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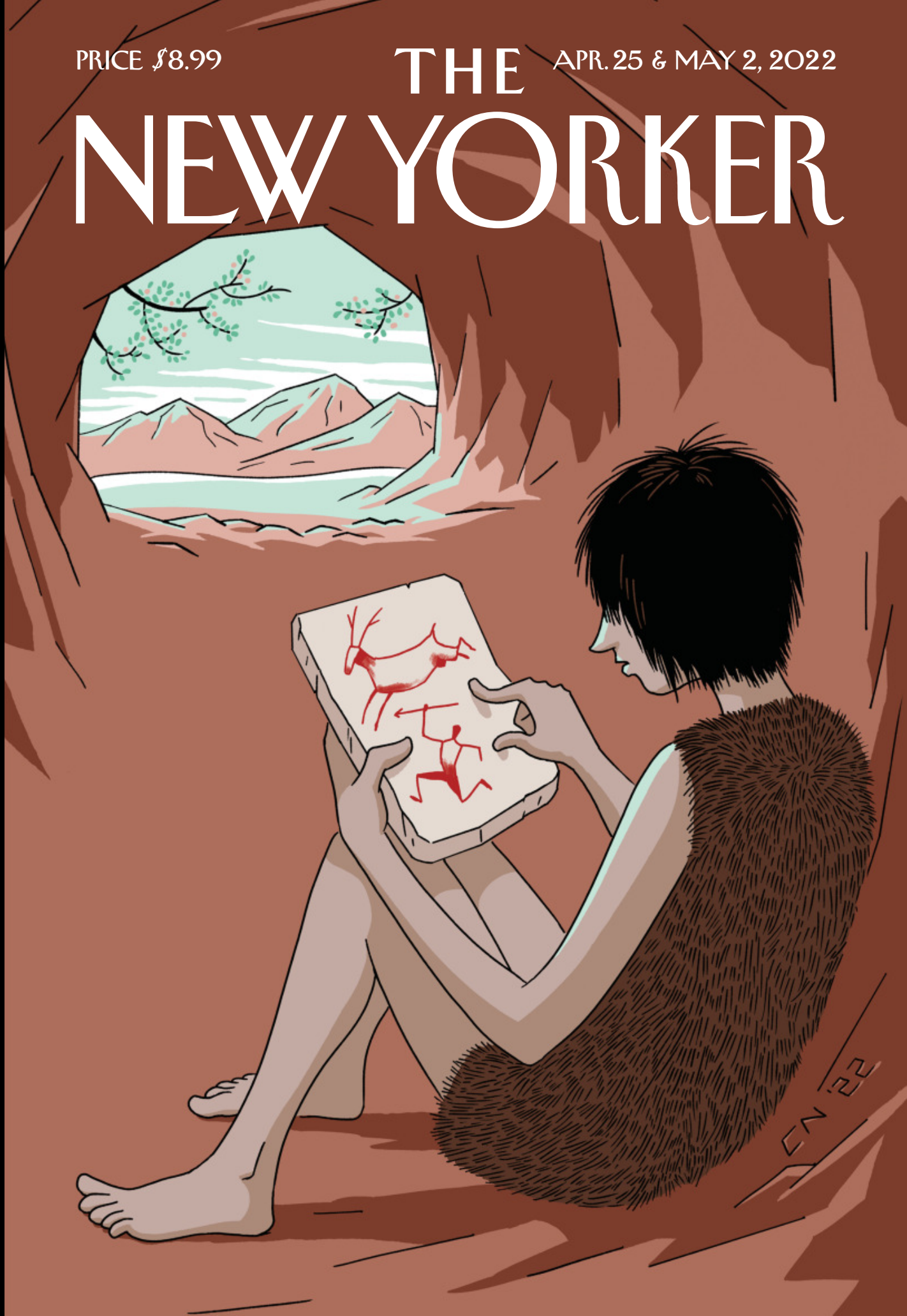

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INNOVATION & TECH

APRIL 25 & MAY 2, 2022

4 GOINGS ON ABOUT TOWN

13 THE TALK OF THE TOWN
Jeannie Suk Gersen on state-level anti-abortion moves; the subway and the shooting; the theatre of exile; Ukrainians in Brussels; Wikipedia and zenzizenzizenzic.

ANNALS OF INNOVATION
Matthew Hutson 20 Potential Energy
The rush to develop renewable storage.

SHOUTS & MURMURS
Simon Rich 26 Mario

OUR LOCAL CORRESPONDENTS
Kelefa Sanneh 30 Tough Business
Fivio Foreign and the fortunes of drill music.

A REPORTER AT LARGE
Ronan Farrow 36 The Surveillance States
Inside the global spyware arms race.

ONWARD AND UPWARD WITH THE ARTS
Rebecca Mead 48 Norwegian Wood
Timber skyscrapers for a greener future.

FICTION
Elif Batuman 56 "The Repugnant Conclusion"

THE CRITICS
BOOKS
Lauren Michele Jackson 66 *The journals of Alice Walker.*
Keith Gessen 71 *Andrey Kurkov's "Grey Bees."*
73 Briefly Noted

POP MUSIC
Amanda Petrusich 74 *Arcade Fire's "WE."*

THE THEATRE
Alexandra Schwartz 76 *"Cyrano de Bergerac," "Birthday Candles."*

ON TELEVISION
Naomi Fry 78 *"Severance."*

THE CURRENT CINEMA
Anthony Lane 80 *"The Duke," "The Northman."*

POEMS
Elisa Gonzalez 40 "After My Brother's Death, I Reflect on the Iliad"
Alex Dimitrov 51 "The Years"

COVER
Christoph Niemann "Virtual Reality"

DRAWINGS *Farley Katz, William Haefeli, Adam Douglas Thompson, Carolita Johnson, Drew Dernavich, Becky Barnicoat, Elisabeth McNair, Tim Hamilton, Frank Cotham, Suerynn Lee, Adam Sacks, Asher Perlman and Reuven Perlman, Liana Finck, Ellis Rosen, Hartley Lin, Matt Reuter, Justin Sheen* SPOTS *Matt Blease*

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THIS WEEK ON NEWYORKER.COM

ELEMENTS
The biologist Jeffrey Marlow on the laser technology that is illuminating the ocean's most delicate creatures.

PHOTO BOOTH
Matthew Leifheit captures gay life on New York's Fire Island in his series "To Die Alive."

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LEFT: STEPHEN MANGIAT; RIGHT: MATTHEW LEIFHEIT

THE MAIL

BUFFETT'S MIGRATIONS

As an aficionado of Jimmy Buffett tunes, I enjoyed Nick Paumgarten's report from the singer's Latitude Margaritaville retirement communities ("Five O'Clock Everywhere," March 28th). His vivid descriptions of some of the Parrotheads who have flocked to these developments elucidate Americans' growing fascination with unconventional retirement scenarios. Yet Paumgarten missed a chance to point out that Latitude Margaritaville defies a view of retirement that Buffett himself once expressed—in, for example, his 1974 ballad "Migration": "Most of the people who retire in Florida / Are wrinkled and they lean on a crutch / And mobile homes are smotherin' my Keys / I hate those bastards so much." Many of Buffett's songs and stories convey environmental themes that no longer ring so true, considering the fact that a third Latitude Margaritaville complex will be carved out of Florida's vanishing wilderness. I wonder: Do Buffett's seemingly changed attitudes toward community and nature reflect a person's shifting priorities as he ages, or did he abandon the ideas that formed his public persona in order to take advantage of financial opportunities?
Trevor Prouty
Goose Creek, S.C.

PUTIN'S POOR

Patrick Radden Keefe's piece about London's Russian oligarchs is a gripping, relevant read (Books, March 28th). In the opening anecdote, about Roman Abramovich's run, in 2000, for the governorship of the remote region of Chukotka, Keefe describes "his closest challenger being a local man who herded reindeer." That man was Vladimir Etylin, a Chukchi activist who has also served in the federal legislature. I worked alongside Etylin when I lived in Chukotka as an anthropologist, and he is featured in my book about the region's indigenous movement. On the basis of my experiences there, I believe that Keefe could have made a broader point about Russian politics when he notes that "the human population" in Chukotka "was meagre, and struggling with poverty and alcoholism." Those conditions were produced by Boris Yeltsin's privatization program, which brought about social and economic disaster. Everyday Russians have come to rely on the pocket change of Vladimir Putin's puppets for material improvements—hence the immiseration of Russia that we see today.
Patty A. Gray
Citrus Heights, Calif.

ART IN A TIME OF WAR

I'm grateful to Peter Schjeldahl for including, in his review of a show at the Clark Art Institute about artists witnessing war, a sensitive discussion of "The Disasters of War," Francisco Goya's series of gruesome intaglio prints (The Art World, March 21st). About the twelfth plate, Schjeldahl writes that the primary figure "could be anyone civilized . . . who comes upon carnage." In my mind, this image could depict Goya himself—in his compassion for the heaped corpses but also in his disgust at what he sees, and at what he reveals in the other plates. Plenty of artists seem to have revelled in warfare, though. I think of the graphic Assyrian bas-relief battle scenes held by the British Museum. They are as fresh and terrifying as they must have been when they were created, more than twenty-five hundred years ago—showing, for instance, soldiers tossing severed enemy heads back and forth. Unlike Goya, the sculptors in the Assyrian courts employed these images, alongside inscriptions, to trumpet the power of their monarchs and to inspire fear in their enemies. Given the state of the world, it's worth considering how artists ought to portray today's wars.
Lee Gaillard
Eugene, Ore.

•

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Acclaimed composer Brett Dean's riveting new masterpiece has its Met premiere in a powerful staging by Neil Armfield. Tenor Allan Clayton stars in his breakthrough portrayal of Shakespeare's tormented Dane.

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GOINGS ON ABOUT TOWN

The singer-songwriter **Indigo De Souza** has rapidly evolved into one of indie rock's most versatile young voices. After débuting, in 2018, with "I Love My Mom," an endearing, albeit crude, grunge-pop revelation, her second album, "Any Shape You Take," from 2021, brought breadth to her songs of unsustainable love, smoothing out her sound and refining her lyrics, even as she extended into new territory sonically and emotionally. On April 24, De Souza brings her bracing, catharsis-driven breakthrough to Music Hall of Williamsburg.

PHOTOGRAPH BY SOPHIA WILSON

As ever, it's advisable to confirm engagements in advance and to check the requirements for in-person attendance.

ART

Morgan Bassichis

This gifted New York performance artist's first solo gallery show is a spare but inviting installation of videos, handwritten to-do lists, and colorful pamphlets offering a series of "Questions to Ask Before" such potentially nerve-racking situations as "Beginning a New Friendship" and "Spending Time with a Niece." Bassichis—whose approach blends queer cabaret with an informal style of motivational speaking, laced with commiseration and self-doubt—has a gentle charisma and a preternatural ability to spin any experience into a song. One video finds the artist in the tub, accompanied by an electronic keyboard, extolling the limitless uses of the bathroom as a creative space. In the video series "Pitchy," unrelenting stream of consciousness becomes a new genre of musical theatre. A piano and an empty "stage," in the form of a carpet, establish a mood of absence—and of anticipation. On April 22, at 7:30, Bassichis, with their light touch and multilayered humor, goes live, performing their new piece "Questions to Ask Beforehand." (Reservations, via bridgetdonahue.nyc, are required.)—*Johanna Fateman (Donahue; through May 14.)*

André Cadere

Cadere, who was born in Poland, in 1934, and raised in Romania, moved to Paris in the nineteen-sixties—and his mischievous presence on the conceptual-art scene was similarly international. In the decades since the artist died of cancer, in 1978, he has become a cult figure, best known for sneaking his colorful, rodlike sculptures into other artists' shows, from London to Manhattan. In this marvellous exhibition of works made between 1965 and 1978, a grid of photographs, taken in New York City, in 1975, documents one such sculpture in a host of urban vignettes: leaning casually against a utility pole, a subway seat, and a basketball court's chain-link fence. A number of physical examples of the sculptures—their hand-carved cylindrical segments based on mathematical sequences—appear in the exhibition, too, propped against or mounted on walls. But, visually speaking, these playful interventions pale beside the structured delirium of Cadere's lesser-known paintings, in which biomorphic shapes in jewel tones and pastel hues join kaleidoscopic geometries in a seductive strain of Op art, an unexpectedly lush precursor to the provocations that followed.—*J.F. (Ortuzar Projects; through May 7.)*

"Whitney Biennial 2022: Quiet as It's Kept"

This startlingly coherent and bold exhibition is a material manifesto of late-pandemic institutional culture. Long on installations and videos and short on painting, conventional sculpture, and straight photography, it is exciting without being especially pleasurable—geared toward thought. The innovative, intimately collaborative curators David Breslin and Adrienne Edwards ignore rather than oppose pressures of the ever-romping art market, which can see to itself. Delayed for a year by COVID-19, the show consolidates a trend that many of us hadn't suspected: a sort of fortuitously shared conceptual sensibility that suggests an in-group but is open to all who care about art's relations to the wide world. My favorite work in the show is the indelibly disturbing and enthralling "Your Eyes Will Be an Empty Word" (2021), by the veteran Cuban American artist and singularly plainspoken social activist Coco Fusco—a gorgeous twelve-minute video exploration of Hart Island, New York's potter's field, for unidentified or unclaimed corpses. Shots of the artist laboring in a rowboat along its shores alternate with drone overviews of a really quite lovely place where rows of small stone markers perfunctorily memorialize innumerable lost lives. Beauty stands in for unconsummated mourning. The work can seem to invoke both the cascading fatalities of the COVID pandemic and, by chance, the remorseless current carnage in Ukraine.—*Peter Schjeldahl (Whitney Museum; through Sept. 5.)*

DANCE

New York City Ballet

The company begins its six-week spring season (April 19-May 29) with a première from the newly hot experimental choreographer Pam Tanowitz (April 22) and ends with a week of Balanchine's magical "A Midsummer Night's Dream" (May 21-29). In the middle is a two-week festival (May 3-15) devoted to the music of Stravinsky. In addition to Tanowitz's new ballet "Law of Mosaics," which is set to a score by the California-based composer Ted Hearne, the company has also acquired Tanowitz's "Gustave le Gray No. 1," a quartet, created in 2019, for which two dancers from Dance Theatre of Harlem, Anthony Santos

