

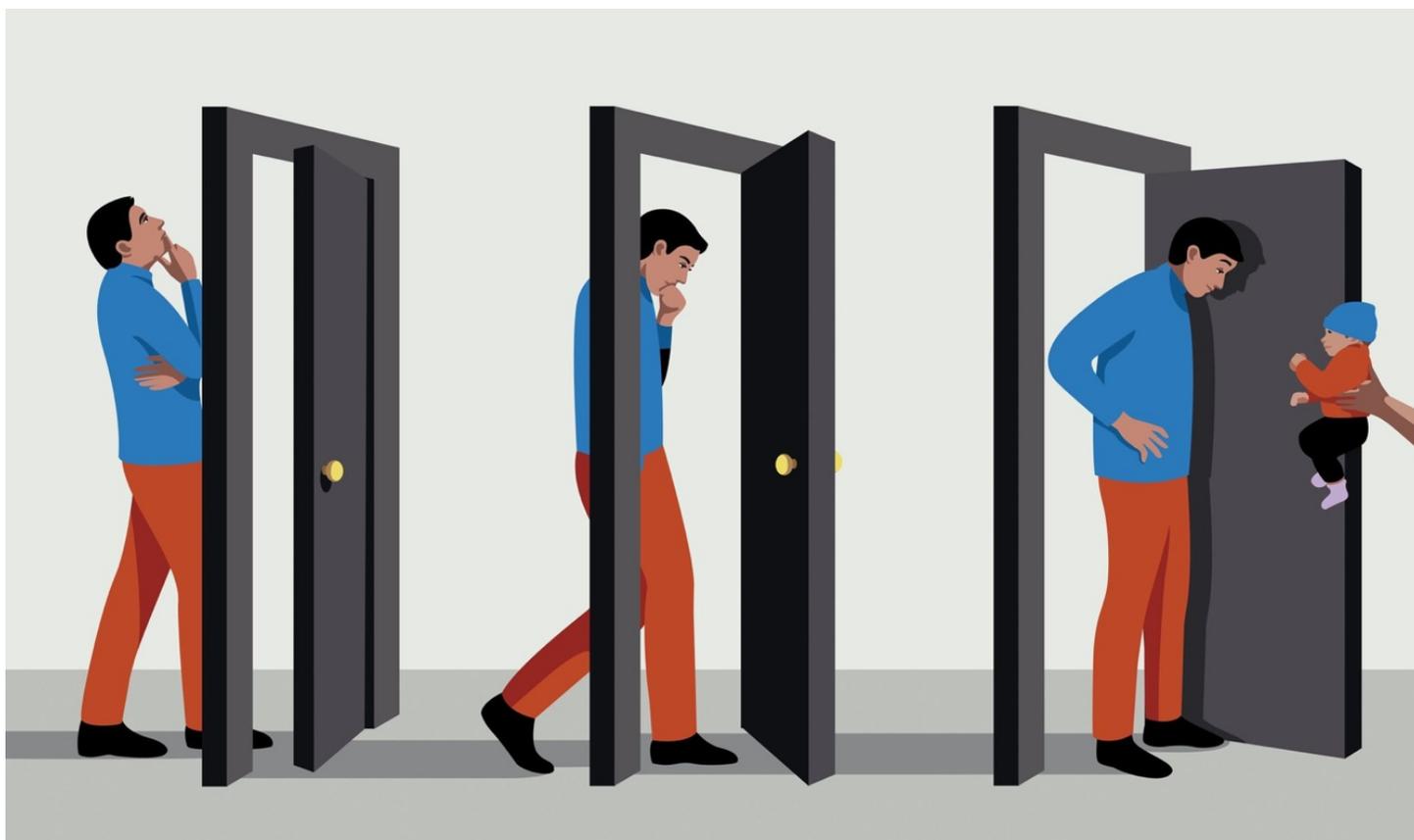
THE  
NEW YORKER

# THE ART OF DECISION- MAKING

*Your life choices aren't just about what you want to do; they're about who you want to be.*



By Joshua Rothman



*Your life choices are shadowed by ignorance: you choose to be a parent without knowing what being a parent will be like.*

Illustration by Anna Parini

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In July of 1838, Charles Darwin was twenty-nine years old and single. Two years earlier, he had returned from his voyage aboard H.M.S. Beagle with the observations that would eventually form the basis of “On the Origin of Species.” In the meantime, he faced a more pressing analytical problem. Darwin was considering proposing to his cousin Emma Wedgwood, but he worried that marriage and children might impede his scientific career. To figure out what to do, he made two lists. “Loss of time,” he wrote on the first. “Perhaps quarreling. . . . Cannot read in the evenings. . . . Anxiety and responsibility. Perhaps my wife won’t like London; then the sentence is banishment and degradation into indolent, idle fool.” On the second, he wrote, “Children (if it Please God). Constant companion (and friend in old age). . . . Home, & someone to take care of house.” He noted that it was “intolerable to think of spending one’s whole life, like a neuter bee, working, working. . . . Only picture to yourself a nice soft wife on a sofa with good fire and books and music perhaps.”

