

Size: Body length, 26 - 36 cm (10.2 - 14.2 inches); wingspan, 47 - 63 cm (18.5 - 24.8 inches) Weight: Approx. 460 g (16.2 oz) Habitat: Found throughout the northern Atlantic

Surviving number: Estimated at 4.8 - 5.8 million



Photographed by Markus Varesvuo

WILDLIFE AS CANON SEES IT

Love is in the air... and the water. During courtship, Atlantic puffins engage in a hovering flight called "moth flight," as well as pairswimming together in the ocean. Monogamous couples share in the responsibilities of feeding their young, doing so three to nine times a day after diving deep in pursuit of fish, small crustaceans and squid. But puffin colonies are

hardly a safe refuge for growing families, threatened as they are by egg gathering and hunting by humans and the introduction of feral cats, dogs and rats.

As Canon sees it, images have the power to raise awareness of the threats facing endangered species and the natural environment, helping us make the world a better place.





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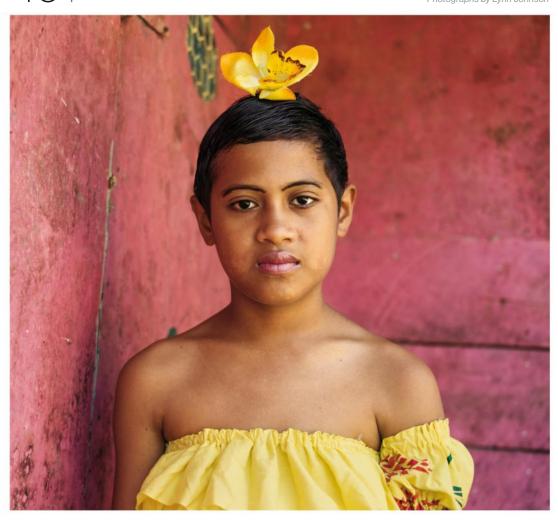
JANUARY 2017 • VOL. 231 • NO. 1 • OFFICIAL JOURNAL OF THE NATIONAL GEOGRAPHIC SOCIETY

THE GENDER ISSUE

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Can science help us navigate the shifting land-scape of gender identity? Mandy (below) identifies as fa'afafine, a third gender in Samoa.

By Robin Marantz Henig Photographs by Lynn Johnson



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TELEVISION

GENDER REVOLUTION: A JOURNEY WITH KATIE COURIC



A look at how genetics, culture, and brain chemistry shape

gender. February 6 at 8/7c on National Geographic.

TELEVISION

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TELEVISION

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Author Anne-Marie Slaughter urges us to aim for a world where gender is neither an advantage nor an impediment. On the Cover Youth interviewed for this issue on gender include Avery Jackson, a transgender girl living in Kansas City, Missouri. Photo by Robin Hammond

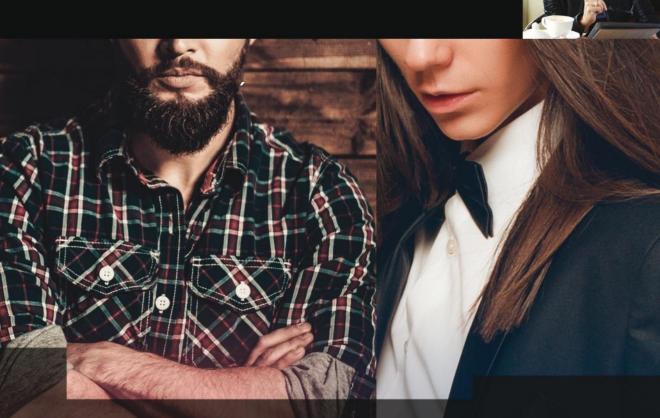
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GENDER REVOLUTION

A JOURNEY WITH KATIE COURIC



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WHAT IF ALL COULD THRIVE?

All of us carry labels applied by others. The complimentary ones—"generous," "funny," "smart"—are worn with pride. The harsh ones can be lifelong burdens, indictments we try desperately to outrun.

The most enduring label, and arguably the most influential, is the first one most of us got: "It's a boy!" or "It's a girl!" Though Sigmund Freud used the word "anatomy" in his famous axiom, in essence he meant that *gender* is destiny.

Today that and other beliefs about gender are shifting rapidly and radically. That's why we're devoting this month's issue to an exploration of gender—in science, in social systems, and in civilizations throughout history.

As Robin Marantz Henig writes in our story on page 48, we are surrounded by "evolving notions about what it means to be a woman or a man and the meanings of transgender, cisgender, gender nonconforming, genderqueer, agender, or any of the more than 50 terms Facebook offers users for their profiles. At the same time, scientists are uncovering new complexities in the biological understanding of sex. Many of us learned in high school biology that sex chromosomes determine a baby's sex, full stop: XX means it's a girl; XY means it's a boy. But on occasion, XX and XY don't tell the whole story."

For a future-facing perspective on gender, we talked to 80 young people. From the Americas to the Middle East, from Africa to China, these keen and articulate observers bravely reflected our world back at us.

Nasreen Sheikh, seen here, lives with her parents and two siblings in a Mumbai slum. She'd like to become a doctor, but already she believes that being female is holding her back. "If I were a boy," she says, "I would have the chance to make money...and to wear good clothes."

I expect Nasreen will learn that gender alone doesn't preclude a good life (or, for



that matter, ensure it). But let's be clear: In many places girls are uniquely at risk. At risk of being pulled out of school or doused with acid if they dare to attend. At risk of genital mutilation, child marriage, sexual assault. Yes, youngsters worldwide, irrespective of gender, face challenges that have only grown in the digital age. But in telling these stories, we are reminded again how dangerous girls' lives can be—and how much work lies ahead to change that.

Thank you for reading *National Geographic*.

Susan Goldberg, Editor in Chief

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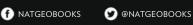
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THE POWER OF SELF

Writer and activist **Gloria Steinem**, 82, has been one of the world's leading feminists since the 1960s. In her memoir, *My Life on the Road*, the *Ms.* magazine co-founder describes a life of nearly constant travel, from her itinerant childhood to her ongoing global advocacy.



What was a defining moment in your life, related to gender?

It's difficult to think of a defining moment because gender, in my generation, was just so assumed. I never remember wanting to be a boy, except perhaps to put my feet over the movie seat in front of me in the theater. And I never remember feeling limited as a girl, because I was not going to school very much. It came as a shock and surprise when I got to be a teenager and gender became very limiting and very important. There were always whispers and rumors about girls who got pregnant and had to get married. If someone was raped, it was her fault. In my teenage years I became aware of being careful.

What do you consider the most pressing gender issue today?

I suppose getting rid of [the idea of] gender. You know, living in India was a revelation because I came to understand that there were old languages that didn't have gender—that didn't have "he" and "she." The more polarized the gender roles, the more violent the society. The less polarized the gender roles, the more peaceful the society. We are each unique and individual human beings. We are linked; we are not ranked. The idea of race and the idea of gender are divisive.

What advice would you give to girls and boys today?

To trust the unique voice inside them. And to be sure and listen as much as they speak, so that they are honoring the other unique people outside them. It's important for girls not to internalize a sense of passivity or inferiority or second-classness, and for boys not to internalize a sense of having to be stronger or superior or in control. What helps the most is for boys to be raised to raise children. I don't have children, but I was raised to raise children—to be empathetic and pay attention to detail and be patient. Boys are often raised that way, but not often enough.



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THE POWER OF PEERS

Sheryl Sandberg, 47, is a champion for women's leadership and the author of *Lean In: Women, Work, and the Will to Lead.* After years of government service, she leaned in to the tech boom, first with Google and now as chief operating officer for Facebook.



What was a defining moment in your life, related to gender?

One was being pregnant and realizing we should offer parking for expectant mothers. The "aha" wasn't, oh my God, Google needed pregnancy parking. The "aha" was that I had to be pregnant myself to think of it. I opened my book with this, but I'm not sure I drove home the point: It matters to have diverse voices at the table. When I first entered the workforce, in 1991, there were just as many women as men going into entry-level jobs. I looked to the side of me, and it was equal. But I looked above me, and it was almost entirely men. As my career progressed, I had fewer and fewer women in every group I was part of. If you look back at the 1950s, '60s, or '70s, of course we've made progress. But we have not made progress in getting a greater share of the top jobs, in any industry, in the past decade.

What do you consider the most pressing gender issue today?

It's definitely equal rights and equal opportunity for women. As part of that, access to information is critical. There are four billion people still not connected to data and the Internet, and more of those are women than men. Connectivity is a very important driver of opportunity.

What advice would you give to girls and boys today?

Raise your hand if you're a girl in class; run for class president. If you're interested in it, be a leader. Don't let the world tell you girls can't lead. From the moment they're born, boys and girls are treated according to stereotypes. We tell little boys, "Don't cry like a girl." Not helpful. I'd add that we all need people who will encourage us. Here's an example: We help women form Lean In Circles and just hit 29,000 circles in over 150 countries. That shows the power of peers. We cannot just help ourselves take on leadership roles; we can help each other. There are men in these circles too-men who are really working hard toward equality.

PHOTO: MICHELE ASSELIN, CONTOUR BY GETTY IMAGES THIS INTERVIEW WAS EDITED FOR LENGTH AND CLARITY





The Gender

To a degree unimaginable a decade ago, the intensely personal subject of gender issue of the magazine, we look at cultural, social, biological, and political

NATIONAL GEOGRAPHIC • JANUARY 2017



Issue

identity has entered the public square. In this special aspects of gender. But first, we define our terms.

PHOTO: HENRY LEUTWYLER. CASTING: ADAM BROWNE

For a list of our models' identities, turn the page.

A PORTRAIT OF **GENDER TODAY**

To get a glimpse of what's been called the gender revolution, look no further than this group photograph. Through contacts with activist groups, National Geographic assembled 15 individuals representing a broad spectrum of gender identities and expressions. Their identifications below are stated in their own words.

1. Harry Charlesworth, 20, queer 2. Asianna Scott, 20, androgynous model 3. Memphis Murphy, 16, transgender female 4. Angelica Hicks, 23, straight female 5. Alex Bryson, 11, transgender male 6. Morgan Berro Francis, 30, bi-gender 7. Denzel Hutchinson, 19, heterosexual male 8. Eli, 12, trans male 9. Ariel Nicholson Murtagh, 15, transgender female 10. Lee, 16, transboy 11. Pidgeon Pagonis, 30, intersex nonbinary person 12. Shepard M. Verbas, 24, nonbinary genderqueer 13. Cherno Biko, 25, black/trans activist 14. Jules, 16, transboy 15. Alok Vaid-Menon, 25, nonbinary



REDEFINING GENDER

This glossary was prepared in consultation with Eli R. Green of the Center for Human Sexuality Studies at Pennsylvania's Widener University and Luca Maurer of the Center for Lesbian, Gay, Bisexual & Transgender Education, Outreach, and Services at New York's Ithaca College. They are co-authors of the book The Teaching Transgender Toolkit.

Agender: Describes a person who does not identify as having a gender identity that can be categorized as man or woman or who identifies as not having a gender identity.

Androgynous: A combination of masculine and feminine traits or a nontraditional gender expression.

Cisgender (pronounced sis-gender): A term to describe a person whose gender identity matches the biological sex they were assigned at birth. (It is sometimes abbreviated as "cis.")

Gender binary: The idea that gender is strictly an either-or option of male/man/ masculine or female/woman/feminine based on sex assigned at birth, rather than a continuum or spectrum of gender identities and expressions. The gender binary is considered to be limiting and problematic for those who do not fit neatly into the either-or categories.

Gender conforming: A person whose gender expression is consistent with cultural norms expected for that gender. According to these norms, boys and men are or should be masculine, and girls and women are or should be feminine. Not all cisgender people are gender conforming, and not all transgender people are gender nonconforming. (For

example, a transgender woman may have a very feminine gender expression.)

Gender dysphoria: The medical diagnosis for being transgender as defined by the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5). The inclusion of gender dysphoria as a diagnosis in DSM-5 is controversial in transgender communities because it implies that being transgender is a mental illness rather than a valid identity. But because a formal diagnosis is generally required in order to receive or provide treatment in the United States, it does enable access to medical care for some people who wouldn't ordinarily be eligible to receive it.

Gender expression: A person's outward gender presentation, usually comprising personal style, clothing, hairstyle, makeup, jewelry, vocal inflection, and body language. Gender expression is typically categorized as masculine, feminine, or androgynous.

All people express a gender. Gender expression can be congruent with a person's gender identity, or not.

Genderfluid: Someone whose gender identity or expression shifts between man/masculine and woman/ feminine or falls somewhere along this spectrum.

Gender identity: A person's deep-seated, internal sense of who they are as a gendered being; the gender with which they identify themselves.

Gender marker: The designation (male, female, or another) that appears on a person's official records, such as a birth certificate or driver's license. The gender marker on a transgender person's documents is their sex assigned at birth unless they legally change it, in parts of the world allowing that.

Gender nonconforming: A person whose gender expression is perceived as being inconsistent with cultural norms expected for that gender.



Specifically, boys or men are not "masculine enough" or are feminine, while girls or women are not "feminine enough" or are masculine. Not all transgender people are gender nonconforming, and not all gender-nonconforming people identify as transgender. Cisgender people may also be gender nonconforming. Gender nonconformity is often inaccurately confused with sexual orientation.

Genderqueer: Someone whose gender identity is neither man nor woman, is between or beyond genders, or is some combination of genders.

Intersex: A category that describes a person with a disorder of sexual development (DSD), a reproductive, genetic, genital, or hormonal configuration that results in a body that often can't be easily categorized as male or female. Intersex is frequently confused with transgender, but the two are completely distinct. A more familiar term, hermaphrodite, is considered outdated and offensive.

LGBTQ: An acronym used to refer to lesbian, gay, bisexual, transgender, queer, and/or questioning individuals and communities. LGBTQ is not a synonym for "nonheterosexual," since that incorrectly implies that transgender is a sexual orientation. Variants include LGBT and LGBQ.

Nonbinary: A spectrum of gender identities and expressions, often based on the rejection of the gender binary's assumption that gender is strictly an either-or option of male/man/masculine or female/woman/feminine based on sex assigned at birth. Terms include "agender," "bi-gender," "genderqueer," "genderfluid," and "pangender."

Pronouns: Affirming pronouns are the most respectful and accurate pronouns for a person as defined by that person. It's best to ask which pronouns a person uses. In addition to the familiar "he," "she," and "they," newly created nongendered pronouns include "zie" and "per."

Puberty suppression: A medical process that pauses the hormonal changes that activate puberty in young adolescents. The result is a purposeful delay of the development of secondary sexual characteristics (such as breast growth, testicular enlargement, facial hair, body fat redistribution, voice changes). Suppression allows more time to make decisions about hormonal interventions and can prevent the increased dysphoria that often accompanies puberty for transgender youth.

Queer: An umbrella term for a range of people who are not heterosexual and/or cisgender. It has been historically used as a slur; some have reclaimed it as affirming, while others still consider it derogatory.

Sexual orientation: A person's feelings of attraction toward other people. A person may be attracted to people of the same sex, of the opposite sex, of both sexes, or without reference to sex or gender. Some people do not experience sexual attraction and may

identify as asexual. Sexual orientation is about attraction to other people (external), while gender identity is a deepseated sense of self (internal).

Transgender: Sometimes abbreviated as "trans," an adjective used to describe a person whose gender identity does not match the biological sex they were assigned at birth. It can refer to a range of identities including transgender boys and men, people who identify as a boy or man but were assigned female at birth, and transgender girls and women, people who identify as a girl or woman but were assigned male at birth.

Transsexual: This is an older term that has been used to refer to a transgender person who has had hormonal or surgical interventions to change their body to be more aligned with their gender identity than with the sex that they were assigned at birth. While still used as an identity label by some, "transgender" has generally become the term of choice.

ILLUSTRATION: FELIX SOCKWELL

HELPING FAMILIES TALK ABOUT GENDER

When addressing gender and sexuality matters, where should families begin? This guidance is drawn from *HealthyChildren.org*, the American Academy of Pediatrics' parenting website.

Gender identity: Once young children learn to talk, most will declare a gender identity, boy or girl, that aligns with their biological sex. However, as some children grow, identity is not so clear-cut. Around two years old, children become conscious of the physical differences between boys and girls. By age four, most children have a stable sense of their gender identity. During this same time of life, children learn gender-role behavior—that is, doing stereotypical "things that boys do" or "things that girls do" when they choose toys, clothes, activities, friends.

What parents can do: All children need the opportunity to explore different gender roles and styles of play. Ensure your young child's environment reflects diversity in gender roles and opportunities for everyone.

When children's interests and abilities are different from what society expects, they're often subjected to discrimination and bullying. It is natural for parents to want their children to be accepted socially. But if children's strengths don't always conform to society's or your own expectations, it's important to help them fulfill their own unique potential rather than force them into the mold of current or traditional gender behavior.

For some young children, identifying as another gender may be temporary; for others it isn't. Some children who are gender nonconforming in early childhood grow up to become transgender adults (persistently identifying with a gender different from their assigned sex at birth), and others don't. The causes for this are likely both biological and social; there is no evidence of a link to parenting or experiencing childhood trauma.

There is no way to predict how children will identify later in life. This uncertainty is one of the hardest things about parenting a gender-nonconforming child. It is important for parents to make their home a place where their child feels safe, loved unconditionally, and accepted for who they are. Research suggests that gender is something we are born with; it can't be changed by any interventions.

Sexual orientation: While gender identity typically becomes clear in early childhood, sexual orientation—which refers to the person one falls in love with or is attracted to—becomes evident later. Research suggests that like gender identity, sexual orientation cannot be changed.

Parent and child alike experience anxieties as an adolescent enters and moves through puberty. Many



parents feel that by talking to their children about sex, they are sanctioning it, but the opposite is true: Adolescents who are the best informed about sexuality are the most likely to postpone sex. When talking about sexuality, parents should not shy away from discussing their values. They should openly explain their beliefs and their reasons for them to their child.

Many gender-nonconforming children grow up to identify as gay, lesbian, or bisexual; all are at risk for bullying and mental health problems. Gender and sexuality concerns spur a large share of teen suicide attempts.