AT THE GALLERIES

COURTESY THE ARTIST / WELANCORA GALLERY

Most of New York City's galleries are clustered in districts. (See the lately ballooning scene in Tribeca.) But some spaces are destinations in themselves. Two decades ago, in Brooklyn's Bedford-Stuyvesant neighborhood, the insightful Ivy Jones opened Welancora, a Black-owned gallery anchored by the work of Black artists, long before every big-box gallery in town began jumping on the diversity bandwagon. In the airy parlor floor of a brownstone at 33 Herkimer Street, Welancora is showing (through May 7) the abstractions of **Carl E. Hazlewood,** a Guyanese-born American artist, who is also an accomplished curator and writer. In Hazlewood's hands, simple means—plastic mesh, cut paper, pushpins, fabric, metallic string—assume formally and intellectually complex dimensions. Slipping between painting, installation, and drawing, he introduces ideas of the African diasporic experience (the Middle Passage, Afro-Caribbean folktales) in layered compositions that are buoyant but searing. The shape-shifting trickster Anansi is one recurring motif (as seen in "BlackHead Anansi Ensnares the Sun," pictured above), a proxy, perhaps, for the ingenious artist himself.—*Andrea K. Scott*

and Alexandra Hutchinson, join two from City Ballet (April 22-24). The company also brings back Jerome Robbins's "The Goldberg Variations" (April 19-21, April 23, and April 26), an hour-long exploration of Bach's work, one of the choreographer's most experimental ballets.—*Marina Harss (David H. Koch Theatre; through May 29.)*

David Dorfman

Dorfman's new piece "(A) Way Out of My Body" frets and wallows in the predicament of having a body and the desire to escape it. To a tuneful score played by the singer-songwriter Elizabeth de Lise and a house band, the choreography, for a cast of seven, stays in Dorfman's signature mode of sincere self-hurling and tender support. The choreographer, now in his sixties, throws himself around while talking about his mother and multiple sclerosis.—*Brian Seibert (N.Y.U. Skirball; April 22-23.)*

Flamenco Festival

After an absence of two years, this showcase of new and vibrant flamenco returns. The dancer and choreographer Manuel Liñán channels the winds of change in his show "¡Viva!" (April 22), in which seven male dancers, including Liñán, don the long dresses, fringed shawls, and elaborate hair styles usually associated with female *bailaoras*. The show, both joyful and transformative, has been a huge hit in Spain. "Gala Flamenca" (April 23-24) is an evening of solos and group numbers, performed to live music, by a trio of extraordinary dancers—Mercedes Ruiz, Eduardo Guerrero, and María Moreno. María Terremoto, the twenty-two-year-old singer with whom they share the stage, is a force in her own right.—*M.H. (City Center; April 22-24.)*

Limón Dance Company

Seventy-six years after its founding and fifty since the death of its namesake choreographer, José Limón's company endures. Its two-week season at the Joyce kicks off with the première of "Only One Will Rise," by the accomplished Burkinabé-born choreographer Olivier Tarpaga, but it also reaches back to "Air for the G String," a 1928 work by Limón's mentor and the troupe's first artistic director, Doris Humphrey. Limón's majestic "Psalm" returns with its original score restored, as does his Bach solo "Chaconne," with a different guest dancer each night. The second week's program includes a première of its own—"Migrant Mother," a celebration of Indigenous culture, by the Mexican choreographer Raúl Tamez—along with Limón's final work, "Waldstein Sonata," and a reconstruction of one of his first, "Danzas Mexicanas."—*B.S. (Joyce Theatre; April 19-May 1.)*

Sasha Waltz & Guests

The seductive premise of Sasha Waltz's "In C" is that it is infinitely mutable, its structure open but orderly, allowing for variation. The piece is based on, and follows similar rules to, the composer Terry Riley's seminal Minimalist work, from 1964: as Riley did for his musicians, Waltz gives her dancers a series of instructions, a structure to create dance phrases, which they execute as often as they choose, while remaining aware of the others onstage. Freedom combined with rules creates a flexible but harmonious system, a kind of dance heaven, bathed in Olaf Danilsen's jewel-tone lighting. Waltz's Berlin-based company performs the piece at BAM.—*M.H. (Howard Gilman Opera House; April 28-30.)*

Mufutau Yusuf

When Mufutau Yusuf was nine, he and his family emigrated from Nigeria to Ireland. Nine years later, he made his professional début with Irish Modern Dance Theatre, and in the following decade his reputation as a standout performer has grown. In "Òwe," a cryptic fifty-minute solo, he investigates his in-between identity. Alone onstage with an audiovisual archive that mixes family photos and found footage of Nigerian history, he searches the archive that is his body—shaking, exploding, molding experience into art.—*B.S. (Irish Arts Center; April 21-24.)*

ON TELEVISION

There are so many shows featuring ripped-from-the-headlines stories that it's a wonder there are any headlines left from which to rip. Thus, it can be difficult to tell what you should inhale, and what you should ignore. **"The Girl from Plainville,"** now streaming on Hulu, falls somewhere in the muddled middle. The sensational 2015 court case that inspired the show is juicy and thorny, to be sure: Michelle Carter, a teen-age girl from Massachusetts, sent text messages encouraging her boyfriend, Conrad Roy, to kill himself, and he did. Does this make her a criminal? The story formed the basis for an HBO documentary and countless think pieces, and yet the creators of the Hulu series, Liz Hannah and Patrick Macmanus, have done a valiant job injecting new life and nuance into it. Elle Fanning gives a chilling performance as Michelle, as does Colton Ryan as Conrad, and the supporting cast (Chloë Sevigny, Aya Cash, Cara Buono) is a dynamic bunch. But, even with artful camera angles and gauzy dream sequences, the story ends up feeling more tabloid than tactful.—*Rachel Syme*

THE THEATRE

The Little Prince

Co-directed by the French choreographer Anne Tournié, this interpretation of the well-loved book by Antoine de Saint-Exupéry is, above all, a showcase of dance and aerial acrobatics, performed by a virtuosic international ensemble. The show is led, in the title role, by Lionel Zalachas, who enters the stage, impressively, balanced on a large rolling ball that serves as his home planet. An onstage narrator (Chris Mouron, who adapted the script and co-directed) recites much of the book's text verbatim, but because the selection emphasizes the most sentimental lines, rather than the wryly faux-naïve flights of philosophy that make it unique, the story's wisdom often gets lost amid the dancing, dazzling though it is. And it's disappointing in a production of this scale that video projections (by Marie Jumelin), attractive though they are, substitute for physical sets.—*Rollo Romig (Broadway Theatre; through Aug. 14.)*

Paradise Square

Sentimental syrup has been liberally spooned over this new musical (with a book by Christina Anderson, Craig Lucas, and Larry Kirwan),

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R. & B.

As the front person of the progressive funk band the Internet, the singer-songwriter Syd has led the group's eclectic charge into experimental music. Her solo work is something else entirely—vibrant R. & B. that honors the genre's history. Her 2019 début, "Fin," revelled in the freedom afforded by independence, diving deeper into her player persona. Syd's second album, **"Broken Hearts Club,"** is the first music, solo or otherwise, to find her vulnerable and smitten, using her quiet voice to mimic the life cycle of head-over-heels infatuation. It is lilting, lovelorn alt-blues that carefully traces the arc of a tryst gone sour, and in her new role as monogamist she has never been more transparent. Here, Syd achieves a novel sharpness as a writer, scripting honeymoon romance and "what are we" entanglement with equal acuity.—*Sheldon Pearce*

which uses the New York Draft Riots as the backdrop to a tale of—what else?—resilience and love. It's 1863, and in Manhattan's slummy Five Points neighborhood Nelly O'Brien (Joaquina Kalukango) runs Paradise Square, a tavern where Irish and Black neighbors gather to quaff ale as one. Nelly's own family is merrily blended: she's a Black woman married to an Irishman; her feisty Irish stereotype of a sister-in-law, Annie (Chilina Kennedy), is wedded to a Black reverend (Nathaniel Stampley). Personal and political tensions flare when Annie's nephew (A. J. Shively) arrives from the old country to find himself threatened with Lincoln's draft; meanwhile, Nelly, antagonized by a bigoted uptown party boss (John Dossett), risks everything by harboring an enslaved man on the run (Sidney DuPont). The dancing (choreographed by Bill T. Jones), which puts Irish step dancing into dialogue with African American stepping, is superb; the voices sublime; the music (by Jason Howland) and lyrics (by Nathan Tysen and Masi Asare) as broad as the maudlin story. What stays in the mind is Kalukango, who explodes through the schlock with cataclysmic force; she deserves better than this show, and she'll get it.—*Alexandra Schwartz (Barrymore; open run.)*

The Patsy

Is there anything more adorable on a New York stage than David Greenspan flirting with himself? Jack Cummings III directs this revival, for Transport Group, of Greenspan's fleet-footed feat from 2011, in which one inexhaustible actor plays all eight characters in a creaky, charming, long-forgotten romantic comedy by Barry Conners, which débuted on Broadway in 1925. Greenspan—ricocheting all over Dane Laffrey's smart, lilac-wallpapered cube of a set, without a single costume change and little more than a telephone for a prop—builds what feels like a lunatic stunt into a style that might be called precision camp. As the audience surrenders, a question arises: Are we laughing at "The Patsy," the century-old play, or at Greenspan's affectionate mockery of "The Patsy"? The answer, usually, is both at once.—*R.R. (Abrons Arts Center; through April 30.)*

MUSIC

A-Trak: "10 Seconds Vol. 1"

ELECTRONIC The Montreal native Alain Macklovitch, who spins and produces records as A-Trak, approaches both d.j.'ing and beat-making with a straightforward effervescence that allows him to play for any crowd—be it at a Kanye West arena show (A-Trak once served as a d.j. for the rapper) or in a tiny club full of owlish techno nerds. "10 Seconds Vol. 1," his new EP, was made with an old E-mu SP1200, a late-eighties drum machine, sequencer, and digital sampler, and the end result has the warmth, vibrancy, and choppiness of turn-of-the-nineties New York house, made with the E-mu or similar systems, by the likes of Masters at Work and Todd Terry.—*Michaelangelo Matos (Streaming on select platforms.)*

Altin Gün and Sessa

INTERNATIONAL This canny bill pairs the band Altin Gün with the singer and guitarist Sessa—fellow-travellers in the global rock underground, though they are musically and geographically removed. Altin Gün presents a cultural scramble, with Turkish, Indonesian, and Dutch members psychedelicizing Turkish folk from their perch in Amsterdam. The sextet's third album, "Yol," invokes the sensation of entering a foreign club while in a jet-lagged daze, with dance songs that seem suspended between eras and borders. Sessa, a São Paulo native, purrs sinuous ballads that evaporate immediately into the ether. Like his singer-songwriter touchstones, both Brazilian and Leonard Cohenian, he cultivates an air of inscrutability and depth—and often seems to be up to something dirty.—*Jay Ruttenberg (Music Hall of Williamsburg; April 27-28.)*

Joyce DiDonato

CLASSICAL Joyce DiDonato's new album, "Eden," rejoices in the glories of Mother Nature, but its ambitious scope, however admirable, leads it astray. The set opens with Charles Ives's iconic instrumental piece "The Unanswered Question," and DiDonato sings the trumpet part—a usurpation that injects human knowledge into Ives's carefully cultivated atmosphere of mystery. The thematic cohesion of the texts doesn't ameliorate the hodgepodge of styles: the opening sequence moves from Ives to Rachel Portman (a cinematic commission entitled "The First Morning of the World"), Mahler, and obscure figures from the Italian Baroque and Classical periods. The one constant is DiDonato's polished singing—she has a way of winnowing her sound down to a thread, slender yet tensile, as she circumnavigates an inspiring world. The orchestra Il Pomo d'Oro, led by Maxim Emelyanychev, plays with crackling intensity, and it joins the mezzo-soprano at Carnegie Hall for a staging of the album.—*Oussama Zahr (Carnegie Hall; April 23.)*

Jawbreaker

PUNK The punk trio Jawbreaker released four albums in the nineties, all of them featuring catchy songs, filled with ache and acuity, that still hit like winter blues beginning to thaw in spring. The band's poetic lyrics, written by Blake Schwarzenbach, were a form of pop-punk literary compression. "I have a picture of you and me in Brooklyn / On a porch, it was raining / Hey, I remember that day," goes a highlight from Jawbreaker's classic 1994 record, "24 Hour Revenge Therapy," called "Do You Still Hate Me?" To that query, subsequent generations of rock and emo musicians have offered a resounding no—including emerging punk heroes such as the teen-aged Linda Lindas, who opens for Jawbreaker this week, and a young New York band that, a decade ago, named itself Jawbreaker Reunion. Jawbreaker's actual reunion tour focusses on the group's final album, the glossier major-label jump "Dear You," once vexed, now cherished.—*Jenn Pelly (Irving Plaza; April 27-30.)*

The Jazz at Lincoln Center Orchestra with Wynton Marsalis

JAZZ The Apollonian sheen of the Jazz at Lincoln Center Orchestra may seem to go against the grain of the Dionysian vitality of Charles Mingus's music, but the bandleader Wynton Marsalis and his spit-and-polish crew have the requisite stamina and enthusiasm to honor the great man's centennial in style. Mingus's work revelled in small-group interplay as well as orchestral complexity; Marsalis himself has crossed similar territory throughout his career, and he should bring considerable insight into making Mingus's inimitable music come alive.—*Steve Futterman (Rose Theatre; April 22-23.)*

LONG PLAY

CLASSICAL Since 1987, Bang on a Can—a composers' collective founded by David Lang, Julia Wolfe, and Michael Gordon—has been curating marathon-style contemporary-music

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concerts that run for twelve hours or more. (The twentieth-anniversary edition took more than a day to perform.) The title of B.O.A.C.'s new festival, LONG PLAY, indicates a new level of enterprise, with more than sixty concerts across three days, in venues around Brooklyn (Roulette, Public Records, BAM, and Littlefield, among others). The program reflects a healthy appreciation for pioneers of the recent past: there's Karlheinz Stockhausen's "Stimmung," Terry Riley's "In C," and, for the festival's finale, a reimagining of Ornette Coleman's 1959 album "The Shape of Jazz to Come." A number of experimental composer-performers, including the electronicist Phong Tran, the free-jazz bassist Brandon Lopez, and the vocalist Pamela Z, give concerts as well.—*O.Z. (Various; April 29-May 1.)*

MOVIES

Hit the Road

The jaunty title of the Iranian director Panah Panahi's first feature belies the passionately sombre story of a family of four that's travelling clandestinely to the border so that the elder son, Farid (Amin Simiar), who's about twenty, can illegally emigrate. The dangers of the journey are marked by the family's evasive maneuvers—leaving cell phones behind, stopping suddenly in fear of being followed, communicating in code with a designated contact—and the extreme expense that the family has incurred. Yet the action highlights their sharp, contentious, intensely loving relationships. The unnamed mother (Pantea Panahiha) struggles to suppress her anguish at the impending separation; the cynical and disillusioned father (Hassan Madjooni) carps with forlorn humor from the back seat; and the purpose of the trip is concealed from the antically imaginative and wildly impulsive young son (Rayan Sarlak). The story opens wider dimensions in chance encounters with an ambitious bike racer and with the families of other émigrés; Panahi's spare, controlled style unites intimate conflicts and vast landscapes in framings as wry as they are rhapsodic.—*Richard Brody (In theatrical release.)*

