For Small Creatures Such as We

RITUALS FOR FINDING MEANING IN OUR UNLIKELY WORLD

Sasha Sagan

Rituals for
Finding Meaning
in Our Unlikely World

Sasha Sagan

G. P. Putnam's Sons
New York

PUTNAM
— EST. 1838 —

G. P. Putnam's Sons
Publishers Since 1838
An imprint of Penguin Random House LLC
penguinrandomhouse.com

Library of Congress Cataloging-in-Publication Data
Names: Sagan, Sasha (Alexandra Rachel Druyan), author.
Title: For small creatures such as we: rituals for finding meaning in our unlikely world / Sasha Sagan.
Description: New York : G. P. Putnam's Sons, 2019
Identifiers: LCCN 2019021246 | ISBN 9780735218772 (hardcover) | ISBN 9780735218789 (epub)
Subjects: LCSH: Sagan, Sasha (Alexandra Rachel Druyan) | Sagan, Sasha (Alexandra Rachel Druyan)—Family. | Rites and ceremonies—United States. | Spirituality—United States. | Children of celebrities—United States—Biography.
Classification: LCC GN473.S155 2019 | DDC 390.0973—dc23
LC record available at https://lccn.loc.gov/2019021246

International edition ISBN: 9780593087541

Printed in the United States of America
1 3 5 7 9 10 8 6 4 2

Book design by Katy Riegel

Penguin is committed to publishing works of quality and integrity. In that spirit, we are proud to offer this book to our readers; however, the story, the experiences, and the words are the author's alone.

Contents

Introduction		*1*
CHAPTER ONE	Birth	*19*
CHAPTER TWO	A Weekly Ritual	*33*
CHAPTER THREE	Spring	*44*
CHAPTER FOUR	A Daily Ritual	*64*
CHAPTER FIVE	Confession & Atonement	*81*
CHAPTER SIX	Coming of Age	*96*
CHAPTER SEVEN	Summer	*109*
CHAPTER EIGHT	Independence Days	*122*
CHAPTER NINE	Anniversaries & Birthdays	*137*
CHAPTER TEN	Weddings	*156*

CHAPTER ELEVEN Sex 172

CHAPTER TWELVE A Monthly Ritual 187

CHAPTER THIRTEEN Autumn 199

CHAPTER FOURTEEN Feast & Fast 213

CHAPTER FIFTEEN Winter 228

CHAPTER SIXTEEN Death 243

A Postscript 261

Suggested Reading 267

Acknowledgments 271

for small creatures
such as we

Introduction

I am a deeply religious nonbeliever. . . . This is a somewhat new kind of religion.

—*Albert Einstein*

A life without festivity is a long road without an inn.

—*Democritus*

When I was little and my dad was alive he would take me to see the dioramas at the American Museum of Natural History in Manhattan. This was a holy place for me, grand and full of answers to deep and ancient questions. It filled me with awe. But it also frightened me. I would hide behind my dad's legs, nervously stealing peeks at the frozen animals.

"That one just moved!" I would squeal.

"No, sweetie, it's your imagination. They can't move," my dad would tell me.

"How do you know?"

"Because they're dead."

This was a foggy and vague concept at the time. Foggier

even than it is now. I could see the bears and gazelles, but in some larger way they were not *really* there. I knew that my dad was deeply committed to accuracy. I knew he had more information on the topic than I did, so I could probably take him at his word; they were not moving. And yet my mind played tricks on me.

As we continued among the other exhibits—bright, sharp gems, early human and dinosaur skeletons, Neanderthal tools, gold Aztec figurines, Yoruba masquerade costumes—all sacred artifacts in the temple of history and nature, this mystery of death followed me. And I wondered about it a lot: what it meant, what exactly it was, what I was supposed to do with the knowledge of its existence.

"It's dangerous to believe things just because you want them to be true."

That's what my dad told me, very tenderly, not much later. I had asked him why I had never met his parents. He told me it was because they were dead.

