1 *Puberty in crisis? Sex, reproduction and the loss of future*

Long figured as a disturbing and upsetting process for individuals and families, puberty is today widely described as itself in crisis, reportedly occurring earlier and earlier as each decade passes. Early onset or 'precocious' pubertal development now heralds new forms of temporal trouble in which sexuality, sex/gender and reproduction are all at stake. Children, it is claimed, are growing up too fast and becoming sexual too early. This out-of-time development indicates both that their futures are at risk and that we are all living in a new era of environmental and social perturbation. Something, experts, parents and journalists urge, must be done to stop this precocity.

This book describes and analyses a diverse set of discourses articulating early onset puberty as crisis, tracking their movements across a range of sites. Engaging with and (re)telling stories of sexual development, I both take seriously the scale and potential significance of the changes described and direct a critical feminist gaze to the allegiances, omissions, emotional registers and logics therein. Reading accounts of early onset puberty as entangled with broader historical and contemporary stories of sexual development, my argument challenges normative assumptions about sex/gender, sexuality and reproduction whilst paying careful attention to matters of physical and psycho-social health.

Stories of a crisis in pubertal timing started to appear in the late 1990s, with the publication of an epidemiological study by Marcia Herman-Giddens and colleagues (1997) which found that, although in the 1960s only 1 per cent of American girls started pubertal development before they turned 8, in the 1990s 48 per cent of girls in some sub-populations had this experience. The heated scientific debate around this study generated news media articles in high-circulation journals, including a cover story in *Time* magazine in October 2000. In this article, entitled 'Teens before their Time', journalist Michael Lemonick and colleagues informed readers that amidst a cloud of scientific

and cultural confusion 'all anyone knows for certain is that the signs of sexual development in girls are appearing at ever younger ages' (Lemonick *et al.* 2000: 2). In December that year, journalist Lisa Belkin interviewed Herman-Giddens for a *New York Times* article entitled 'The Making of an 8 Year Old Woman'. Citing Herman-Giddens' finding that 'girls in otherwise normal health are entering puberty more than a full year earlier, on average, than was previously thought', Belkin writes,

> And this change, she warns, demands attention. "These are second-grade girls, some first-grade girls," she says, as she flashes a graph on the wall. "Is it going to keep getting lower? Are kids going to get to be 5 and 4 and 3? And is this supposed to be happening? I don't think so. I don't think that's what nature intended." (Belkin 2000)

Debates around the meaning and significance of contemporary changes to puberty timing continue to this day. In 2012, for example, *The New York Times* printed another piece entitled 'Puberty before Age 10: A New Normal?' that had earlier been published in *The Sunday Magazine* under the headline 'The Incredible Shrinking Childhood' (Weil 2012). Both titles reveal profound concern about changes in the timing of sexual development: like Lemonick *et al.* and Belkin, Weil writes that early onset puberty is increasingly common amongst girls and highlights the lack of scientific consensus about the causes of this change. Although more soberly articulated, concerns about boys also appeared in American and British newspapers in 2012 under titles such as 'Boys Now Enter Puberty Younger, Study Suggests, but It's Unclear Why' (Belluck 2012; see also Pearson 2012).

All of these journalists describe the consequences of early sexual development as negative, particularly for girls. Citing scientific research and clinical evidence about the relationship between early development, early sexual activities and other risk-taking behaviour, they highlight the social difficulties of early onset puberty. As feminist researcher Kristina Pinto writes, 'if puberty is cast as a crisis, early puberty is popularly considered to be psychologically and behaviourally endangering, akin to the sexualizing of a child' (2007: 532).