The Panic in Needle Park

In their first major movie roles, Al Pacino and Kitty Winn star in Jerry Schatzberg's 1971 drama, as a pair of drug addicts drifting through Manhattan's horror holes in a state of mutual self-destruction. The overheated Bobby (Pacino), a crook since childhood, is a bundle of jitters and motormouthed sass from the city streets. He cools down with the heroin that his girlfriend, Helen (Winn), a torpid artist from Indiana, uses to thaw her emotional core (frozen solid by an illegal abortion). The city seems rotted by the schemes of hustlers in need of a fix and by the law's corrupting force (embodied by Alan Vint, as a soft-spoken, hard-nosed detective). Schatzberg doesn't romanticize the addicts' troubles; with a tender but unsparing eye, he spins visual variations on shambling degradation and on fleeting relief, and makes the sudden lurch of moods, ranging from bad to worse, his subject. Briskly panning telephoto shots, with their tremulous mysteries, reveal a city within a city, a second world of experience that shows through New York's abraded surfaces.—*R.B. (Playing on TCM April 20.)*

Petite Maman

Céline Sciamma's latest film is her most concise, running a lean seventy-two minutes, and featuring a bare handful of characters and locations. Yet nothing about it feels small. Nelly (Joséphine Sanz), aged eight, goes with her parents to stay in the house of her late grandmother, in the French countryside. There, in the woods, she meets and befriends Marion (Gabrielle Sanz), who is not only her exact double but who will, as both girls gradually realize, grow up to become Nelly's mother (Nina Meurisse). In other words, this is a time-travel movie, though it bears none of the traditional trappings of science fiction. What it investigates, with wistfulness and wit, is the theme of the lonely childhood, as well as our childish fascination with what our parents must have been like—who they were—when they were young. For good measure, we also get a suitably messy pancake-making scene.—*Anthony Lane (In theatrical release.)*

Saturday Fiction

This frenetic and paranoid thriller, by the Chinese director Lou Ye, is set in Japanese-occupied Shanghai at the time of the Pearl Harbor attack. With irony seething in his kinetic camerawork and silky black-and-white tones, Lou uses historical drama to expose the corruption and the terror of a modern surveillance state. Gong Li plays Jean Yu, a famous actress who returns to the city—where British and French zones remain protected—to perform in a play, but she has an ulterior motive: to inquire about her ex-husband, a captive of Japanese forces. There, she also meets a manipulative French diplomat from her past (Pascal Greggory) and a mysterious young fan (Huang Xiangli). The high-stakes deceptions of espionage threaten romantic and professional relationships alike. Binoculars, two-way mirrors, hidden microphones, and encrypted messages add suspense to secret encounters; conflicting plots of collaboration and resistance spark public violence and turn the opening of a play into a political act of international import.—*R.B. (In theatrical release.)*

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ON THE BIG SCREEN

COURTESY IYUGI PRODUCTIONS

One of the highlights of this year's edition of New Directors/New Films, running April 20-May 1 at MOMA and Film at Lincoln Center, is **"Father's Day,"** the fourth fiction feature by the Rwandan director Kivu Ruhorahoza, which interweaves the lives of half a dozen main characters. Their stories, as the title suggests, are centered on paternity and its power: the cruelty and arrogance of Karara (Yves Kijyana), a petty thief who is mentoring his young son in a life of crime; the despair of Zaninka (Médiatrice Kayitesi), a masseuse who is grieving for her son while fending off both a male client's advances and her ne'er-do-well husband's financial demands; and the quiet rage of Mukobwa (Aline Amike), who discovers that her elderly father took part in the genocidal massacres of 1994. Ruhorahoza's drama reveals the hidden connections among his many characters and the underlying social conflicts that they confront. One man's sexual abuse of a woman breeds the wanton violence of another man, a self-proclaimed protector; the COVID pandemic threatens livelihoods, but as Zaninka tells a friend, it "only shakes things that were not solid to begin with."—*Richard Brody*

TABLES FOR TWO

All'Antico Vinaio
729 Eighth Avenue

I won't take a side in the battle over whether the city's office workers should be expected to return to their desks as we shift with an ever-evolving pandemic. I will note that anyone with a desk in or near Midtown West might be incentivized by the promise of a superlative lunch. Last November, All'Antico Vinaio, an extraordinarily popular sandwich shop that originated in Florence, Italy, before expanding to Milan and Rome, opened its first U.S. outpost, in New York. I've been to Florence just once, for barely a day some summers ago, and what I did with that day, other than speed through the Uffizi, was optimize for eating. Lunch was at All'Antico Vinaio.

I ordered La Paradiso, tripling down on my favorite nut: thin coins of pistachio were spangled, like leopard spots, throughout floppy folds of mortadella that had been layered with an oily, pesto-like "pistachio cream" and stretchy stracciatella (made from mozzarella curds mixed with cream) dusted in crushed pistachio, stacked between enormous rectangles of freshly baked *schiacciata,* a focaccia-adjacent Tuscan bread. (*Schiacciata* means "squished," as in with fingertips.) I ate it, both hands required, on a doorstep across the cobblestoned street from the shop, drinking cold wine out of a plastic cup. I saw, in vivid colors, what all the fuss was about.

Eighth Avenue is no Via dei Neri. The Florence shop is a two-minute walk from the Palazzo Vecchio, home to the famous copy of Michelangelo's David. The New York shop is a six-minute walk from the Times Square M&M's World. But their interiors are mostly indistinguishable, and in New York there's a small horseshoe-shaped seating area, wooden counters, and a few stools, all flooded with sunlight one recent afternoon. It was a pleasure to observe the work of a small team of expert sandwich-makers—artists, really, to borrow a term from Subway—including one who had been transferred, indefinitely, from Florence.

Towering stacks of *schiacciata* emerged from the basement at regular intervals, shiny with olive oil and sparkling with coarse salt, releasing clouds of steam from a dense landscape of air bubbles as the loaves were sliced horizontally, ends slivered off and passed to patiently waiting customers. Each slab was piled with irresistible combinations of freshly cut meats, cheeses, flavored creams, and vegetables. It can be hard to choose from the sixteen options, especially given an overlap in ingredients. A tiny chalkboard placard on the counter helpfully lists the two best-sellers, which also sit at the top of the menu. La Favolosa features Tuscan salami and soft cubes of spicy marinated eggplant, plus Pecorino and artichoke creams. La Schiacciata del Boss encases Tuscan prosciutto, sliced Pecorino, and a generous smear of inky black-truffle cream.

There are plenty of sandwiches for vegetarians. Steer clear of La Caprese outside of tomato season, unless you don't mind a pale, mealy beefsteak; try, instead, La Broadway, loaded, like La Paradiso, with stracciatella, pistachio cream, and, in place of mortadella, sun-dried tomatoes, cubed zucchini, and a handful of arugula. The L.A. Fade Away, which comprises those vegetables plus eggplant and Gorgonzola, is satisfying as well, though I'm not sure what it has to do with L.A. (The New Yorker is made with roast beef and onion-porcini cream; there's turkey and avocado in the Venice Beach.) Vegans will have a harder time, as did the woman behind me in line who announced that she liked cheese but not "cold cheese." If you eat pork, to skip the meats—the salame, the prosciutto, the capocollo, the porchetta, the 'nduja—is to do yourself a grave disservice.

My two favorite All'Antico sandwiches exalt the Tuscan art of salumi by including only meat and cheese, the saltiness of each sharpened by a drizzle of truffle honey. La Toscana marries salame and Pecorino. The Dolcezze d'Autunno pairs Gorgonzola with lardo, cutting through the figurative fat by homing in on the purest stuff. *(Sandwiches $10–$18.)*

—Hannah Goldfield

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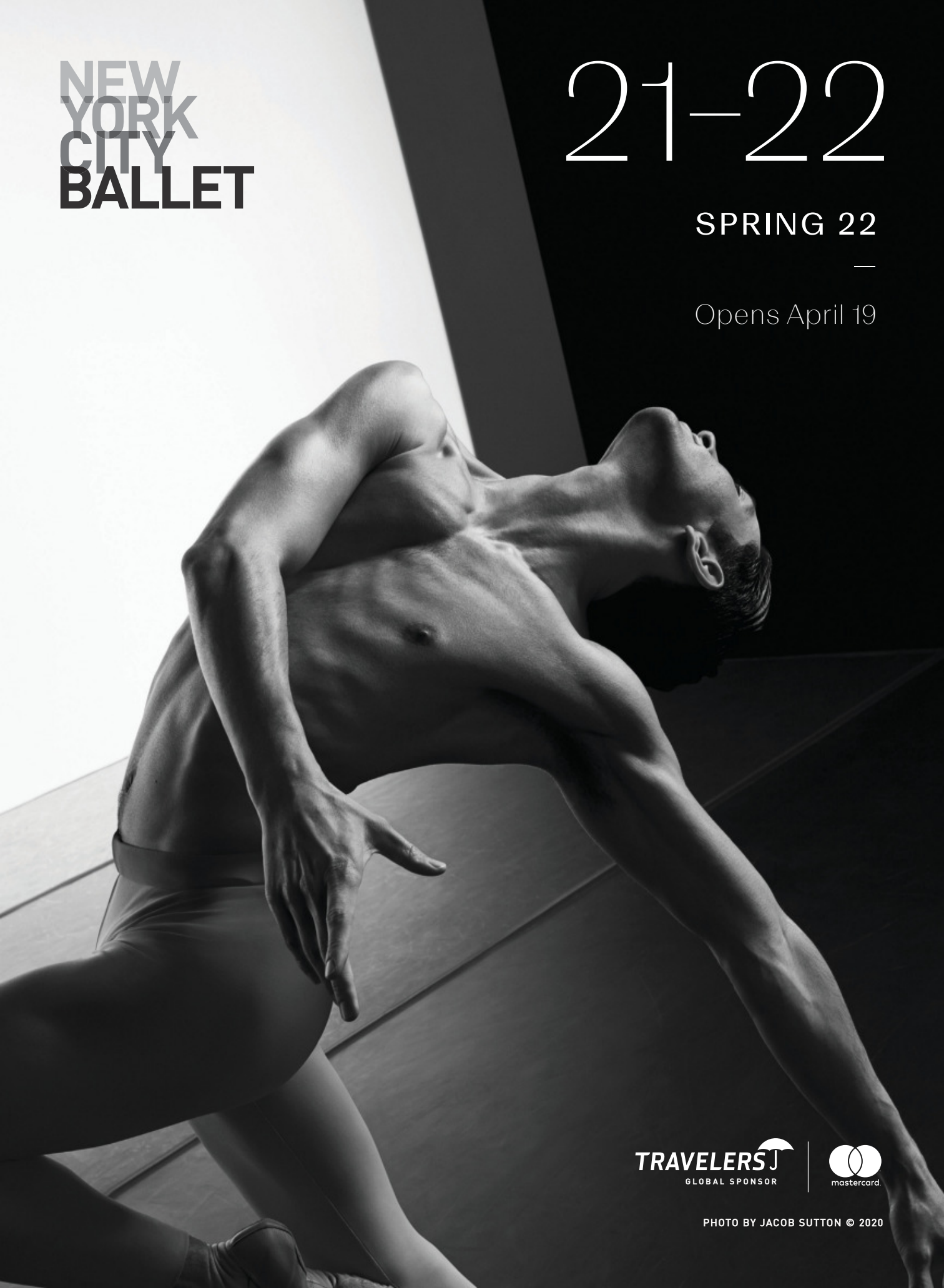
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THE TALK OF THE TOWN

COMMENT

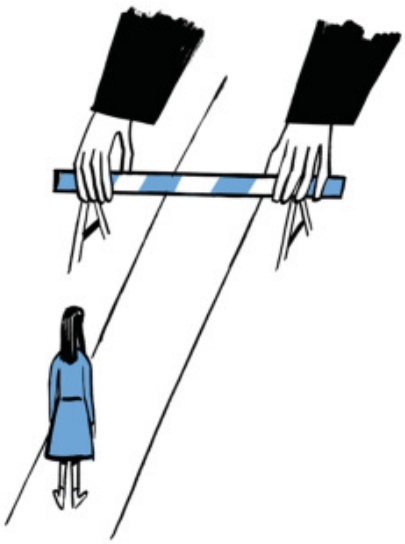
BEYOND ROE

In 2003, when the Supreme Court held, in Lawrence v. Texas, that criminalizing gay sex was unconstitutional, it insisted that the decision had nothing to do with marriage equality. In a scathing dissent, Justice Antonin Scalia wrote, "Do not believe it." Then, in 2013, when the Court struck down the federal Defense of Marriage Act's definition of marriage as being between a man and a woman, emphasizing the tradition of letting the states define marriage, Scalia issued another warning, saying that "no one should be fooled" into thinking that the Court would leave states free to exclude gay couples from that definition. He was finally proved right two years later, when the reasoning on dignity and equality developed in those earlier rulings led to the Court's holding that the Constitution requires all states to recognize same-sex marriage.

Just as rights can unfold and expand, however, they can also retract and constrict in breathtaking ways, pursuing a particular strain of logic one case at a time. In the forthcoming decision in Dobbs v. Jackson Women's Health Organization, the Court is widely expected to overturn or severely undermine its abortion-rights cases, Roe v. Wade and Planned Parenthood v. Casey. In fact, following the comments of the six conservative Justices at the oral arguments in December, the strength of this expectation has spurred state legislative efforts to proceed as if Roe were already gone. A handful of states have passed laws, like the Mississippi law at issue in Dobbs, that ban abortion after fifteen weeks of pregnancy, in violation of precedents establishing that abortion cannot be banned before "viability," at around twenty-four weeks. (On Friday, Florida became the most recent.) Some of the laws have been blocked by the courts, but, if Mississippi prevails, the states expect to be free to enforce these bans.

Among the more restrictive bills currently under consideration across the country, more than a dozen emulate the Texas "heartbeat" law, which bans abortion after six weeks of pregnancy and allows only private citizens, not state officials, to enforce the ban. That provision insulates the law from being challenged as unconstitutional in federal court. The Supreme Court repeatedly declined to block the Texas ban, but did leave open a possible avenue to challenge it. In March, the Texas Supreme Court closed that avenue.