What parents can do: Your most important role as a parent is to offer understanding, respect, and support to your child. A nonjudgmental approach will gain your child's trust and put you in a better position to help your child through difficult times.

When your child discloses an identity to you, respond in an affirming, supportive way. Understand that gender identity and sexual orientation cannot be changed, but the way people identify their gender identity or sexual orientation may change over time as they discover more about themselves.

Be on the lookout for signs of anxiety, insecurity, depression, and low self-esteem. Stand up for your child when your child is mistreated. Do not minimize the social pressure or bullying your child may be facing. Make it clear that slurs or jokes based on gender identity or sexual orientation are not tolerated.

Having a gender-nonconforming child can be stressful for parents and caregivers as they deal with uncertainty and navigate schools, extended families, sibling relationships, and the world around them. Among the organizations that support parents and families with gender-nonconforming children are: the Family Acceptance Project, familyproject.sfsu.edu; Gender Spectrum, genderspectrum.org; and PFLAG, pflag.org.

THE STUDY OF GENDER

The battle of the sexes: what science has to say



Women are more likely than men to accept climate change.

A 2010 analysis of Gallup's environmental survey data found that 64 percent of women, but only 56 percent of men, believe global warming is caused by human activity.

Lizard moms allot genes based on sex. To boost survival odds, female brown anoles mate with several males, then produce sons with sperm from larger males and daughters with sperm from smaller ones.

Men make gestures of friendship after conflict more often than women do. Who's a sore loser? After a game, men are more likely to offer competitors a handshake or back pat while women reconcile less often, according to Harvard researchers.

Though 50% of men and 48% of women play video games, 60% of Americans say they think of gaming as a male activity. — Pew Research Center survey, 2015

GIRLS, BOYS, AND GENDERED TOYS

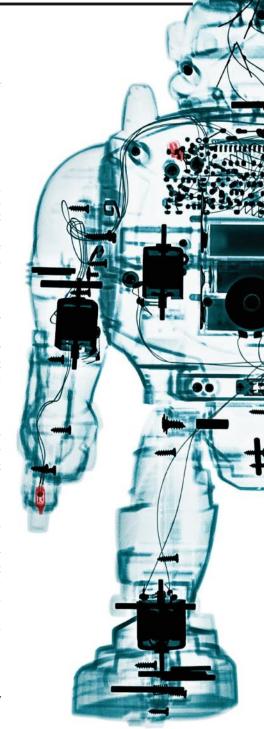
By Natasha Daly

For adults, play can be a break from life. For children, play *is* life, and toys are the tools of early learning.

That includes lessons about gender. Sociologist Elizabeth Sweet analyzed more than 7,300 toys in Sears catalogs from the past century. She found that early gender-based toy ads pushed traditional roles—the "little homemaker," the "young man of industry." At century's end, the roles were simply more fantastical: The homemaker was the princess; the carpenter, the action hero.

It wasn't that way all along. Aided by feminism's rise, Sweet says, the 1970s saw a drop-off in gendered toys: Only 2 percent of toys in the 1975 Sears catalog had gender-specific entries. But in the 1980s the pendulum began swinging the other way. Gender distinctions resurged in children's goods, especially clothing. Marketers may have seen an opportunity as ultrasound technology became widely available and parents could learn the sex of their babies before birth, says Sweet.

Targeting toys by gender has consequences. A 2015 study found boys are more likely than girls to play with toys that develop spatial intelligence—K'nex, puzzles, Lego bricks. Marketing can play a role, says developmental psychologist Jamie Jirout, the study's author. The girl-oriented product line Lego Friends focuses on playacting, not construction; some toy stores distinguish "girl" sets from conventional building sets. Girls play with puzzles that have fewer pieces. These distinctions may shape later life: "Spatial skills are a piece of the explanation for the underrepresentation of women in science and tech," says Jirout.



COLOR CODE

Fascinated by her daughter's early obsession with pink, one photographer explores two highly influential hues.



Dressed in pink from head to toe and surrounded by her many pink possessions, four-year-old Jeeyoo strikes a pose in her Seoul, South Korea, bedroom for a 2007 photograph. Also in Seoul, six-year-old Donghu stands amid his blue toys, clothes, books, and more for a portrait shot in 2008.



By Catherine Zuckerman Photographs by JeongMee Yoon

WHEN JEONGMEE YOON'S DAUGHTER was five, she wanted to wear only pink. Yoon, a South Korean photographer, knew that her child's preference was shared by legions of young girls. But she was so intrigued by that seemingly universal inclination that she began the "Pink and Blue Project," an ongoing photographic series of the two colors that are most frequently associated with girls and boys worldwide.

"I wanted to show the extent to which children and their parents, knowingly or unknowingly, are influenced by advertising and popular culture," Yoon says. "Blue has become a symbol of strength and masculinity, while pink symbolizes sweetness and femininity."

Linking gender with these colors is relatively recent, according to Jo Paoletti, a University of Maryland American studies professor. In the 19th century pastel colors were fashionable in most of Europe and the United States and were worn "to flatter the complexion, not denote gender," she says. In the early part of the 20th century, gender distinction in clothing hues began to emerge, she says—and by 1940 pink and blue took root as the intensely gender-associated colors they continue to be today.

The United States has contributed significantly to the "pink for girls and blue for boys" phenomenon, says Paoletti. It's been fueled by the pervasive color palettes of Barbie, superhero movies, and other staples of American childhood, she says. And it has had the same kind of cultural staying power as "traditional ideas about sex, gender, and sexuality."

Since Yoon began her "Pink and Blue Project" in 2005, she has observed that children's color tastes often shift as they age, typically around third or fourth grade. For example, when Yoon photographed Maia (right) at age eight in her home in Hempstead, New York, the girl was beginning to gravitate away from pink and toward other colors, including purple.

NATIONAL GEOGRAPHIC • JANUARY 2017





'I WANTED TO SHOW THE EXTENT TO WHICH CHILDREN ARE INFLUENCED BY POPULAR CULTURE.'

JeongMee Yoon, photographer



Little Jiwon – who was four years old when this picture was taken in 2008 – blends into the sea of pink belongings at her home in Goyang, South Korea. Ethan, age five, sports a Superman cape for this 2006 photograph in his blue-filled bedroom in Queens, New York.



Gallup interviewed more than 148,000 people from 140 countries about their quality of life.

Employed full or part time World average, 2015

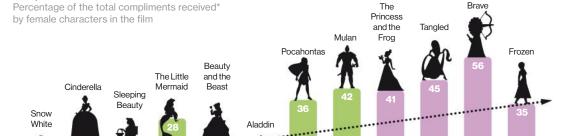
Feel safe walking alone at night in the city or area where they live

WHO'S THE FAIREST?

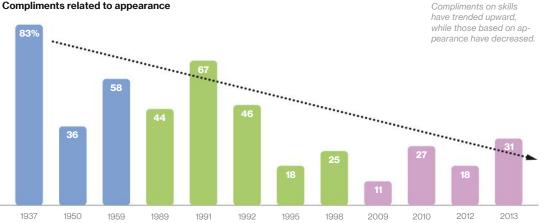
By Kelsey Nowakowski

In classic Disney animated films, a female character receives seven times the praise for her appearance as for her skills and actions. When linguists Carmen Fought of Pitzer College and Karen Eisenhauer of North Carolina State University analyzed the dialogue from 12 Disney movies, they found that in early films 60 percent of compliments to females related to looks and just 9 percent to abilities. Such patterns send children "a message about what it means to be a girl or boy," Fought says—suggesting to girls that "their value is based on their appearance." In newer films Disney has flipped the script. The analysis found that in movies such as Brave, girls get more nods for courage and abilities than for beauty.

Compliments related to skills



Compliments related to appearance



Classic Era

These groundbreaking films establish Disney's mastery in bringing fairy tales to the big screen.

Renaissance

After a long hiatus, the company returns to the genre with larger casts and more musical numbers. **New Age**

Disney expands more into computergenerated imagery films, capitalizing on their popularity and production advantages.

^{*}THE REMAINING PERCENTAGES TO 100 ARE COMPLIMENTS ON POSSESSIONS, PERSONALITY, AND OTHER ATTRIBUTES.

Despite reporting differences in employment and perceived safety, women responded slightly higher than men when asked to rate their lives on a 0-to-10 scale.











A girl wears a Sleeping Beauty costume for the photo project "Dress Rehearsal."

Is dressing up as princesses 'a normal girlie-girl phase,' or does it 'encourage girls to define themselves based on appearance and passivity'?

A question photographer Blake Fitch asks with her images of girls wearing princess attire

THE STUDY OF GENDER

The battle of the sexes: what science has to say



Across cultures, people see odd numbers as masculine and even numbers as feminine.

A study in the Journal of Experimental Psychology found gender is assigned to an item based on the number next to it. The association of numbers with gender has roots in ancient Greek and Chinese philosophies.

Boys and girls may get different breast milk, depending on family finances.

The American Journal of Physical Anthropology reported that wealthier mothers produce richer breast milk for their sons and may nurse boys more frequently, while poorer mothers do the same for their daughters.



ONE PART HE, ONE PART SHE

By Patricia Edmonds

The difference in appearance between a species' males and females is called sexual dimorphism. The term implies that there's a bisecting line between sexes, a clear divide. But in the animal kingdom, a lot of creatures straddle it.

The natural world is replete with hermaphrodites, animals that may outwardly appear male or female but have the reproductive organs of both. Their less common cousins are gynandromorphs, animals that are a mosaic of male and female traits—say, the size and coloring of one with the genitalia of the other.

Rarer yet is the bilateral gynandromorph (above), an animal that's half him and half her, split at the midline. The phenomenon has been documented in birds, crustaceans—and butterflies.

Evolutionary biologist Josh Jahner explains "what most scientists think

happens" to form these outliers: Butterflies' sex chromosomes are the reverse of humans'—males have two alike (ZZ), females two different (ZW). A female's egg sometimes has two nuclei, a Z and a W. When they're "double fertilized" by a male's Z sperm, Jahner says, the resulting embryo is half each sex.

How rare are these specimens? In a 1980s study, a research team that raised nearly 30,000 butterflies found only five bilateral gynandromorphs among them. Colleagues at the University of Nevada, Reno have been "really excited," Jahner says, to find four since 2011.

Jahner says gynandromorphs in his lab have tried but failed to lay eggs, likely because of an irregularity in their reproductive systems. So though their breed sports striking fusions of color, it's a beauty they apparently can't pass on.

PAPILIO GLAUCUS

HABITAT/RANGE

Woods, parks, and suburbs in the eastern half of the United States and parts of Canada

OTHER FACTS

The yellow side is male and the dark side is female on this bilateral gynandromorph eastern tiger swallowtail (shown about 1.5 times life-size). The term combines the Greek *gyn*, or female, and *andro*, or male.

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FILMS



SINCE 1888



WHERE IN THE WORLD ARE WOMEN AND MEN MOST-AND LEAST-EQUAL?

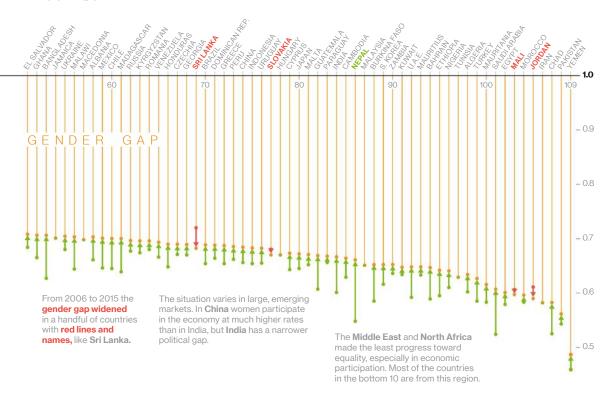
By Kelsey Nowakowski

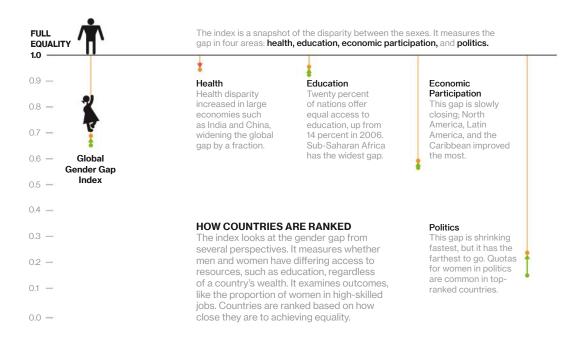
Since 2006, the World Economic Forum's Global Gender Gap Report has tracked progress toward ending gender inequality by measuring women's and men's educational attainment, health and survival, economic participation, and political empowerment. A decade of data shows that equality is closest to being achieved in health and education—10 countries have already reached that. But women still lag behind economically and politically: Not a single country has reached parity in those arenas.

In some countries, particularly in the Middle East and North Africa, shrinking the economic gap means lowering the barriers that keep women from working outside the home. In others, like the United States, it entails getting more women into leadership roles—and increasing their pay. "What you can measure," says the forum's Saadia Zahidi, "you can address."

Progress can happen at any stage. Though Saudi Arabia has a notably large gender gap, it is one of the countries that have made the most relative progress toward improving women's economic participation. Over the past 20 years, the number of women there graduating from college has risen significantly, and a recent government initiative encourages female employment.

A country's income level isn't always a predictor of equality. Some rich places, such as Japan, South Korea, and Kuwait, rank in the bottom third of the index overall, while the Philippines and Nicaragua are in the top 15.





I Am

CHILDREN ACROSS THE WORLD TELL US

Nine

HOW GENDER AFFECTS THEIR LIVES.

Years

BY EVE CONANT | PHOTOGRAPHS BY ROBIN HAMMOND

0 1 d



If you want candid answers about how gender shapes destiny, ask the world's nine-year-olds.

At nine, a girl in Kenya already knows that her parents will marry her off for a dowry, to a man who may beat her. At nine, a boy in India already knows he'll be pressured by male pals to sexually harass women in the street.

At nine, youngsters from China to Canada and Kenya to Brazil describe big dreams for future careers—but the boys don't see their gender as an impediment, while the girls, all too frequently, do.

On the cusp of change, in that last anteroom of childhood before adolescence, nine-year-olds don't think in terms of demographic statistics or global averages. But when they talk about their lives, it's clear: Children at this age are unquestionably taking account of their own possibilities—and the limits gender places on them.

To get kids' perspectives, *National Geographic* fanned out into 80 homes over four continents. From the slums of Rio de Janeiro to the highrises of Beijing, we posed the same questions to a diverse cast of nine-year-olds. Being nine, they didn't mince their words.

Many readily admitted that it can be hard—frustrating, confusing, lonely—to fit into the communities they call home and the roles they're expected to play. Others are thriving as they break down gender barriers.

What's the best thing about being a girl?

Avery Jackson swipes a rainbow-streaked wisp of hair from her eyes and considers the question. "Everything about being a girl is good!"

What's the worst thing about being a girl?

"How boys always say, 'That stuff isn't girl stuff—it's boy stuff.' Like when I first did parkour," an obstacle-course sport.

Avery spent the first four years of her life as a boy, and was miserable; she still smarts recalling how she lost her preschool friends because "their moms did not like me." Living since 2012 as an openly transgender girl, the Kansas City native is

now at ground zero in the evolving conversation about gender roles and rights.

THE GROWN-UPS TALK ABOUT IT—but kids like Avery want to have their say too. "Nine-year-olds can be impressively articulate and wise," says Theresa Betancourt, associate professor of child health and human rights at Harvard University. They face increased peer pressure and responsibility, she says, but not the conformity and self-censorship that come with adolescence.

When asked the best-and-worst-things questions, Sunny Bhope—who speaks as his mother cooks rice over a charcoal fire, sending smoke through his small home near Mumbai, India—says the worst thing about being a boy is that he's expected to join in "Eve-teasing," his society's euphemism for sexually harassing women in public.

For Yiqi Wang in Beijing, the best thing about being a girl is "we're more calm and reliable than boys." And for Juliana Meirelles Fleury in Rio, it's that "we can go in the elevator first."

How might your life be different if you were a girl instead of a boy (or a boy instead of a girl)?

Jerusalem's Lev Hershberg says that if he were a girl, he "wouldn't like computers." Fellow Israeli Shimon Perel says if he were a girl, he could play with a jump rope.

If they were boys, Pooja Pawara from outside Mumbai would ride a scooter, while Yan Zhu from China's Yaqueshui village would swim in a river that her grandmother insists is too cold for girls. Because she's not a boy, Luandra Montovani isn't allowed to play in her Rio favela's streets, where she says the dangers include "violence and stray bullets."

Eriah Big Crow, an Oglala Lakota who lives on South Dakota's Pine Ridge Reservation, says in a near whisper that there's nothing that she can't do, because boys and girls are "exactly the same."

Eriah's claim might sound too optimistic to Anju Malhotra, UNICEF's principal adviser on gender and development. With respect to gender inequality, she says, "we're not seeing an expiration date for it yet"—but there is progress.

For global citizens under age 10, recent decades have seen more gender equity in areas such as primary school education access, says UNICEF's Claudia Cappa. But statisticians can count only "those who were able to survive," she notes, and "sex-selective abortions of female fetuses" persist in some countries.

Past the age-10 mark, however, the closing gap is replaced by a wide gulf. "Things change completely in adolescence," Cappa says, with "striking" gender gaps in access to secondary schools, for example, or exposure to early marriage and violence. "This is when you stop being a child," she says. "You become a female or a male."

What do you want to be when you grow up?

Lokamu Lopulmoe, a Turkana girl living in rural Kenya, says that when she grows up, her parents will "be given my dowry, and even if the man goes and beats me up eventually, my parents will have the dowry to console them." Some 300 miles away, in a gated community in Nairobi, Chanelle Wangari Mwangi sits in her trophy-filled room and imagines a much different future: She wants to be a pro golfer and "help the needy."

In Ottawa, Canada, William Kay confidently plans a future as "a banker or a computer, like, genius guy." Beijing's Yunshu Sang wants to be a police officer, "but most police are men," she says, "so I can't." In Selinsgrove, Pennsylvania, budding journalist Hilde Lysiak rides her neighborhood on a silver and pink bike, hunting for news—all the while suspecting that a boy reporter might "get more information from the police."