"Will you ever see them again?" I asked.

The animals in the dioramas were dead, but we could still see them.

He told me that he'd like nothing better in the whole wide world than to see his parents again, but he had no evidence to prove he would. No matter how tempting a belief was, my father preferred to know what was true. Not true in his heart, not true to just him, not what rang true or felt

true, but what was demonstrably, provably true. "We humans have a tendency to fool ourselves," he said. I thought about the dioramas again. He was right. The animals hadn't been moving, though I could have sworn they were.

We discussed the history of the world a lot at home. My parents taught me that there has never been any correlation between how true something was and how fervently it was believed. Sure, some things are subjective. This may be the best sandwich you have ever had or that may be the most handsome man you have ever seen. Those are in the eye of the beholder. For those phenomena that exist outside of our perceptions, things like the way the Earth moves, the causes of illnesses, or the distance between stars, there were objective realities. Maybe undiscovered by anyone on our planet, but no less real.

People once believed with all their hearts that the sun went around the Earth. But believing didn't make it so. There are certainly things we believe right now that will someday be revealed to be hilariously or abhorrently ignorant. Our understanding changes with new information. Or at least it ought to.

So if a person is interested in testing their preconceptions, in discovering how things really are and why, how does one go about that? My parents taught me that the scientific method is designed for precisely this job. My father was a scientist. He was the astronomer and educator Carl Sagan. Science wasn't just his occupation, it was the source

of his worldview, his philosophy, his guiding principles. He and my mom, writer and producer Ann Druyan, taught me that belief requires evidence. They taught me that science wasn't just a set of facts to be compared and contrasted with other philosophies but a way of testing ideas to see which ones stand up to scrutiny. They taught me that what scientists think today might be disproven tomorrow, and that's wonderful, because that's the pathway to a better, deeper understanding.

This left me with something of a conundrum when my dad died. I had just turned fourteen. I longed to see him again somehow. I would often dream of being reunited with him. In these dreams, I would receive an elaborate explanation about where he'd been. Usually a misunderstanding or some kind of secret mission was to blame. The dreams would all end the same way. Elated, I'd tell him, "I knew it! I knew you weren't really dead! I have these dreams all the time where you come back—" And as I'd say those words, a sorrowful look would cross his face and I would realize. "This is one of those dreams, isn't it?" He would nod apologetically and I would awaken.

Still now, more than two decades later, I sometimes have those dreams.

Everything he taught me, everything he stood for, keeps me from believing that I will ever be reunited with him. But

our secular home was not cynical. Being alive was presented to me as profoundly beautiful and staggeringly unlikely, a sacred miracle of random chance. My parents taught me that the universe is enormous and we humans are tiny beings who get to live on an out-of the-way planet for the blink of an eye. And they taught me that, as they once wrote, "for small creatures such as we, the vastness is bearable only through love."

That is a line that appears in the novel *Contact*, the only work of fiction my dad ever published. He and my mom had first envisioned it as a movie, but movies take a very long time to make. This one in particular took about eighteen years, from conception to premiere. During those years, my parents decided to try the story out as a novel, which they dedicated to me. As with everything they wrote, *Contact* was a collaboration. Though that line gets attributed to my dad (his name is on the cover of the book), it's my mom who actually came up with those words, which have served as a perfect crystallization of our family philosophy.

Growing up in our home, there was no conflict between science and spirituality. My parents taught me that nature as revealed by science was a source of great, stirring pleasure. Logic, evidence, and proof did not detract from the feeling that something was transcendent—quite the opposite. It was the source of its magnificence. Through their

books, essays, and television series, *Cosmos*, these ideas reached many millions of people around the world. So much of the philosophy contained in this book you're reading comes from them. My parents taught me that the provable, tangible, verifiable things were sacred, that sometimes the most astonishing ideas are clearly profound, but that when they get labeled as "facts," we lose sight of their beauty. It doesn't have to be this way. Science is the source of so much insight worthy of ecstatic celebration.