Idaho became the first state to enact a Texas-inspired law. Idaho's law bans abortion after about six weeks, and allows family members (including a rapist's relatives) of the "preborn child" to sue a provider who performs an abortion. The law was passed last month, but Idaho's Supreme Court has temporarily blocked it from taking effect. Missouri has introduced a bill that allows private citizens to sue an out-of-state abortion provider, or even someone who helps transport a person across state lines for an abortion. Wyoming has passed a law that bans most abortions, which will be triggered if the Supreme Court overturns Roe. The boldest effort thus far, though, has been in Oklahoma, a destination for Texans seeking abortions. Two weeks ago, Oklahoma's legislature made it a felony punishable by ten years in prison to perform an abortion except to save a woman's life in a medical emergency. The governor signed the bill last Tuesday; the law is set to go into effect in August.



Overturning Roe would be the culmination of a half-century-long legal campaign singularly focussed on that outcome. And there are signs that, far from being an end in itself, it would launch even more ambitious agendas. In the Dobbs litigation, Mississippi denied that doing away with Roe would cast doubt on other precedents, set between 1965 and 2015, on which Roe rested or which relied on Roe. This series of decisions held that states cannot ban contraceptives, criminalize gay sex, or refuse to recognize same-sex marriage. The state told the Court that those cases are not like Dobbs, because "none of them involve the purposeful termination of a human life." But all of them involve the question of whether states should be able

ILLUSTRATIONS BY JOÃO FAZENDA

to make laws that affect some of the most intimate aspects of people's lives. In recent weeks, in anticipation of the Dobbs decision, various Republican senators have questioned Griswold v. Connecticut, which struck down a state ban on contraceptives; Obergefell v. Hodges, which required states to recognize same-sex marriage; and even Loving v. Virginia, which invalidated a state anti-miscegenation law. Overturning Roe would almost certainly fuel the broader fight to get fundamental moral issues out of the realm of federal constitutional rights and under the control of the states.

A Supreme Court decision overturning Roe would seek to justify itself on the ground that it allows states to resolve the issue of abortion for themselves, through democratic processes, rather than by having a resolution imposed on them. At that point, it will be tempting to echo Justice Scalia's "Do not believe it" warning. Although the legal arguments against Roe have focussed on returning the issue to the states, for five decades the core moral belief against the ruling has been that abortion is the termination of a human life. Last week, a twenty-six-year-old Texas woman was arrested on murder charges, for "intentionally and knowingly causing the death of an individual by self-induced abortion." The prosecutor dismissed the case, saying that the Texas law did not apply to it. But the incident suggested a possible post-Dobbs future, in which states pursue criminal charges against people who have abortions as well as against those who provide them.

It may also be only a matter of time, if Mississippi prevails, before pro-life legal efforts turn toward getting the Supreme Court to recognize the constitutional rights of the fetus. These efforts would focus on the same part of the Constitution that was previously held to provide the right to abortion, the Fourteenth Amendment, which prohibits states from depriving "any person of life, liberty, or property without due process of law." Fetuses are currently not considered to be persons. But Mississippi's brief repeatedly notes the human attributes of the fetus, in utero, and it may be a precursor to future constitutional arguments to the effect that fetal personhood prohibits abortion.

In the face of such a push, liberals may one day find themselves advocating for leaving the matter to the states, and perhaps even seeking novel methods—like the one Texas concocted—to circumvent federal-court review of state laws protecting abortion access. Whether or not it would take another fifty years or more for a fetal right to unfold, the pro-life legal movement has demonstrated its ability to fight the long fight.

—Jeannie Suk Gersen

UNDERGROUND
CIVIL INATTENTION

One of the more surreal parts of last week's shooting on the N train was a strange circularity. Here was an alleged perpetrator of monstrous subway violence who was attuned to, and dabbled in, our civic arguments over subway violence. "Eric Adams, what are you doing, brother?" he said in one YouTube rant. "Every car I went to was loaded with homeless people." He added, of the Mayor, "He can't stop no crime in no subways."

Nobody doubted the ease of committing any crimes in any subways. The list of recent track-shovings, muggings, and hate crimes caused by untreated mental illness is long and troubling. The wonder is that we're able to keep a subway running at all. We pack people of all ages, sizes, dispositions, tax brackets, and crankiness levels into a metal can in a hole in the ground, and send them off, bound only by a nebulous social contract. We doff our backpacks, tuck in our feet, and even, occasionally, unspread our legs. We bear the sweaty armpit at nose level, the errant elbow. There should be no eating of stinky food, no clipping of fingernails, no hogging the pole. No eye contact. Passengers keep to themselves. They have been known to ignore, for instance, the presence of sharks (dead) and snakes (live), so long as the sharks and snakes also ignore them. When violations occur, they can feel unusually disturbing. Subway disasters, as opposed to, say, car crashes, traumatize because they remind us of the fragility of this deal. What unsettled people about the alleged shooter's videos was that he seemed deeply unbalanced and filled with hate—and not unlike the recent array of subway menaces that have invoked the old Fear City days: he knew the rules, and he declared them broken.

People who study this kind of thing call the subway social compact "civil inattention." We build personal bubbles to survive in the throng. The social psychologist Stanley Milgram once sent his graduate students into the subway with the task of asking strangers to give up their seats. The results—most of the strangers acquiesced—were less shocking than the process: the students found the asking to be torturous. Some nearly vomited. One of the students reflected later, "That study showed how much the rules are saving us from chaos." But every day presents its own challenges: the escalating argument, the mother being rough with her kid, the man breathing too close. Where does bubble end and community begin?

A week before the shooting, a 7 train hit a hunk of metal in the tunnel under the East River and got stuck for more than two hours. As the wait dragged on, "you could kind of feel the tension, but no one said anything," Aissa Diop, a twenty-four-year-old marketing professional, who was among the stranded, said the other day. Diop is not a bubble person ("I'm the weird New Yorker who smiles at people," she said), but it was Ramadan, and she was hungry. She stuck to her iPhone. Then a man burst into the car and ran out through the opposite door. "He was saying, 'Oh, no, I am *outta* here!'" Diop said. Suddenly, everything felt up for grabs. Diop ventured an icebreaker, something along the lines of: Where are the "Showti-i-ime" guys when you need them? Soon, she was leading the subway car in a sing-along. "In Hindi, I think," she said. Immobilized strangers swapped stories. After the train moved again, they stuck around for a while and hugged.

For others, the pull of oblivion is all-powerful. Reflecting after the shooting, Lieutenant Mark Torre, the commander of the N.Y.P.D. bomb squad, said that, during a bomb threat, most people flee, but not all. "You'll have a bomb technician in this eighty-pound, essentially, suit of armor that's going down to deal

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with this package, and somebody somehow slips past the police line, and they'll walk right by them," he said. "This is just the New York attitude, you know? They see this guy in a suit of armor who's addressing this thing—clearly something is amiss here! But they'll walk by like it's just somebody cleaning up dog waste."

The day after the shooting, the discussion among some commuters was, subway or Uber? "I have patients asking themselves if they feel comfortable on the subway," Ellen Vora, a psychiatrist in the Village, said. She often treats people with subway anxieties; usually, it's the enclosed space, the crowds, or, recently, the coronavirus. Citing statistics, Vora reassures them that the subway is safe. Avoidance only feeds anxiety. "I don't mean to trivialize the shooting—it was horrifying—but I've found myself encouraging people to go anyway. We are still more in danger every time we get into a car. And there's something life-affirming about being packed in with other humans."

The gunman was apprehended later that day, with the help, in part, of a twenty-one-year-old Syrian immigrant named Zack, who'd been installing security cameras at a bodega. He'd spotted the suspect and began frantically warning passersby. He recalled thinking, "Everybody has headphones, everybody wants music, nobody cares about anybody, but we have to care about this thing!" Zack became a local hero, hamming it up at a press conference, commandeering the mike to interview other witnesses. But he also recognized that, in his excited warnings, he'd transgressed. He'd broken the bubble. So he offered an explanation. "Many people think I am on drugs," he said. "But I am not. I am fasting."

—*Zach Helfand*

THE BOARDS
STAY OR GO?

In a sense, the playwright Mona Mansour has been working on "The Vagrant Trilogy" for fifteen years; in another sense, she's been working up to it her whole life. It's that kind of play. "You try not to think of it as this huge, epic thing, because it puts too much pressure on it," she said the other day. The play was supposed to open soon, at the Public Theatre. Then again, the first time the production went into tech rehearsals, in early 2020, it was supposed to open on April 1st, and everyone knows what happened next. "The joke, among people who spend time in the Arab-speaking world, is that everything is '*Inshallah*,'" Mansour said. "You ask the cabdriver, 'Can you get me to the airport?' '*Inshallah*.' I wasn't raised Muslim, but that attitude feels appropriate right now."

Mansour's father grew up in a Christian family in southern Lebanon, in a village near two Palestinian refugee camps. In 1958, with Lebanon about to descend into civil war, he left; he met Mansour's mother, a Norwegian American, in Seattle, then settled in San Diego and, ostensibly, never looked back. "I'm not his psychologist, but there was something in me that, whenever he said, 'I don't miss it,' never quite believed him," Mansour said.

The impossible choices faced by civilians in Lebanon in 1958 mirror those faced by citizens of Syria in 2011, or Ukraine in 2022: stay, risking your life, or go, possibly forever? Instead of exploring these questions via a fictional Lebanese family like her father's, Mansour thought of the refugee camps up the road. Her play became a "conditional trilogy" about a Palestinian Wordsworth scholar named Adham. "Conditional," meaning that it splits, "Sliding Doors"-style: in the first act, set in 1967, Adham is in London for a Romantic-literature conference when war breaks out at home. The second act, set in 1982, shows a version of his life in which he stayed in England. The third act, set in the early two-thousands, imagines that he went home, or tried to.

The other day, at the Public's rehearsal space on Lafayette Street, Mansour sat behind a folding table, occasionally sliding a black mask aside to sip tea from a Baseball Hall of Fame mug. Two of the cast, Hadi Tabbal and Ramsey Faragallah, were doing a scene in which Adham, now a faculty member at a British university, asks a more established colleague for career advice. The play features six actors in nineteen roles. Tabbal plays Adham all the way through; Faragallah plays a university porter, Adham's brother-in-law, and, in this scene, a white British professor. "It started out as an economic thing," Mansour said. "Plays with smaller casts are way more likely to get produced. But then something interesting started to happen with the Middle Eastern actors playing white characters." The professor, Jenkin, wants Adham to emphasize his "outsider perspective"—to read Wordsworth more like a Palestinian, basically—but he can't quite come out and say it. (Jenkin: "Your work might be more interesting to us if you could be more . . . *you*.") "Part of the joke is just that Jenkin is so stiff-upper-lip that Adham literally doesn't understand what he's getting at," Mansour said. "But there's another layer

Mona Mansour

added to it when it's Ramsey, whose actual father was forced out of Palestine in 1948, saying these gently racist things."

At one point, Jenkin gets up to make tea. "It's a tea bag, is it?" Faragallah said. "It wouldn't be loose?"

"Let's say it's a bag, and nobody bring up that it otherwise wouldn't be," Sarah Blush, the associate director, said.

"I love the way you think," Faragallah said. He stood, crossed stage left, and practiced steeping and stirring. Tabbal sat, working through his British "ah"s ("Is it preventing me from adv*ah*ncement?").

There was a quiet hubbub behind the folding table. Caroline Englander, the production stage manager, looked concerned. Finally, she spoke up: "Mark would never believe a tea bag." That's

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Mark Wing-Davey, the director—the only member of the cast or the crew who actually is a British white guy—who was out of the room. "I'm just trying to prevent a big tea disaster down the line," she said.

On April 1, 2020, the original opening night, Mansour and the cast gathered on Zoom, drinking wine and reading some poems aloud. They kept meeting, every Friday night, until they reunited in the flesh. "One person in the cast lost a family member during that time," Mansour said. "Another one had a baby. My marriage ended, and Hadi"—the actor who plays Adham—"went with me to sign the divorce papers. It's been a long two years." "The Vagrant Trilogy" had its first performance, *Mashallah*, earlier this month. The Jenkin scene went over great. Even the tea-stirring got a laugh.

—*Andrew Marantz*

BRUSSELS POSTCARD
RESPITE

Two tired Ukrainian officials who work in President Volodymyr Zelensky's administration arrived the other night at a dinner party in their honor, in a leafy district of Brussels. Maria Tomak and Tamila Tasheva, both residents of Kyiv in their mid-thirties, had spent a long day in meetings with European diplomats. They'd been advocating for an E.U. ban on Russian fossil fuels, a seven-hundred-million-dollar-a-day habit that helps fund Russia's war on Ukraine. They also wanted to remind people that Crimea—a territory that Russia illegally annexed in 2014—is serving as a base for Vladimir Putin's efforts to erase Ukrainian identity. "We didn't have too much hope," Tomak said, adding that their efforts were unlikely to be "game-changing." She had on a black turtleneck and Calvin Klein sneakers.

The host, Simon Papuashvili, a human-rights lawyer from Georgia, began the meal with a toast of rosé. "For peace," he said.

"And for victory," Tomak added.

Tasheva, who wore a gray blazer with a pearl brooch on the lapel, is an exiled Crimean Tatar, from a Turkic ethnic group indigenous to Crimea which Stalin deported en masse in 1944. Authorities have warned her not to return to Crimea. ("Our security forces say to me, 'You could be arrested immediately,'" she said.) Brussels was the pair's last stop on a long journey from Lviv, the Ukrainian city near the Polish border. Tomak and Tasheva were on a work trip there when Russia invaded Ukraine, in February. They had not been home to Kyiv since. Tomak's father was still there, but her pregnant sister had made it to Lviv. Friends had managed to evacuate Tasheva's cat. "We're I.D.P.s," Tomak said—internally displaced persons. "It's a really bad feeling, although I understand that I am lucky indeed."

"I met Tamila back in 2014," Papuashvili said, at the table. He'd been on a fact-finding mission in Ukraine, after the annexation of Crimea.

"I met Simon a bit later, in Donbas," Tomak said, referring to the home of two breakaway regions, Donetsk and Luhansk, occupied for years now by pro-Russian separatist groups.

"In the war zone," Papuashvili said. Now the two women work for the Mission of the President of Ukraine in the Autonomous Republic of Crimea. Former human-rights activists, they also volunteer as fixers for international journalists in Ukraine.

Tomak talked about the historical origins of the war. "I think that this conversation has not yet started, internationally, about the legacy of the Russian Empire, and then the U.S.S.R. We're representing three peoples that suffered from Russia: Crimean Tatars, Georgians, Ukrainians." She added, "There was no tribunal over Stalin's crimes and the U.S.S.R.'s crimes, as there was for the crimes of Hitler and the Nazis."