What is something that makes you sad?

For Tomee War Bonnet, an Oglala Lakota, it's "seeing people kill themselves." What plants such thoughts in a nine-year-old's head? Her reservation's history of suicides, by kids as young as 12.

Mumbai's Rania Singla feels sad when her little brother hits her. Lamia al Najjar, who lives in a makeshift home in the Gaza Strip, says, "I feel sadness when I see [how] our home is destroyed"—a result of fighting in the area in 2014.

What makes you most happy? High on this list: family, God, food, and soccer.

And friends. Other answers give a flavor of kids' individual lives. One youngster loves powwows, another Easter eggs. For Amber Dubue in Ottawa, happiness is "room to run." For Maria Eduarda Cardoso Raimundo in Rio, whose parents are separated, happiness is "Mom and Dad by my side, hugging me and giving me advice."

Around age nine, Bede Sheppard says, children are "developing important feelings of empathy, fairness, and right from wrong." As deputy director in the children's rights division of Human Rights Watch, Sheppard has worked with child laborers, refugees, and other youngsters in dire circumstances. He says the most oppressed and disadvantaged can also be the most empathetic and selfless. Turkana herder Lopeyok Kagete dreams of giving away money and "slaughtering [livestock] for people to eat." Though Sunny Bhope and his family live in a single concrete room, the Indian boy aspires to "provide rooms to the homeless."

WHEN NINE-YEAR-OLD GIRLS and boys discuss themselves and each other, points of consensus emerge. Boys get in trouble more often than girls, both sides agree, and girls have to spend a lot of time on their hair. Such things are part of their reality—but much weightier matters are too.

If you could change something in your life or in the world, what would it be?

Rio's Clara Fraga would make thieves "good, so that they wouldn't steal." Abby Haas would free her South Dakota reservation of the "bad guys." Kieran Manuel Rosselli, of Ottawa, says he would "destroy terrorists." The grim content of some answers, and the grave tones in which they're delivered, give the impression of a miniature adult speaking, not a child. If she could, says China's Fang Wang, the thing she would change is "what it's like when I'm lonely."

The aspiration mentioned most often, across lines of geography and gender, was summed up by Avery Jackson. If the world were hers to change, she said, there would be "no bullying. Because that's just bad." \square

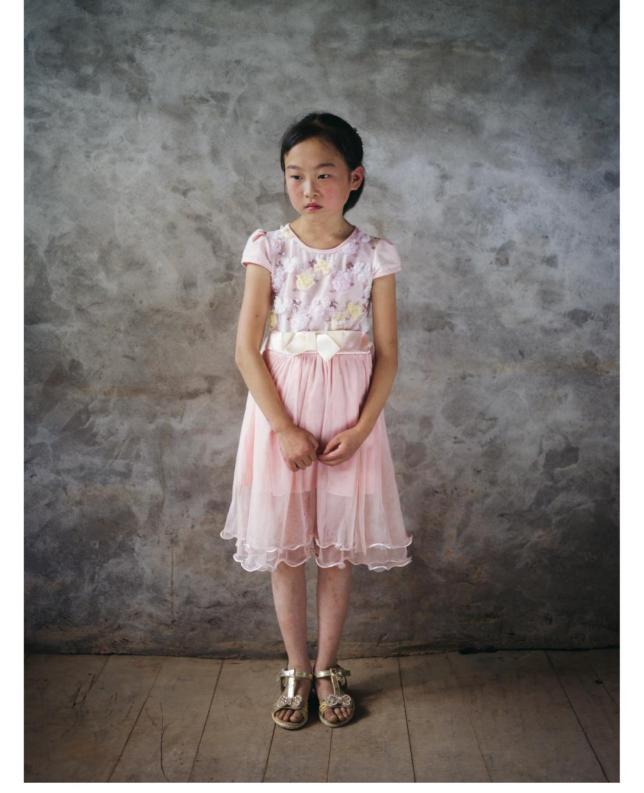
Between them, *Geographic* staff writer **Eve Conant** and photographer **Robin Hammond** worked with 80 children on four continents to create this story.





SUNNY BHOPE MAHARASHTRA, INDIA

"The worst thing about being a boy is that they steal stuff and do Eve-teasing [harassing females]." $\,$

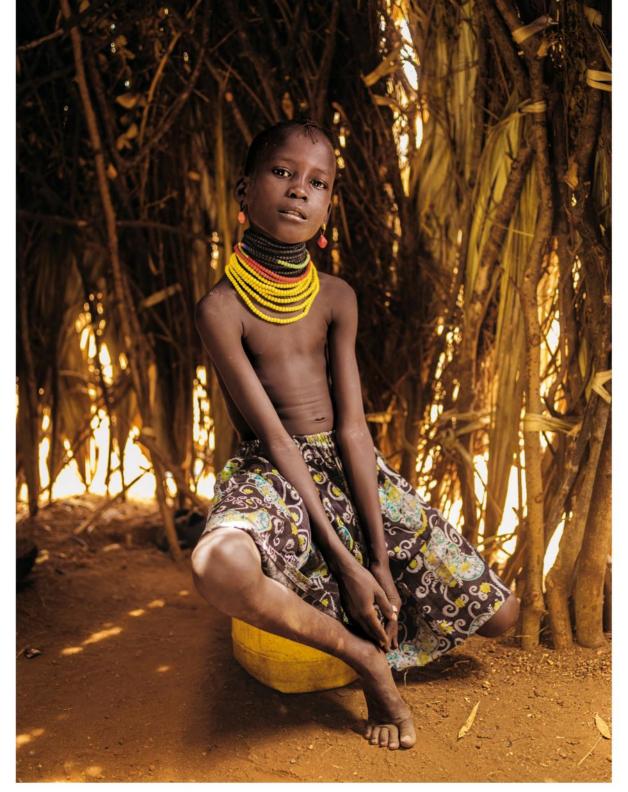




FANG WANG YAQUESHUI, CHINA

"Sometimes I secretly help my older brother [on the farm]. Mom whacks me when she finds out. She says that girls who do these things will grow calluses on their hands; then they become ugly."

NGM MAPS 35





NAWAR KAGETE KAPUTIR, KENYA

"You are seduced wherever you go. You are chased by men. If you go to fetch water, you are chased; you go to collect firewood, you are chased."





MIKAYLA MCDONALD OTTAWA, CANADA

"There isn't anything I can't do because I'm a girl. Everyone is equal. There is always the same amount of opportunities for everyone, but in the olden days everyone wasn't equal."



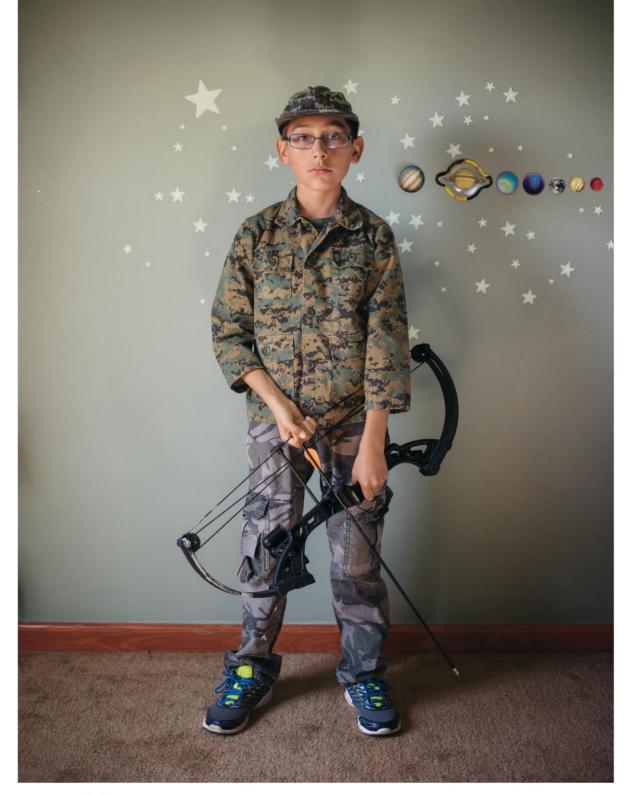






MARIA EDUARDA CARDOSO RAIMUNDO RIO DE JANEIRO, BRAZIL

"I like to be a girl because girls take better care of themselves than boys." $\,$





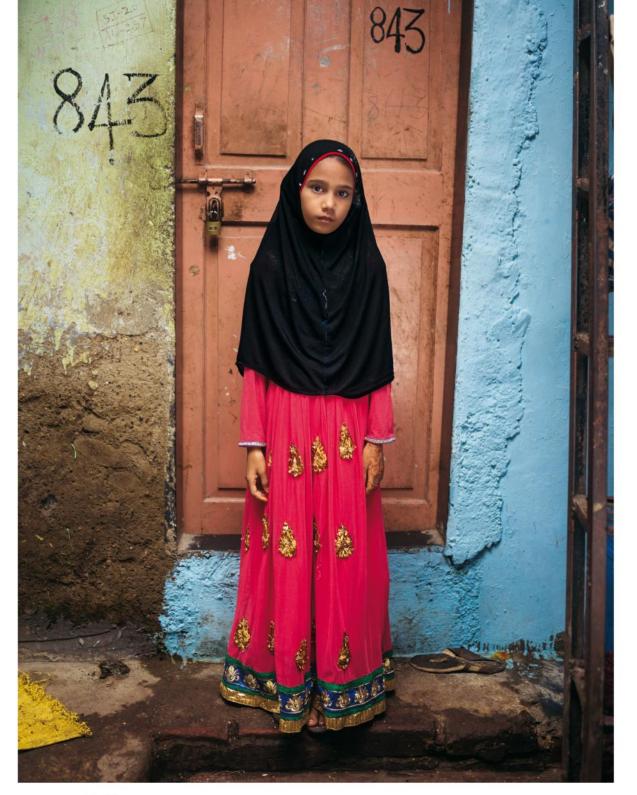
RILEY RICHARDS

PINE RIDGE RESERVATION, SOUTH DAKOTA

"When I grow up, I want to be in the Navy SEALs to protect my country, because other bad people have killed my people."









ALFIA ANSARI MUMBAI, INDIA

"We won't get education in school, but boys will be educated, and therefore they can travel anywhere, but girls can't."





DVIR BERMAN GIVAT ZEEV (ISRAELI SETTLEMENT), WEST BANK

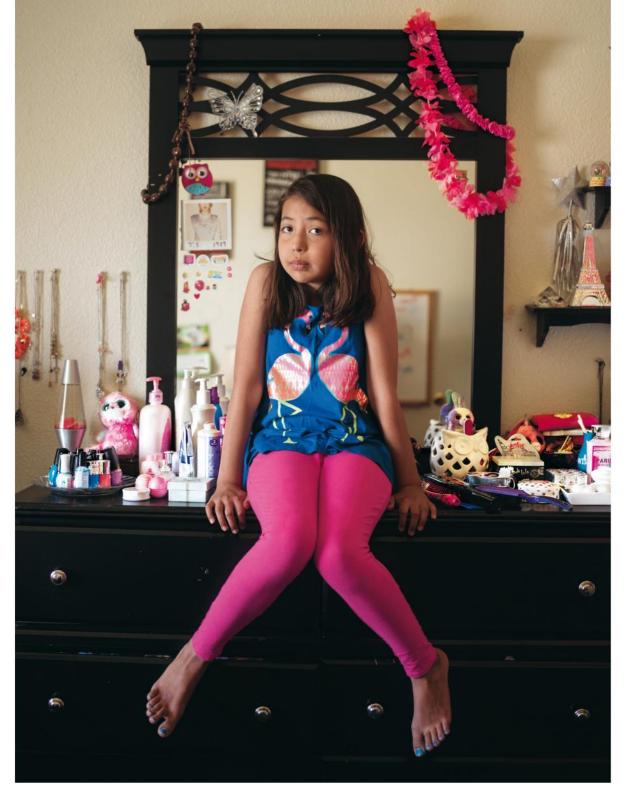
"Being a boy, you're stronger, and you can lift things like refrigerators... As a girl, you have to comb your hair and put on clothes and make sure you're modest and everything."





IBRAHIM AL NAJJAR KHAN YUNIS, GAZA STRIP

"Boys play with each other. And girls play with each other. They don't mix with each other. They play something different from what we play, and we play different from them."





TOMEE WAR BONNET
PINE RIDGE RESERVATION, SOUTH DAKOTA

"The worst thing about being a girl is that you just can't do things that boys can do; like, it kind of bothers me how there was not one girl president."





Rethinking 11 Clear Page 12 Cl

Freed from the binary of boy and girl, gender identity is a shifting landscape. Can science help us navigate?

When Massachusetts twins Caleb (left) and Emmie (right) Smith were born in 1998, it was hard to tell them apart. Today Emmie says, "When we were 12, I didn't feel like a boy, but I didn't know it was possible to be a girl." At 17 Emmie came out as transgender, and recently she underwent gender-confirmation surgery. She plays down its significance: "I was no less of a woman before it, and I'm no more of one today."

She has always felt more boyish than girlish.

From an early age, E, as she prefers to be called for this story, hated wearing dresses, liked basketball, skateboarding, video games. When we met in May in New York City at an end-of-the-year show for her high school speech team, E was wearing a tailored Brooks Brothers suit and a bow tie from her vast collection. With supershort red hair, a creamy complexion, and delicate features, the 14-year-old looked like a formally dressed, earthbound Peter Pan.

Later that evening E searched for the right label for her gender identity. "Transgender" didn't quite fit, she told me. For one thing she was still using her birth name and still preferred being referred to as "she." And while other trans kids often talk about how they've always known they were born in the "wrong" body, she said, "I just think I need to make alterations in the body I have, to make it feel like the body I need it to be." By which she meant a body that doesn't menstruate and has no breasts, with more defined facial contours and "a ginger beard." Does that make E a trans guy? A girl who is, as she put it, "insanely androgynous"? Or just someone who rejects the trappings of traditional gender roles altogether?

You've probably heard a lot of stories like E's recently. But that's the whole point: She's questioning her gender identity, rather than just accepting her hobbies and wardrobe choices as those of a tomboy, because we're talking so much about transgender issues these days. These conversations have led to better head counts of transgender Americans, with a doubling, in just a decade, of adults officially tallied as transgender in national surveys; an increase in the number of people who are gender nonconforming, a broad category that didn't even have a name a generation ago; a rise in the number of elementary school–age children questioning what gender

they are; and a growing awareness of the extremely high risk for all of these people to be bullied, to be sexually assaulted, or to attempt suicide.

The conversation continues, with evolving notions about what it means to be a woman or a man and the meanings of transgender, cisgender, gender nonconforming, genderqueer, agender, or any of the more than 50 terms Facebook offers users for their profiles. At the same time, scientists are uncovering new complexities in the biological understanding of sex.

MANY OF US learned in high school biology that sex chromosomes determine a baby's sex, full stop: XX means it's a girl; XY means it's a boy. But on occasion, XX and XY don't tell the whole story.

Today we know that the various elements of what we consider "male" and "female" don't always line up neatly, with all the XXs-complete with ovaries, vagina, estrogen, female gender identity, and feminine behavior-on one side and all the XYs-testes, penis, testosterone, male gender identity, and masculine behavior—on the other. It's possible to be XX and mostly male in terms of anatomy, physiology, and psychology, just as it's possible to be XY and mostly female.

Each embryo starts out with a pair of primitive organs, the proto-gonads, that develop into male or female gonads at about six to eight weeks. Sex differentiation is usually set in motion by a gene on the Y chromosome, the SRY gene, that makes the proto-gonads turn into testes. The testes then secrete testosterone and other male hormones (collectively called androgens), and the fetus develops a prostate, scrotum, and penis. Without the SRY gene, the proto-gonads become ovaries that secrete estrogen, and the fetus develops female anatomy (uterus, vagina, and clitoris).

But the SRY gene's function isn't always straightforward. The gene might be missing or dysfunctional, leading to an XY embryo that fails to develop male anatomy and is identified at birth as a girl. Or it might show up on the X chromosome, leading to an XX embryo that does develop male anatomy and is identified at birth as a bov.

Genetic variations can occur that are unrelated to the SRY gene, such as complete androgen insensitivity syndrome (CAIS), in which an XY embryo's cells respond minimally, if at all, to the signals of male hormones. Even though the protogonads become testes and the fetus produces androgens, male genitals don't develop. The baby looks female, with a clitoris and vagina, and in most cases will grow up feeling herself to be a girl.

Which is this baby, then? Is she the girl she believes herself to be? Or, because of her XY chromosomes—not to mention the testes in her abdomen—is she "really" male?

Georgiann Davis, 35, was born with CAIS but didn't know about it until she stumbled upon that information in her medical records when she was nearly 20. No one had ever mentioned her XY status, even when doctors identified it when she was 13 and sent her for surgery at 17 to remove her undescended testes. Rather than reveal what the operation really was for, her parents agreed that the doctors would invent imaginary ovaries that were precancerous and had to be removed.

In other words, they chose to tell their daughter a lie about being at risk for cancer rather than the truth about being intersex—with reproductive anatomy and genetics that didn't fit the strict definitions of female and male.

"Was having an intersex trait that horrible?" wrote Davis, now a sociologist at the University of Nevada, Las Vegas, in Contesting Intersex: The Dubious Diagnosis. "I remember thinking I must be a real freak if even my parents hadn't been able to tell me the truth."

Another intersex trait occurs in an isolated region of the Dominican Republic; it is sometimes referred to disparagingly as guevedoce-"penis at 12." It was first formally studied in the 1970s by Julianne Imperato-McGinley, an endocrinologist from the Weill Cornell Medical College in





Wearing a suit to the eighth-grade prom was an early step on Ray Craig's journey toward being a "trans guy," although he decided to wait until after graduating from his middle school in New York State to go public. Now everyone calls him by male pronouns. Ray's father wasn't surprised to learn Ray identified as a boy, but "I wasn't sure if it would be a six-week phase or a four-year phase or a permanent thing." Next step: thinking about hormone blockers that suppress puberty.