Beneath his lists, Darwin scrawled, “Marry, Marry, Marry QED.” And yet, Steven Johnson writes, in “Farsighted: How We Make the Decisions That Matter the Most,” “we have no evidence of how he actually weighed these competing arguments against each other.” Johnson, the author of “How We Got to Now” and other popular works of intellectual history, can’t help but notice the mediocrity of Darwin’s decision-making process. He points out that Benjamin Franklin used a more advanced pro-and-con technique: in what Franklin called “Prudential Algebra,” a numerical weight is assigned to each listed item, and

counterbalancing items are then eliminated. (“If I find a Reason pro equal to some two Reasons con, I strike out the three . . . and thus proceeding I find at length where the Ballance lies,” Franklin explained to a friend.) Even this approach, Johnson writes, is slapdash and dependent upon intuition. “The craft of making farsighted choices—decisions that require long periods of deliberation, decisions whose consequences might last for years,” he concludes, “is a strangely under-appreciated skill.”

We say that we “decide” to get married, to have children, to live in particular cities or embark on particular careers, and in a sense this is true. But how do we actually make those choices? One of the paradoxes of life is that our big decisions are often less calculated than our small ones are. We agonize over what to stream on Netflix, then let TV shows persuade us to move to New York; buying a new laptop may involve weeks of Internet research, but the deliberations behind a life-changing breakup could consist of a few bottles of wine. We’re hardly more advanced than the ancient Persians, who, Herodotus says, made big decisions by discussing them twice: once while drunk, once while sober.

Johnson hopes to reform us. He examines a number of complex decisions with far-reaching consequences—such as the choice, made by President Barack Obama and his advisers, to green-light the raid on Osama bin Laden’s presumed compound, in Abbottabad, Pakistan—and then shows how the people in charge drew upon insights from “decision science,” a research field at the intersection of behavioral economics, psychology, and management. He thinks that we should apply such techniques to our own lives.

I’ve never had to decide whether to launch a covert raid on a suspected terrorist compound, but I’ve made my share of big decisions. This past summer, my wife

and I had a baby boy. His existence suggests that, at some point, I decided to become a father. Did I, though? I never practiced any prudential algebra; rather than drawing up lists of pros and cons and concluding, on balance, that having kids was a good idea, I gradually and unintentionally transitioned from not particularly wanting children to wanting them, and from wanting them to joining my wife in having them. If I made a decision, it wasn't a very decisive one. In "War and Peace," Tolstoy writes that, while an armchair general may imagine himself "analyzing some campaign on a map" and then issuing orders, a real general never finds himself at "the beginning of some event"; instead, he is perpetually situated in the middle of a series of events, each a link in an endless chain of causation. "Can it be that I allowed Napoleon to get as far as Moscow?" Tolstoy's General Kutuzov wonders. "When was it decided? Was it yesterday, when I sent Platov the order to retreat, or was it the evening before, when I dozed off and told Bennigsen to give the orders? Or still earlier?" Unlike the capture of Moscow by Napoleon, the birth of my son was a joyous occasion. Still, like Kutuzov, I'm at a loss to explain it: it's a momentous choice, but I can't pinpoint the making of it in space or time.

For Tolstoy, the tendency of big decisions to make themselves was one of the great mysteries of existence. It suggested that the stories we tell about our lives are inadequate to their real complexity. Johnson means to offer a way out of the Tolstoyan conundrum. He wants to make us writers, rather than readers, of our own stories. Doing so requires engaging with one of life's fundamental questions: Are we in charge of the ways we change?