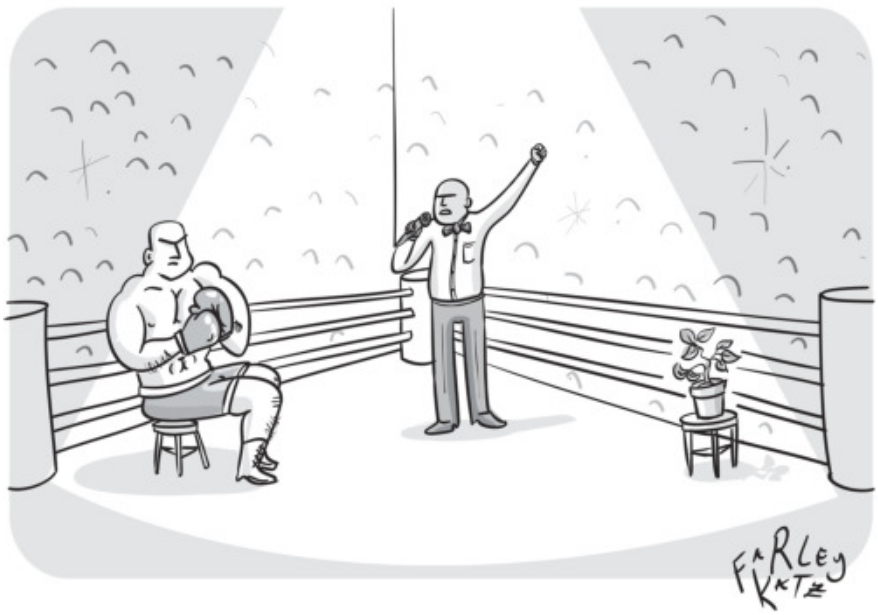
"Truth was never established," Papuashvili said. He had helped coördinate the women's trip from Lviv. First, they travelled by car to the Polish border and exited along a humanitarian corridor.

"Psychologically, it's very hard," Tasheva said. "Because when you go through these corridors, you see the U.N.H.C.R. tents for refugees."

"You're fleeing your own country," Tomak said. "It's not a good feeling."

They then took a bus to a registration point, where Papuashvili met them in a car. First stop: meeting with U.S. diplomats who had been relocated from Kyiv to a town in Poland; then a four-hour drive to Warsaw. From there, a flight to Brussels, and then to a hotel.

Papuashvili's wife, Lucia Mascia, served a squid pasta dish and arugula-and-citrus salad, and Papuashvili poured white wine. Conversation shifted between English, French, Italian, Russian, Ukrainian, and a little bit of Georgian, as the hosts' two daughters performed gymnastics in the next room. Brigitte Dufour, a French Canadian lawyer



"Tonight's main event—Man vs. Nature!"

who directs the Brussels-based International Partnership for Human Rights, called out, "*Bravo, les filles*," and clapped her hands.

Taking a break from backflips, Papuashvili's ten-year-old handed Tomak some drawings she'd made: a Ukrainian flag, captioned "*Aller Ukraine*" ("Go, Ukraine"), and a Ukrainian woman in a traditional blouse and a beribboned flower crown.

"Wow, beautiful," Tomak said. "Can I keep them?"

Dufour's dog had got into the chocolate cake she'd brought ("I hope he'll be alive when I get back"), but there were backup desserts, and plenty of spray-can whipped cream.

Tomak explained that, although residents of Kyiv and Lviv now have use of supermarkets and cafés, those in areas under the most intense Russian siege are cut off. "They have no access to basic foods, water, nothing," she said. She looked at the table, laden with delicacies, including mini fondant cakes. "Eating and drinking like this feels strange. Especially after yesterday's shocking photos from Bucha," she said. "It's just another feeling when you see all those dead bodies."

Despite the rumors of chemical warfare, Tasheva said that she was glad they'd be going back the next day.

"This is a psychological rest," Tomak said. "But you also feel guilty. Not only being here . . ."

Tasheva finished the sentence: "But because you're alive."

—*Annie Hylton*

DEPT. OF KNOWLEDGE
WIKIPEDIAN

There are more than 6.4 million English-language articles on Wikipedia, covering knowledge as useful as "Bee removal" and as specific as "List of people who have lived in airports." If compressed, the entire online encyclopedia would take up only twenty gigabytes. (Source for this claim? The Wikipedia article "Size of Wikipedia.") On a recent Tuesday, four friends gathered via Google Meet to work out a way to turn Wikipedia into a tight ninety-minute show, to take place in downtown Manhattan, the following Friday. Three were local comedians; the fourth was Annie Rauwerda, a University of Michigan senior, studying neuroscience, who is the founder of the popular Instagram account @DepthsofWikipedia.

Rauwerda, twenty-two, is a year older than Wikipedia itself. For @DepthsofWikipedia, she ferrets out and posts the most esoteric extracts from the Web site—which is to say, from the collective sum of human knowledge. Some recent articles posted: "Timeline of the far future"; "Unknot," a mathematical concept of the least-knotted possible knot; "Judaism in Rugrats."

The Instagram account has more than eight hundred thousand followers, including John Mayer, Neil Gaiman, and Julia Fox. Grimes follows on TikTok. In March, the account went mildly viral for spotlighting the earliest-known bar joke, in ancient Sumerian. "A dog walked into a tavern and said, 'I can't see a thing. I'll open this one.'" ("The humor of it," the Wikipedia entry read, "is probably related to the Sumer way of life and has been lost.")

The other day, after Rauwerda finished a class in which she dissected the brain of a fly, she joined the Google Meet call, with her cat, to discuss "Depths of Wikipedia LIVE!," the first in-person event for this inherently online community. Tickets sold out; she was nervous. Reassuring words came from Reed Kavner, who hosts a PowerPoint-based comedy show. In the other squares were Ena Da and Juan Nicolón, from Uruguay. The plan was to mix comic presentations with games of audience interaction. Rauwerda would m.c.; Nicolón was down to do a ten-minute set drawing on the Wikipedia article "List of soups." Rauwerda, scrolling, said, "I just opened it. Guess what I landed on? Tiger-penis soup!"

"This is why you're good at this, Annie," Kavner said.

Other events: Wikipedia racing, where contestants start on one page and race to another via hyperlinks, and a game called Citation Needed. Rauwerda ran through her opening remarks, which included slides on "Polar bear jail," "Breast-shaped hill," and "Unrequited love." "I might delete this?" she said, pausing on a slide called "Zenzizenzizenzic." "I just felt like

Annie Rauwerda

mentioning that, you know, x to the eighth power is called zenzizenzizenzic?"

Kavner said, "Cool reveal."

They discussed a game in which audience members guess which article is longer: "List of fictional worms" or "List of sexually active popes." The answer was worms. Kavner suggested offering bonus points to anyone who could name a fictional worm or a sexually active pope.

Rauwerda asked Kavner whether he had the names of the hundred and thirty-odd people who had bought tickets. "I'm just curious if any, like, big-league Wikipedians are there," she said. "If I say something that's kind of jokey . . ." She paused. "I just don't want, at any point, to encourage vandalism"—inserting fake facts into articles—"or to disparage the very impressive democracy that happens on Wikipedia all the time."

"Everyone knows you're coming at this in good faith," Kavner said. Someone brought up a meme from a "Simpsons" episode in which Lisa has a dream about being in a band of losers—"Garfunkel, Messina, Oates, and Lisa!"—who get booed every time they go onstage. Then she wakes up: "Why would they come to our concert just to boo us?" she asks.

Backstage, on the night of the event, Rauwerda, in white high-heeled boots, said that she was still thinking about the "Simpsons" meme. "Why would they come to our show just to boo us?" she said, nervously. A few minutes later, she went onstage and opened with the Sumerian dog joke; it killed.

—*Naaman Zhou*

ANNALS OF INNOVATION

POTENTIAL ENERGY

To maximize renewable energy, we'll need a new technology: renewable storage.

BY MATTHEW HUTSON

The German word *Dunkelflaute* means "dark doldrums." It chills the hearts of renewable-energy engineers, who use it to refer to the lulls when solar panels and wind turbines are thwarted by clouds, night, or still air. On a bright, cloudless day, a solar farm can generate prodigious amounts of electricity; when it's gusty, wind turbines whoosh neighborhoods to life. But at night solar cells do little, and in calm air turbines sit useless. These renewable energy sources stop renewing until the weather, or the planet, turns.

The dark doldrums make it difficult for an electrical grid to rely totally on renewable energy. Power companies need to plan not just for individual storms or windless nights but for *Dunkelflaute* that stretch for days or longer. Last year, Europe experienced a weeks-long "wind drought," and in 2006 Hawaii endured six weeks of consecutive rainy days. On a smaller scale, factories, data centers, and remote communities that want to go all-renewable need to fill the gaps. Germany is decommissioning its nuclear power plants and working hard to embrace renewables, but, because of the problem of "intermittency" in its renewable power supply, it remains dependent on fossil fuels—including imported Russian gas.

The obvious solution is batteries. The most widespread variety is called lithium-ion, or Li-ion, after the chemical process that makes it work. Such batteries power everything from mobile phones to electric vehicles; they are relatively inexpensive to make and getting cheaper. But typical models exhaust their stored energy after only three or four hours of maximum output, and—as every iPhone owner knows—their capacity dwindles, little by little, with each recharge. It is expensive to collect enough batteries to cover longer discharges. And batteries can catch fire—sites in South Korea have ignited dozens of times in the past few years.

Venkat Srinivasan, a scientist who directs the Argonne Collaborative Center for Energy Storage Science (ACCESS), at the Argonne National Laboratory, in Illinois, told me that one of the biggest problems with Li-ion batteries is their supply chain. The batteries depend on lithium and cobalt. In 2020, some seventy per cent of the world's cobalt came from the Democratic Republic of the Congo. "Unless we have diversity, we're going to be in trouble," Srinivasan said. Any disruption to the supply chain can strongly affect prices and availability. Moreover, a lot of water and energy are required for mining the metals, which can cause environmental damage, and some cobalt-mining operations involve child labor. Experts doubt that Li-ion prices will drop more than thirty per cent below their current levels without significant technological advancements—a drop that is still too small, according to the Department of Energy. We need to expand our capacity; by one estimate, we'll require at least a hundred times more storage by 2040 if we want to shift largely to renewables and avoid climate catastrophe. We may somehow find clean and reliable ways to mine, distribute, and recycle the ingredients for Li-ion batteries. And yet that seems unlikely. Although we usually think about renewable energy in terms of its sources, such as wind turbines and solar panels, that's only half the picture. Ideally, we'd pair renewable energy with renewable storage.

We already have one kind of renewable energy storage: more than ninety per cent of the world's energy-storage capacity is in reservoirs, as part of a remarkable but unsung technology called

Decarbonization would be easier if we could bank clean energy for later.

ILLUSTRATION BY HUDSON CHRISTIE

pumped-storage hydropower. Among other things, "pumped hydro" is used to smooth out spikes in electricity demand. Motors pump water uphill from a river or a reservoir to a higher reservoir; when the water is released downhill, it spins a turbine, generating power again. A pumped-hydro installation is like a giant, permanent battery, charged when water is pumped uphill and depleted as it flows down. The facilities can be awe-inspiring: the Bath County Pumped Storage Station, in Virginia, consists of two sprawling lakes, about a quarter of a mile apart in elevation, among tree-covered slopes; at times of high demand, thirteen million gallons of water can flow every minute through the system, which supplies power to hundreds of thousands of homes. Some countries are expanding their use of pumped hydro, but the construction of new facilities in the United States peaked decades ago. The right geography is hard to find, permits are difficult to obtain, and construction is slow and expensive. The hunt is on for new approaches to energy storage.

Quidnet, a Houston-based startup, is one of many companies exploring the possibilities. Last month, I sat in an F-150 King Ranch pickup with Scott Wright, its vice-president of operations, and Jason Craig, its C.O.O., as we drove to one of its test sites, on a farm west of San Antonio. Fields and billboards whizzed by as Craig explained, from the back seat, that Quidnet had patented a new kind of pumped hydro. Instead of pumping water uphill, the company's system sends it underground through a pipe reaching at least a thousand feet down. Later, the system lets the Earth squeeze the water back up under pressure, using it to drive generators. Wright and Craig are veterans of the oil and gas industry, and Quidnet's technology is like a green riff on fracking. In that technique, fluid is injected underground, where it builds up pressure that fractures rocks, releasing natural gas. Quidnet uses some of the same equipment and expertise, but with a different goal: the water is meant to be sandwiched between layers of rock, forming underground reservoirs that can be released on demand.

As we drove, I asked about the blackouts Texas experienced in February of 2021, when a winter storm shut down gas plants for several days and left millions without power. More than two hundred people died. The crisis had many causes, including the fact that Texas is the only state whose power grid isn't connected to grids in other states. "We were pulling buckets of water out of the neighbor's pool to get toilets to flush," Wright said. "It definitely screams for some way to store power to lessen the burden on the grid in times like that."

The artificial underground reservoirs created by companies like Quidnet are known to engineers as "lenses," because of their shape. ("I say whoopee cushion and people don't like it," Craig said.) Initially, Quidnet encountered skepticism about its ability to form lenses of the right size and shape. By the time I visited, however, it had successfully completed multiple pumping cycles in Texas, Ohio, and Alberta. The company has received thirty-eight million dollars in private and government funding, including contributions from Breakthrough Energy Ventures, established by Bill Gates.

Quidnet has benefitted from an energy-storage gold rush. In 2018, the Department of Energy awarded thirty million dollars in funding to ten groups, including Quidnet, through a program called Duration Addition to electricitY Storage, or DAYS. Before leaving office, President Donald Trump signed into law the Energy Act of 2020, which included the bipartisan Better Energy Storage Technology (BEST) Act, authorizing a billion dollars to be spent over five years on the "research, development, and demonstration" of new energy-storage technology. Many states are now setting storage-capacity targets, and in 2018 the Federal Energy Regulatory Commission issued Order 841, which integrates stored energy into the wholesale electricity market. "There's been a recognition that this is a technology whose time has come," Jason Burwen, of the American Clean Power Association, told me. But a vast distance separates an engineer's whiteboard from reality. Many renewable-storage technologies receiving funding will turn out to be too impractical, expensive, or inefficient for widespread adoption.