Oti, nine, was assigned male at birth but never felt that way. When she learned to speak, she didn't say, "I feel like a girl," but rather "I am a girl." Oti brought her parents and three older siblings into the transgender activist community. "It's been so great," her father, David, says. "We've met incredible people who've gone through an incredible amount. She opened me. I'm her dad, but she is a leader for me."

Carlos, 12, holds a photo of himself as a girl. He is one of a small group of children born in the Dominican Republic with an enzyme deficiency. Their genitalia appear female at birth – then, with a surge of testosterone at puberty, they develop male genitals and mature into men. His uncle simply says Carlos "found his own rhythm."

New York, who had heard about a cohort of these children in the village of Las Salinas. Imperato-McGinley knew that ordinarily, at around eight weeks gestational age, an enzyme in male embryos converts testosterone into the potent hormone DHT. When DHT is present, the embryonic structure called a tubercle grows into a penis; when it's absent, the tubercle becomes a clitoris. Embryos with this condition, Imperato-McGinley revealed, lack the enzyme that converts testosterone to DHT, so they are born with genitals that appear female. They are raised as girls. Some think of themselves as typical girls; others sense that something is different, though they're not sure what.

But the second phase of masculinization, which happens at puberty, requires no DHT, only a high level of testosterone, which these children produce at normal levels. They have a surge of it at about age 12, just as most boys do, and experience the changes that will turn them into men (although they're generally infertile): Their voices deepen, muscles develop, facial and body hair appear. And in their case, what had at first seemed to be a clitoris grows into a penis.

When Imperato-McGinley first went to the Dominican Republic, she told me, newly sprouted males were suspect and had to prove themselves more emphatically than other boys did, with impromptu rituals involving blades, before they were accepted as real men. Today these children are generally identified at birth, since parents have learned to look more carefully at newborns' genitals. But they are often raised as girls anyway.

GENDER IS AN AMALGAMATION of several elements: chromosomes (those X's and Y's), anatomy (internal sex organs and external genitals), hormones (relative levels of testosterone and estrogen), psychology (self-defined gender identity), and culture (socially defined gender behaviors). And sometimes people who are born with the chromosomes and genitals of one sex realize that they are transgender, meaning they have

an internal gender identity that aligns with the opposite sex—or even, occasionally, with neither gender or with no gender at all.

As transgender issues become the fare of daily news—Caitlyn Jenner's announcement that she is a trans woman, legislators across the United States arguing about who gets to use which bathroom—scientists are making their own strides, applying a variety of perspectives to investigate what being transgender is all about.

In terms of biology, some scientists think it might be traced to the syncopated pacing of fetal development. "Sexual differentiation of the genitals takes place in the first two months of pregnancy," wrote Dick Swaab, a researcher at the Netherlands Institute for Neuroscience in Amsterdam, "and sexual differentiation of the brain starts during the second half of pregnancy." Genitals and brains are thus subjected to different environments of "hormones, nutrients, medication, and other chemical substances," several weeks apart in the womb, that affect sexual differentiation.

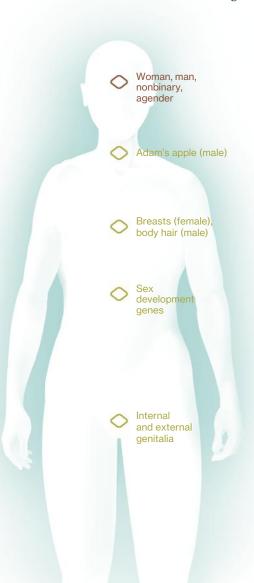
This doesn't mean there's such a thing as a "male" or "female" brain, exactly. But at least a few brain characteristics, such as density of the gray matter or size of the hypothalamus, do tend to differ between genders. It turns out transgender people's brains may more closely resemble brains of their self-identified gender than those of the gender assigned at birth. In one study, for example, Swaab and his colleagues found that in one region of the brain, transgender women, like other women, have fewer cells associated with the regulator hormone somatostatin than men. In another study scientists from Spain conducted brain scans on transgender men and found that their white matter was neither typically male nor typically female, but somewhere in between.

These studies have several problems. They are often small, involving as few as half a dozen transgender individuals. And they sometimes include people who already have started taking



Identity, Sex, and Expression

People are almost always designated male or female at birth based on genitalia. Gender includes components such as gender identity and expression, but not sexual orientation. Some cultures recognize genders that are neither man nor woman. For a glossary of terms, see the Explore section in the front of the issue.



GENDER IDENTITY

Usually established by age three, this is a deeply felt sense of being a man, a woman, or a gender that is both, fluid, or neither. Cisgender people identify with the sex assigned at birth; transgender people don't.

WOMAN -NONBINARY MAN Identification Identification with Identification both men and women or a with girls with boys gender that is neither or women or men

BIOLOGICAL SEX

Sex determination exists on a spectrum, with genitals, chromosomes, gonads, and hormones all playing a role. Most fit into the male or female category, but about one in a hundred may fall in between.

FEMALE -	INTERSEX	MALE
XX chromosomes, ovaries, female genitals, and female secondary sexual characteristics	Any mix of male and female chromosomes, testicular and ovarian tissue, genitals, other sexual characteristics	XY chromo- somes, testes, male genitals, male second- ary sexual characteristics

GENDER EXPRESSION

People express gender through clothing, behavior, language, and other outward signs. Whether these attributes are labeled masculine or feminine varies among cultures.

FEMININE A		
associates with fe	A combination f masculine and minine traits or a traditional gender expression	Presentation in ways a culture associates with being a man

BYAN WILLIAMS AND JOHN TOMANIO, NGM STAFF, ART: MATTHEW TWOMBLY SOURCES: ROBERT GAROFALO, LURIE CHILDREN'S HOSPITAL: ERIC VILAIN, UCLA hormones to transition to the opposite gender, meaning that observed brain differences might be the result of, rather than the explanation for, a subject's transgender identity.

Still, one finding in transgender research has been robust: a connection between gender non-conformity and autism spectrum disorder (ASD). According to John Strang, a pediatric neuropsychologist with the Center for Autism Spectrum Disorders and the Gender and Sexuality Development Program at Children's National Health System in Washington, D.C., children and adolescents on the autism spectrum are seven times more likely than other young people to be gender nonconforming. And, conversely, children and adolescents at gender clinics are six to 15 times more likely than other young people to have ASD.

Emily Brooks, 27, has autism and labels herself nonbinary, though she has kept her birth name. A slender person with a half-shaved head, turquoise streaks in her blond hair, and cute hipster glasses, Brooks recently finished a master's degree at the City University of New York in disability studies and hopes eventually to create safer spaces for people who are gender nonconforming (which she defines quite broadly) and also have autism. Such people are battling both "ableism" and "transphobia," she told me over soft drinks at a bar in midtown Manhattan. "And you can't assume that a place that's going to be respectful of one identity will be respectful of the other."

As I sat with Brooks, talking about gender and autism, the bartender came over. "What else can I get you ladies?" he asked. Brooks bristled at being called a lady—evidence that her own search for a safe space is complicated not only by her autism but also by her rejection of the gender binary altogether.

THERE'S SOMETHING TO BE SAID for the binary. The vast majority of people—more than 99 percent, it seems safe to say—put themselves at one end of the gender spectrum or the other. Being

part of the gender binary simplifies the either-or of daily life: clothes shopping, sports teams, passports, the way a bartender asks for your order.

But people today—especially young people—are questioning not just the gender they were assigned at birth but also the gender binary itself. "I don't relate to what people would say defines a girl or a boy," Miley Cyrus told *Out* magazine in 2015, when she was 22, "and I think that's what I had to understand: Being a girl isn't what I hate; it's the box that I get put into."

Members of Cyrus's generation are more likely than their parents to think of gender as nonbinary. A recent survey of a thousand millennials ages 18 to 34 found that half of them think "gender is a spectrum, and some people fall outside conventional categories." And a healthy subset of that half would consider themselves to be nonbinary, according to the Human Rights Campaign. In 2012 the advocacy group polled 10,000 lesbian, gay, bisexual, and transgender teens ages 13 to 17 and found that 6 percent categorized themselves as "genderfluid," "androgynous," or some other term outside the binary box.

Young people trying to pinpoint their own place on the spectrum often choose a pronoun they'd like others to use when referring to them. Even if they don't feel precisely like a girl or a boy, they might still use "he" or "she," as Emily Brooks does. But many opt instead for a gender-neutral pronoun like "they" or an invented one like "zie."

Charlie Spiegel, 17, tried using "they" for a while, but now prefers "he." Charlie was assigned female at birth. But when he went through puberty, Charlie told me by phone from his home in Oakland, California, being called a girl started to feel unsettling. "You know how sometimes you get a pair of shoes online," he explained, "and it arrives and the label says it should be the right size, and you're trying it on and it's clearly not the right size?" That's how gender felt to Charlie: The girl label was supposed to fit, but it didn't.

One day during freshman year, Charlie





A recent survey of a thousand millennials found that half of them think gender is a spectrum.



In Samoa, best friends 12-year-old Sandy (at left) and 10-year-old Mandy (in white T-shirt) do an impromptu dance with their friends and cousins. They identify as fa'afafine, a gender other than boy or girl. Fa'afafine children generally take on girls' roles in play and family. As adults they remain anatomically male with feminine appearance and mannerisms. They help with household chores and childcare and choose men for sexual partners.



wandered into the school library and picked up IAm J by Cris Beam, a novel about a transgender boy. "Yep, that sounds like me," Charlie thought as he read it. The revelation was terrifying but also clarifying, a way to start making those metaphoric mail-order shoes less uncomfortable.

A better fitting gender identity didn't come along right away, though. Charlie—a member of the Youth Council at Gender Spectrum, a national support and advocacy group for transgender and nonbinary teens—went through a process of trial and error similar to that described by other gender-questioning teens. First he tried "butch lesbian," then "genderfluid," before settling on his current identity, "nonbinary trans guy." It might sound almost like an oxymoron—aren't "nonbinary" and "guy" mutually exclusive?—but the combination feels right to Charlie. He was heading off to college a few months after our conversation, getting ready to start taking testosterone.

IF MORE YOUNG PEOPLE are coming out as nonbinary, that's partly because the new awareness of the nonbinary option offers "a language to name the source of their experience," therapist Jean Malpas said when we met last spring at the Manhattan offices of the Ackerman Institute for the Family, where he directs the Gender and Family Project.

But as more children say they're nonbinary—or, as Malpas prefers, "gender expansive"—parents face new challenges. Take E, for example, who was still using female pronouns when we met in May, while struggling over where exactly to place herself on the gender spectrum. Her mother, Jane, was struggling too, trying to make it safe for E to be neither typically feminine nor typically masculine.

The speech team that had performed in New York City the night E and I met was getting ready to travel to a national competition in California, and Jane showed me the email she'd sent the coach to pave the way. E might be seen by

others as male, Jane wrote, now that her hair was so short and her clothing so androgynous. She would probably use "both male and female bathrooms depending on what situation feels safest," Jane informed the coach, and "will need to tell you when she is going to the restroom and what gender she plans on using." I asked Jane, the night we met, where she'd place her daughter on the gender spectrum. "I think she wants to fall into a neutral space," she replied.

A "neutral space" is a hard thing for a teenager to carve out: Biology has a habit of declaring itself eventually. Sometimes, though, biology can be put on hold for a while with puberty-blocking drugs that can buy time for gender-questioning children. If the child reaches age 16 and decides he or she is not transgender after all, the effects of puberty suppression are thought to be reversible: The child stops taking the blockers and matures in the birth sex. But for children who do want to transition at 16, having been on blockers might make it easier. They can start taking cross-sex hormones and go through puberty in the preferred gender-without having developed the secondary sex characteristics, such as breasts, body hair, or deep voices, that can be difficult to undo.

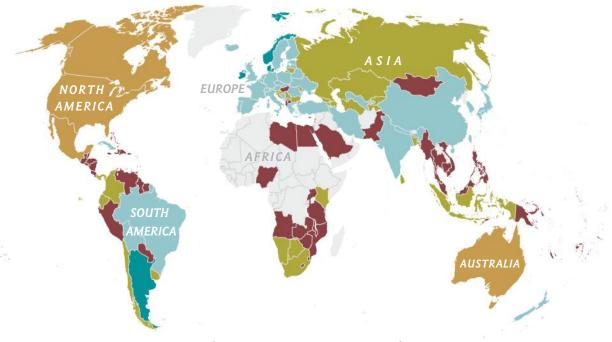
The Endocrine Society recommends blockers for adolescents diagnosed with gender dysphoria. Nonetheless, the blockers' long-term impact on psychological development, brain growth, and bone mineral density are unknown—leading to some lively disagreement about using them on physically healthy teens.

More fraught than the question about puberty blockers is the one about whether too many young children, at too early an age, are being encouraged to socially transition in the first place.

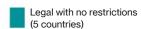
Eric Vilain, a geneticist and pediatrician who directs the UCLA Center for Gender-Based Biology, says that children express many desires and fantasies in passing. What if saying "I wish I were a girl" is a feeling just as fleeting as wishing to be an astronaut, a monkey, a bird? When we spoke

The Legality of Gender Change

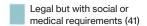
Over a third of countries allow a gender change (to male, female, or another) on documents such as passports. Researchers have only begun to document this fast-changing legal topic.



Legally possible



In these countries, making a change is simply based on the request of the individual.



Almost all countries that allow a legal change require a diagnosis of mental disorder. Many require a person to be childless or unmarried; some require hormone therapy, surgery, and/or sterilization. Advocates denounce such rules as violations of human rights.

Legal regionally or with difficulty

Legality and requirements vary regionally (4)

In some countries, including the United States, local practices may take precedence, making legality and the requirements for changing a matter of geography.

Legal but inconsistently allowed (27)

Even if a country's rules allow a change to be made, unclear regulations, court decisions, and bureaucratic barriers can block changes in status.

Impossible or to be determined

Not legally possible (67)

No legal provisions allow a change in gender. Some countries are so strict that wearing clothing not associated with the sex assigned at birth is criminalized.

No information available

For much of the world, data addressing legal gender change has yet to be collected, and discussion of the issue is a new frontier. In some countries such discussion may be considered taboo.

OCTOBER 2016 DATA. RILEY D. CHAMPINE, RYAN WILLIAMS, AND IRENE BERMAN-VAPORIS, NGM STAFF. JUSTUS EISFELD. SOURCES: CARLA LAGATA/CARSTEN BALZER, TVT PROJECT, TRANSGENDER EUROPE; TAMARA ADRIÁN, CENTRAL UNIV. OF VENEZUELA; ANDREW PARK, UCLA; KRISTOPHER WELLS, UNIV. OF ALBERTA; SOUTHERN AFRICAN LITIGATION CENTRE; FTM PHOENIX GROUP; MICHAEL VAN GELDEREN, UN OHCHR; OUTRIGHT ACTION INTL. FOR MORE DETAILS, GO TO NGM.COM/JAN2017.

Transgender people are at extremely high risk to be bullied, to be sexually assaulted, or to attempt suicide.

Trina (her street name), right, hides during the day and does sex work at night — the only time she feels safe wearing feminine clothing. Still, she's been attacked with acid, knives, a machete, and a gun. English (red hair) and Sasha (also street names) live with Trina and others in a storm-water diversion gully in Kingston, Jamaica. Days after these photos were taken, two gangs doused everyone there and all their belongings with gasoline and set them on fire. English and Sasha were injured.









Young people who may not feel precisely like a boy or a girl might opt to refer to themselves with a gender-neutral pronoun like "they."

by phone last spring, he told me that most studies investigating young children who express discomfort with their birth gender suggest they are more likely to turn out to be cisgender (aligned with their birth-assigned gender) than trans—and relative to the general population, more of these kids will eventually identify as gay or bisexual.

"If a boy is doing things that are girl-like—he wants long hair, wants to try his mother's shoes on, wants to wear a dress and play with dolls—then he's saying to himself, 'I'm doing girl things; therefore I must be a girl,'" Vilain said. But these preferences are gender expression, not gender identity. Vilain said he'd like parents to take a step back and remind the boy that he can do all sorts of things that girls do, but that doesn't mean he is a girl.

At the Gender and Family Project, Jean Malpas said counselors "look for three things in children who express the wish to be a different gender": that the wish be "persistent, consistent, and insistent." And many children who come to his clinic meet the mark, he told me, even some five-year-olds. "They've been feeling this way for a long time, and they don't look back."

That was certainly the case for the daughter of Seattle writer Marlo Mack (the pseudonym she uses in her podcasts and blogs to protect her child's identity). Mack's child was identified at birth as a boy but by age three was already insisting he was a girl. Something went wrong in your tummy, he told his mother, begging to be put back inside for a do-over.

As Vilain might have instructed, Mack tried to broaden her child's understanding of how a boy could behave. "I told my child over and over again that he could continue to be a boy and play with all the Barbies he wanted and wear whatever he liked: dresses, skirts, all the sparkles money could buy," Mack said in her podcast, *How to Be a Girl*. "But my child said no, absolutely not. She was a girl."

Finally, after a year of making both of them "miserable," Mack let her four-year-old choose

Henry was assigned male at birth but considers himself "gender creative." He expresses himself through his singular fashion sense. His parents have enrolled him in the Bay Area Rainbow Day Camp, where he can find the vocabulary to explain his feelings. At six years old, he is already very sure of who he is.

a girl's name, start using female pronouns, and attend preschool as a girl. Almost instantly the gloom lifted. In a podcast that aired two years after that, Mack reported that her transgender daughter, age six, "loves being a girl probably more than any girl you've ever met."

Vilain alienates some transgender activists by saying that not every child's "I wish I were a girl" needs to be encouraged. But he insists that he's trying to think beyond gender stereotypes. "I am trying to advocate for a wide variety of gender expressions," he wrote in a late-night email provoked by our phone conversation, "which can go from boys or men having long hair, loving dance and opera, wearing dresses if they want to, loving men, none of which is 'making them girls'—or from girls shaving their heads, being pierced, wearing pants, loving physics, loving women, none of which is 'making them boys.'"

This is where things get murky in the world of gender. Young people such as Mack's daughter, or Charlie Spiegel of California, or E of New York City, must make biological decisions that will affect their health and happiness for the next 50 years. Yet these decisions run headlong into the maelstrom of fluctuating gender norms.

