



I t's spring when I realise that I may never have children, and around that time the thirteen-year cicadas return, burrowing out of neat, round holes in the ground to shed their larval shells, sprout wings, and fly to the treetops, filling the air with the sound of their singular purpose: reproduction. In the woods where I live, an area mostly protected from habitat destruction, the males' mating song, a vibrating, whooshing, endless hum, a sound at once faraway and up-close, makes me feel like I am living inside a seashell.

Near the river, where the song is louder, their discarded larval shells – translucent amber bodies, weightless and eerie – crunch underfoot on my daily walks. Across the river, in a nest constructed near the top of a tall, spindly pine, bald eagles take turns caring for two new eaglets. Baby turtles, baby snakes, and ducklings appear on the water. Under my parents' porch, three feral cats give birth in quick succession. And on the news, a miracle pregnancy: Jamani, an eleven-year-old female gorilla at the North Carolina Zoo, is expecting, the first gorilla pregnancy there in twenty-two years.

I visit my reproductive endocrinologist's office in May and notice, in the air surrounding the concrete

and steel hospital complex, a strange absence of sound. There are no tall trees to catch the wind or harbor the now incessant cicadas, and on the pedestrian bridge from the parking deck everyone walks quickly, head down, intent on making their appointments. In the waiting room, I test the leaf surface of a potted ficus with my fingernail and am reassured to find that it is real: green, living.

The waiting room's magazine selection is scanty: a couple of years-old *New Yorkers*, the address labels torn off, and a thick volume of the alarmingly titled *Fertility and Sterility*. On the journal's cover, on a field of red, is a small, square photograph of an infant rhesus monkey clasped by unseen human hands in a white terry-cloth towel. The monkey wears a startled expression, its dark eyes wide, its mouth forming a tiny pink oval of surprise. A baby monkey hardly seems the thing to put in front of women struggling through the confusion and uncertainties of fertility treatment — *what are those mysterious, grayish blobs on the ultrasound, anyway?* — but, unsure how long I'll wait before my name is called, I reach for the journal. Flipping through, I find another photograph of the monkey and its monkey siblings, and the corresponding article about fertility preservation in human and nonhuman primates exposed to radiation. This monkey's mother, along with twenty other monkeys, was given an experimental drug and exposed to the same kind of radiation administered to women undergoing cancer treatment.

On other pages, I find research about mouse testicular cells, peritoneal adhesions in rats, and in vitro fertilisation of baboons.

Of course, this research was designed to study human, not animal, infertility. Nonhuman animals don't expose themselves to fertility-compromising radiation therapy, nor do they postpone reproduction, as I have, with years of birth control. Reproducing and ensuring the sexual maturity of offspring is a biological imperative for animals — their success depends on it, and in species after species we see that both males and females will sacrifice everything, their lives even, to achieve it. But in species with more complex reproductive systems — the animals genetically closest to humans — scientists have documented examples of infertility, hormonal imbalances, endometriosis, and even reproductive suppression. *How do they cope?* I wonder, staring at the photo of the baby rhesus monkey, its round, wide-set eyes designed to provoke a maternal response. Do they deal with infertility or the inability to become parents any better — or any differently — than we do?

My name is called, and a doctor I've never met performs a scan of my ovaries. I take notes in a blank book I've filled with four-leaf clovers found on my river walks: *Two follicles? Three? Chance of success 15–18 percent.*

On the way out, I steal the journal with the monkey on the cover. Back home, under the canopy of oak and hickory trees, I open the car door and sound rushes in,

louder after its absence. Cicada song – thousands and thousands of males contracting their internal membranes so that each might find his mate. In Tennessee it gets so bad that a man calls 911 to complain because he thinks it’s someone operating machinery.



A few days later, I visit the North Carolina Zoo, where Jamani, the pregnant gorilla, seems unaware of the dozens of extra visitors who have come to see her each day since the announcement of her condition. She shares an enclosure with Acacia, a socially dominant but somewhat petite sixteen-year-old female, and Nkosi, a twenty-year-old, 410-pound male. The breeding of captive lowland gorillas is managed by a Species Survival Plan that aims to ensure genetic diversity among captive members of a species. That means adult female gorillas are given birth control pills – the same kind humans take – until genetic testing recommends them for breeding with a male of the same species. Even after clearance, it can take months or years for captive gorillas to conceive. Some never do.