We humans are very good celebrators. I daresay we're the best at it in the whole wide world. Other species may express giddy enthusiasm when there's plenty to eat or when it's time to mate. Those events are certainly worthy. We celebrate them, too. But other species don't plan parties. They don't prepare feasts. They don't wear special outfits, put up special decorations, or say special words. They hardly even take the day off.

We, on the other hand, really get into it. Think of the billions of people who put time and effort into Christmas every year, into Chinese New Year, into Eid al-Fitr. Think of every culture, subculture, and religious sect that prescribes its own detailed procedures for honoring a holy day or a rite of passage. Think of every slight mutation as recipes and prayers are passed down from parent to child. Picture all the preparing, the decorating, the sacrificing, the riches

spent over the eons to honor Zeus or Quetzalcoatl. In every inhabited corner of the Earth, human beings have created rituals to give order and meaning to existence. There is seemingly endless variety, and yet, there are clear and undeniable similarities, too.

I am the mother of a beautiful little girl, curious and lively, who regularly leaves me amazed. She is still too young to tell me her philosophy. I don't know what it will be or how she will come to it. As she grows and learns to think for herself, I can only hope to create a framework from which she will find that stirring beauty in our small place in the enormity. The more I thought about what I might be able to impart to her, the more I realized this framework might be useful to anyone who does not fit neatly into one system of belief or another, or into any at all. We all deserve holidays, celebrations, and traditions. We all need to mark time. We all need community. We all need to bid hello and goodbye to our loved ones. I do not believe that my lack of faith makes me immune to the desire to be part of the rhythm of life on this planet.

For me the biggest drawback to being secular is the lack of a shared culture. I can live without an afterlife, I can live without a god. But not without celebrations, not without community, not without ritual. There are no hymns about the testing of theories or mapping of genomes. No festivals

to commemorate great inventions or medical breakthroughs. Since I long for ways to honor the wonder of life, I've found myself making up new rituals. Sometimes I find I can repurpose the traditions of my ancestors to celebrate what I believe is sacred.

If you are devoutly religious, firstly, I'm delighted you're reading this. Thank you. If you have total conviction about your faith, you have plenty to celebrate already. This book is not intended to dissuade you, only to increase what there is to be joyful about.

If you are, like me, something else, maybe some combination of the words *secular, non-believing, agnostic, atheist,* or possibly *pagan*, my hope is that this book might help separate skepticism from pessimism. I don't think that faith is a requirement to see a world full of provable miracles and profound meaning. I also don't think lack of faith means you must give up your most beloved rituals. There is a way to honor your traditions and your ancestors without feeling you are just going through the motions.

I myself am only a few generations removed from some very religious people. My mother's grandparents were Orthodox Jews. And I mean orthodox. My great-grandmother Tillie kept a kosher house, and for her, that meant that if a dairy fork touched a piece of meat—by accident, for a second—it had to be buried in the backyard for a year. Her husband, my great-grandfather Benjamin, volunteered as

the night watchman at their temple because they were too poor to pay the annual membership dues.

Tillie and Benjamin were born at the end of the nineteenth century in shtetls in parts of the Russian Empire that are now Latvia and Belarus. They got out while the getting was still relatively good, despite being virtually penniless. The first leg of their journey was to join Tillie's sister, who had already emigrated to Stockholm. The story passed down to me was that on their travels westward, every day Tillie and Benjamin would get a day-old loaf of bread from a bakery because they couldn't afford a fresh one. Then they would sit on the curb and say to each other in Yiddish, "No, you eat, I'm not hungry." Even though they were both borderline starving, neither would cave. My mother told me this when I was small. I have pictured that exchange tens of thousands of times over the course of my life, filling in details, letting it shape my idea of what true love is.

My great-aunts were born in Sweden, before the family traveled by steerage across the Atlantic to Ellis Island. My grandpa Harry was born in the New World in 1917.