"I guess people would call me genderquestioning," E said the second time we met, in June. "Is that a thing? It sounds like a thing." But the "questioning" couldn't go on forever, she knew, and she was already leaning toward "trans guy." E had moved a few steps closer to that by September, asking people, including me, to use the pronoun "they" when referring to them. If E does eventually settle on a male identity, they feel it won't be enough just to live as a man, changing pronouns (either sticking with "they" or switching to "he") and changing their name (the leading candidate is the name "Hue"). It would mean becoming physically male too, which would involve taking testosterone. It was all a bit much, E told me. As their 15th birthday approached, they were giving themselves another year to figure it all out. E'S THINKING ABOUT where they fit on the gender spectrum takes the shape it does because E is a child of the 21st century, when concepts like transgender and gender nonconforming are in the air. But their options are still constrained by being raised in a Western culture, where gender remains, for the vast majority, an either-or. How different it might be if E lived where a formal role existed that was neither man nor woman but something in between—a role that constitutes another gender.

There are such places all over the world: South Asia (where a third gender is called *hijra*), Nigeria (yan daudu), Mexico (muxe), Samoa (fa'afafine), Thailand (kathoey), Tonga (fakaleiti), and even the U.S., where third genders are found in Hawaii (mahu) and in some Native American peoples (two-spirit). The degree to which third genders are accepted varies, but the category usually includes anatomical males who behave in a feminine manner and are sexually attracted to men, and almost never to other third-gender individuals. More rarely, some third-gender people, such as the burrnesha of Albania or the fa'afatama of Samoa, are anatomical females who live in a masculine manner.

I met a dozen or so fa'afafine last summer, when I traveled to Samoa at the invitation of psychology professor Paul Vasey, who believes the Samoan fa'afafine are among the most well-accepted third gender on Earth.

Vasey, professor and research chair of psychology at the University of Lethbridge in Alberta, Canada, returns to Samoa so frequently that he has his own home, car, and social life there. One thing that especially intrigues him about third genders, in Samoa and elsewhere, is their ability to shed light on the "evolutionary paradox" of male same-sex attraction. Since fa afafine almost never have children of their own, why are they still able to pass along the genes associated with this trait? Without offspring, shouldn't natural selection pretty much have wiped them out?



When she was four, Trinity Xavier Skeye almost completely stopped talking, started chewing on her boy clothes, and said she wanted to cut off her penis. Her alarmed parents took her to a therapist, who asked them: "Do you want a happy little girl or a dead little boy?" Trinity's mother, DeShanna Neal, is a fierce advocate for her child, who is now, at 12, on puberty blockers. Trinity is the first minor in Delaware to be covered for this treatment by Medicaid.



Assigned female at birth, Hunter Keith, 17, has felt himself to be a boy since fifth grade. By seventh grade he told his friends; by eighth grade he told his parents. Two weeks before this photo was taken, his breasts were removed. Now he relishes skateboarding shirtless in his Michigan neighborhood.

Being fa 'afafine runs in families, the same way being gay does, Vasey said. (He said it also occurs at about the same rate as male homosexuality in many Western countries, in about 3 percent of the population.) He introduced me to Jossie, 29, a tall, slim schoolteacher. Jossie lives in a village about an hour from the capital, Apia. She giggled at my questions, especially when I asked about guys. For Jossie, being fa'afafine is also a family trait. Several fa'afafine relatives listened to our conversation: Jossie's uncle Andrew, a retired nurse who goes by the name Angie; her cousin Trisha Tuiloma, who is also Vasey's research assistant; and Tuiloma's five-year-old nephew.

"In this village they don't really like the 'fa'fa' style," said Angie, who emerged from the house she shares with Jossie wearing nothing but a long skirt, called a lavalava, tied at the waist. Back in her 20s Angie had thought it might be nice "to have an operation to be a woman." But now, at 57, she said she's happy without surgery. She no longer feels discriminated against. Fellow church parishioners might criticize the way she and Jossie dress or behave, but "our families here, they understand."

Vasey is now investigating two hypotheses that might explain the evolutionary paradox of male same-sex sexuality.

The first, the sexually antagonistic gene hypothesis, posits that genes for sexual attraction to males have different effects depending on the sex of the person carrying them: Instead of coming with a reproductive cost, as happens in males, the genes in females have a reproductive benefit—which means that the females with those genes should be more fertile. Vasey and his colleagues have found that the mothers and maternal grandmothers of fa'afafine do have more babies than the mothers and grandmothers of straight Samoan men. But they haven't found comparable evidence among paternal grandmothers—or among the aunts of fa'afafine, which would come closest to definitive proof.

A second possibility is the kin selection hypothesis—the idea that the time and money that same-sex-attracted males devote to nurturing their nieces and nephews make it more likely that the nieces and nephews will pass some of their DNA down to the next generation. Indeed, among the fa'afafine Vasey introduced me to, several have taken siblings' children under their wing. Trisha Tuiloma, who is 42, uses the money she earns as Vasey's research assistant to pay for food, schooling, treats, even electricity for eight nieces and nephews. And in his formal research Vasey has found that fa'afafine are more likely to offer money, time, and emotional support to their siblings' children—especially to their sisters' youngest daughters—than are straight Samoan men or Samoan women.

One other point about gender identity became clear when I met Vasey's longtime partner, Alatina Ioelu, a fa'afafine Vasey met 13 summers ago. When Ioelu first drove up to my hotel, my understanding of what it means to be fa'afafine started to unravel. Ioelu was much more masculine than the other fa'afafine I'd met. Tall, broadshouldered, with an open, handsome face, he favored the same clothing—cargo shorts and T-shirts—that Vasey wore. What did it mean for someone who reads as a man to belong to a third gender that implies heightened femininity?

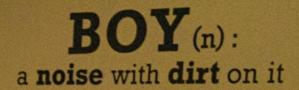
Gradually it dawned on me, as the three of us chatted through dinner, that Ioelu's identity as a fa'afafine shows how deeply bound in culture gender itself is. Vasey and Ioelu plan to marry and retire in Canada someday. (Vasey is 50; Ioelu is 38.) "There we'd be perceived as an ordinary same-sex couple," Vasey told me.

In other words, the gender classification of Ioelu would change, as if by magic, from fa'afafine to gay man, just by crossing a border. \square

Robin Marantz Henig, a contributing writer for the New York Times Magazine, and photographer Lynn Johnson last collaborated on a feature about the science of death, published in the April 2016 issue of National Geographic.

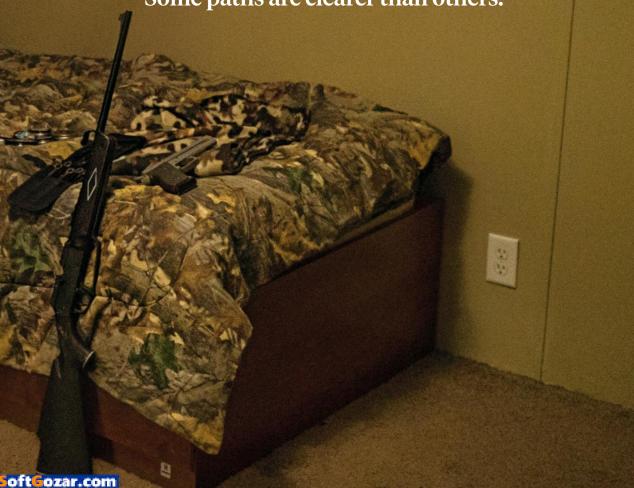








How does a 21st-century boy reach manhood? Some paths are clearer than others.



















By Chip Brown Photographs by Pete Muller

Shadrack Nyongesa's appointment with the knife was set for shortly after dawn.

Since the previous morning, the uncircumcised 14-year-old from the Bukusu tribe in western Kenya had been jingling a pair of feathered cowbells against metal braces lashed to his wrists. As he pumped his arms and danced on a dirt yard under a mango tree outside his father's house, older friends and relatives paraded around him brandishing sticks and guava branches and singing songs about courage, women, and alcohol.

In the afternoon Shadrack and his entourage made a ritual visit to the home of a maternal uncle, who gave him a cow, but not before slapping him in the face and barking that he looked like a sissy, not someone ready to become a man. The boy, who had asked to undergo *sikhebo*, the Bukusu circumcision ceremony, could not hold back tears. But he looked more angry than afraid, and when he returned to his father's house, he jingled the *chinyimba* bells with new vigor and danced with the brio of a brayura showman.

By sundown the party had swelled to more than 50 guests. Men sitting in lantern-lit huts dipped long, reedlike straws into a communal pot of *busaa*, the corn beer specially brewed for the occasion. At half past nine the crowd formed a circle around the pearly blue guts of a freshly slaughtered cow. One of Shadrack's paternal uncles sliced open the bloated stomach with a knife. He carved two strips of tissue, then scooped out a handful of greenish, half-digested food. He approached his nephew with his arm cocked.

"No one in our family has ever been afraid!" he shouted. "Stand firm!" Flashlights played on Shadrack's face as he stared into space with the miserable stoicism of a plebe on his first day of military school. And then, in a moment that impressed even people who had seen it many times, the uncle flung the foul porridge at his nephew's chest and zealously began to spread it on the



boy's face and head. He placed the collar of cow gut around Shadrack's neck and slapped him hard on both cheeks.

"If you fidget or cry out, don't come back," the uncle said. "Cross the river, and keep going. You are a soldier now. If someone pokes you in the eye, you do not blink!"

For the *omusinde*—one who is not circumcised—there was now no turning back.

For hours that night, Shadrack danced in the eye of the busaa-fueled revel called the *khuminya*. Elders counseled him on what it meant to be a man, offering moral precepts, explaining the importance of respecting elders and women, and issuing practical advice including an admonishment to steer clear of married girls. He had been given flour, chickens, and small sums of money. His worthiness had been taunted, his resolve questioned. Around midnight he was finally allowed to lay his leaden arms and dung-crusted



After hiking 55 punishing miles over five days on the Appalachian Trail, Victor Rivera embraces a classmate. Their all-male high school, St. Benedict's Prep in Newark, New Jersey, teaches a conscientious view of masculinity. The school motto: "Whatever hurts my brother hurts me; whatever helps my brother helps me."

head down for a rest. He rose at 2 a.m. An hour later he was again doggedly jingling the chinyimba bells and dancing in what seemed the throes of adrenaline. The relatives and friends—some of them pie-eyed from the homemade beer—sang out, "The sun is about to get up! Can you smell the knife? The dawn is almost here!"

AS I STOOD waiting for the sun to rise over the Great Rift Valley and the climax of Shadrack's passage to manhood—a passage crucial to William, his father, whose standing in the community was at stake—I couldn't help but think of my own father, who had died in June at the age of 91, and my 17-year-old son, Oliver, who at that moment was asleep 7,000 miles away, in New York

City. Actually, probably not asleep. Probably lying awake in bed with his laptop on his chest, watching sports documentaries and Hollywood movies bootlegged off sketchy websites.

It was impossible to imagine two roads more different for a pair of boys heading toward essentially the same destination. Both Shadrack and Oliver had been masculinized in the womb by a prenatal bath of testosterone. Both were in the midst of a momentous transition, morphing under a fresh influx of the powerful hormone into physically mature men: body hair, defined muscles, bigger shoulders, burgeoning sexuality, an appetite for risk, potentially elevated levels of aggression. Both were coming to grips with behavioral tendencies and patterns that had been









Many Paths to Manhood

Throughout history, cultures have devised myriad practices and rituals to make boys into men. The methods-often secret and sacred-vary widely and continually evolve, says cultural anthropologist Gilbert Herdt. But they also share some universal themes that broadly reflect a community's values and the roles its men are expected to play.



Sparta 800 B.C.

At seven, Spartan boys left their families for boarding schools to test their strength and resolve. Military training included forming erotic bonds with older boys to encourage lovalty in battle and enduring severe beatings to build toughness.

Now: Many cultures promote tests of strength. Boys in Papua New Guinea's Sambia tribe are separated from their mothers at age seven and must undergo secret initiation rites involving nose bleeding and performing oral sex on men.



Rome 27 B.C.

With Rome maturing as an empire and slaves outnumbering citizens, boys in their mid-teens were urged to marry early and produce children. Only then would they be considered men and full citizens with rights and status.

Now: In numerous societies marriage remains primarily defined as a religious ritual that, for young men, can be considered an entry into adult maturity, morality, and masculine social roles.



A teenage squire's road to knighthood required apprenticing with a knight. pledging fealty on a holy artifact to the king, competing in fighting and jousting matches, being confirmed as a Christian. and joining a Crusade to the Holy Land.

Now: In the Pacific's Trobriand Islands, a pubescent boy leaves his family to join a group house and be tutored by a maternal uncle. Submitting to this mentor shows respect for his ancestors and commitment to his community

programmed by millions of years of evolution.

But Shadrack was entering manhood in a culture in which the roles of men and women are still slotted along traditional lines and boys are guided by a ritual that goes back at least 200 years (and immemorially in some neighboring tribal cultures). Oliver, on the other hand, is approaching manhood in an American culture that is lurching toward a gender-neutral society, one that has moved so far from anatomy-based definitions of men and women that the U.S. Departments of Justice, Education, and Defense in 2016 affirmed antidiscrimination policies that recognize a person's self-assigned gender identity, regardless of the sex ticked on a birth certificate.

Unlike Shadrack, Oliver cannot rely on the traditional roles of men and women for an idea of

what it means to be a man. In the name of equality, gender stereotypes have been turned inside out or repudiated. There's nothing startling or unorthodox to him about female cops or male nurses or about a father who stayed home microwaving stockpiles of breast milk while mom went to an office as the prime provider. Oliver's mom still outearns me and, by the way, has amassed a vastly larger number of Instagram followers.

Nor are there, in our milieu, rituals or overt rites of initiation that would clearly mark Oliver's transition from boy to man. Manhood, in other words, is something he pretty much has to figure out for himself. Sometimes I see him casting about for what it means, looking askance at the example I set because, as he says, "you cross your legs like a girl." And sometimes when he's under



Hawaii 1700

Boys from high-ranking families served close to the king and **inherited their status** as adults. If a teen from a lower status family fought well in battle or demonstrated healing powers, he might **earn non-inherited status** as a warrior, priest, or magician.

Now: In contemporary India, lower caste Hindu males try to prove their piety and courage and gain status through rituals, such as walking barefoot over burning coals during festivals or wrestling bulls at harvest celebrations.



Great Plains 1900

A Lakota teenager would be old enough to **perform religious rituals** such as the Sun Dance. Men and boys taking part in this rite had to stare at the sun while being supported by ropes attached to pegs pierced through their skin.

Now: Boys of Liberia's Kpelle tribe are secluded for four years of secret initiations, instruction, ritual circumcision, and male-only ceremonies said to have been created by the gods for men to gain supernatural powers needed for survival.



Italy and U.S 1930

In Sicily and Chicago, Mafia groups gave rise to extreme masculine behavior, defined by violence and terror, and conditional masculine behavior, where status depends on being in the group and leaving can mean the loss of manhood, or even one's life.

Now: Terrorist groups such as ISIS demand that initiates commit acts of extreme violence. They often force members to disavow traditional markers of manhood, such as upholding responsibilities to their families and communities.

duress, feeling pressure to perform—quizzes, papers, grades, competition on a basketball court, a time trial on a rowing machine—I can also see him cultivating a sort of stoicism, related in a milder way to what was slapped into Shadrack. Oliver is shy, careful not to show the depth of his feelings lest he appear unmanly. He gave up the flute because he was the only boy in the section. He crosses his legs ankle to knee. His icons of manhood are Michael Jordan and George Clooney. For his 15th birthday, he asked for a suit.

Scientists and scholars can't offer him, or any of us, much clarity. The questions surrounding manhood and its kindred concepts of manliness and masculinity have been embroiled for centuries in politically inflected debates about culture and biology. Anthropologists and sociologists

generally come down on the side of culture, believing that manhood is something societies construct. "Men" are made, not born, argues Michael Kimmel, a professor of sociology at Stony Brook University: "Manhood is not a manifestation of an inner essence...[it] does not bubble up to consciousness from our biological constitution; it is created in our culture. In fact the search for a transcendent, timeless definition of manhood is itself a sociological phenomenon—we tend to search for the timeless and external... when the old definitions no longer work and the new ones are yet to be firmly established."

Some feminist scholars and scientists have argued that gender differences are fabrications and so-called male traits are no more intrinsic to boys than the blue Onesies snapped onto male









newborns in the hospital. No doubt that's the case for many gender stereotypes about differences in male and female intelligence, nurturing instincts, rationality, emotions. But like most parents who have raised a boy and a girl, I have to wonder if there isn't something more than cultural socialization behind behaviors that seemingly appeared without any conscious priming from mom and dad, or anyone else. I'm thinking of Oliver's very early zeal for throwing balls around-Nerf balls, tennis balls, ball-shaped agglomerations of masking tape. In the streets of Paris we once played catch with a chestnut. By the same token, might there have been something deeper than cultural socialization behind his sister, India's, penchant for staging elaborate sotto voce conversations between her dolls? Long before she went off to preschool, she would hold a doll in either hand and pass hours whispering doll dialogue like an interpreter in the middle of a treaty negotiation.

"Women and men do not have interchangeable minds," notes Harvard psychology professor Steven Pinker in his book *The Blank Slate*. Consistent with the selection pressures of having to compete for resources and mates, studies going back decades suggest males do better on mental tasks that involve rotating an object. (Girls have advantages in other problem-solving skills.) Boys tend to be more physically aggressive—more likely to engage in what's called "rough-and-tumble play." As Joe Herbert, emeritus professor of neuroscience at the University of Cambridge, notes, boys will play with dolls, but chances are the dolls will be getting into a fight.

Some aggressive behavior can be linked to testosterone levels, which, starting around age 10 and peaking in the late teens, are typically more than 10 times higher in boys than in girls. One revealing study published in 2013 in the *Journal of Cognitive Neuroscience* correlated risktaking behavior with testosterone levels in adolescent boys and girls. The kids in the study could win money by clicking a pump that inflated balloons. But if the balloons exploded, as they were programmed to do randomly, the players would forfeit their winnings. The researchers found that increased testosterone levels were associated with risktaking in both boys and girls. But the boys preferred

the thrill of balloon explosions, even though it cost them cash, while the risktaking girls with relatively elevated testosterone levels were more interested in retaining their earnings.