Humans have a long history of imposing various forms of birth control and reproductive technologies on animals, breeding some and sterilising others. In recent years, we’ve even administered advanced fertility treatments to endangered captive animals like giant pandas and lowland gorillas. These measures, both high- and low-tech, have come to feel as routine as the

management of our own reproduction. We feel responsible when we spay and neuter our cats and dogs, proud when our local zoos release photos of baby animals born of luck and science.

Jamani and Acacia were both brought to the North Carolina Zoo in 2010, after Jamani was recommended for breeding with Nkosi, which was accomplished simply by housing the animals in the same enclosure. The zoo staff confirmed Jamani’s pregnancy through an e.p.t. pregnancy test, the kind you can buy at a drugstore.

I ask Aaron Jesue, one of her keepers, if either Jamani or Acacia seem to have registered Jamani’s pregnancy, if they’ve noticed any changes in behavior, but so far the only change is the increase in zoo visitors to the gorilla exhibit, and the many scientists and zookeepers they have consulted to help prepare for the birth. ‘Jamani is still the submissive female,’ Jesue says. ‘We’ll see if that stays the same.’



Many infertile women say that the worst part of the experience is the jealousy they feel toward pregnant women, who seem to be everywhere when you are trying (and failing) to conceive. At the infertility support group I attend, in the basement of another hospital an hour away, the topic of jealousy and petty hurts frequently begins our conversations.

‘I don’t mind babies and children, but I hate

pregnant women,’ says one woman, trim and pretty, with a sensible brown bob. ‘I hate them, and I don’t care how that sounds.’

So we talk about that for a while: deleting Facebook friends whose frequent status updates document their gestational cycle, steering clear of baby showers and children’s birthday parties. We talk about our fears that we will be left out, left behind, while our friends and relatives go about the business of raising their ever-growing families.

The family as a socially isolating unit is an idea not limited to humans. In the wild, infants represent competition for resources, and it is not uncommon for a mother’s job to be primarily about hiding and protecting their infants from members of their own species. Jane Goodall observed chimpanzee mothers completely protecting their infants from contact with other nonsibling chimpanzees for the first five months of life, pulling their infants’ hands away when they reached for nearby chimps.

In a marmoset community, the presence of a pregnant female can actually cause infertility in others, though the result is not isolation but rather increased cooperation. Marmosets are tiny South American monkeys that participate in reproductive suppression; that is, typically only one dominant female in a breeding group reproduces, often giving birth to litter after litter before any of the others has a chance. This is accomplished through behavior – some females simply

do not mate – and also through a specialised neuroendocrine response to the perception of subordination, which, like the pill, inhibits ovarian follicular development and ovulation. Some never get their chance, but remain in the submissive, nonbreeding category all their lives.

Marmosets are a mostly peaceful, cooperatively living animal. They make their nests in rainforest canopies and live in groups of three to fifteen, feeding on spiders, insects, and small vertebrates. Common marmosets are infrequently aggressive, with aggressive acts usually centering on the establishment of the breeding dominance of a female. Cooperation is remarkable among marmosets, particularly in regard to infant care. All group members over five months of age – male, female, dominant, subordinate – participate, and a dominant female will allow her offspring to be carried by other group members from the first day of life. Scientists have speculated that this dependence on helpers – marmosets usually give birth to twins – is the reason for behavioral and hormonal reproductive suppression. The phenomenon of suppression occurs both in the wild and in captivity.

Occasionally a subordinate female will reproduce, although her infant has a diminished chance of survival. One reason is the practice of infanticide, which researchers have observed eight times in the wild (more frequently, the tiny infants just disappear). Infanticide most commonly occurs when a subordinate female gives

birth during the pregnancy of the dominant female, who is often the attacker. Despite the apparent brutality of such a system, it does not seem to diminish social relationships or cooperation among the marmosets.