Twenty years later, Harry was a journalism student at New York University, the first person in his family to get anywhere near college. His parents might have thick Yiddish accents, and be unable to read or write in English, but he was American, and studying in Manhattan was making him cosmopolitan and skeptical.

One day he rode the train home to Queens, working up the nerve to talk to his father about something important. At home he found him davening, wrapped in a tallis, lost in prayer. When Benjamin opened his eyes he was delighted to see his only son, his college boy, standing before him.

Harry told his father he would no longer keep kosher, no longer pray, no longer spend Friday nights at shul. Because he just didn't believe. Not in the teachings he was brought up with, not in the Torah, not even in God.

He braced for his father's reaction.

I've often imagined the weight of this moment, too. The guilt of knowing what your parents sacrificed to escape oppression, how hard they worked to preserve their way of life, how carefully they taught their beliefs to their children. And knowing that across the ocean in their homelands, at that very moment, the political climate was turning, and your people were starting to disappear.

But, safe in New York, my great-grandfather looked up and smiled at his son and said the immortal words: "The only sin would be to pretend."

Decades later, by the time this story was passed down to me in vivid color through my mother's impeccable storytelling, those words had become a kind of family mantra. Even though that marked the end of possibly thousands of

years of devout Jewish belief, it reaffirmed a different element of Jewish tradition: debate, philosophical questioning, skepticism.

It wasn't like my grandfather all of a sudden wasn't Jewish because he renounced the beliefs of his ancestors. Judaism in particular has a funny way of blurring the lines between religion, culture, and ethnicity. For example, when I take one of those DNA test kits, I get a result that says I am an Ashkenazi Jew. I don't think there's a test that can tell you if you're, say, a Presbyterian. At least not one that uses your saliva. And it's not just a matter of what a genetic testing service thinks. I see myself as a Jew even as I sit here writing a book about my lack of faith. It's complicated. It took my husband, Jon—whose parents were raised Protestant and Catholic respectively but is neither himself—a while to get it when we first started dating. We'd have conversations like this:

HIM: "You're Jewish, but you don't believe in God or anything religious?"

ME: "Yes."

HIM: "So you're atheist or agnostic or something?"

ME: "Yes."

HIM: "So not Jewish?"

ME: "No, still Jewish, too."

This went on for a while. But eventually he came to understand that even though I don't subscribe to the supernatural elements, I am still a Jew.

HIM, NOW: "It's an ethnic group, a culture and a religion, a Venn diagram that overlaps a lot but not completely. Just as there are Jewish converts who are not ethnically Jewish, there are ethnic Jews who are not religious."

ME, NOW: "Yes!"

But this is not a singularly Jewish issue. Lots of people don't, for instance, consider Jesus Christ their Lord and Savior but still take pleasure in Christmas. It doesn't even have to be about religious identity. How many Americans of, let's say, Italian ancestry identify as Italian but speak only a few words of the language here and there, have read no Dante, seen no Botticellis, never even stepped foot on that boot-shaped peninsula? To a Florentine this person is not their countryman, but back in the Bay Ridge section of Brooklyn, he sees himself as Italian.

Elsewhere in Brooklyn, in the still-ungentrified parts of Williamsburg, most Orthodox Jews would not see me as one of them, should they happen upon me some Friday night, bare-legged, sharing a dozen oysters with my Gentile husband. But when I see them, I know we are connected. I know that in some alternate universe, maybe out there in

the multiverse, there is a world where my grandfather never gets up the courage to admit his nonbelief and goes along with his parents' traditions. There's some version of me who speaks Yiddish at home, keeps a kosher kitchen, dresses modestly, and genuinely believes. Or at least doesn't feel she can tell anyone that she doesn't.

But that's not what happened. My granddad said his piece and raised my mom and her brother as secular Jews, and she went on to do the same. Never letting go of the Jewish part completely.

My great-grandparents' beliefs gave shape to everything they did. I have different convictions than they, but I envy the way meaning infused their lives.