**I**deally, we'd be omniscient and clearheaded. In reality, we make decisions in imperfect conditions that prevent us from thinking things through. This, Johnson explains, is the problem of "bounded rationality." Choices are constrained by earlier choices; facts go undiscovered, ignored, or misunderstood;

decision-makers are compromised by groupthink and by their own fallible minds. The most complex decisions harbor “conflicting objectives” and “undiscovered options,” requiring us to predict future possibilities that can be grasped, confusingly, only at “varied levels of uncertainty.” (The likelihood of marital quarrelling must somehow be compared with that of producing a scientific masterwork.) And life’s truly consequential choices, Johnson says, “can’t be understood on a single scale.” Suppose you’re offered two jobs: one at Partners in Health, which brings medical care to the world’s neediest people, and the other at Goldman Sachs. You must consider which option would be most appealing today, later this year, and decades from now; which would be preferable emotionally, financially, and morally; and which is better for you, your family, and society. From this multidimensional matrix, a decision must emerge.

Professional deciders, Johnson reports, use decision processes to navigate this complexity. Many of the best processes unfold in stages—a divergence stage might precede a convergence stage—and are undertaken by groups. (Darwin might have divided his friends into two opposing teams, in the divergence stage, and then held a debate between them.) The decision might be turned into an iterative adventure. In a series of meetings known as a “design charrette”—the concept is borrowed from the field of product design—a large problem is divided into subproblems, each of which is assigned to a group; the groups then present their work to the whole team, receive feedback, regroup, and revise, in a cycle that loops until a decision has been made. (For architects in nineteenth-century Paris, working *en charrette* meant revising until the very last minute, even in the cart on the way to deliver a design to a panel of judges.) Charrettes are useful not just because they break up the work but because they force groups with different priorities and sensibilities—coders and designers, architects and real-estate developers—to interact, broadening the range of available viewpoints.

## VIDEO FROM THE NEW YORKER

## What the Government Shutdown Means for Americans

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At firms like Royal Dutch Shell, where growth requires investing in expensive ventures, such as ports, wells, and pipelines, deciders use “scenario planning” to imagine how such investments might play out. (A scenario-planning starter kit, Johnson writes, contains three possible futures: “You build one model where things get better, one where they get worse, and one where they get weird.”) Military planners use immersive war games, carried out in the field or around a table, to bring more of the “decision map” into view. In such games, our enemies discover possibilities that we can’t foresee, ameliorating the poverty of our individual imaginations. And since the games can be played over and over, they allow decision-makers to “rewind the tape,” exploring many branches of the “decision tree.”

It would be strange to stage a war game about a prospective marriage. Still, Johnson writes, decision science has lessons for us as individuals. Late in

“Farsighted,” he recounts his own use of decision-scientific strategies to persuade his wife to move, with their two children, from New York City to the Bay Area. Johnson starts with intuitions—redwoods are beautiful; the tech scene is cool—but quickly moves beyond them. He conducts a “full-spectrum analysis,” arriving at various conclusions about what moving might mean financially, psychologically (will moving to a new city make him feel younger?), and existentially (will he want to have been “the kind of person who lived in one place for most of his adult life”?). Johnson summarizes his findings in a PowerPoint deck, then shows it to his wife, who raises objections that he hasn’t foreseen (all her friends live in Brooklyn). Eventually, they make a contract. They’ll move, but if after two years she wants to return to New York they’ll do so, “no questions asked”—a rewind.

Seven years later, they’re happy with a bicoastal existence. Would Johnson have benefitted from “conducting a multidisciplinary charrette” to explore his family’s move? Probably not. Still, he writes, the principles of decision science—“seeking out diverse perspectives on the choice, challenging your assumptions, making an explicit effort to map the variables”—constituted “a step up” from the pro-and-con lists that Franklin and Darwin would have made. Looking back on his decision, Johnson can at least feel confident that he made one.

Johnson’s book is part of a long tradition. For centuries, philosophers have tried to understand how we make decisions and, by extension, what makes any given decision sound or unsound, rational or irrational. “Decision theory,” the destination on which they’ve converged, has tended to hold that sound decisions flow from values. Faced with a choice—should we major in economics or in art history?—we first ask ourselves what we value, then seek to maximize that value.

From this perspective, a decision is essentially a value-maximizing equation. If you're going out and can't decide whether to take an umbrella, you could come to a decision by following a formula that assigns weights to the probability of rain, the pleasure you'll feel in strolling unencumbered, and the displeasure you'll feel if you get wet. Most decisions are more complex than this, but the promise of decision theory is that there's a formula for everything, from launching a raid in Abbottabad to digging an oil well in the North Sea. Plug in your values, and the right choice pops out.