Perhaps one of the clearest examples of how biology underlies many elements of masculinity and thus is a factor in the cultural construction of manhood is a rare genetic condition called androgen insensitivity syndrome. Babies are born with a Y chromosome and therefore biologically male, but their bodies can't process testosterone and so default to the female phenotype. They have features and traits of a woman, smooth hairless skin, minimal body odor, a rudimentary vagina. They feel themselves to be women. But with internal testes instead of ovaries and a uterus, they can't give birth. The syndrome, Herbert notes in his book Testosterone, is "a glaring demonstration that testosterone is at the root of what we call 'masculinity.' "

AND SO AT FIRST LIGHT, on the impetus of both Bukusu cultural imperatives and what scientists say is upwards of 1,200 nanograms per deciliter of testosterone coursing through an adolescent male's bloodstream, Shadrack headed north on foot for the nearby Chwele River. He was surrounded by more than 30 men and boys, and a few cheeky girls who hadn't yet been shooed away. Songs flowed as the company jogged along red clay roads and fields of corn and sugarcane. At a quarter to seven, Shadrack's bells and the metal wrist braces were removed. The boy stepped out of his tan shorts. He walked naked down a grassy bank to what was more a swamp than a river. His uncle followed. Hidden in the reeds, Shadrack washed off the cow slime. When he emerged, he was covered with dark gray mud. A sprig of special grass was plastered to his head like the crest of a northern lapwing.

Now the company headed south back to Shadrack's father's house, moving almost at a gallop along a different route to thwart any possible witchcraft by persons of ill will. They sang the anthem of Bukusu-land, the famous *sioyayo* circumcision song that insults the rival Kenya tribe of the Luo, whose traditional entry to manhood entailed removing some of a boy's teeth instead of his foreskin. "Those who fear

circumcision should go to Luo-land."

A huge crowd—men, women, girls, boys—was waiting at the compound. Shadrack marched into the yard and stood over a piece of cardboard. He faced west, symbolically overseeing the sunset of his boyhood. Still the showman, Shadrack put his left hand on his hip and thrust his right hand above his head as if he'd been studying the victory celebrations of Usain Bolt. The circumciser crouched at his groin. The operation was over in seconds. Shadrack did not blink or flinch or let on that he felt any pain. In fact, when the circumciser blew a whistle signaling the surgery was done, and Shadrack's aunt and mother and other women were ululating in joy, Shadrack began to prance about.

Shadrack's father, his uncle, and others rushed up to inspect the job, bending in for a close-up view as if they were double-checking the numbers of a winning lottery ticket. Shivering, perhaps in shock, Shadrack sat down as women wrapped him in colorful shawls.

He would spend the next four days convalescing. Traditionally, new initiates in this community are sequestered for four months with a guardian who will teach them how to hunt, build a hut, tan a hide, and become warriors fierce enough to repulse attacks from cattle raiders and stage raids of their own. Though some young Bukusu males still learn these skills, Shadrack would be going back to school when classes resumed in September. "You can be fierce in school," says Simiyu Wandibba, a Bukusu professor of anthropology at the University of Nairobi. "You can repackage traditional virtues to suit today's life."

Already Shadrack was being treated with new respect; already he was entitled to a new set of patriarchal privileges. No longer would he be dispatched to fetch water from the river or collect firewood or sweep the family compound. Women preparing his meals now would consider his preferences. With a hut of his own in the family compound, he would no longer sleep in his mother's house or sit at her feet listening to her stories. And come December, in accord with the old ways, there would be a *khukhwalukha* ceremony when the traditional period of transition from omusinde to *omusani* would be complete,

Already Shadrack was being treated with new respect. No longer would he be dispatched to fetch water from the river or collect firewood or sweep the family compound.

and the 14-year-old would be formally presented to Bukusu-land as a full-fledged man.

IT'S HARD TO WATCH a Bukusu circumcision ceremony without being whipsawed by a mix of admiration and dismay. Dismay because the kids are...well, kids. I saw five circumcisions in a week, and some of the omusinde were even younger and looked less ready for the ordeal than Shadrack. Is a boy of 10, tempted by the promise of new privileges and pressured to conform, really free to make the decision to undergo this painful and potentially dangerous surgery? And what was done to Shadrack and the others is hardly the extreme of what cultures do to make men of boys. Mardudjara aboriginal boys in Australia are expected to swallow their own foreskins after the cut. Sambia mountain boys in Papua New Guinea push sharp sticks into their nostrils to make their noses bleed and have to swallow semen after oral sex with young men. Satere Mawe boys in the Brazilian Amazon insert their hands into gloves filled with bullet ants (Paraponera clavata) whose neurotoxic sting is said to be among the most agonizing in nature.

It's worth asking: Why? The disquieting answer, of course, is to prepare for war. As anthropologist David Gilmore notes, where resources are scarce and the collective welfare uncertain, "gender ideology reflects the material conditions of life." Boys are "tempered" and "toughened" so they may fulfill the classic duties to procreate, provide, and protect that men have performed for millennia. Whether it's marshaled to ward off the aggression of other males or to capitalize on weakness, violence is the leitmotif of manhood in countless cultures. To judge from video games, action movies,











hockey brawls, UFC fights, and homicide rates in America, violence enthralls men even where material conditions of life are not dire.

What could break the cycle that equates manhood with toughness and stoicism? What might change in men who in their fear of violence—or fascination with it—end up fostering more of it?

Dismay aside, I found it hard not to grudgingly admire a culture that gives boys such an unambiguous path to manhood. The steps are clearly marked. The knife and the cut undeniably make the whole business real. "The blood connects us to our ancestors," one of Shadrack's uncles told me. Shadrack's male privileges may entitle him to the supper he prefers, but they also come with obligations and responsibilities, and by some lights the abuse in the ritual may actually help teach the boys not to respond in kind. "If you've literally had cow shit thrown at you, you know you can take whatever life throws at you,"

says Daniel Wesangula, a Bukusu journalist.

Add to that the support from *bakoki*, the brotherhood of boys who have been circumcised at the same time and belong to the same agegroup. "Bakoki are lifelong friends," Wesangula says. "They will carry your casket and dig your grave. If you are acting deviant, parents will send a bakoki to put some sense into you."

It might be for the lack of meaningful manhood rituals that Oliver's school recently invited a youth theater group to perform a play called *Now That We're Men*. Among the questions on the program: "Who is harmed when [sexual slurs] are thrown around constantly in middle and high school hallways? What is it like to participate in a culture where the most popular video games on the market today award points when players (mostly young males) rape and kill women?"

If my son is uncertain about what it means to be a man, I suppose I'm partly to blame for



After the circumcision Sadik's father offers him a blanket. His transition to manhood is stark: Previously his mother's child, he is now his father's son. He will be exempt from household chores and live in his own hut, listening to his father's advice instead of his grandmother's stories.

passing along the tradition of unstructured self-discovery that I inherited from my father, who did not buttonhole me for mortifying talks about birds and bees, or show me how to knife a wild hog, or concoct the Connecticut atheist's equivalent of a bar mitzvah. I don't know what passed for rituals that ushered me from boyhood into whatever it is I embody now, with a roster of half-baked competencies and a list of things I still can't do. Rewire a lamp. Shuck an oyster.

In my father's final months last spring, I asked him if he had tried to prepare me for manhood, and when he looked baffled, I asked him if he thought his father had done anything to set him up. More bafflement. I imagine his manhood came courtesy of the U.S. Navy. Toward the end, he couldn't remember at noon what medical procedures had been performed on him at 11:45 a.m., but he could recall all the shipmates he served with during World War II. He was 19 when he

crossed the Pacific on an oceangoing tug. He navigated by sextant, boxed with fellow sailors, and off Okinawa fired his sidearm at a kamikaze. He sailed into Hiroshima Bay two months after the atomic bomb and saw the starkest consequences of men at war, an experience that inspired him to compose a poem that was published in October 1945 in the *New York Herald Tribune*. It earned him \$12, his first wages in a long career as a writer. Protect. Provide. I found a photocopy of the check in his files after he died.

Absent rituals, I think manhood in my family must be a code of values, transmitted mostly by example. My father once explained to one of my college roommates, whose family had a ranch in Wyoming, why he didn't need a gun to protect his family. In a line that now seems not just the high-water mark of a certain kind of liberal idealism but looms as central to my father's idea of manhood itself, he said: "The day I reach for a gun instead of a lawyer, there will be nothing left to defend." That seems almost quaint now in an age when man-boys are trotting to class at the University of Texas with pistols in their pants. And I wonder if there is a manhood ritual artful enough to convey the values my father saw in the two artists who shaped his sensibility—the humorist Robert Benchley and the great trumpeter Louis Armstrong—both of whom he revered for their "humor, decency, and joie de vivre."

I don't know how useful it is for Oliver to know there are a million definitions of what it means to be a man or that he is free to choose his own, to figure out on his own what it takes for a boy to qualify. I hope he grasps the responsibilities manhood entails and rejects the inequities it perpetuates and understands what part is biology, what part culture, what's estimable and worth conserving, what cries out for change. I hope he becomes a man however he manages to define it and expects no special dispensation for fulfilling that vision of himself. He too has a bloodline of ancestors, somewhere out there in the dust. He could do worse than to set his compass by the polestar of humor, decency, and joie de vivre.

Chip Brown wrote about Sherpas in Nepal in the November 2014 *Geographic*. **Pete Muller's** photos of Sierra Leone's Ebola outbreak are in the July 2015 issue.

Parental Leave On Dads' Terms

BY PATRICIA EDMONDS PHOTOGRAPHS BY JOHAN BÄVMAN

WHEN JOHAN BÄVMAN'S SON Viggo was born, so was a deeply personal photography project: a look at fathers using Sweden's expansive parentalleave policy to stay home with their children.

Paid maternal leave around childbirth is commonplace throughout the world: It's federal policy in 34 of the 35 member nations of the Organisation for Economic Co-operation and Development (all but the United States). About two-thirds of those nations also fund at least brief parental leaves for fathers—a benefit first extended by Sweden, in 1974.

Sweden's program has allowed parents to split 480 days of subsidized leave to care for children and earn bonuses according to how evenly they split the leave. But despite those incentives, only about 14 percent of Sweden's fathers "share the days equally with their partner," Bäyman says.

He joined the ranks of those dads in 2012 at Viggo's birth—"I wanted to be at home by myself with him, to get to know his needs"—and is also using leave to stay home with Manfred, born in 2016. In his photo project (now a book), Bävman shows fathers in Sweden overseeing child and home care. "It's gone unrecognized that this is

really hard, full-time work," he says, and "something that women have always been doing."

Like most new mothers, Caroline Ihlström looked forward to cuddling and feeding her newborns. But premature twins Parisa and Leia were unable to nurse. When Bävman arrived to take photos shortly after the twins' birth, their father, Samad Kohigoltapeh, had fed them formula by syringe and was warming them against his skin (right). A construction engineer, Kohigoltapeh took joint parental leave with Ihlström for the babies' first four months—and then soloed with them for six more months.

So far Bävman has made portraits of 45 fathers on leave. He is happy to offer them as role models "so men can see the benefits of being on leave." But he's not as impressed with the nickname some Swedes apply: *latte-pappor*, or "latte dads," as if the men perform childcare duties between coffee dates. Though he does drink coffee, Bävman says, "I don't have time to sit."

Taking long leaves with his children has made him a better parent, Bävman says. He hopes his photography project will inspire more fathers and more countries—to give the idea a try.





Johan Ekengård and his wife equally split the allowed parental leave. Here, he manages the morning routine with their children, from left, Tyra, Stina, and Ebbe.

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What dads do on leave (clockwise from top left): Fredrik Karlsson cuddles, Erik Lindblad reads at the library, Martin Gagner paints nails, and Ola Larsson vacuums.



"Our children trust in me as much as in my partner," because both have taken leave, says probation officer Andreas Bergström. It's bath time for Sam (in sink) and Elliot.

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"I'm eternally grateful for having been on leave for such a long time," says student Juan Cardenal, who was at home for nine months each with Alma (left) and Ivo.









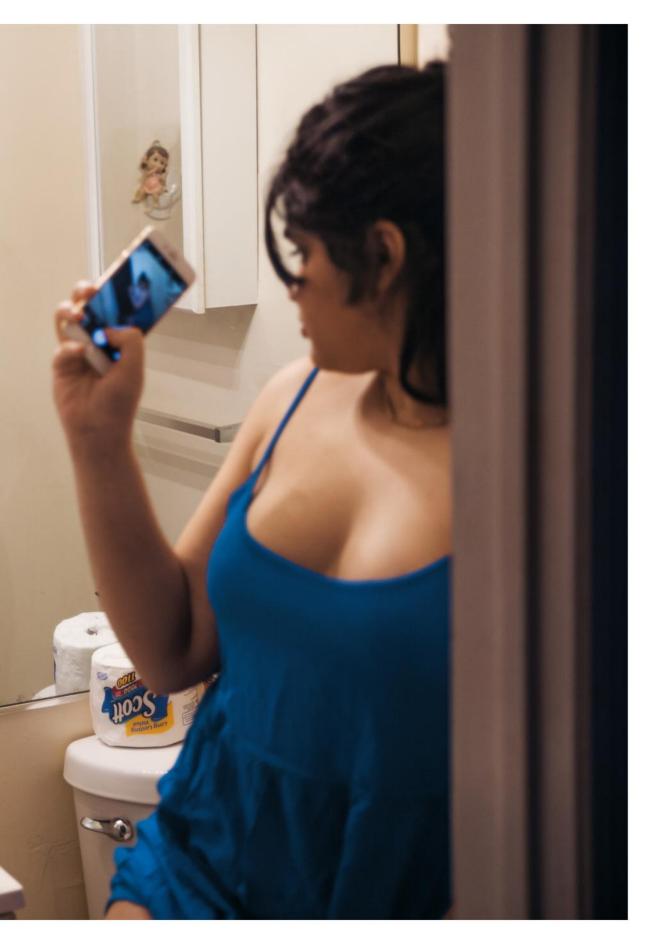












Alexandra lives in a peaceful, leafy subdivision in a suburb of Dallas, Texas, with her parents, a brother, a sister, and at the moment, five dogs—her family rescues dogs. Alexandra, who is 22 years old, rescues people.

In high school she was president of the teen board of a suicide hotline. Before that, she and friends had founded a blog on Tumblr for suicidal adolescents. She gave out her cell phone number and counseled people who called, tracking down their Facebook friends and even calling the police.

When adults found out, they told her to stop immediately, terrified that amateurs might inadvertently do harm. "I had no training—it was really reckless on my part," Alexandra said. "At that time I saw it as heroic. Now part of me thinks I was trying to save them because I couldn't save myself."

As early as first grade, she was comparing herself with other girls. They were more popular, prettier, thinner, smarter, more interesting. "I remember just really wanting to be someone else," Alexandra said. "Even innocently—just spending a day as someone else. But that thought became more intrusive and obsessive."

In high school Alexandra was depressed to the point of contemplating suicide. She wanted to change everything about her appearance. "I knew I had friends and family who loved me. I knew I had potential. I knew I was intelligent. But I was

almost disgusted with myself." (The last names of some people in this story have been withheld at their request to protect their privacy.)

Alexandra resorted to self-harm, a strategy some teenagers use to try to deal with their emotions, or even to punish themselves. She started burning the inside of her arms with her hair straightener, covering the burns with bracelets.

From ninth grade through 12th, Alexandra secretly skipped meals, and on days when she ate three meals, she would feel suicidal afterward. She

To show how the media objectify women and to encourage girls to "be your beautiful self," students at Academy of the Sacred Heart in New Orleans created collages as part of an Embody Love Movement workshop. In their own words, they describe what they learned.

JORDAN KLEEHAMMER, 14

Being a teenager is definitely harder now because everyone thinks they're supposed to look like pictures in the magazines. But every picture is photoshopped. They're trying to get us to buy their products. Nobody looks like that.



was already thin—a serious ballet dancer, taking classes every day after school and all day on Saturdays—but wanted to be thinner. "I grew up in front of a huge mirror," she said.

IN A WAY, EVERY GIRL IN AMERICA grows up in front of a mirror. The normal existential struggles of teens—Who am I? Am I worthy of love and respect?—are too often channeled through another question: How do I look? For girls the most significant social pressures they face as teens are to conform to conventional notions of beauty.

Coping with this is easier today in some ways and much harder in others. Easier because America has become gentler on kids who are different: Beauty still rules, but our definition of beauty encompasses people previously excluded. Harder because social media—a factory for the mass production of insecurity—is transforming everything about adolescence.

In extreme cases this pressure can trigger the onset of anorexia—the disorder with the highest mortality rate of any psychiatric illness. Alexandra's eating disorder was serious enough that she spent months of her senior year of high school in a daytime hospitalization program.

Restricting food allows a girl to seize control of one of the few things she feels she can control. "I thought that if I achieved the societal ideal of thinness, everything in my life would be perfect," said Estrella, 23, a friend of Alexandra's who was hospitalized for anorexia. "I would be controlling all the chaos of my life—which now I see is privileged and not very chaotic," she said with a laugh.

Alexandra and Estrella are part of a group of young Dallas women, all of them survivors of eating disorders, who are trying to create a different way for girls to grow up: valuing themselves for their inner beauty, free from body shame.

UNTIL RECENTLY in the United States there were only a few sure paths to high school acceptance for girls; the most obvious was being a beautiful, sleek-haired cheerleader. Now, in much of the country, a girl can be a geek, goth, jock, prep, nerd, emo, punk. "I've been called weird; I've been called strange," said Desirée, a

15-year-old in Cranford, New Jersey. "There was a moment when I decided to be myself. In seventh grade I found my people, found my village." Her village was nerds, she said, kids who loved Broadway musicals and video games.

There were fewer villages when I was in school, and they were harder to find. Now the Internet can make life hell for teens, but it can also help those who are different or who feel different. Girls who can't find their village at school might find a version online. They can find other girls who bake Hello Kitty cupcakes, raise money to save elephants, practice mixed martial arts, love Barbra Streisand, build robots, or believe that Ross and Rachel on *Friends* should still be together. With Wi-Fi, no one is truly alone.