Through my secular lens, I see a different meaning in their traditions. In a way, it's really science that's been inspiring rituals all along. Beneath the specifics of all our beliefs, sacred texts, origin stories, and dogmas, we humans have been celebrating the same two things since the dawn of time: astronomy and biology. The changing of the seasons, the long summer days, the harvest, the endless winter nights, and the blossoming spring are all by-products of how the Earth orbits the sun. The phases of the moon, which have dictated the timing of rituals since the dawn of civilization, are the result of how the moon orbits us. Birth, puberty, reproduction, and death are the biological processes of being human. Throughout the history of our species, these

have been the miracles, for lack of a better word, that have given us meaning. They are the real, tangible events upon which countless celebrations have been built, mirroring one another even among societies who had no contact.

As I see it, here we are on this rock that orbits a star, in a quiet part of a spiral galaxy somewhere in the great, wide vastness of space and time. On our rock these events, changes, and patterns have an enormous impact on us Earthlings. They are important to us. We have spent a lot of time trying to decode them, to manage our expectations, to predict what's coming, to grow, to thrive, to survive. No matter when or where on Earth we live, we humans tend to schedule our most important events around the same times. Sure, Christmas and Hanukkah often fall around the same week. But so does the Dongzhi Festival in China, Umkhosi Wokweshwama among the Zulu, Yaldā in Iran, and Soyal among the Hopi of the American West.

And it's not just certain times of year. It's times of life, too. Every culture from the Amish to the Maasai has coming-of-age rituals that, at their core, are the same as any bar mitzvah, *quinceañera,* or sweet sixteen you've ever been to. Not to mention the vast array of human ways to welcome a newborn, marry a couple, or honor the dead. Ecstatic joy to deepest sorrow, the heart of these rituals lies beyond belief.

While our calendars have shifted, and our climates, politics, and superstitions vary, somewhere in the depths of

whatever you celebrate there is very likely a kernel of some natural occurrence. We needn't resort to myth to get that spine-chilling thrill of being part of something grander than ourselves. Our vast universe provides us with enough profound and beautiful truths to live a spiritually fulfilling life.

Nature is full of patterns and we humans love finding them, creating them, repeating them. That's at the core of language, math, music, and even ritual, which is the repetition of words or actions deemed worthy of representing something bigger than ourselves. Some rituals are very private, some are very public. Some are so commonplace we don't even think of them as rituals. My view is that all over the world and across time, these are all a form of art, an elaborate performance or a secret poem, all vital in their ability to help us face the nature of time and change, life and death, and everything else we cannot control.

So much of human culture is designed to help us come to terms with the most astonishing elements of existence. Every single one of us appears seemingly from nowhere and then, eventually, returns to nowhere. We are conceived, we grow, and we die, but what happens beyond that is a great, haunting mystery. We grapple with it by marking how and when things change here on Earth, both cyclically and permanently.

I believe rich, meaningful rituals can be modern. You

can invent one tomorrow. "It's just the way things have always been" has all too often been used to exclude and demean, or to justify the odious. An old tradition is not intrinsically better than a new one. Especially when it is such a joy to make new ones up—ones that reflect exactly what you believe, ones that make sense of your life as you experience it, ones that bring the world a little closer to the way you wish it could be.

It's not always easy to start something from scratch, though. It can feel a little contrived, a little ridiculous. You can lose that sense of inclusion in a community, being part of a legacy. Without going full Tevye, there is something deeply reassuring about performing the specific steps, the exact motions, that your grandparents performed, and that they learned from their grandparents. You say a prayer, light a candle, make a dessert just the way they did, and imagine the nameless generations stretching back into the past. There is a pleasure in this. It's a kind of connectedness, a kind of time travel, providing a sense of certainty in what's tried and true. That's why new cultures are so often built upon existing cultures. Elements are borrowed, repurposed, reinterpreted, appropriated, stolen, or used to quell unwilling converts. Some new secular scientific tradition would undoubtedly borrow from theistic ones. For example, throughout this book I have found it impossible not to use the language of belief. Words like *sacred*, *magical*, and

spiritual come from theism, but they describe the same feeling even when it's elicited by an understanding of scientific phenomena. These words are evolving with our understanding of our place in the splendor of existence.