Sometimes cooperation is so extensive that it becomes difficult for researchers to establish which female is the biological mother. In one instance, recorded by Leslie Digby in Brazil in 1991, two adult females gave birth to twins in the same week. Less than a month later, two of the infants had disappeared, but because both mothers continued to nurse both surviving infants, it was impossible to tell which female was the biological mother or ‘even whether those that disappeared were members of a single litter’, according to Digby’s report.

Like ours, the animal world is full of paradoxical examples of gentleness, brutality, and suffering, often performed in the service of reproduction. Female black widow spiders sometimes devour their partners after a complex and delicate mating dance. Bald eagle parents, who mate for life and share the responsibility of rearing young, will sometimes look on impassively as the stronger eaglet kills its sibling. At the end of their life cycle, after swimming thousands of miles in salt water, Pacific salmon swim up their natal, fresh-water streams to spawn, while the fresh water decays their flesh. Animals will do whatever it takes to ensure reproductive success.

For humans, ‘whatever it takes’ has come to mean in vitro fertilisation (IVF), a procedure developed in the 1970s that involves the hormonal manipulation of a woman’s cycle followed by the harvest and fertilisation of her eggs, which are transferred as embryos to her uterus. Nearly 4 million babies worldwide have been born through IVF, which has become a multibillion-dollar industry.

‘Test-tube baby,’ says another woman at the infertility support group, a young ER doctor who has given herself five at-home inseminations and is thinking of moving on to IVF. ‘I really hate that term. It’s a baby. That’s all it is.’ She has driven seventy miles to talk to seven other women about the stress and isolation of infertility.

In the clinics, they call what the doctors and lab technicians do ART – assisted reproductive technology – softening the idea of the test-tube baby, the lab-created human. Art is something human, social, nonthreatening. Art does not clone or copy, but creates. It is often described as priceless, timeless, healing. It is far from uncommon to spend large amounts of money on art. It’s an investment.

All of these ideas soothe, whether we think them through or not, just as the experience of treating infertility, while often painful and undignified, soothes as well. For the woman, treating infertility is about nurturing her body, which will hopefully produce eggs and a rich uterine lining where a fertilised egg could

implant. All of the actions she might take in a given month – abstaining from caffeine and alcohol, taking Clomid or Femara, injecting herself with Gonal-f or human chorionic gonadotropin, charting her temperature and cervical mucus on a specialised calendar – are essentially maternal, repetitive, and self-sacrificing. In online message boards, where women gather to talk about their Clomid cycles and inseminations and IVF cycles, a form of baby talk is used to discuss the organs and cells of the reproductive process. Ovarian follicles are ‘follies’, embryos are ‘embies’, and frozen embryos – the embryos not used in an IVF cycle, which are frozen for future tries – are ‘snowbabies’. The frequent ultrasounds given to women in a treatment cycle, which monitor the growth of follicles and the endometrial lining, are not unlike the ultrasounds of pregnant women in the early stages of pregnancy. There is a wand, a screen, and something growing.

And always: something more to do, something else to try. It doesn't take long, in an ART clinic, to spend tens of thousands of dollars on tests, medicine, and procedures. When I began to wonder why I could not conceive, I said the most I would do was read a book and chart my temperature. My next limit was pills: I would take them, but no more than that. Next was intrauterine insemination, a relatively inexpensive and low-tech procedure that requires no sedation. Compared to the women in my support group, women who leave the room to give themselves injections in

the hospital bathroom, I'm a lightweight. Often during their discussions of medications and procedures I have no idea what they're talking about, and part of the reason I attend each month is to listen to their horror stories. I'm hoping to detach from the process, to see what I could spare myself if I gave up.

But after three years of trying, it's hard to give up. I know that it would be better for the planet if I did (if infinitesimally so), better for me, in some ways, as a writer. Certainly giving up makes financial sense. Years ago, when I saw such decisions as black or white, right or wrong, I would have felt it was selfish and wasteful to spend thousands of dollars on unnecessary medical procedures. Better, the twenty-two-year-old me would have argued, to donate the money to an orphanage or a children's hospital. Better to adopt.

The thirty-four-year-old me has careful but limited savings, knows how difficult adoption is, and desperately wants her body to work the way it is supposed to.