A gendered and gendering problem

The data underpinning these news media articles comes from a number of scientific fields, including paediatric endocrinology, public health

and psychology, which for the most part study female sexual development (Herman-Giddens *et al.* 2012: 1059). As I explain in Chapter 4, Herman-Giddens' initial study focused on girls in part because of an interest in the development of sexually abused children. Subsequent studies across the globe followed this lead, centring their attention on female bodies: rare attempts to trace changes in male puberty found little evidence of widespread change (Euling, Herman-Giddens and Lee 2008). In 2012, however, Herman-Giddens' research group made a related argument about American boys, claiming that age of pubertal onset had decreased by six months to two years, depending on ethnic group (Herman-Giddens *et al.* 2012). Although sometimes noting this recent finding, public and media debates in this area have overwhelmingly focused on female development. As I will show, these debates resonate powerfully with wider public concerns around 'sexualisation' and the loss of childhood innocence, which similarly focus on girls and young women.

The lack of attention given to boys' development highlights the complexities of crisis articulations of puberty. Herman-Giddens argues that male puberty is more difficult to study: 'Data on male puberty are more difficult to obtain than female data because of the absence of an easily determined marker such as menarche. Male pubertal stages are harder to assess visually than girls' stages, and orchidometry [the measuring of testicular volume], an intrusive procedure, is not part of well-child exams' (Herman-Giddens *et al.* 2012: 1059). Although instructive, these justifications are barely credible in my view. As I discuss in Chapters 3 and 4, studies of female puberty often focus on breast and pubic hair growth rather than menarche; and assessment of girls' breast growth is arguably no less intrusive than orchidometry – both involve visual inspection and/or palpation (touching) of intimate parts of the body.[1] That measuring breasts is routine in some clinical settings is the result of entrenched historical practices that literally expose female bodies to more medical scrutiny than those of males. As Nelly Oudshoorn (1994) and I (Roberts 2007: 44–50) have argued in the case of early twentieth-century sex hormone research, these kinds of clinical norms both articulate existing cultural ideas about sex/gender and materialise new forms of difference. Contemporary

[1] Additionally, some research analyses voice break as a later sign of puberty in boys (Juul *et al.* 2007).

science's focus on early developing girls, in other words, both speaks to a long history of medical interest in female sexuality and enacts girls' bodies as problematic in new ways.

As discussed in Chapter 3, girls' sexual development has historically been figured as intrinsically more problematic than boys'. For girls, as cultural studies theorist Catherine Driscoll (2009: 235) argues, puberty has been figured as 'less straightforward' and as having 'more pervasive social implications'. Even today, girls are seen to need more information and active management during this time than boys. This historical difference is reiterated in contemporary concerns about pubertal timing: exploring and resisting this reiteration is a strong motivation for my concentration on girls in this book. My decision to use the term 'early onset puberty' rather than 'precocious puberty' similarly indicates my desire to problematise and resist connections between early sexual development and teen sexuality: 'precocious' carries a pathologising sexual connotation that I want to avoid.[2]

Hurried childhood and reproductive futures

Importantly, scientific work on early puberty also reports significant changes in the pace of sexual development once it starts: whilst the preliminary stages such as breast and pubic hair growth are appearing much earlier in many children, the later stages, including menarche and spermarche, are thought to be more stable. As a process, then, puberty is being temporally stretched. These changes raise difficult questions about the life course, sex, sexuality and health: how long is a normal childhood? Does the onset (or completion) of puberty end childhood? At what age is it normal or healthy to enter into puberty? What are the links between physical and psycho-social-emotional development? What might be the long-term

[2] Technically the two terms are not clearly differentiated. In current North American and British clinical contexts, 'precocious puberty' commonly refers to sexual development occurring at 6–9 years, although as I explain in Chapter 4, such classifications are highly contested and differ according to 'race', ethnicity and national location. Mul and Hughes (2008: 3) draw a distinction between 'early' puberty (that occurring at ages 8–10 for girls and 9–11 for boys) and 'precocious' puberty (that occurring earlier than these ages), but this is not a distinction consistently applied in medical or scientific literatures or in popular accounts. Nor is it a functional distinction: children with early onset puberty may also be treated with hormonal medications.

effects of early sexual development? And what, if anything, should be done about early developing children?