In recent decades, some philosophers have grown dissatisfied with decision theory. They point out that it becomes less useful when we're unsure what we care about, or when we anticipate that what we care about might shift. In a 2006 article called "Big Decisions: Opting, Converting, Drifting," the late Israeli philosopher Edna Ullmann-Margalit asked us to imagine being one of "the early socialist Zionist pioneers" who, at the turn of the twentieth century, dreamed of moving from Europe to Palestine and becoming "the New Jews of their ideals." Such a change, she observed, "alters one's life project and inner core"; one might speak of an "Old Person" who existed beforehand, browsing bookshops in Budapest, and a "New Person" who exists afterward, working a field in the desert. The point of such a move isn't to maximize one's values. It's to reconfigure them, rewriting the equations by which one is currently living one's life.

Ullmann-Margalit doubted that such transformative choices could be evaluated as sound or unsound, rational or irrational. She tells the story of a man who "hesitated to have children because he did not want to become the 'boring type' " that parents tend to become. "Finally, he did decide to have a child and, with time, he did adopt the boring characteristics of his parent friends—but he was happy!" Whose values were maximized—Old Person's or New Person's? Because no value-maximizing formula could capture such a choice, Ullmann-Margalit

suggested that, rather than describing this man as having “decided” to have children, we say that he “opted” to have them—“opting” (in her usage) being what we do when we shift our values instead of maximizing them.

The nature of “opting situations,” she thought, explains why people “are in fact more casual and cavalier in the way they handle their big decisions than in the way they handle their ordinary decisions.” Yet it’s our unexplored options that haunt us. A decision-maker who buys a Subaru doesn’t dwell on the Toyota that might have been: the Toyota doesn’t represent a version of herself with different values. An opter, however, broods over “the person one did not marry, the country one did not emigrate to, the career one did not pursue,” seeing, in the “shadow presence” implied by the rejected option, “a yardstick” by which she might evaluate “the worth, success or meaning” of her actual life.

One might hope that a little research could bridge the divide between Old Person and New Person. In a 2013 paper titled “What You Can’t Expect When You’re Expecting,” L. A. Paul, a philosopher at Yale, writes, “Perhaps you think that you can know what it’s like to have a child, even though you’ve never had one, because you can read or listen to the testimony of what it was like for others. You are wrong.” Paul cites the philosopher David Lewis, who proposed what might be called the Vegemite Principle: if you’ve never tasted Vegemite, a mysterious and beloved Australian “food spread” made from brewer’s yeast, then neither a description of what it’s like (black, gooey, vegetal) nor experience with other spreads (peanut butter, marmalade, Nutella) will suffice to tell you whether you’d like it. Similarly, Paul argues, “being around other people’s children isn’t enough to learn about what it will be like in your own case.” She explains:

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MORE FROM THIS ISSUE

JANUARY 21, 2019

## A REPORTER AT LARGE

Denise Ho Confronts  
Hong Kong's New  
Political Reality

By Jiayang Fan

## ON TELEVISION

The Upbeat Appeal of  
“Good Trouble” and  
“Brooklyn Nine-Nine”

By Emily Nussbaum

## LONG, STRANGE

Andrew Cuccinelli's  
Unwinnable  
Game

By Zach Helford



Babysitting for other children, having nieces and nephews or much younger siblings—all of these can be wonderful (or horrible) experiences, but they are different in kind from having a child of your very own, perhaps roughly analogous to the way an original artwork has aesthetic value partly because of its origins. . . .

Experience with other people's children might teach you about what it is like to hold a baby, to change diapers or hold a bottle, but not what it is like to create, carry, give birth to and raise a child *of your very own*.

Before having children, you may enjoy clubbing, skydiving, and LSD; you might find fulfillment in careerism, travel, cooking, or CrossFit; you may simply relish your freedom to do what you want. Having children will deprive you of these joys. And yet, as a parent, you may not miss them. You may actually prefer changing diapers, wrangling onesies, and watching “Frozen.” These activities may sound like torture to the childless version of yourself, but the parental version may find them illuminated by love, and so redeemed. You may end up becoming a different person—a parent. The problem is that you can't really know, in advance, what “being a parent” is like. For Paul, there's something

thrilling about this quandary. Why should today's values determine tomorrow's? In her 2014 book, "Transformative Experience," she suggests that living "authentically" requires occasionally leaving your old self behind "to create and discover a new self." Part of being alive is awaiting the "revelation" of "who you'll become."