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A large part of the pressure and frustration of infertility is the idea that fertility is normal, natural, and healthy, while infertility is rare, unnatural, and means something is wrong with you. It's not usually a problem you anticipate; from the time we are very young, we are warned and promised that pregnancy will one day happen. At my support group, someone always says how surprised she is to be there.

My parents married in their early twenties and moved to the country to live on a farm and raise a family. It took them thirteen months to conceive me, and my mother says that during those months of waiting she thought she had been ruined by her previous years of birth control. That's how she put it – *ruined* – as if the rest of her working body, her strong back, her artist's hands, her quick wit, did not matter.

Although I married almost as young as my mother – I was twenty-six – it never occurred to me to have children right away. In my first year of marriage, I was teaching writing workshops to kindergarteners in Brooklyn, and at the beginning of the year I remember drawing and labeling a diagram of my bedroom on a big pad of paper while my students worked in their own notebooks. Daniel, a bright and charming five-year-old, pointed at the drawing of my bed – ‘Why are there *two* pillows?’ he asked. ‘One for me, and one for my husband,’ I said. He gasped. ‘You’re going to have a baby!’ I laughed and shook my head. ‘I’m too young to have a baby,’ I said, though on parent-teacher night I realised that Daniel’s own parents were younger than I was.

Three years later, I invited a public health nurse to speak to a group of fifth graders I was teaching in North Carolina. The subject of her talk was ‘your changing bodies’, a reliable source of giggles, but the nurse, a beautiful and soft-spoken woman who happened to be blind, brought a hushed seriousness to the

talk. She angled her face upward so that her lecture took on the air of prayer, and she handled the plastic anatomical models of the vagina and uterus reverently. ‘Your bodies are miracles,’ she told the girls in a separate session. ‘They are built to have babies. That is the reason for menstruation, the reason for the changes your body will go through.’

‘Your brains are miracles, too,’ I told them later. ‘Bigger miracles than your uteruses. You don’t have to have a baby if you don’t want to.’ But my words sounded feeble and undignified next to the nurse’s serene pronouncement.

I’m always surprised when my students, boys and girls alike, from kindergarteners to high school seniors, talk about the children they will have someday. ‘My kids won’t act like that,’ they say, watching an unruly class of kids on a field trip. Or, worriedly, ‘I bet I’ll have all boys. What will I do with all boys?’ It seems far more common for them to imagine the children they might have than the jobs they might do or the places they might live.

Perhaps I shouldn’t be surprised. Perhaps imagining ourselves as parents is not only the expression of a biological drive, but essential to understanding the scope of our lives, who we are and who we might become. For years I have dealt with a dread of old age and death by reminding myself that *I have not yet given birth*. I can imagine the moment clearly – my husband is there next to me, my parents are waiting to meet

their grandchild – and the fact that it hasn't happened (always, it is at least nine months away) reassures me that some new stage of life is still to come. I'm not sure when people started asking me if I have children – a couple of years ago, I think. 'Not yet,' I always say.

Tillie Olsen's groundbreaking, feminist book *Silences* includes a chapter called 'The Damnation of Women' on the choice many women writers made between work and children. Olsen writes that it is not until the twentieth century that 'an anguish, a longing to have children, breaks into expression. In private diaries and letters only.' Her selections from Virginia Woolf's diaries in particular are extraordinary for their candor and pain. Woolf, who never had children, struggled with the idea of that loss for more than a decade, writing:

. . . and all the devils came out – heavy black ones – to be 29 & unmarried – to be a failure – childless – insane too, no writer . . .

She seems to have conflated the failure to reproduce with a failure to write well, though she is only two years away from finishing her first novel. In her thirties, still childless, just a few years from writing *Mrs Dalloway*, she writes of 'having no children' and 'failing to write well' in the same sentence. At forty-four, she describes the dread she feels observing her sister's life as an artist and mother:

Let me watch the wave rise. I watch. Vanessa. Children. Failure. Yes. Failure. Failure. The wave rises.

It is only after embracing her writing as an 'anchor' that she makes peace with her childlessness:

I can dramatise myself as a parent, it is true. And perhaps I have killed the feeling instinctively; or perhaps nature does.