As we approached the farm, Craig mused on the raw physicality of many companies' approaches. The basic principles are ones you might recall from high-school physics. If you put effort into lifting an object, it stores potential energy; if you then let that object fall, its potential energy becomes kinetic energy, which is capable of powering a generator and creating electricity. The same holds for many physical actions. In addition to lifting weights, energy-storage companies are compressing air or water, or making objects spin, or heating them up. If you use clean energy to do the initial work and find a green way to store and release it, you've created an ecologically responsible battery alternative.

"I'm kind of surprised and encouraged that the solutions to the long-duration-energy-storage problem could be the caveman stuff," Craig said. Batteries depend on "pretty sophisticated electrochemistry that quickly gets outside of what I understand. And yet the solutions may be picking up heavy stuff with cranes, picking up the earth with a hydraulic jack. I think there's some fellas in Nevada that are putting rocks in a train and rolling it uphill, then they come back down. Like, Fred Flintstone would be comfortable with most of this stuff. It could be the way."

We pulled into the farm's long drive. A kettle of vultures circled overhead.

"You know what that means?" Craig asked.

"The last reporter who came out here?" I said.

They laughed. "That's right. Too many bad questions."

I already had one in mind. Was I about to see part of the future of green energy, or a curious and short-lived experiment in rural Texas?

Until recently, we didn't have to think much about new ways to store our energy. Fossil fuels are a prehistoric energy repository, and we could unlock their energy by burning them and driving generators. There was always more fuel to burn. "Almost all electricity in the world is used as it's made," Bill Gross, a longtime investor in solar power and a co-founder of Energy Vault, one of the most highly capitalized new energy-storage companies, told me. Most power that isn't consumed immediately is lost. The problem is that, with many technologies, "it actually costs more to store electricity than to make it," he said. In

many cases, solar and wind have become less expensive than coal and gas. But add the cost of storage, and renewables can lose to fossil fuels.

Energy is stored all around us, in all sorts of ways. A bottle of fizzy water in your fridge holds energy under pressure; a tower of books contains energy, which is released when it falls. On a larger scale, volcanic eruptions and avalanches release stored energy. But energy storage is most useful when it is predictable, convenient, and dense, packing lots of power into a small space. Climate change notwithstanding, fossil fuels meet all these requirements: by burning just a gallon of easily transported gasoline, you can release enough energy to move thousands of gallons of water from the bottom of a pumped-hydro station to the top.

Today's Li-ion batteries are low-density by comparison, and renewable-storage systems also struggle to achieve density, convenience, and scale. The basic technology behind compressed-air energy storage goes back decades, and can involve pumping air into underground caverns, natural or artificial, then letting it out again. The first underground compressed-air facility was completed in 1978, in Germany; such systems can store and release vast amounts of energy. But, like pumped hydro, compressed-air facilities require the right geography and are expensive to build. They are also inefficient—typically, only half the energy put into pressurizing the gas can be retrieved.

Engineers are trying to improve density and efficiency. A Toronto-based company called Hydrostor has received more than three hundred million dollars in funding and is developing projects in California, Australia, and other places, to be brought online in the next five years. It stores compressed air in tanks, and holds on to the heat released during the air-compression process, which it then reapplies to the air during expansion, supercharging its ability to drive a turbine and generate electricity. A British company, Highview Power, is taking a more extreme tack, cooling air to more than three hundred degrees below zero, at which point it becomes a liquid. Liquid air is dense, and when Highview warms it, it gasifies rapidly, spinning turbine blades. Colin Roy, Highview's executive chairman, told me that, when the company opens its tanks, air "explodes out with violent force." It has built a prototype liquid-air system and is developing commercial plants in England and Spain.

"One of these days, Jensen will come to understand that hiding under the table only works for so long."

Quidnet, too, is producing a refinement of pressure-based technology. At the company's test site, we were greeted by Jacob and Sadie Schweers, the farm's owners. About a year earlier, Quidnet had dispatched a drilling rig—a seventy-foot mast attached to a truck—to their property. Now a blue wellhead stood about ten feet tall, near a pump house the size of a shipping container, several yellow tanks, and a bunch of hoses. Water could be pumped from the tanks into the well, where it would be stored under pressure; then it could be released back to the tanks. Last month, Quidnet announced a pilot program to provide stored-energy technology to a utility in San Antonio.

We stepped inside the pump house to admire the pistons, the flywheel, and something called a pulsation dampener. A yellow five-hundred-horsepower diesel engine sat quietly in the back, ready to run the pump. "I love big machines and loud things and the smell of oil," Wright said. In a commercial version of the system, an electric motor, ideally powered by clean energy, would pump the water, and act as a generator when the water returned.

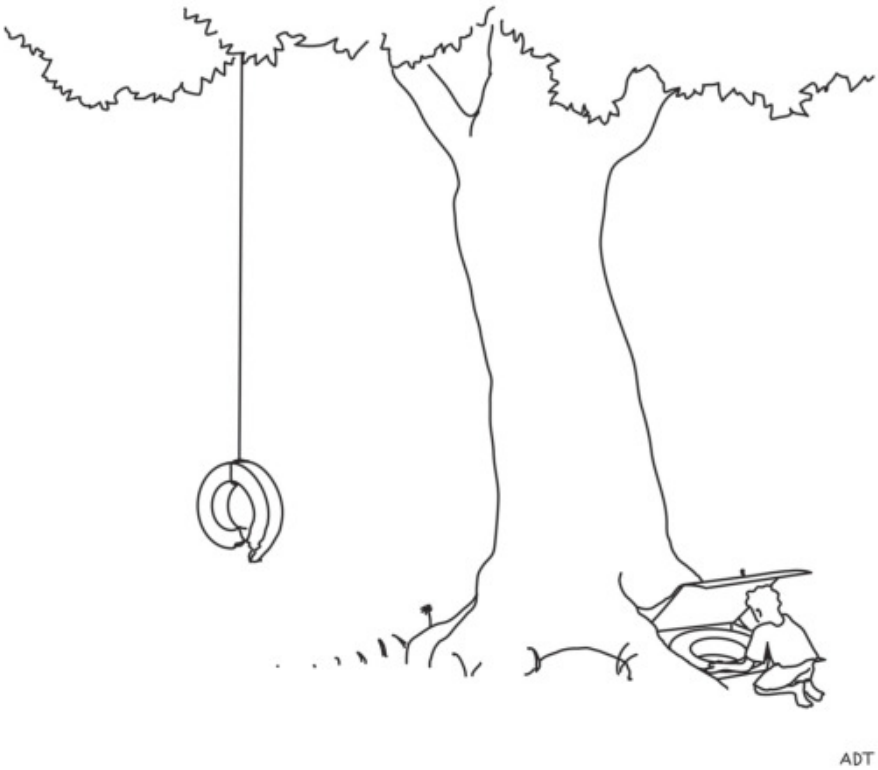
As we walked back outside, into the hot sun, Wright gestured toward ten separate PVC pipes sticking out of the ground. They indicated the subterranean presence of tiltmeters, instruments for assessing the size and character of the lens by tracking the displacement of the rock; they can even sense the tidal tugging of the moon. We stood and chatted, and Craig said that the tanks would eventually be replaced by an attractive pond. Sadie Schweers told us that she likes to picture the whole farm running on solar panels and a Quidnet well.

People who work in energy often speak of the grid as if it had its own hungers and quirks. "The grid wants a diversity of assets," Mateo Jaramillo, the C.E.O. of Form Energy, which makes "iron-air" batteries, told me. (The technology, which stores energy by rusting and un-rusting metal in a cycle, is one of a number of theoretical alternatives to Li-ion.) There's room for many kinds of solutions in the clean grid to come; at the same time, the landscape is hyper-competitive. "Everyone's competing

against pumped-storage hydro and lithium-ion," Scott Litzelman, the director of DAYS, the Department of Energy program, told me. "Lithium-ion is just so dominant, given that there's such a significant supply chain and manufacturing base." Referring to the non-battery startups, he said, "You have these other nascent technologies that could be more competitive if they can get to scale. That's the challenge across the industry. Everyone's trying to get to that point to prove, first, the technical viability and the cost potential, and then prove this not in the laboratory, but at a massive field site."

Shirley Meng, a materials scientist and engineer at the University of Chicago, told me that the world needs "a whole suite of storage methods." Not all methods will find a niche, but, she said, "I think we are way, way underinvested. Because we are really imagining trying to rebuild the entire grid system." Nathan Ratledge, a clean-energy researcher at Stanford, told me that energy storage could play an especially important role in places where power grids are still being built. Many countries in the developing world have a chance to leapfrog fossil fuels altogether, heading straight to renewable power, which is cheaper and less polluting. But a grid with a larger proportion of wind and solar requires more storage capacity to overcome intermittency. Renewable storage is "a win-win-win for the Global South," Ratledge said. "It's basically allowing people to jump really fast into the twenty-first century without dealing with all the outdated junk we built in the seventies and eighties and nineties."

Driving back in Wright's truck, I thought about how things might look if Quidnet's wells make headway. Today's pumped-hydro plants form picturesque lakes on the Earth's surface, but approaches like Quidnet's would create reservoirs of pressurized energy beneath it. The company envisions terrain dotted with wellheads about half a mile apart, and a pond for every four. Wind turbines might rise skyward. The Earth itself would be a kind of giant battery.



Bill Gross, the Energy Vault co-founder, began looking into energy storage after a long career in West Coast tech, during which he started a string of successful dot-coms and solar-power companies. He wondered if he could construct a system based on the same principles as pumped hydro, but with solids instead of liquids. Rather than pumping water uphill and releasing it downhill, could you stack weights using clean energy, then generate power by using pulleys to lower them? "I wanted to make a sort of virtual mountain," he told me.

Gross and a civil engineer, Andrea Pedretti, started looking at options. They wanted to "build height cheaply," Gross said. Steel was expensive. So was concrete, and producing it emitted carbon. They began working with a company called Cemex on the use of a "superplasticizer"—a polymer capable of holding dirt together, often used to build roads in low-income countries. Mix superplasticizer with local dirt, water, and a bit of cement, and you can make cheap blocks on site. "So we can basically make a mountain out of dirt," Gross said. "And we can make that mountain every day, and unbuild that mountain every day." Matching pumped hydro in scale would be ambitious. But even midsize mountains might be able to stash energy made at co-located solar farms or nuclear plants, or keep the servers running at data centers. Gross and Pedretti founded Energy Vault in 2017, with Robert Piconi, the company's C.E.O. It has offices in Los Angeles and Switzerland.

Energy Vault's first attempt at a system was EV1, a looming, Transformer-like tower crane with six arms. The idea was that such a crane would stack blocks in a wall around itself, then unstack them. Observers on the Internet had a field day pointing out what they perceived to be the system's impracticality. (A YouTube video titled "The Energy Vault Is a Dumb Idea, Here's Why" has been viewed two million times.) In any case, the company moved on to a new, enclosed design, called EVx. In renderings, it resembles a boxy automated warehouse forty stories tall. Elevators will use clean power to lift blocks weighing as much as thirty tons and put them on trolleys, which will move them toward the middle of the structure. When energy is needed, the blocks will be moved back to the elevators. As they descend, the elevators will power generators, producing new electricity. Energy Vault claims that the system will have a high round-trip efficiency, regenerating a great deal of the electricity it consumes. Yet

"We can't leave her with my parents! Do you want her to turn out like me?"

• •

even so EVx will have to move thousands of heavy blocks to store and release significant amounts of energy. Ordinarily, our energy use is an abstraction; Energy Vault's approach reveals it in stark, physical terms.

The EVx demo is being developed in a bucolic Swiss mountain valley in the shadow of EV1. In March, Piconi gave me the sales pitch. After donning hard hats, vests, and eye protection, we stopped by the block-making machine, a big blue steel box. It compresses the blocks' ingredients using seven thousand tons of force, then flips them upright, making a new one every fifteen minutes. "You don't go buy this at Walmart," Piconi said.

Nearby, we saw two of the trolleys that will carry the blocks to and from EVx's elevators. I placed my hand on one of the hard plastic wheels. The company was still experimenting with trolley materials, Piconi said: "A lot of what we do is material science." We headed to the control room, which turned out to be a trailer fitted with computers, where Frank Tybor, Energy Vault's vice-president of engineering, sat with his Australian shepherd, Sydney. Previously, Tybor had been the principal engineer for launch and landing pads at SpaceX. (Sydney had "been in enough rocket control rooms that if you count backwards from ten to zero and nothing happens she gets upset," Tybor said.) Energy Vault was similar to SpaceX, he told me, in that "it seems large and industrial, but the secret sauce is how we make it all work robustly." On a big screen, we saw a car-size block trundling back and forth on a trolley as sensors gathered data about wear and tear.

Outside, Piconi and I went to find the trolley we'd seen on the screen. We walked past tall blocks of various compositions, as though we were at a construction site for the pyramids, before coming upon Vahe Gabuchian, the test engineer who was controlling the trolley. He had studied fracture mechanics at Caltech, and wanted to know if any of the components would crack during thousands of miles of rolling and vibration. Nearby, a four-story structure made of I-beams offered a tiny preview of what a final EVx might look like. The warehouse, if it works, will be a moving puzzle. Software will need to orchestrate the motions of elevators and trolleys to keep power consistent as blocks accelerate, decelerate, and are lifted and lowered.

Energy Vault's lead mechanical engineer, Al Sokhanvari, came over. He'd spent thirty years completing aerospace projects for NASA and the Defense Advanced Research Projects Agency, and had helped build the fountain at the Bellagio, in Las Vegas. ("But this is the coolest, you have to admit," Piconi said.) In a sense, an EVx building would be like a fountain, but with blocks of earth circulating instead of water. When it was storing a lot of power, the warehouse would be top-heavy, with many tons of blocks on its upper floors; the blocks would flow to the bottom as power was withdrawn. "So you have to make it something that is actually breathing with weights in and out," Sokhanvari said. Such a building would be like "a living thing."

Developing energy storage is risky. Unlike Quidnet, Energy Vault is publicly traded; it has a market cap of more than a billion dollars, but its future is uncertain. The technology is still in its early stages, and it can be hard to tell how much of the excitement about the company reflects salesmanship, as opposed to viable engineering. No one has built a facility like EVx before, and the system contains moving parts that might break down more than expected. Venkat Srinivasan, the ACCESS director, noted that lithium-ion batteries are portable and, crucially, reliable. "If you're operating on the grid, reliability is No. 1, 2, and 3, right?" he said. Utilities want products and companies that have a decade's worth of data behind them. Investors are putting a lot of money into new energy firms, but "some of these bets won't go the way we think," he said. "There'll be multiple reasons for it. Some of it could be technological, but it's also execution."