There were few women of color in the fashion magazines I read, few models who had normal curves. None was disabled, or transgender. Rarely was there even a model with curly hair. Now all are more common. The pressure to be beautiful is still oppressive, but beauty is increasingly seen as coming in all colors and a wider spectrum of shapes.

Life has improved in many ways for LGBTQ youths—most dramatically for gay, lesbian, and trans teens. These teens have always been victimized. They are nearly twice as likely to be bullied as heterosexual teens, and more than four times as likely to attempt suicide. The Centers for Disease Control and Prevention says that nearly 30 percent of gay, lesbian, and bisexual teens have attempted suicide.

But in major cities and increasingly in parts of rural America, these teens are more accepted and suffering less. About half of gay teens report having a gay-straight alliance club at their school, for example, double the number from 2001.

The same stigma, harassment, and rejection that lead to victimization and suicide also put gay, lesbian, and bisexual people at higher risk for eating disorders. Catherine Ratelle went to the prestigious Hockaday School in Dallas. Her eating disorder began when she was 15. This was also when her parents told her they were divorcing. "That was my world falling apart, and the world I wanted to control and fix." Her secret eating disorder, she said,

was embedded inside another secret: She was in a relationship with a girl.

She went to college at Texas Christian University in Fort Worth—"an environment even more difficult than Dallas," she said. "I made it hard on myself. I wonder sometimes if I did that on purpose so I could prove to myself it was just a phase. In the heteronormative families I was growing up with, I didn't see my reflection anywhere."

It wasn't a phase. She came out after moving to Washington, D.C. She took an internship and then a job coordinating pride festivals and community events for the Human Rights Campaign, which works for full equality for LGBTQ citizens.

It would be easier at Hockaday now, said Ratelle, who's 26. Just in the past three years, she said, there's been enormous progress. "The way being gay was talked about when I was 15 to 16 is not the way it's talked about today. I laugh and want to hold my 15-year-old self so tightly. 'Sweet girl! You will get through this!' "

When I was reporting this story, in Dallas and in Cranford, I found that expectations for girls vary widely. In New Jersey they said they felt pressure from adults and other girls to excel in science, technology, engineering, and math, popularly known as STEM. "Not being interested in STEM was very hard for me," said Grace, a Cranford girl who's 15.

Jennifer Bartkowski, chief executive officer of the Girl Scouts of Northeast Texas, which includes Dallas, believes that in much of Texas, the social expectations run in the opposite direction. "It's a little better, but it's still not cool to be smart after fourth or fifth grade. We haven't moved the needle as much as we need to."

Bartkowski believes that while there's been progress for teenage girls, it's often overshadowed by the harmful effects of media. Girls can find people who share their interests on the Internet, but they are "friends," not friends. "So many girls are texting rather than having real conversation," she said.

Bullying is an example of how advances have been undermined by online behavior. Many schools now have effective programs to create peer pressure against bullying. But in cyberspace bullies are empowered by anonymity—they need not face their victims or disapproving bystanders.

In a way, every girl in America grows up in front of a mirror. The normal existential struggles of teens— Who am I? Am I worthy of love and respect?—are too often channeled through another question: How do I look?



CLARE LARSON, 14

I don't think about my confidence every day, but doing the exercise made me think about how I felt about myself. I wanted to be really confident in myself. Not so other people would know I was confident – but so I would know.

Estrella said she became a victim of bullying by a friend who was upset that Estrella missed her birthday party. Over a few days Estrella received several dozen text and Facebook messages from the girl's other friends: "Nobody likes you." "You're a slut, no wonder no one wants to be friends with you." "The world would be better without you in it."

Estrella said she already was depressed and having suicidal thoughts, and the messages "confirmed all of my doubts about myself." She never tried to commit suicide, but the incident intensified her eating disorder.

Ads, celebrity photos, and fashion layouts aimed at teen girls set standards of beauty and thinness impossible for girls to meet. Literally impossible, thanks to Photoshop and other photo-editing software. They start with stunning women, add hair extensions, false eyelashes, and makeup, and then use Photoshop to give them a longer neck, smaller waist, thinner thighs, smoother skin, silkier hair, wider eyes, lusher lashes. A video on CollegeHumor's website shows it's possible to create a photo of a beautiful woman modeling a bikini—starting with a shot of a slice of pizza.

And it's not just models who get photoshopped. Many girls won't post their own selfies on Instagram or Facebook without running them through Photoshop first.

Women have always relied on their peer group to set the rules for how they should look. For the first time in history, that pressure is coming from peers who do not even exist. Is it any wonder girls find themselves wanting?

And it starts young. Estrella, who is planning to apply to graduate school in psychology, works as a nanny. One day she and a seven-year-old girl were taking pictures and adding dog ears to them with Snapchat filters, when the girl looked at a particular picture. "Can you delete that?" the girl asked. "My cheeks look fat."

Estrella thought carefully about how to respond. "Well, your cheeks look a lot like my cheeks, and I like my cheeks," she told the girl. "Do you like my cheeks?"

"Yes," said the girl.

"And I like yours," she replied.

"It was like a dagger to my heart," Estrella said.

AT 17, ALEXANDRA WAS THE OLDEST in her hospital's eating disorders unit—most of the children were 13 or 14. She was far from the sickest. "I met girls who were so kind—on feeding tubes, nearing heart attacks, on the edge of death," she said.

"Every chance I got, I tried talking to people," she said. "No, your weight doesn't matter. No, you're beautiful right now." On her last day she gave each patient CDs she had burned with inspirational songs. "I promise you, I will be back as a therapist," she told them.

When she was discharged, she had reached her goal weight, but her thinking about her body had not changed, she said. Right after her high school graduation, though, she began the activity that would transform her life.

On a Wednesday evening in Dallas in early June 2012, Alexandra walked into a group therapy session run by psychologist Melody Moore. Moore liked group therapy for teenage patients, since they listen mainly to each other. Alexandra joined a rotating group of high school girls. "I remember feeling above a lot of people in a sick, twisted way," she said, because she was the only one who'd been in the hospital. "It's some sort of achievement, being that bad."

Moore's other group, of college women, had been stable for a few years. Estrella and Catherine were among the members, as were two University of Virginia students, Caroline and Chloe. They met in person during summers and holidays, and by Skype when they were at college. Going to college is always perilous to self-esteem, and all the girls had fallen into and out of eating disorders.

The women were in recovery, "but what could I do to get them to *be* recovered and not have this be a lifelong struggle?" Moore said. One answer was for them to help other girls. "When you're involved and engaged in being an activist, you are much less likely to fall back into it."

Moore had other reasons. "If I didn't do something to prevent more girls from body hatred, from negative self-image, from potential eating disorders, from criticism and comparison being 'just the way it is,' then I would be spending the rest of my life sitting back and waiting for more girls



TYLA KEYS, 14

I saw Cindy Crawford interviewed about pictures they photoshopped of her. She said even she wishes she looked like that! Models are noticed around the world, and even they feel those insecurities and wish they could change parts of themselves.

Women have always relied on their peer group to set the rules for how they should look. For the first time in history, that pressure is coming from peers who do not even exist. Is it any wonder girls find themselves wanting?



SOPHIA SHAHLAEI, 15
When you see someth

When you see something in a magazine, you see it as a whole picture. But when you take certain pieces out, you realize, oh, that's Photoshop. It's obviously not real when you put that next to someone's body that hasn't been tampered with.

to get eating disorders so that I could help them recover. Everything about that felt wrong to me."

In early 2011 Moore had sketched out a rough workshop that included yoga, which she often used in her practice. The workshop was designed to expose body shaming, identify its roots, and help girls change their thinking. In December she led it for some of her patients as a holiday gift. The women loved the idea and ran with it. They refined the workshop and practiced it with groups of girls in Moore's office.

In May 2013 they presented it outside the office for the first time, to about 60 seventh graders at a Catholic school in Dallas. The women began by speaking briefly about how they got there. Chloe, now 24, said that when she was in seventh grade, a boy told her she had thunder thighs—the remark she credits with setting off her eating disorder. "Someone reaffirmed that I'm not normal," she said. And yet, she told the girls, those thighs got her on the rowing team, which got her into the University of Virginia. "My thunder thighs have been good to me. Now I wouldn't call them 'big,' but 'strong.'"

In one exercise the participating girls formed a circle. The leaders read out statements: "I feel ugly sometimes." "I compare myself to others." "I would rather look different." Girls who thought the statement applied to them stepped inside the circle. The purpose was for them to see that they were not alone in having such thoughts.

Chloe talked about how the media use unreal images to sell things. Then the girls broke into three groups of 20. In their group Alexandra and Estrella passed out magazines and asked the girls to tear out the first five pictures of a woman they found. "Do you see a woman of color?" they asked. "How many of these women would be considered plus sizes? Do you see any scars or acne?"

In the most powerful exercise, each girl wrote down what she didn't like about herself, one thought per sticky note. In her group, Caroline, who is now 24, stood in the middle of the circle, and the girls stuck the notes on her corresponding body part. Soon she was covered with brightly colored notes. Alexandra read them aloud. "Fat legs," she read. "Frizzy hair." "Yellow teeth."

"You wouldn't say these things to a friend," she

told the silent girls. "So why say them to yourself?" The girls tore the notes into confetti.

"It got so concerning," Alexandra said. "Over and over it was: no thigh gap, no thigh gap, no thigh gap. That was on my mind. But these girls were 11 or 12. Why was it on their minds?"

Moore required each of her patients to have progressed in her recovery before leading the workshop. "I was better, but far from full self-acceptance and self-love," Estrella said. "But being next to Alexandra, doing that workshop, I felt an overwhelming sense of pride for both of us. I realized I could make this my life, carrying myself this way and not talking about how much I hate my thighs."

That was the beginning of the Embody Love Movement, which now has 250 trained volunteers who run workshops in the U.S., Canada, England, Ireland, Australia, and New Zealand.

I WATCHED A WORKSHOP in suburban Dallas one morning with about 60 Girl Scouts, ages 10 to 13, and also attended part of a weeklong summer camp at Alluem Yoga in Cranford.

Karen Gilmour, who runs the yoga studio, had the girls do partnered yoga, physically supporting each other in the poses. Other exercises were about mental support. The girls mirrored one another's movements. They had to tell their partners one thing about them they found beautiful. Gilmour asked the girls to assume powerful poses, then they lay down on body-size sheets of paper and their partners traced them, creating a life-size portrait of a powerful girl. They received hand mirrors with "I am loved" written on the front.

Grace has taken the Embody Love workshop at Alluem four times. "Every time I've been at a different stage of my life," she said. It was an epiphany the first time. "Whenever I felt insecure, I felt like I was the only one who feels like that. It turns out everyone feels like that."

For Lily, who's 12, four days at Alluem's Embody Love camp reconfirmed her determination not to grow up too fast. Her screen time consists of watching old musicals, *I Love Lucy*, and cooking and home decorating shows on TV with her family. She's not allowed on the Internet unsupervised, a rule she endorses. "I'm not sure I want to

be exposed to the world yet," she said.

When she is, she'll understand better how to interpret the photos she sees. "It's a false reality—even if you know it could be photoshopped, your brain forces you to believe it, because you're seeing it," she said. "It must be one of the worst jobs in the world to edit those pictures. You have to see the flaws in everything you look at."

She keeps her "I am loved" mirror on her dresser. "I always look in there," she said.

The sorority Tri Delta hired Moore to design a workshop for its second-year members. The workshop is now a part of Tri Delta on every campus. Estrella and others have led it at schools nationwide.

Alexandra brought the Embody Love workshop back to her college, leading several large workshops and training other women to lead them. She even confronted her friends. "We would sit around in the cafeteria and talk about bodies and our food and our weight," she said. One day she'd had enough. "Can you imagine what we'd get done in the world if we weren't spending time on this crap?" she told them. "I can't remain friends with you if this is all you talk about."

They stopped.

Alexandra considers herself recovered. "If I'm hungry, I eat," she said. "I don't know the last time I weighed myself. I don't think about calories."

Preventing suicide remains a focus of her life. The week we met, she had attended a funeral for a close friend who had killed herself. She works as research coordinator for a clinic that treats suicidal adolescents. She plans to go to graduate school in psychology. A few weeks earlier Alexandra's mother had dropped her off for professional training at the hospital where five years earlier she had been treated—and had promised to come back as a therapist. "I felt just like she had dropped me off for therapy," she said. "But this time, I had a badge around my neck." \square

Tina Rosenberg is co-writer of the *New York Times'*Fixes column. For *National Geographic*, she has written about community health workers in India and women in Ethiopia burdened by the daily chore of hauling water. **Kitra Cahana** has photographed stories on hunger and the teenage brain for *National Geographic*.

It's Hard to Be Female: the Statistics

Ensuring education, protection, and equal opportunity for the world's 1.2 billion girls is key to solving some of the planet's most pressing problems, from the cycle of poverty to the spread of HIV/AIDS. Yet despite gains in access to education, health care, and employment, more progress is needed to put women on an equal footing with men.



50% OF COUNTRIES*
WORLDWIDE HAVE
BEEN LED BY A
FEMALE, UP FROM
38% IN 2006.

Gender equality laws are more likely to be passed when women serve in office. Thanks in part to quotas, the proportion of parliamentary seats held by women has nearly doubled since 1990 to 23 percent.



58% OF GIRLS
AROUND THE GLOBE
ATTEND SECONDARY
SCHOOL VERSUS
62% OF BOYS.

The global gender gap in secondary education is narrowing, but in central and West Africa 39 percent of girls are enrolled vs. 46 percent of boys. Girls in conflict zones are 2.5 times more likely than boys to drop out.

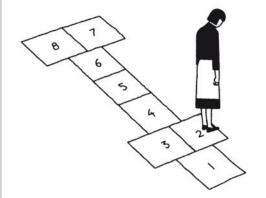
HIV/AIDS



GIRLS AGES 15-19
ACCOUNT FOR 65%
OF NEW TEEN
INFECTIONS OF
HIV/AIDS WORLDWIDE.

Sexual violence and early sexual encounters increase a girl's risk of contracting HIV/AIDS. In sub-Saharan Africa, home to 70 percent of the world's HIV cases, three out of four teens infected in 2015 were girls.

SUICIDE



SUICIDE IS THE LEADING CAUSE OF DEATH FOR GIRLS AGES 10-19 GLOBALLY. Worldwide, maternal mortality is the leading cause of death for older teen girls, but suicide outranks it in Europe and much of Asia. The suicide rate for older teen girls in many Asian countries is twice the world average.

*AS A SHARE OF THE 145 COUNTRIES INCLUDED IN THE WORLD ECONOMIC FORUM'S GLOBAL GENDER GAP INDEX

CHILD MARRIAGE



OVER 700 MILLION
WOMEN AND GIRLS
ALIVE TODAY WERE
MARRIED BEFORE
THEIR 18TH BIRTHDAY.

Child brides face significant risk of domestic violence, and girls under 16 face higher maternal mortality rates. Most countries set the minimum age of marriage at 18, but marriages are often allowed with parental consent.

TEEN PREGNANCY

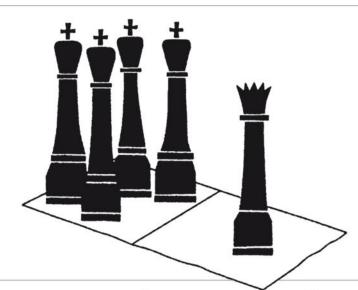


16 MILLION GIRLS 15-19 YEARS OLD GIVE BIRTH EACH YEAR, EQUAL TO 10% OF ALL GLOBAL BIRTHS. Ninety-five percent of teen births are in low- and middle-income countries, with the highest rates in sub-Saharan Africa and Latin America. In the past 20 years most countries saw a drop while contraceptive use increased.

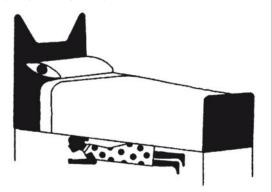
GLASS CEILING

18% OF THE WORLD'S FIRMS NOW HAVE A FEMALE AS A TOP MANAGER OR CHIEF EXECUTIVE OFFICER.

Research shows that gender diversity increases profitability. Women now run 2 percent of the world's 500 biggest companies based on revenue. In 1995 none of the top 500 U.S. firms had female CEOs; today women head 4.6 percent of them.



SEXUAL VIOLENCE



120 MILLION
GIRLS AROUND
THE GLOBE HAVE
EXPERIENCED
SEXUAL VIOLENCE.

Worldwide, one in 10 girls under age 20 has been forced into intercourse or other sexual acts. Girls and women who've endured such abuse are at a higher risk of domestic violence and exploitation in the sex trade.

GENITAL MUTILATION



SOME 200 MILLION GIRLS AND WOMEN TODAY HAVE ENDURED GENITAL MUTILATION. Genital mutilation is most common in sub-Saharan Africa and some Arab states, despite bans. Its effects include severe pain, infection, incontinence, difficult intercourse, childbirth complications, and even death.

MONICA SERRANO AND MANUEL CANALES, NGM STAFF; KELSEY NOWAKOWSKI. ART: PABLO AMARGO. SOURCES: CATALYST; FORTUNE; UNICEF; WORLD BANK; WORLD ECONOMIC FORUM. WORLD HEALTH ORGANIZATION

The Dangerous Lives













By Alexis Okeowo Photographs by Stephanie Sinclair

Sierra Leone is one of the worst places in the world to be a girl.

In this West African country of about six million people, cleaved by a vicious civil war that lasted more than a decade and more recently devastated by Ebola, simply being born a girl means a lifetime of barriers and traditions that often value girls' bodies more than their minds. Most females here—90 percent, according to UNICEF—have undergone female genital mutilation (FGM), which initiates them into adulthood and is supposed to endow them with marriage appeal, but also is a culturally ingrained way of controlling their sexuality. Nearly half of all girls marry before age 18, and many become pregnant much younger—often a couple of months or so after their first menstrual cycle. Many are victims of sexual violence; rape often goes unpunished. In 2013 more than a quarter of girls 15 to 19 years old in Sierra Leone were pregnant or had children, one of the highest pregnancy rates in the world for that age-group. And too many die in childbirth—at a rate that is the highest in the world, according to an estimate by the World Health Organization and other international agencies. FGM can increase the risk of childbirth complications.