For years, people told me that once I had children I would become more religious. These weren't fervently religious people necessarily; in most cases they were not even believers, just people who felt that children need traditions and that that's what religion provides. I would usually get a little defensive. But they were partially right.

I do now have an increased urge to celebrate things with our daughter. I love and have always loved special occasions, the break from monotony, a reason to put on a dress, the banter, feasts, merriment, and the feeling of being part of a group. I love parties, the marking of time, the sensation of feeling it pass. And I want to provide that for my child. I want to make her face light up. I want to evoke that gleeful giggle, that sense of wonder that makes life on Earth feel so magical, so intentional, when you're little. But I can't go through the motions. I can't bring myself to tell her anything I don't believe is true.

So I find myself eager to map out a year that is sometimes inspired and informed by the practices and beliefs of her ancestors on both sides, but not shackled by them. I want to create moments that make us feel united with other Earthlings, without the dogma that divides us. Religion, at

its best, facilitates empathy, gratitude, and awe. Science, at its best, reveals true grandeur beyond our wildest dreams. My hope is that I can merge these into some new thing that will serve my daughter, my family, and you, dear reader, as we navigate—and celebrate—the mysterious beauty and terror of being alive in our universe.

chapter one

Birth

Yesterday a drop of semen, tomorrow a handful of [. . .] ashes.

—*Marcus Aurelius*

After our daughter was born, Jon and I said to each other a thousand times a day, "I can't believe she's here!" "I can't believe we have a kid!" "I can't believe we made a person!" Every day for months and months we said it out loud as if we were just discovering how reproduction worked. We struggled to wrap our minds around it. I actually don't suppose I'll ever truly get over this idea. My mother never has. She sometimes still joyfully says to my brother Sam and me, "You don't understand, you didn't exist, and then we made you! And now you're here!" We roll our eyes and say, "Yes, Mom, that's how it works." Which is true, but no less astonishing, beautiful, or thrilling. Being born at all is amazing. It's easy to lose sight of this. But when a baby comes into the world, when a new human appears

our present configuration we've only been around about a few hundred thousand years—the number changes as we uncover more of our fossilized ancestors—but the planet we live on is more than 4.5 billion years old. We're new here. We evolved from slightly different creatures who evolved from somebody else and so on back to one-cell organisms that we would not recognize as our relatives, but nonetheless, they are. How those one-celled forebears came to be is just now beginning to become clear. Even less clear is how exactly it will end for us: we will either destroy ourselves, be destroyed by an outside event, or evolve into something unrecognizable.

As the small creature inside me expanded my midsection, I was reminded of how many pregnant girlfriends over the years have looked at me with a kind of mild, jokey horror and exclaimed, "It's like there's an alien inside me!"

My dad spent a lot of time thinking about aliens, trying to determine if they existed. He never found out, because so far there's no evidence we've ever had contact with life from elsewhere in the universe. For my dad, as for me, belief required evidence. To say "I don't believe" in something doesn't mean that I am certain it doesn't exist. Just that I have seen no proof that it does, so I am withholding belief. That's how I think about a lot of elements of religion, like God or an afterlife. And it's the same way my dad thought about aliens. As he once said, "Absence of evidence is not

evidence of absence." We don't have proof, so we don't know. And yet we all seem to have a vivid idea of what an alien is like. We almost always imagine they look like us but they're smaller. They have large eyes and no hair. They don't talk. They don't know the social mores. They might be good or they might be evil, but they definitely want something from us and as soon as they arrive, everything will be different forever.

Babies are not like aliens. Our idea of aliens is like our idea of babies.

Maybe that's part of what my dad was thinking when I arrived. My mother tells me that when I was born, my father lifted me up, looked at me, and said, "Welcome to the planet Earth."