Li-ion batteries, despite their flaws, are a known quantity. The method being developed by Energy Vault isn't. Still, the company isn't alone in pursuing what's known as "gravity storage." Gravitricity, based in Scotland, recently concluded a demonstration that involved hefting a fifty-ton block up a tower, two stories at a time; it now plans to raise

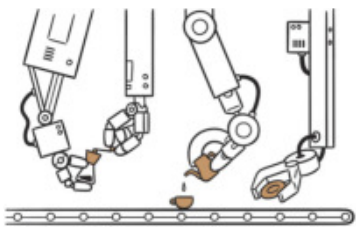
and lower single, thousand-ton blocks inside disused mine shafts. Two other companies, Gravity Power, in California, and Gravity Storage GmbH, in Hamburg, aim to place a massive weight at the bottom of a shaft and then pump water underneath to lift it. To withdraw energy, they'll let the weight push the water down into a pipe and through a turbine. RheEnergise, based in Montreal, has come up with yet another take on pumped hydro, centered on a fluid that the company invented called R-19, which is two and a half times as dense as water; its system will move the fluid between tanks at the top and bottom of an incline. The work is still at the crowdfunding stage.

Just as you can store potential energy by lifting a block in the air, you can store it thermally, by heating things up. Companies are banking heat in molten salt, volcanic rocks, and other materials. Giant batteries, based on renewable chemical processes, are also workable. In so-called flow batteries, tanks can be used to manage electrolytes, which hold a charge. In hydrogen storage, electrolysis is used to separate hydrogen from oxygen in water; the hydrogen is then cached underground, or in aboveground tanks, as gas or liquid or part of ammonia. When it's recombined with oxygen in a fuel cell, it forms water again and releases electricity.

Srinivasan told me that he often looks at new proposals and thinks, "Hey, that could be part of the solution." Litzelman, of the Department of Energy, said that the range of ideas being pursued "suggests that no one has found a combination that hits every single requirement—very low cost, production at scale, high performance." In one likely scenario, many technologies will proliferate, each solving a different problem. Some will ameliorate *Dunkelflaute*. Others will help the grid avoid congestion, or hold energy so that it can be bought and sold. Still others will assure "power quality," smoothing out second-to-second electrical fluctuations. One smoothing technology currently in use is the flywheel: in advanced versions, masses of metal weighing a ton or more levitate in vacuums by means of magnets, as electric motors rotate them tens of thousands of times per minute. Generators then slow them down, retrieving their energy. ("The grid loves spinning metal," one engineer told me.)

Litzelman believes that energy-storage systems will eventually bring down the over-all cost of decarbonization, but acknowledged that they might not be an easy sell. "The grid, in quotation marks, is not a customer," one of his colleagues likes to say. Real customers are independent power producers, utilities, and companies that run factories or data centers. One challenge is figuring out who pays for what. It also matters how well a solution meshes with the grid—and that depends on many factors. Jaramillo, of Form, the iron-air-battery company, said, "You cannot look at one spec sheet and compare it to another spec sheet and say, 'Ah, better round-trip efficiency, this one's better.'" His company has used computer models that draw on data about weather and markets to figure out how its technologies might fit. Jaramillo happens to have a master's in theology—a discipline that he said was surprisingly useful in understanding energy-storage systems. "All storage systems have trade-offs," he said. "It's not so different from humans. I am far from perfect. I'm very happily married only because my wife tends to not care as much about my flaws as somebody else might." The important thing is that everything fits together.

It's partly because storage strengthens the whole grid that it has found broad political support. Energy-storage technologies "are neutral as to the fuel source," Leah Stokes, a political scientist at the University of California, Santa Barbara, told me. They "can store any kind of power—clean or dirty." Storage may become a partisan issue if it begins clearly helping renewable energy to threaten fossil fuels. "The politicization of climate and energy policy comes from fossil-fuel companies that give enormous amounts to the Republican Party," Stokes said. "This is not some kind of ideological cleavage. It's fundamentally a material issue." For the time being, storage policy exists in what Stokes calls the "fog of enactment," where technologies are so new that we can't yet identify their greatest beneficiaries. Inevitably, there will be some losers, even if as a society—and a planet—we come out ahead.



The grid as a whole may never be perfected. We may never be able to get away from technologies with undesirable by-products; we may always rely in part on fossil fuels and nuclear power, backed up by Li-ion batteries and natural-gas "peaker" plants, used at times of high demand. But it's equally possible to envision a future in which some of the technology works out, and the globe is reshaped by a combination of renewable energy and renewable storage. In such a world, wind turbines and solar farms will spread over fields and coastlines, while geothermal plants draw power from below. Meanwhile, in caves and tanks, hydrogen and compressed air will flow back and forth. In industrial areas, energy warehouses will thrum with the movement of mass. In rural places, water will be driven belowground and then will gush back up. When the sun comes out and the wind rises, the grid will inhale, and electricity will get saved. During the doldrums, the grid will exhale, driving energy to factories, homes, offices, and devices. Instead of burning dead things, in the form of fossil fuels, we'll create and store energy dynamically, in a living system.

When I got back from Switzerland, I took a walk. The sun warmed my face, and I blinked in the breeze. Twenty years ago, it seemed inconceivable to many people that sunlight and wind could provide enough energy to meet our needs. Slowly, our intuitions shifted to accommodate renewable energy. A similar revision could come for renewable storage. Looking up, I saw clouds hanging in the sky, on the verge of rain; they were a bank of potential energy. Below my feet, I imagined the ground dipping ever so slightly under the city's weight, ready to spring back. Nature can help us generate power. Maybe it can help us hold on to it, too. ♦

MARIO

BY SIMON RICH

It's-a me, Mario! I was-a working as a plumber in New York when I fell-a down a pipe and landed in the Mushroom Kingdom. Pretty soon, I was-a having all kinds of super-fun adventures, crushing Koopas, dodging hammers, and jumping through castle after castle. It's-a like my whole life was a game. I'd-a wake up each morning shouting, "Wahoo! Yiiiiippeee! Here we go!"

That feels like a really long time ago. I was-a born in 1981, which means, if you do-a the math, I'm-a forty years old.

I wasn't-a really thinking about it much until last summer. Just another birthday, right? Then it's-a like the reality of the thing just hit me. Like, "Mamma mia, I'm-a going to be middle-aged." It's-a like one of those fireballs that moves-a so slowly you forget it's even coming, until it's-a right in your face.

The thing that's so hard about turning forty is it forces you to take-a stock of how you're doing. And, to be honest, I'm-a not doing so great. These days, my life, it's-a fucked up. Like, there's just a lot of super-heavy shit that I'm-a dealing with right now. I guess the best way to explain it is-a to start from the beginning of last week, which is when shit really started to get-a, like, super fucked up.

Here we go . . .

So basically one day I wake up, and it's-a like I can't-a move my back. Like, at all. So I go to Dr. Mario (no relation), and he's-a, like, "Mario, when's-a the last time that you had a physical?" And I'm-a, like, "Can't you just look at my back like-a normal?" And he's-a, like, "No, because I'm-a starting to think there might-a be underlying problems." So I'm-a in this tiny room for hours, doing all kinds of tests that I've-a never done before, and finally Dr. Mario comes back holding some X-rays, and he says that, between the jumping and the running and the smashing the bricks with my head, I've-a basically given myself arthritis. So I ask for a cortisone shot, and he's-a, like, "It's-a too soon since the last one." And I'm-a, like, "Come on, it's-a me, Mario." So he sighs and gives me one, right in the spine, and it's-a, like, literally the most painful experience of my life, but the sick thing is that I'm-a grateful. That's-a how fucked up my back is. I'm-a crying from agony and thanking him at the same time, because I know this shot, it's-a going to at least give me a few days of relief. And he says, "We need-a to schedule the surgery, Mario. The one we've been-a talking about. To fuse-a your spine. Recovery's-a going to be brutal, but the alternative is you could-a end up in a wheelchair. You could lose-a your ability to walk." And he gives me his card and writes down his cellphone number on it, and I'm-a thinking, Mamma mia, it must be serious if he's-a giving me his private line. And I walk out of his office, and I'm-a staring at his card, and I'm-a just, like, "I can't face this." So I stick it under the shell of a passing beetle and give him a kick, and he slides across the bricks, just skidding off into oblivion.

So then I check-a my phone and there's-a, like, twenty missed calls from the Princess. And I just sigh, like, "Here we go." And I call her back and she's-a, like, "Who's calling?" And I'm-a, like, "It's-a me, Mario. Who the hell else would it be?" And she's-a, like, "I'm sorry. I guess I didn't know if you were going to call me back or not, because lately it's like you're not even a part of my life." And then she just starts-a going off on me for being out of touch all day, and when I tell her I was at the doctor she accuses me of lying to her, because at this point in our relationship there's-a, like, zero trust. And I'm about to hang up, when she tells me she's-a been kidnapped by a Koopa.

And I know I'm-a not supposed to say this, but lately I've started to think she's been getting kidnapped by Koopas on purpose. The first few times it happened, I was-a, like, "O.K., that's a weird coincidence." But then it happened again, and again, and, like, literally thousands more times. And recently I said to her, "If you know that the Koopas are after the *Princess*, why do you walk around wearing a *crown*?" And she was, like, "Oh, so you're saying I was *asking for it*? *Because of the way that I was dressed*?" And I was, like, "You know what? If you want to get-a me cancelled, go ahead!" Because, honestly, sometimes I fantasize about that shit, since it would give me an excuse to stop. I wouldn't even do an apology, I'd-a just go off the grid, like

LUCI GUTIÉRREZ

Zelda after that N-word thing, because at this point I'm-a so goddam tired, I'd just be, like, "Great, I'm out! Wahoo! Yiiiiippeee!" You know? Like, fuck it.

So anyway, she texts-a me the address of this castle she's trapped in, and it's-a, like, seven worlds away, with dozens of levels in between, plus mini games. And my back, it's-a already starting to tingle, which means the cortisone's-a wearing off. I have at most, like, two days of mobility left before it's like I'm-a basically going to be paralyzed. And so I tell her, you know, "I'm-a sorry, but I can't save you this time. Even jacked up on stars and hauling ass, there's-a no way I can make it."

So she's-a, like, "Guess I'll call Devon."

And Devon, he's-a this d.j. who's, like, twenty-two at most, and he's-a got that whole Machine Gun Kelly look, like super tall and thin, with the face tattoos. And I don't even think she's-a actually into this guy, but it doesn't matter. Because it's-a like she has this *power* over me, like, when she wants to hurt me, she can hurt-a me. Still, after all these years.

So I say, "Hey, come on, baby. Relax. It's-a me, Mario." And her voice gets soft, and she asks if I'm-a coming to save her or not. And I say, "Of course. Just wait on your floating block over the fire. I'll-a think of something."

So that night I'm-a frantically searching through these message boards about back pain, and I see there's this miracle device from Europe that's, like, an electronic belt that takes-a all the pressure off your spine. And I make some calls, and there's a guy downtown who's got one of these things, but it's-a going to cost ten thousand dollars. And I've-a got, like, five coins in my checking account.

And I know what you're-a thinking: "How does *Super Mario* go broke? You collected *entire rooms* of coins! What happened?" And the answer is-a simple: I trusted a close personal friend to manage-a my money. And I can't say too much about what happened, because the lawsuit is-a ongoing, but essentially, all those years I thought that I was riding Yoshi, it was the other way around. That dinosaur, he was-a fucking me from moment one. And I know I deserve-a some of the blame for not catching on, because by the end he had his own island, and safari, and there was even Yoshi's World. I mean, this guy had his own *private world*, named after him. But still, when you've-a known someone forever, and he's always just-a smiling and laughing and, like, making little cooing sounds, you never think, This guy's-a fucking me.

So anyway, the Princess is-a waiting for me, and I can't-a do shit until I get this spine belt, and that means there's-a only one move I can make. I've-a got no choice but to take the bus out to the suburbs and go see my brother.

So, look, here's-a the deal with Luigi. I'm-a glad he got sober, because, you know, he was-a going to die. And now he does four hours of yoga every day, and he and his husband, Kwame, they seem-a genuinely happy, and I'm-a happy for them. It's-a great. Wahoo, yippee. At the same time, I'm-a not going to pretend like it's a blast hanging out with them and all their dogs.

So I walk up to their fancy gate and ring the stupid intercom and say, "It's-a me, Mario." And Kwame's, like, "Mario, what a pleasant surprise!" And this guy, he's-a nice, but he's-a more boring than World 1, Level 1, on Easy. He reads self-help business books for fun, and I've-a known him for three years and I still have no clue what he does. But I guess that he's-a loaded, because Luigi is essentially a professional sunbather now, and their driveway, it's-a, like, Tesla, Tesla, Tesla.

So they buzz me in and I tell-a them my whole fucked-up situation—how the Princess is-a trapped, and I need to buy this spine belt, but I've-a got no money—and they say they're-a going to help me. And I'm-a super relieved. But, instead of writing me a check, Kwame says, "Mario, are you familiar with the concept of a career pivot?" And I'm-a, like, "What?" And he hands-a me this book called "What Color Is Your Parachute?" And then he's-a, like, "Hey, you know what might be fun? If we made you a new résumé right now!" And Luigi gives me a big thumbs-up, like I've-a just won a fucking extra life.

So Kwame takes out his laptop, and he's-a, like, "O.K., what would you say is your most marketable skill?" And I've-a got no choice but to play along, because I still have to hit them up for money. So I'm-a, like, "I don't know, I guess fighting Koopas?" And Kwame's, like, "We *could* focus on your combat skills. But I think it might widen the net if we highlighted your experience with plumbing." And Luigi rattles off the dates of my last plumbing job, and Kwame types them in, and then he's-a, like, "We need a strategy for how to explain the gap." And I'm-a, like, "What gap?" And he's-a, like, "You know, this multi-decade period where you were out of the workforce." And I'm-a, like, "It's not like I was just sitting on a cloud all day. I was-a travelling from world to world, going on quests." And he's-a, like, "Right, but a plumbing executive won't necessarily interpret it that way." And he writes up this cover letter that's-a designed to turn "the negative into a positive":

Dear prospective employer,

I am writing to apply for the position of journeyman plumber at your company or business. Plumbing is a lifelong passion of mine. After beginning my career in New York City, I took a multiyear hiatus to the Mushroom Kingdom in order to improve my knowledge of pipes. Now I am ready to jump back in the game and pick up where I left off. I am confident that I am the right person to help you achieve success.

Sincerely,

Mario Mario

And Luigi's, like, "Wow, that's-a perfect!" And I'm-a just reading it over and over again, like, Really? All my adventures, the entirety of my adult life, it all boils down to a "hiatus"? And it feels like I've walked into a spike and gone from big to small, and all the mushrooms in the world can't make me big again.