Girls in the Sierra Leone village of Masanga take part in alternative Bondo ceremonies that initiate them into womanhood without female genital mutilation (FGM). Since 2010 more than 600 girls have participated.















"If you go to the provinces, you see 13-year-olds, 15-year-olds, married, carrying babies," says Annie Mafinda, a midwife at the Rainbo Center, which assists victims of sexual violence in the capital city of Freetown. Many of the center's patients are 12 to 15 years old, Mafinda says.

When I met Sarah in Freetown, a city that rests on a hilly peninsula with a glimmering harbor, she was 14 years old and six months pregnant, but she looked several years younger. Sarah had a whisper of a voice, a small, delicate frame, red-painted toenails, and a pale peach head scarf education banned pregnant girls from attending school. The intent of the policy, which was formalized by the government in 2015, is to prevent them from influencing their peers and to protect them from ridicule.

Sierra Leone's ban on pregnant girls in school "is a knee-jerk, old-fashioned morality, and it's the wrong statement to make," says author Aminatta Forna, who started a small village school here in 2003. "These are vulnerable young girls, and there is a lot of predation on young girls in Sierra Leone." Elizabeth Dainkeh was coor-

With so many obstacles in Sierra Leone,

tied tightly around her hair. She told me she had been raped by a boy who lived near her family's home and who left town after the alleged attack. When her mother learned of the pregnancy, she kicked Sarah out of the house. Now Sarah (her last name is being withheld) lives with the mother of the boy who she said attacked her. The mother of her alleged rapist was the only one who would take her in; Sierra Leonean women typically live with their husbands' families. Sarah has to cook, clean, and do laundry for the household. The boy's mother beats her if she's too tired to do her chores, Sarah said.

With so many obstacles in Sierra Leone, how is a girl like Sarah to live—and thrive?

In a poor country run by a government that seems to have little will to protect girls, the wisest thing they can do is try to escape the station in which they were born. Amid all the threats, school can be their only refuge. Education is a challenge because of the fees, but it is also a source of hope. A high school degree can give them more economic freedom and a chance to forge their own lives, perhaps by enabling them to attend a university or get jobs that require more skills.

Yet one estimate says that only about one in three girls attended secondary school between 2008 and 2012, and pregnancy is among the biggest hurdles. Sierra Leone's ministry of

dinator of an education center in Freetown for school-age pregnant girls and mothers that was supported by UNICEF, along with Sierra Leone's education ministry and others. "When you become pregnant, they put you aside," she says. Dainkeh stands at the back of a steamy classroom where girls in braids and bright head scarves, some cradling infants, fan themselves with their workbooks as they listen attentively to the teacher. "I thought they would be ashamed [to return to school], but they are happy to be here," she says, with obvious pride. Dainkeh herself was pregnant at 17; her father threw her out of the house. Her daughter died of malnutrition before turning one. Now 35, she advises her students to persevere: Put those lost years out of school behind them and forge ahead.

Mary Kposowa, former head of one of these centers for girls, says some of her graduates had encountered trouble reenrolling in regular schools after they had their babies. Making matters worse, in August 2016 the centers for pregnant girls closed; UNICEF says they were intended to be a "bridge" after the Ebola crisis shut down schools across the country for nine months. About 14,000 girls who were pregnant or were new mothers registered at the schools, so Dainkeh fears that the country now will have "a large number of girl dropouts."

Sierra Leoneans frequently say the roots of

their country's trauma began with the civil war between rebel groups and the government. For more than 10 years, beginning in 1991, thousands of girls and women were raped. Tens of thousands of people were killed, and more than two million people were displaced. More recently Ebola ravaged the country, taking about 4,000 lives in less than two years. The disease affected many families, leaving girls orphans and forcing them to become the caretakers of their siblings before they knew how. The country has shakily evolved into a democracy, but the oppression

food vendors. Her mother raised her along with her brother and sister in a house shared by her grandmother, cousins, uncle, and other family members. 11 of them in all.

She was kicked out of school because she was pregnant, which was "really painful," she says. She loved everything about school. English was her best subject (she likes to talk), and she twirled baton in the marching band. She never thought she would become one of Sierra Leone's pregnant teenagers. Then Ebola began to spread in Freetown in 2014, and the government closed

how is a girl like Sarah to thrive?

of its girls and women persists.

"The country does not care about the bodies, the lives, the spirit of young Sierra Leonean women," says Fatou Wurie, a women's rights activist in Freetown who grew up overseas, then returned to her native country. "Every policy we create does not include the young Sierra Leonean woman's voice."

As a woman who has spent extended time in much of West Africa, I had a strong reaction to visiting Sierra Leone for the first time. I have been in Nigeria, Ghana, Senegal, and the Ivory Coast, but Sierra Leone felt different: less inviting, less exuberant, more guarded and uneasy. But I also found that even in this troubled country, some girls are finding ways to rise above it all.

REGINA MOSETAY IS SITTING in the library of her school in Freetown. Outside, her classmates are laughing and eating lunch in the courtyard. She is as ready as she can be for her final exams. A mother at the age of 17, Regina can't study like she used to because she has to care for her daughter, Aminata, squeezing in time with her books between feedings and changing diapers.

Regina has almond-shaped eyes and an oval face that tilts up when she is considering something. She grew up in Low Cost, a working-class area with slim streets crowded with pedestrians and edged with electronics and textile shops and schools to limit the epidemic. That's when she got pregnant by her boyfriend, Alhassan, in 2015. Alhassan was in his final year of college at the time. "During Ebola," she says, "there were a lot of girls who were pregnant. There was no school, so we had a lot of idle time."

"I felt everybody would be disappointed in me. I felt shame," Regina says. "Some students said we were not good examples for them." By spring she was stuck at home with nothing to do and no one to see while her friends were at school. Several months later one of her aunts told her about the new centers that give schoolage pregnant girls and mothers a way to catch up on their studies so they can ultimately return to school. Regina immediately wanted to go, and she told every pregnant girl or new mom she knew about the centers.

She was familiar with a lot of what was taught, but she relished being in a classroom again, sitting at a wooden desk with her books and notebook open in front of her, reading and listening and thinking. There was now a baby inside of her, yes, but she still had a mind, and that was everything to her.

"I was happy just being there and not at home idle," Regina tells me. She studied at a center for three months, one of 180 girls who spent varying amounts of time there during the program's first year. She returned to public school a









month after giving birth to Aminata in December 2015. Now that she's back, Regina warns all of her girlfriends to be careful around boys or the same thing will happen to them.

She's no longer a dropout. "I don't want my child to have the same experience that I had. I want a better future for her," Regina says. She lives with her boyfriend, who graduated with a business degree, and his mother and grandmother, who help care for Aminata. She hopes they can build a family together and knows that finishing her education is crucial. She wants to

Mountain Cut. Whenever she felt sick, she panicked. When she returned to school in March, she was afraid of being excluded by her friends because of the Ebola. But she was surprised.

"I was not stigmatized at all," she says. Whenever her mind wanders to how life was before Ebola, her friends try to cheer her up. Salmatu goes on Facebook and WhatsApp to look at jokes, just to laugh again, and the more she sleeps, the better she feels. She attends a counseling group where she can talk about her troubles. "I like to say whatever is bothering me; it makes me light-

The ocean is therapeutic for KK: 'When

work for an organization that helps children, especially girls, have better lives.

"When I'm educated, I'll be able to take care of my family; I will take care of myself," she says.

SALMATU FOFANAH LIVES on the side of a hill in Mountain Cut, a Freetown neighborhood teeming with people. Salmatu, 17, is shy and lovely, with bright eyes and a slender figure. She has grown used to taking care of herself. Both her mother and stepfather contracted Ebola two years ago, her stepfather falling ill after attending a funeral in 2014. (Her biological father died of malaria in 2011.)

Salmatu's mother, a nurse, treated her husband at home. They had no idea Ebola was spreading. Once his health worsened, her mother finally tried to take him to the hospital, but he died in the car.

Her mother fell sick within a few days and died at home a month later. Then Salmatu started feeling sick. She had a headache and a fever, and so did her aunt, uncle, older sister, brother, grandfather, and several cousins.

"All of us were afraid," Salmatu tells me. They all checked into a treatment center. Only she and three of her cousins survived. Everyone else died.

In early December 2014 she returned, shaky with nausea and grief, to live with her other aunts, uncles, and cousins in a roomy house in er," Salmatu says. When I met her, final exams were her biggest worry. "You have to let the past be and focus on the future. You have to be happy with what you have."

Salmatu's favorite subject in school is history; she likes hearing the stories of her people and her country, and she hopes to be a journalist one day. She has a boyfriend who just finished high school, but Salmatu won't let him pressure her into doing anything she doesn't want to do. She wants to keep singing and going to the beach with her friends.

Sometimes she feels too lazy to go to class. "I like to sleep, it's my hobby," she says, smiling. Whenever her temper flared as a child, her mother sent her to sleep and that made her feel better.)

But then she remembers what she wants to accomplish. Her mother died for her family. How can she not finish school and lead a life that would make her mother proud?

KADIATU KAMARA, OR KK, as she is known, was born in a coastal village called Bureh, on the Atlantic Ocean. She is a tough force of energy, with a sprinkle of stars tattooed on her neck. She has lived here all her life, and her parents raised her, four brothers, and a sister in the close-knit community. Her parents sold coal collected nearby to support the family. After her father passed away when she was young, things became difficult.

Her mother, Baby, struggled, still struggles, to make enough money and could afford to send only two of her children to school: KK and an older brother.

Now 19, KK is the youngest of her siblings and has always gravitated to places where she can feel like she belongs. She lives with her mother and other family members, so she craves space of her own. Four years ago, when a surf club started up on the beach, full of young guys from her village, she wanted to see what surfing would be like. She had only seen people surfing in the

mornings she gets up at six or seven, catches a wave if there are good ones, and then heads to school. She's in class all afternoon into the evening and then returns home to study and cook dinner. KK helps support her mother, giving her some of the money that comes her way.

On a Saturday afternoon back in July, I watched KK stretch on the hot sand at Bureh Beach and then jump fearlessly with her surfboard into a frothy wave in the turquoise water. She paddled and floated, patiently waiting for another high wave. The boys were jumping

I'm surfing ... I'm in another country.'

magazines that foreign tourists left behind at the beach.

The ocean is therapeutic for KK. When she gets in the water, she feels freer, more at ease.

"When I'm surfing, I feel like I'm in another country," KK says. When she started out, she could barely swim. The leash tied to her ankle once snapped, and the board floated away, leaving her fighting to stay above water. One of the other surfers had to fish her out so that she wouldn't drown.

KK is one of Sierra Leone's few female surfers. She knows girls who have become pregnant and dropped out of school, or ended up with much older men, but she's always known that she didn't want that for herself. She listened in school when they told the girls not to have sex too early. Surfing kept her focused.

"Sometimes the girls, their moms don't have money to pay for them to go to school, so they always go to the boys who give them the money," KK says. The boys then may expect sexual relationships in return and abandon the girls when they become pregnant, so girls can end up living on the street.

Her mother never had much money, but because of KK's skill and dedication, she is making her own money and has never needed any boy. She works in the kitchen at the beach restaurant and sometimes sells cookies on the beach. In the

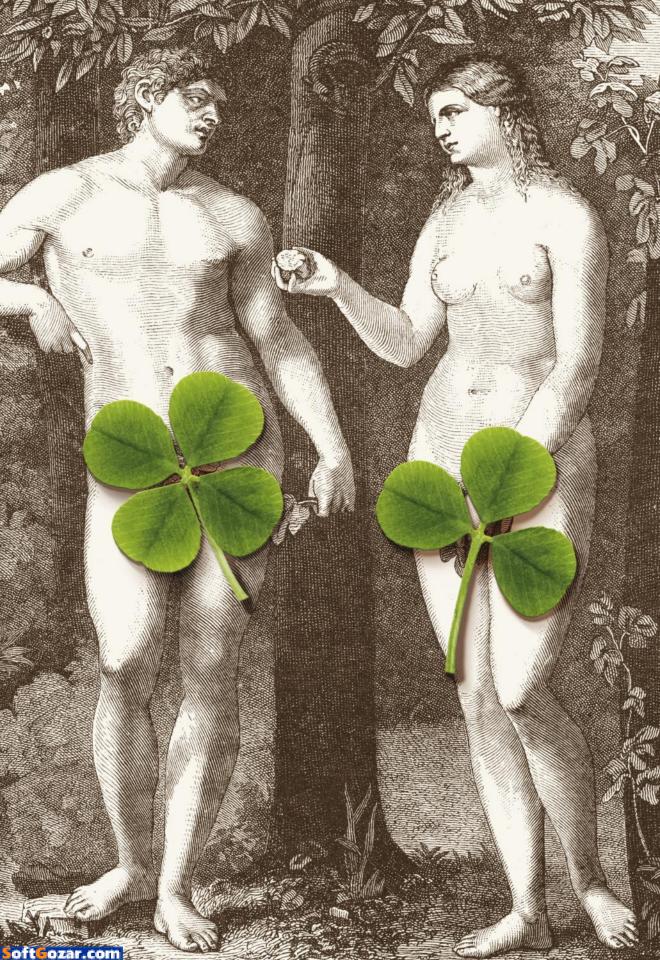
into the weak waves and crashing. A young, scrawny one made a sign of the cross before diving in. KK yelled with glee as she fell off a wave that burned out.

KK wants to make her own surfboards. Someday she hopes to open a shop to sell them and start up a surf school. "I want to teach other girls," she tells me.

In the meantime she surfs several days a week, especially in the rainy season, when waves can hover at six feet. KK is working on improving her technique. She believes that if she can get good enough, she can make a career out of surfing. She would like to be a doctor or an accountant but is uncertain whether she will be ready for college. The teachers sometimes don't teach, and she has difficulty reading.

"If I participate in surfing, I think somebody might come down to the surf club and then they see me and pick me up [to sponsor me]," she says. "Through that, I will always be able to support my family." \square

Alexis Okeowo, a staff writer for the *New Yorker*, is working on a book about extremism in Africa. This is her first story for *National Geographic*. Pulitzer Prizewinning photographer **Stephanie Sinclair** specializes in gender issues and human rights. She founded the nonprofit organization Too Young to Wed.



Our Evolving Sense of Self

Let's point toward a world in which a person's gender is neither an advantage nor an impediment.

BY ANNE-MARIE SLAUGHTER

NINE-YEAR-OLD MIKAYLA McDONALD of Ottawa, Canada, says: "There isn't anything I can't do because I'm a girl. Everyone is equal...but in the olden days everyone wasn't equal." Nine-year-old Alfia Ansari of Mumbai, India, says: "We won't get education in school, but boys will be educated, and therefore they can travel anywhere, but girls can't." Those comments to *National Geographic*, in a nutshell, reflect the tremendous discrepancies in the treatment of girls and women worldwide. No country has achieved full gender equality. In North America and much of Europe, women have made such progress that girls have some reason to believe that anything is possible. But in too many other places, girls and women are still the property of their fathers or husbands, denied the food, medicine, and education provided to men.



Anne-Marie Slaughter is president and CEO of the think tank New America. She was the first woman to serve as director of policy planning for the U.S. State Department and was a dean at Princeton University and a professor at Harvard Law School. She fueled the debate about gender equality with her 2012 Atlantic magazine article, "Why Women Still Can't Have It All."

Given the gulfs between us, is it possible to write about "the state of women" collectively? We do not all bear children; we do not all love men; we do not even all have the same genitalia.

But women do all at least have one thing in common: We are all prisoners of our cultures.

Historian Yuval Noah Harari, in his masterly account of how *Homo*

sapiens evolved, explains how women can be defined not only in terms of their biological roles but also in terms of their cultural roles. As Harari describes it, females—human beings with two X chromosomes and the bodies and hormones to match—have not changed. But women—human beings who operate in society and exercise rights under law—have progressed from

In my lifetime women in the United States have advanced in ways nearly unimaginable to me as a girl.

being the illiterate property of their husbands to being equal and educated citizens with the same rights as men under law. Though Harari's analysis may hold true in places such as Athens, it may not be as true in Ankara, Abuja, Agra, or other places where cultural norms sustain inequality.

In my experience, biological differences are real. As the mother of two boys and the aunt of five nieces, I agree with what Chip Brown writes in "Making a Man" (page 74): Some behaviors really do seem innate. My elder son was fascinated with wheels, trucks, and construction machinery before he could talk.

But biology is not destiny, for men or women. Women are still trapped and oppressed in so many parts of the world, forced to submit to the dictates of men. But men also are trapped, forced into culturally defined roles.

Boys, Brown writes, are urged to be aggressive and tough "so they may fulfill the classic duties to procreate, provide, and protect." Watching our sons be twisted to fit society's expectations of men, even when those men wield power, can be as frustrating and counterproductive as watching our daughters be denied the ability to fulfill their potential.

THE CONCEPT OF GENDER fluidity remains alien, even abhorrent, to many people in Western society. But that concept is accepted in nations

around the world, and it opens doors. Once we recognize that gender identity and expression exist along a spectrum, why should we cling to the rigid categorization of men and women? The ultimate goal, surely, is to let all people define themselves as human beings, to break out of assigned categories and challenge received wisdom.

In my lifetime, from the 1960s to the present, women in the United States have advanced in ways nearly unimaginable to me as a girl. I knew no women doctors, professors, politicians, engineers, or CEOs. One of my sons, by contrast, assumed during elementary school that men didn't serve as U.S. secretary of state, because he had learned about so many women in the job. Culture is deeply malleable and changing faster than ever.

As governments and societies realize that to survive and compete they must tap the full talent of their citizens, progress toward full gender equality will accelerate. If *Homo sapiens* advances because of the power of our imaginations, as Harari argues, then we can imagine a world in which gender does not define a person any more than race or ethnicity does. Without the weight of gendered expectations, each of us—women and men—can "develop the full circle of ourselves," to borrow Gloria Steinem's lovely phrase. We can work to extend equality and opportunity to the entire human family.

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