In the months before our son was born, our sense of our ignorance mounted. "We don't know what we're waiting for," my wife said. We knew in advance when he would be born—an ultrasound had revealed that he was unusually big, and a C-section had been scheduled—but the morning of his arrival unfolded with a strange familiarity. I had coffee, toasted an English muffin, and read the news; I packed clothes for the hospital into the bag that I take to work every day. At eleven, my wife and I got into the car. Her mother and a family friend drove us. At the front entrance, we hugged them goodbye.

"Good luck!" my mother-in-law said. "Your lives are about to change forever!"

"Thanks," I said. "Where are you guys going?"

"Costco," she said.

We walked inside. Upstairs, in a curtained-off nook, my wife settled into a hospital bed. For about an hour, we made small talk with the nurses, who guessed at the baby's weight, and with the surgeon, who happened to be a college classmate of ours. ("*Heyyyyy!*" she said when she arrived.) Occasionally we were left to ourselves. We held hands and looked at each other.

Eventually, an aide helped my wife into a wheelchair. Flanked by two nurses and wearing oversized scrubs, I pushed her down a long hallway toward the operating room. Inside, the doctors were listening to "Stairway to Heaven" on

the radio. In the midst of it all, I admired Jimmy Page's guitar solo. Afterward, I sat in the same hallway holding our baby. I had wondered if, meeting him for the first time, I would feel transformed. I felt like the same old me. And yet none of the words I knew matched the experience I was having. With my hands, I felt him breathing. Quiet and still, warm and awake, he watched me with dark-blue eyes—an actual new person.

**A**gnes Callard, a philosopher at the University of Chicago, is skeptical about the idea of sudden transformation. She's also convinced that, no matter how it looks or feels, we choose how we change. In her often moving, quietly profound book "Aspiration: The Agency of Becoming," she writes that "becoming a parent is neither something that just happens to you nor something you decide to have happen to you." Instead, Callard maintains, we "aspire" to self-transformation by trying on the values that we hope one day to possess, just as we might strike a pose in the mirror before heading out on a date. Of the man in Ullmann-Margalit's article who feared becoming a boring dad, Callard writes, "By the time he says, 'Let's go for it,' he is actively trying to appreciate the values distinctive of parenthood." In place of a moment of decision, Callard sees a more gradual process: "Old Person aspires to become New Person."

Suppose that you sign up for a classical-music-appreciation class, in which your first assignment is to listen to a symphony. You put on headphones, press Play—and fall asleep. The problem is that you don't actually want to listen to classical music; you just want to want to. Aspiring, Callard thinks, is a common human activity: there are aspiring wine lovers, art appreciators, sports fans, fashionistas, d.j.s, executives, alpinists, do-gooders, parents, and religious believers, all hatching plans to value new things. Many ordinary decisions, moreover—such as choosing between Goldman Sachs and Partners in Health—also touch on the question of who we aspire to become.

Callard distinguishes between aspiration and ambition. Some of the people taking the music-appreciation class are ambitious; they enrolled not because they aspire to love classical music but because the class is an easy A. From the first day, they know what they value: their grades. (“Turning ambition into aspiration is one of the job descriptions of any teacher,” Callard notes.) The ambitious students find it easy to explain why they’re taking the class. But the aspirants must grow comfortable with a certain quantity of awkward pretense. If someone were to ask you why you enrolled, you would be overreaching if you said that you were moved by the profound beauty of classical music. The truth, which is harder to communicate, is that you have some vague sense of its value, which you hope that some future version of yourself might properly grasp.

Until aspirants can fully explain their motivations, they often understate their aims. An aspiring painter will say that she finds painting relaxing rather than try to explain what she hopes to express through her art. An aspiration, Callard concludes, has two faces: a near face, which represents it “as lesser than it is,” and a distant one, which an aspirant is reluctant to describe, because it “ennobles her current activity beyond its rightful status.”

Being a well-meaning phony is key to our self-transformations. “Consider what kind of thinking motivates a good student to force herself to listen to a symphony when she feels herself dozing off,” Callard writes:

She reminds herself that her grade and the teacher’s opinion of her depend on the essay she will write about this piece; or she promises herself a chocolate treat when she gets to the end; or she’s in a glass-walled listening room of the library, conscious of other students’ eyes on her; or perhaps she conjures up a romanticized image of her future, musical self, such as that of

entering the warm light of a concert hall on a snowy evening.

These are “bad” reasons for listening to classical music, Callard says, but “ ‘bad’ reasons are how she moves herself forward, all the while seeing them as bad, which is to say, as placeholders for the ‘real’ reason.”

