secondary literature represents still more of the field.

One set of questions runs through the book: when and where did ‘generation’ and ‘reproduction’ begin and end, what have people meant when they talked in these terms, and how and why were their beliefs and actions like or unlike those that went before and came after? The answers begin to show how different history looks when we highlight generation and reproduction.