Because we spend much of our young lives dramatising and imagining ourselves as parents, it isn't surprising that even the strongest of us let the body's failure become how we define ourselves. But nature, which gives us other things to do, tells us otherwise. The feeling of grief subsides; we think through our options and make choices. We work, travel, find other ways to be successful. After completing *The Waves*, at forty-eight, Woolf writes of a feeling of intoxication that comes from writing well:

Children are nothing to this.

I'm no Virginia Woolf, but on occasion, after a good stretch of writing or time spent happily alone, I've had that feeling. It's thrilling, like taking a drug or riding a bicycle down a steep hill. Probably it isn't that different from the feeling a new mother has, looking at her child. *Not yet*, I've thought, suddenly protective of my time, my privacy, my freedom.

I once asked my father, ‘Does having kids really squash all your dreams?’

He thought for a minute. ‘Yep,’ he said. ‘And it takes all your money too.’

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On the North Carolina Zoo’s Facebook page, Jamani’s keepers have posted a video of her latest sonogram. In a practiced pose, Jamani stands upright in an indoor room, clutching the steel grate that separates her from the zoo’s staff. Her belly is accessible through a small gap in the grate. Humans and gorillas are so closely related that staff members wear hospital masks to protect themselves and Jamani from viruses.

‘Hands up, hands up,’ one zookeeper says, clicking a training noisemaker while another keeper feeds her from a platter of vegetables. ‘Belly.’ Jamani does not move her hands, but the keeper repeats the commands every few seconds. She is praised for her compliance, and the black-and-white image of her baby, looking not unlike the human sonograms I’ve seen on Facebook, appears on the veterinarian technician’s laptop. I’ve watched it a dozen times, studying Jamani’s face for clues to her comprehension.

*So neat!* comments one poster beneath the link.

*She is doing great,* says another.

*The Baby is a cutie already,* writes another.

Waiting in the outdoor enclosure during the filming, childless Acacia must be sitting on her haunches,

chomping lettuce or carrots, oblivious to the fuss being made over Jamani, unaware of the fuss to come. Part of the reason for the attention from the media, from veterinarians, and from zoos across the country is the pregnancy’s rarity among captive gorillas, and its uncertainty. In 2010, only six successful gorilla births were recorded in American zoos, and even when infants are born healthy, there’s the chance that the mother will reject her young. If this happens, Jamani’s keepers plan for Acacia to take over as a surrogate. Meanwhile, Acacia mates with Nkosi regularly though she has taken birth control pills since 2001 and will remain on birth control until the Gorilla Species Survival Plan determines that she is compatible with Nkosi. She may never conceive, but according to her keepers, she seems content.

Nonhuman animals wait without impatience, without a deadline, and I think that is the secret to their composure. Reproductively mature for more than half her life, Acacia waits without knowing she is waiting. The newly hatched cicadas will wait underground for another thirteen years. The submissive marmoset who declines sex, or whose ovaries fail to produce mature follicles, waits and waits – maybe forever.

Though infertile women are aware of the passing of months and years – marked by charts, appointments, prescriptions, and pregnancy tests – we have something animals lack, which is the conscious possibility of a new purpose, a sense of self not tied to reproduction.

I think it comes on us eventually, as Woolf suggests, but perhaps knowing that it comes, and understanding infertility as a natural, perhaps even useful phenomenon, can provide us with a measure of peace. Marmoset communities would not survive without their reproductively suppressed, caretaking females. Had Virginia Woolf been a mother, she may not have given us *Mrs Dalloway*, *To the Lighthouse*, *A Room of One's Own*, *The Waves*.

The cicadas stop their noise at the end of May. The adults are dead – eaten by other animals, worn out from their reproductive frenzy – and their wings litter the ground that will protect and nurture their young.

The silence is startling at first – I step outside each morning expecting to hear that seashell sound – but it's also a relief. I wait for some other wave.

*POSTSCRIPT: Jamani, expected to give birth in August, lost her infant to stillbirth in late June. Her keepers closed her exhibit to visitors and allowed her to hold and carry the baby until she made peace with the loss. Jamani did not allow Nkosi or Acacia to get close to the infant, but spent the day holding it, cleaning it, and trying to stimulate movement and feeding. Eventually, she set the infant down and walked away, signaling that she had grieved enough.*