These questions resonate with a broad set of contemporary debates about what some call 'hurried childhood'. In the following sections I explore media, environmental, public policy and feminist accounts of recent changes to childhood and their potential effects on reproductive futures. Detailing a highly contemporary set of concerns, these explorations set the scene for this book's analysis of early onset puberty.

Media accounts: the tragic loss of childhood

News magazine headlines such as 'The Making of an 8 Year Old Woman' (Belkin 2000) and 'Teens before their Time' (Lemonick *et al.* 2000) figure early onset puberty as a loss of childhood, resonating with broader cultural concerns about contemporary children's lives. In *The Disappearance of Childhood*, media theorist Neil Postman argued that in late twentieth-century America, 'Everywhere one looks, it may be seen that the behaviour, language, attitudes, and desires – even the physical appearance – of adults and children are becoming increasingly indistinguishable' (Postman 1994: 4). First published in 1982, this claim remains culturally resonant today; indeed, as Postman wrote in his preface to the 1994 second edition, 'What was happening then is happening now. Only worse' (1994: viii). Building on Philippe Aries' (1962) seminal history, Postman describes childhood as a 350-year-old phenomenon that is in a process of rapid decline: American children no longer play their own games, have age-specific styles of clothing, or speak in a language unique to their age group.[3] Somewhat more contentiously, he argues that the birth of childhood occurred when printing was invented and the written word replaced the importance of oral cultures: this process produced categorical differences between adults and children, particularly in the labour market, because children needed education to become literate. In more recent times, Postman suggests, the rise of electronic communications (radio, cameras, telephones, cinema and television) has decimated such categories: television, he argues, produces three stages of life, infancy, senility and

[3] Other scholars have criticised Aries' work as historically inaccurate and/or intellectually unconvincing (see for example Pollock 1983 and Buckingham 2000).

'the adult-child' (1994: 99). Computers, he adds later, have a different potential: 'the only technology that has this capacity [to sustain the need for childhood] is the computer: 'In order to programme a computer, one must learn a language' (1994: 149). Such learning, he adds, demands levels of literacy requiring a childhood to achieve.[4]

Postman's argument is technologically determinist and fails to account for a diversity of other influences in the (re)production of childhood (see also Jenks 2005). The significance of his work here, however, is the power of its broader claim about the changing nature of childhood experiences across twentieth-century America. This is a claim that has strong cultural purchase today: worries about the loss of childhood, as I will show, are ubiquitous in the US, UK and Australia. (Related scientific and biomedical concerns about early sexual development, as I demonstrate in Chapter 4, are more widespread, found commonly in both developed and developing countries.)

Interested in technology rather than bodies, Postman has relatively little to say about sex and sexuality. In his final chapter, however, he briefly mentions scientific debates around biological changes in sexual development, stating that he 'rather fanc[ies]' the statistic that the average age of menarche has dropped from 14 in 1900 to 12 in 1979 (1994: 121). This appealing fact, he states, 'suggests that the contraction of childhood began to occur in physiological terms shortly after the invention of the telegraph; that is, there is an almost perfect coincidence of the falling age of puberty and the communications revolution' (1994: 121). Later Postman cites increased and earlier sexual activity as one of many negative outcomes of 'the disappearance of childhood'. Again electronic media take the brunt of the blame:

> We may safely assume that media have played an important role in the drive to erase differences between child and adult sexuality. Television in particular not only keeps the entire population in a condition of high sexual excitement but stresses a kind of egalitarianism of sexual fulfilment: sex is transformed from a dark and profound adult mystery to a product that is available to everyone – let us say, like mouthwash or underarm deodorant. (1994: 137)

[4] As it turns out, today most computer users do not learn these languages, remaining relatively 'illiterate' when it comes to programming (see Montgomery 2009 for an analysis of childhood in the age of the internet).