Then they didn't name me for three days.

When they finally did, I got the middle name Rachel, for my dad's mom. She was both magnetic and impossible, a mesmerizing storyteller with a one-of-a-kind laugh. She had a very difficult childhood. Her mother died in childbirth when Rachel was two. Her father (who may or may not have come to America to escape a murder rap in Russia) sent her back to Europe to live with aunts she had never met until he remarried a few years later. But Rachel grew up in New York, found true love with my grandfather Sam, and in many ways made my father who he was. It's a complicated legacy.

When I was a small girl, family members were often astonished, alarmed even, at how clearly my mannerisms resembled hers. It was not learned behavior. I was born close to nine months to the day after her death. My parents would get chills at the sound of Rachel's distinctive laugh emerging from their little daughter. It was "very eerie," I was told. It would have been easy for me to make a leap from these reactions to something ominous, something scary. I might have guessed that I was possessed by my dead grandmother, or that she was somehow haunting me.

When I was eight, my younger brother was born, and named for our grandfather Sam. Soon he bore such a resemblance to our father that, when invitations to my dad's birthday party went out with a black-and-white picture of him a little boy swimming off Coney Island, people called to say, "Yes, we can come to the party, but why is there a picture of Sam on the invitation?" To my parents these family resemblances were something wondrous.

My parents told me that there was a kind of secret code called DNA running through our veins. I learned it carried the traits of ancestors I would never meet. My genes linked me back to the earliest humans, to prehistoric mammals and back eventually to the first life on Earth. And if, someday, I had children of my own, I would become a link in the chain, passing along an embedded part of myself to the future generations who would never know my name. This was, to me,

more satisfying than any other possible explanation. And it was verifiable, independent of my belief or lack thereof.

This was my introduction to a world of giddy enthusiasm about the fact that the universe is bigger than we are currently able to comprehend, that we live on a planet we are perfectly adapted for, that we are capable of critical thought, and that our understanding of all this grows deeper and more astonishing with time. And that, as far as we can tell, this all happened by chance. Think of the asteroid that could have just missed the Earth, sparing the dinosaurs, robbing those little Cretaceous mammals of the chance to flourish and eventually evolve into you and me. I find it impossible not to think of this as miraculous, despite the connotations.

Even with our species flourishing, the chances of any one of us being born are still remote. Think of all the slight variations in human migration patterns, for example, that could have kept your great-great-grandparents from ever crossing paths. If you have any European ancestry, someone in your lineage had to survive the black death in the fourteenth century, which killed more than half the people on the continent. If you have any Native American heritage, somehow your forebears managed to pass their genes on to you, despite the fact that only 10 or 20 percent survived the microbes and violence brought by European invaders. Whatever your ancestry, the list of wars, raids, plagues,

famines, and droughts your genetic material had to overcome is stunning. All this in order to arrive at the moment where you, exactly you, are ready to depart your mother's womb and come into the great wide world.

Let's say there were three decisive moments in each of your biological parents' lives that led to their meeting. This is a ridiculously conservative estimate; it's probably millions of moments, but, for simplicity's sake, let's say three. Your mother chose to go to such-and-such university, she chose to strike up a friendship with so-and-so, and years later, she chose to accept so-and-so's invitation to the party where she met your dad. Meanwhile, your dad chose X career, where he met X colleague, and eventually accepted the invitation to the party where he meets your mom.

At the risk of stating the obvious, in order for your parents to meet, they each had to be born, which required both sets of *their* parents to meet. And before that, your grandparents had to be born, so your great-grandparents had to meet. And so on and so on, all the way back to the first humans in East Africa.

Right now we think there have been approximately 7,500 generations of *Homo sapiens*. They all had to find each other in that perfect moment. There are so many forks in the road that within ten or fifteen generations the odds become mind-boggling.

ancient Incan babies upon being weaned and for generations of Chinese babies when they reach one hundred days of life, a great accomplishment during the eons when infant mortality rates were high. Now it's a reminder of how entwined birth and death can be.