When we’re aspiring, inarticulateness isn’t a sign of unreasonableness or incapacity. In fact, the opposite may be true. “Everyone goes to college ‘to become educated,’ ” Callard observes, “but until I am educated I do not really know what an education is or why it is important.” If we couldn’t aspire to changes that we struggle to describe, we’d be trapped within the ideas that we already have. Our inability to explain our reasons is a measure of how far we wish to travel. It’s only after an aspirant has reached her destination, Callard writes, that “she will say, ‘This was why.’ ”

**B**ecause aspirations take a long time to come to fruition, they’re always at risk of interruption. Ullmann-Margalit’s 2006 paper makes mention of someone who opts “to leave the corporate world in order to become an artist.” Callard sees that sort of move as the result of an aspiration—a process that starts small, perhaps with a random stroll through an art museum, and culminates, years later, after one opens a pottery studio. The trouble is that some values preclude others. An aspiring artist must reject the corporate virtues to which he once aspired and embrace creative ones in their place. If a family illness forces him to abandon his artistic plans, he may end up adrift—disenchanted with corporate life, but unable to grasp the real satisfactions of an artistic existence. To aspire, Callard writes, is to judge one’s present-day self by the standards of a future self who doesn’t yet exist. But that can leave us like a spider plant putting down roots in the air, hoping for soil that may never arrive.

Callard revisits Paul's "What You Can't Expect When You're Expecting." In that paper, Paul explored a strange consequence of the Vegemite Principle: if there's no rational way to decide to have a child—because you can't know what you've never experienced—then there's also no rational reason for being disappointed about not having one. (Such disappointment isn't "wrong, or blameworthy, or subjectively unreasonable," Paul notes—just nonrational.) Callard disagrees. She sees infertility as a form of interrupted aspiration. An aspiring mother who can't have children is rational in feeling sad, she writes, and "this is so even if—indeed, it is true in part because—she cannot quite see what she would be missing."

Before we had our son, I began exploring the "near face" of being a parent. I noticed how cute babies and children could be and pictured our spare room as a nursery; I envisaged my wife and I taking our child to the beach near our house (my version of "entering the warm light of a concert hall on a snowy evening"). I knew that these imaginings weren't the real facts about having children—clearly, there was more to having kids than cuteness. All the same, I had no way of grasping the "distant face" of fatherhood. It was something I aspired to know.

As it turned out, my wife and I had trouble having children. It took us five years to navigate the infertility maze. For much of that time, we lived with what Callard describes as the "distinctive kind of sadness appropriate to losing something you were only starting to try to get to know." This sadness, Callard points out, has a complement in the disappointment one might feel after "having to abandon one's educational aspirations for motherhood": "The aspiring college student who must give up those dreams to raise a child is liable to feel that she was counting on the college experience to make her life meaningful." Callard quotes from "Barren in the Promised Land," a book about infertility by the historian Elaine Tyler May. "The grief—the loss," a woman tells May. "I spent six years of my life trying to be a mom, and it was beyond my control. For a

while I couldn't look ahead. I thought, how do I define myself if I don't do this? What am I if not a parent?" It might be easier if our biggest transformations were instantaneous, because then we wouldn't need to live in states of aspiration. Certain of who we were, we'd never get stuck between selves.

I read "Aspiration" last spring, before my son was born, and I talked about it often with my wife. We were especially struck by Callard's argument that parenthood is intrinsically aspirational. Parents look forward to a loving relationship with a specific person. And yet that person doesn't pop into existence fully formed; he emerges, in all his specificity, over many years. For this reason, it makes little sense to be an "ambitious parent"—someone who plans, in advance, what he will love about his child. It's better to "enter parenthood for the most inchoate of reasons," Callard concludes, since that "puts our children in a position to fill out what parenthood means for us"; in turn, parental love must "be capable of molding itself to the personality that is, itself, coming to take a determinate shape."

For the most part, Callard's book is a systematic overview, situated outside the moment. Still, she writes, for aspirants "what happens in the meanwhile is also life." Now that our son is here, we live entirely in the meanwhile. We don't want the present, or its mystery, to end. Each day is absorbing and endlessly significant. Recently, I watched my father's face as he watched my son's. Later, we listened as my son learned a new kind of laugh. Each time he looks at us, he sees us more in his own way. Like pages that turn themselves, the meaningful instants follow one another too soon. It's hard to think of them as stepping stones on the way to anywhere else. ◆

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## Video

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*What the Government Shutdown Means for Americans  
President Trump has threatened to keep the government shut down for days, weeks, months, or even years, urging Congress to give him \$5.7 billion to build an extension of the wall along the southern border.*

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