Like deodorant or mouthwash, this new mediatised sex hides something unsanitary, even dirty (yet profound) that is too easily available for Postman's liking. Children should have been protected, he suggests, from such early and free exposure: sex, to put it bluntly, is not for them.[5]

Postman's concerns about the loss of childhood and the consequential exposure of the 'child-adult' to sexuality speak to a widespread cultural anxiety about contemporary children's lives. Stories of early onset puberty found in popular television shows (such as Channel 4's *Embarrassing Bodies* and *Sex Education Show* in the UK), in the print news media and on internet sites for mothers and for young people both express and evoke these anxieties. In such accounts, the very idea that 'children' might go through puberty seems unnerving: puberty has long been seen as signalling the end of childhood, so its occurrence in middle childhood (6–8 years) disturbs twentieth-century western understandings of the life course.

As in Postman's book, worries about the loss of childhood expressed in popular media are commonly linked to moral concerns about precocious 'sexualisation'. News reports of population changes in the timing of sexual development often refer to the possibility of sexual predation and abuse. On a US-based online news media webpage, for example, journalist Carol Wang (2009) cites endocrinologist Kevin Corley describing girls going through early puberty: "They're not going to be emotionally ready to deal with it in many cases," expounds Corley. He also expresses concern with the kids fitting in with their peers because this change can be isolating. But there is an even more sinister concern, according to Corley. "It may also predispose some of these children to early molestation." He cites studies that suggest that the girls whose bodies develop early get unwanted attention and warns parents to keep their daughters wearing baggy clothing that doesn't emphasize their bodies.

Girls' vulnerability is also figured in magazine editors' choice of images for articles on this topic. The October 2000 issue of *Time* magazine mentioned above, for example, featured early puberty as its lead story, using as its front cover a rear-view photograph of an alarmingly thin girl wearing only a white bra (shop tag still attached)

[5] See for example, his comments on the role of the Moral Majority in preserving childhood (1994: 147–8).

and silver necklace, gazing despondently in a mirror. Large-font text positioned across the girl's back reads: 'EARLY PUBERTY: Why girls are growing up faster.' Higher on the page and in smaller font, a set of questions attempt to engage the reader's attention: 'Is it hormones? Is it fat? Is it something in the water? How parents and kids are coping' (*Time*, 2000: front cover). In the article, Lemonick and colleagues describe early puberty as an increasing problem for American girls. After outlining the physical symptoms and associated risks of early development (breast budding, pubic hair growth, increased risk of breast cancer, loss of adult height), the authors focus most strongly on the psycho-social consequences of this experience:

> Even more troubling than the physical changes is the potential psychological effect of premature sexual development on children who should be reading fairy tales, not fending off wolves. The fear, among parents and professionals alike, is that young girls who look like teenagers will be under intense pressure to act like teenagers. Childhood is short enough as it is, with kids bombarded from every direction by sexually explicit movies, rock lyrics, MTV videos and racy fashions. If young girls' bodies push them into adulthood before their hearts and minds are ready, what will be forever lost? (Lemonick *et al.* 2000)

The tone here is both moralising and nostalgic: the authors mourn a version of childhood that may be 'forever lost'; a childhood in which girls had suitable interests (in fairy stories rather than sex) and looked like children rather than teenagers. In the same vein, they later describe childhood as 'a time when life should be less about Eminem and more about M&M's' (2000).

This article articulates a high degree of ambivalence about early developing girls. Featured throughout as a sassy young woman who insists that her real name is used because the kind of sexual attention she receives is 'such a source of pride', for example, 'Angelica Andrews' laughingly describes boys as 'like dogs' in their amorous pursuit of her. The journalists remain uneasy about this sexual pride and confidence. Although quoting her boasts ('Says Angelica: "The boys tease me. They ask me, 'Have you had plastic surgery?' My friends get kind of jealous"'), they ultimately position Angelica as requiring parental surveillance to manage the effects of her developed body:

> Angelica Andrews also has her parents watching out for her. Recently, the teenager experienced her first French kiss – but her family knew all about it, and the boy was immediately instructed not to call again until she was 16, or

maybe 18. It's unfortunate that such vigilance has become necessary for the families of many 12- and 13-year-olds, whereas a generation ago, most parents could relax until a girl was 16 or 17. But as Angelica puts it, "Welcome to the 21st century!" (2000)

This uneasy mixture of old-fashioned sexual mores (the idea that parents can determine an age at which boys can 'call' girls) and a realist sense of humour (Angelica's 'Welcome to the 21st century!') is typical of mainstream American media accounts of early onset puberty. The choice of image for the front cover, however, is confusing. The featured girl does not seem sexually developed but rather underweight: at first glance readers might expect an article on anorexia rather than early development (which, as described in Chapter 4, is more often associated with obesity). The image denotes fragility and vulnerability, rather than sassy sexuality in need of parental control.

The anticipated futures in media accounts of early onset puberty also include physical problems. Wang (2009) lists a series of alarming physical outcomes of early development that underpinned one parent's decision to seek treatment:

> Then there are the long-term physical consequences of precocious puberty. Among them, an increased risk of breast cancer, early menopause, brittle bones and stunted growth. It was the stunted growth that pushed Kate into seeking treatment for her daughter.

These concerns come from the clinical literature, which describes early maturing girls' loss of adult height and increased risk of cancer (this literature is discussed in detail in Chapter 6). In most popular accounts, however, these concerns about physical effects are secondary: the broader issues about the loss of childhood remain paramount. In *Time* magazine, Lemonick *et al.* (2000) speak of unknowable loss consequent on the hurried nature of childhood: 'If young girls' bodies push them into adulthood before their hearts and minds are ready, what will be forever lost?' Developing early, in these accounts, entails unknowable future risk for girls.

Popular environmentalist accounts: toxins and the loss of reproductivity

Publicly available environmentalist literatures including popular books, websites and campaign materials also figure early onset puberty

as an unfathomable loss and share some of the strong emotive rhetoric of the media accounts described above. The significant difference is their concentration on links between precocious sexual development and the ubiquity of toxic chemicals. Books like Theo Colborn, Dianne Dumanoski and John Peterson Myer's widely cited *Our Stolen Future* (1996) describe early puberty as a tragic outcome of industrial pollution of rivers, air and soil and the use of toxic chemicals in manufactured objects; an outcome that steals 'our future' by thwarting human (and animal) reproductive potential.[6] On the book's accompanying website, Colborn and colleagues cite the key American study undertaken by Marcia Herman-Giddens and colleagues (mentioned above and discussed in detail in Chapter 4), which found high rates of early onset puberty particularly amongst African-American girls, insisting that, despite the study's methodological weaknesses, its findings 'cannot be dismissed'. 'It is important', they argue, 'to understand why such a notable percentage of very young girls are showing signs of sexual development' (ourstolenfuture.org/newscience/reproduction/Puberty/pubertydebate.htm).

Summarising the scientific literature, Colborn *et al.* list the three main explanations for the rise in early puberty:

> (1) increases in the prevalence of obesity; (2) changes in social factors, particularly the absence of the biological father in the home and the presence of a male other than the biological father; and (3) contamination effects, particularly in the womb. (ourstolenfuture.org/newscience/reproduction/Puberty/pubertydebate.htm)

Although noting in bold type that '**There are no certain answers on any of these issues**', Colborn *et al.* turn their attention to the issue of contamination, suggesting in passing additionally that the rise in obesity may also be caused by exposure to endocrine disrupting chemicals:

> **Contaminates can both speed and slow the rate of sexual development.** In general, it would appear from existing data that estrogen mimics speed sexual development in females, while anti-androgens slow sexual development in males. This story is far from complete. For example, we could find no report of a test of an androgen mimic (such as tributyl tin) on the rate of

[6] For an analysis of the significance of *Our Stolen Future* to the growth of public debate on endocrine disruption, see Krimsky (2000: 74–9).