In Côte d'Ivoire, the afterworld of the Beng people is a large city where the dead speak all the languages of the world. When a baby is born, reincarnated into our world, they are sometimes given colonial French coins, the currency of their netherworld and of the power that upended their society here on Earth. But the first gift a Beng baby gets is a cowry shell, the currency of their ancestors before the French arrived, another kind of token of remembrance for their previous life.

Every ritual, tradition, superstition, and celebration designed to welcome a baby has, at its heart, a hopeful wish for that new human.

Jon and I had all the hopes and dreams that come with new parenthood, but we didn't have an ancient framework to express it. We didn't have a symbolic gift to offer our daughter, no special timeworn words to whisper in her teeny ear, except "Welcome to the planet Earth"—a tradition only one generation old. Maybe this is because we didn't have a religious community that expected this of us. Maybe it's just because we were too tired and overwhelmed to imagine entertaining. If we had marked her arrival with

a large group of friends and family, with ritual and tradition, we might have had an easier time processing this enormous change. Maybe we wouldn't have spent her first year in shock that we had created life. Or maybe we would have increased our sense of awe by celebrating it.

In retrospect it seems so obvious that our daughter deserved to be welcomed in some formal way. Maybe with a party, or some secular ceremony we could have invented. Maybe the reading aloud of a passage or poem that felt fitting. But devising rituals takes a little vision and creativity, and I had spent all of mine on preparing her room, picking out her tiny clothes, and imagining what kind of mother I would aspire to be. Maybe someday we'll have another baby and be better prepared with a ritual for the occasion.

I don't know exactly what that might be, but there is one ritual I wish we'd at least explored. It's beautiful, tangible, and appears among disparate cultures: the planting of a tree. A tiny seed is deposited in Mother Earth and soon a new life begins to emerge.

In the Balkans it's a quince tree. In parts of China it's an empress tree—specifically when it's a girl. In Jamaica, the baby's umbilical cord is sometimes buried alongside the seed. There is a Jewish tradition, with Talmudic roots, that calls for the planting of cypress trees for girl babies and cedar trees for boys. When they grow up, their chuppah (the

Jewish wedding canopy) is built from these branches. In Piplantri, Rajasthan, in northwest India, the villagers plant 111 trees when a little girl is born: mango, North Indian rosewood, Indian gooseberry. In a world where the birth of a daughter was often seen as a burden, this ritual celebrated it, despite being rooted in grief. It was the invention of a man who once served as Piplantri's *sarpanch* (a position akin to small-town mayor). His beloved daughter died very young and he wanted to honor her memory. The villagers planted many thousands of trees but worried termites would destroy them. So the villagers started planting aloe vera, which they believed would kill the pests. Soon there were millions of aloe plants in Piplantri. They didn't know what to do with them all. But the women of the village learned to make juice and salve, and soon the village grew prosperous, an unexpected blessing born out of their ritual.

The Jewish, Chinese, and Balkan variations of this tradition are very old. This Rajasthani version sounds ancient and maybe apocryphal. It's not. It started in 2006. (There is another element to this tradition that I love. When the baby girl is born and the trees are planted, the girl's parents sign a legally binding affidavit promising that their daughter will not be married off before she is of age, that they will support her in her education, and that, together, they will care for these hallowed trees as they, like their daughters, grow skyward.)

For the people of Piplantri, the planting of 111 trees is meaningful. They don't need an ancient proclamation or divine vision to celebrate birth.

As my own daughter grows skyward, I find myself looking into her eyes and glimpsing our ancestors, the ones we have known and the ones we never will. When I look into her little face I can't imagine her being anyone else. But I know that somewhere along the road that led to her existence, something could have unfolded very differently. I feel a sense of awe for every single thing that happened to bring us to this exact moment, where we are each *us*, alive, experiencing life together on this world.