And by this point the Princess, she's-a texting me non-stop, like, "*Where. The. Fuck. Are you.*" So I turn to Luigi and say, "Listen, I really appreciate all this great life advice, but today the main thing is I need-a to borrow some money, so I can buy this spine belt and save the Princess from the Koopa." And there's-a this long silence, and eventually Kwame squeezes Luigi's hand, and Luigi takes a deep breath, and I'm-a just rolling my eyes, like, "Here we go." And Luigi takes off his hat and launches into this speech, which is obviously super rehearsed. And he's-a, like, "Mario, we want to help you, but we don't-a think we've-a been helping you in the right way. And that's-a why, for your sake and ours, we have-a decided to put up some financial boundaries." And that's-a when I kind of lose

my cool and start running around shooting fireballs. And Luigi's, like, "Mario, don't-a do this." But I'm-a so angry now, it's-a like I'm just in battle mode. And Luigi runs at me, and I shoot him a look, like, "Let's-a go!" But even though I can usually take him, my back, it's-a so messed up that he manages to jump on my head, which makes me motionless. And these giant block letters appear over our heads, saying, "LUIGI WIN!" And he's, like, "I'm-a sorry, Mario." And I'm-a, like, "Fuck you."

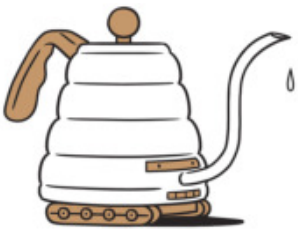
And as I'm-a hobbling out of their dumb gate I pass-a this pile of Amazon packages. And I can tell it's all nice stuff, like P-Wings and POW blocks, and I remember how Amazon, they've-a got this policy where if something goes missing they just reimburse you, no questions asked. And I'm-a thinking, you know, Is it really a crime if nobody gets hurt? So I grab a few packages, and as I'm-a walking to the bus stop I hear-a this voice in my head, like, "You-a just robbed your own brother." But at this point it's-a like I'm just on autopilot, almost like I'm-a being controlled by someone else. (And obviously I know that sounds-a crazy, but that's-a how I'm feeling.)

So anyway, I pawn all this crap and call-a the guy who's got the spine belt. And he's-a, like, "It's yours for 20K." And I'm-a, like, "Hey, you said ten!" And he just laughs, because I guess he can hear the desperation in my voice. So I tell him the truth, which is that I've only got fifteen, and he says he'll take it, but for some reason I have to throw in some garlic. And I'm-a, like, "Huh, that's-a weird." But, honestly, at this point, I'm-a not even thinking straight, because I'm in so much pain. And I know I've-a described how much my back hurts, like a few different times already, and I don't want to get repetitive, but the cortisone shot has almost completely worn off, and there's-a, like, starting to be this new pain that's deep inside my balls. And it's-a terrifying, because this pain, it's-a something I've never experienced before. And it makes me feel-a truly panicked. Because it's-a like, you know, what the fuck is this now?

So I PayPal-a this guy all the money, and send him some garlic on Postmates. And after it goes through I ask where I should meet him to pick up my belt. And he just laughs again, even louder than before. And finally I'm-a, like, "Wait a minute, who is this?" And he says, "It's-a me, Wario," and it turns out the whole thing was a scam. And it's-a basically the emotional low point of my entire life. I'm-a just crying on the sidewalk, you know? Like, Game Over.

And just when things-a can't get any worse I see something skidding toward me. And I realize it's-a the beetle that I kicked outside of Dr. Mario's the day before. It must've bounced off a pipe or a brick, and now, instead of sliding away from me, it's-a sliding right at me. And this thing's-a getting closer and closer, and I'm-a getting ready to jump over it, when all of a sudden time pauses. You know how that happens sometimes? Like, you'll be jumping or flying, and then, out of nowhere, everything in the world will freeze? Not seeing a lot of nods. Well, anyway, time pauses for me in this moment, and all these thoughts start-a swirling through my head.

And the first is this memory of the last quest I went on with Luigi. It was after he got out of rehab, but before he and Kwame started dating, although I think they were-a maybe hooking up by then. So anyway, we were-a swimming underwater, dodging jellyfish, and I notice he's-a kind of hanging back. So I'm-a, like, "Let's-a go!" And Luigi says, "What's-a the hurry?" And I'm-a, like, "What are you talking about? We're-a being timed, and the faster we go the more points we get." And he's-a, like,



"Yeah, but what are the points for?" And at the time I just laughed, like, you know, That's-a just Luigi being silly.

But now, as I'm-a standing paused before this beetle, this thing he said comes rushing back to me. "What are the points for?" And I realize that he's-a kind of right. Because the truth is, the points, they don't-a really get you anything. You can't-a trade them in for prizes. Best-case scenario, your tally ends up on a high-score list, next to a word like "PEE" or "DIC," and even then it's only a matter of time before the whole list randomly resets for no reason.

And then I started to think about my relationship with the Princess. Did I really want to be with her? Or was her love just another form of points? Another currency for me to amass to prove-a to myself that I had worth, and that, despite my immigrant background and high-pitched voice and learning differences, I was-a still deserving of love? I'd-a been with the Princess for decades, but it's not like we'd-a ever actually connected. I barely even saw her, except for a few seconds after each rescue, and even then it's-a not like we had deep conversations—we just stood next to each other, staring straight ahead, while some text scrolled anticlimactically over our heads, followed by Japanese names.

And as I'm-a having this realization the world unpauses and the beetle continues sliding toward me. And, instead of jumping over it, I decide to jump on top of it, which makes it motionless. And I reach under its orange turtle shell, pull out Dr. Mario's card, and call-a his personal number and say, "It's-a me, Mario, and I need help."

And within thirty minutes I'm-a in his office signing consent forms for "anterial lumbar fusion." And he's-a, like, "You're going to need someone to wash your body and help-a you use-a the bathroom, because for the first twelve weeks of recovery you're-a going to have zero mobility. Do you have-a a partner who can help you?" And by now the Princess has straight-up blocked my number, and I guess she did end up calling Devon, because she's-a posting all these pictures of him on social media, tagged, like, #realhero and #waybetterthanmario. So I'm-a, like, "Is there some kind of sponge on a stick that I can use to clean my ass?" And Dr. Mario, he's-a walking me through the different stick options when Luigi jumps through the window. And then Kwame comes in a second later, through the door (because he took-a the elevator).

And it turns out someone from Dr. Mario's office called them up, because they were-a listed as my emergency contacts. And they tell Dr. Mario that they're-a going to help me recuperate, and they've already converted Luigi's solarium into my recovery room. And I'm-a feeling super guilty because there's

no way they'd-a make this kind of offer if they knew that I'd-a stolen from them. And so I start to confess about the Amazon boxes, and Luigi says, "Mario, we know. We saw you pick them up and shout 'Wahoo.' That's-a why we're here. We didn't-a realize how desperate things had gotten, and how much pain you've been in. And we're-a sorry about the résumé thing before. We both realized even as we were-a doing it that it was a terrible idea, and from now on we're-a going to try to be less prescriptive, and the main thing is we love you, and we're-a with you for the long haul, no matter what it takes." And Kwame's, like, "We mean it. We want you to stay with us until you're back on your feet." And I'm-a looking up at these guys, and I don't-a know what to say, because I've-a been playing the game for forty years, but this is the first time that it's-a me who's being rescued.

So now it's-a the night before the surgery, and I'm-a fasting at Luigi and Kwame's, and it's-a gonna be a long time before I can jump or even walk. And the truth is, I'm-a never going to be "super Mario" again. When I come out the other side of this, I'm-a going to just be plain, regular Mario, a middle-aged guy with a slight limp.

But I've also been starting to think that maybe getting older's not all bad. Like, for example, this is a little embarrassing to admit, but my whole life I've-a struggled with body stuff, like things about my weight and how I look-a naked. It's-a why I wear the overalls even when it makes no sense for what I'm doing. But now that I'm-a in my forties I don't really think about my body anymore, and when I do it's-a to focus on the parts that I'm-a proud of, like my thick mustache and my big strong ass. And, honestly, I can't tell you how liberating it is just to allow myself to feel-a sexy. Like, why can't a short fat guy be sexy? I feel-a sexy, and I'm not afraid to say I feel-a sexy. Like, hey, it's-a me, Mario, and I've got a big, strong, super-hairy ass and I'm-a sexy. Deal-a with it.

I've-a also noticed that the older I get, the less angry I am at my dad. I mean, it's-a weird he named me Mario when his last name was-a Mario, so that my name's-a Mario Mario. But he was a really serious alcoholic, like, red wine for breakfast, so it's-a kind of a miracle he was able to say a name at all.

And I was-a doing the math with Luigi, and it turns out that the day I'm-a scheduled to be discharged from the hospital happens to be my forty-first birthday. And I joked to him, "I should throw a party." But then once I'd-a said it I realized, "Wait a minute, that's exactly what I should-a do." And so we're-a really going to do it, a party in my recovery room, and I'm-a inviting everyone I know, including Dr. Mario and even the Princess and Devon, because why not? I mean, I don't expect them to come, but even if they did I think I'd-a be cool with it. When we got together, we were super young, and everything was at least as much my fault as hers. And I don't think we'll ever be the kind of exes who go out for lunch or whatever, but when all's said and done I'm-a genuinely rooting for her happiness.

And I was-a going through the hospital checklist with Luigi, like do we have slippers and sweaters, and "Lilyhammer" downloaded on the iPad, and I started to feel a familiar sensation. And I realized that it was the way I used to feel between levels. Tomorrow at 5:30 A.M. (I know), Dr. Mario's going to hit me with that gas mask, and it'll be like going through a pipe from one world to another. And maybe I'll have to learn some new moves once I get there, but so what? I'm-a ready for the challenge. Like, for example, I really want to do a podcast, and this morning I pitched the idea to Luigi and Kwame, and they said they would help me, and we even came up with a name for it ("The Next Level with Mario"). And Luigi's going to read-a the commercials, and Kwame's-a going to be my first guest, because it turns out his job is actually pretty interesting, it's-a this thing involving currency prices, I think, or something about bonds. Anyway, we're-a going to be talking about it for two hours. And maybe we'll-a get a lot of listeners, but even if we don't it'll still be a learning experience.

These past forty years, I've-a had all kinds of ups and downs. I've-a won and lost, flown and fallen, jumped and been jumped on. I'm-a covered in scars and soon I'll have some more. But I'm-a not scared. I'm-a ready. Someday, I'll-a run out of continues, but in the meantime I've-a got plenty of lives left.

Here we go . . . ♦

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OUR LOCAL CORRESPONDENTS

TOUGH BUSINESS

The rapper Fivio Foreign survived a gang war. Can he go mainstream?

BY KELEFA SANNEH

Fivio says, "I don't miss nothing from my old life," but it still permeates his lyrics.

"This is what New York City feel like and sound like," Funkmaster Flex exclaimed, one recent night on Hot 97. For thirty years, Flex has been New York's most prominent hip-hop radio d.j., tasked with figuring out what might be popular and then telling people what *should* be popular—turning audience research into a series of definitive statements, delivered so volubly and so frequently that he sometimes drowns out the music. On this night, Flex was drowning out a new track, "City of Gods," which seemed sure to become a local favorite. "Fivio, I see you," Flex said, calling out the rapper behind the track. A few years ago, Fivio Foreign was just one more guy from Brooklyn mean-mugging into the camera in a bunch of YouTube videos. Now he is emerging as the kind of reliable hip-hop star that New York, not too long ago, seemed to have stopped producing.

"City of Gods" had a chorus by Alicia Keys, singing, "New York City, please go easy on this heart of mine." It had a newsworthy verse, in which Ye, formerly known as Kanye West, threatened the "Saturday Night Live" star Pete Davidson, who was dating his ex, Kim Kardashian: "This afternoon / A hundred goons / Pulling up to 'S.N.L.'" Most important, it had Fivio Foreign, who staged a self-coronation in the track's opening lines:

> Nigga, this *my* shit
> Welcome to the city of gods
> Pop was the king of New York
> Now *I'm* the nigga in charge.

"Pop," as just about every listener would have known, was Pop Smoke, an ally and friend of Fivio who was approaching mainstream stardom when he was murdered, in February, 2020; his first album, released posthumously, made its début at No. 1 on the *Billboard* chart. Pop Smoke was about a decade younger than Fivio Foreign, who just turned thirty-two. But he got famous first, and took a fraternal interest in Fivio's career: he tried, unsuccessfully, to get the label that signed him to sign Fivio, too, and when he travelled to the Hot 97 studios for an interview, in 2019, he included Fivio in his entourage.

Nowadays, it is Fivio who has an entourage, and one evening this spring he paid a visit to Funkmaster Flex with a few friends in tow. Flex was prerecording segments in a nondescript Chelsea office building; Fivio and friends were shown to a rather desolate hospitality room, which was full of Cîroc vodka decorations yet surprisingly bereft of the product itself. Someone procured a bottle of champagne, but Fivio was not particularly interested—he prides himself on professionalism, and, although he has rapped enthusiastically about intoxicants ranging from Hennessy to Percocet, he says that he is more focussed on success these days.

The spelling of "Fivio" is slightly misleading: the name derives from an old nickname, Fabio, bestowed by a friend who noticed that women found him charming, and so it is pronounced "Favio," though people who know him tend to drop the last letter or two. He is more than six feet tall and lanky, and he was wearing a red nylon windbreaker by the French fashion house Celine, with matching jeans, and enough jewelry to make it clear which of the guys milling around was the star. Funkmaster Flex greeted him with a friendly scowl and then, before the interview began, delivered a brief update on "City of Gods."

"It's picking up in the club," Flex said, conspiratorially, as if he were sharing classified information.

"That's what we need," Fivio replied. "We need that club."

Fivio's music can sound as if it were purpose-built for club sound systems: it is up-tempo, with tricky drum programming, bass lines that zoom unpre-

PHOTOGRAPH BY LELANIE FOSTER

dictably from note to note, and plenty of shouted interjections. But Fivio's form of hip-hop is less closely associated with clubs than with the streets of Brooklyn, where he shot a number of his early videos, and with YouTube, where those videos often went viral. ("Viral" is one of his favorite words.) The style that made Fivio a star is known as drill music, which even more than other forms of hip-hop has been linked to gangs and violence. Pop Smoke and Fivio Foreign were on the same side in a kind of civil war that turned the dizzying patchwork of Brooklyn street gangs into a murderously simple rivalry between two confederations. Pop Smoke's killing was apparently unrelated to this war; he was the victim of a botched robbery during a trip to Los Angeles. (It seems that the invaders found Pop by zooming in on an address label in a video that he posted, showing off a delivery from Amiri, which sells expensive jeans that are popular among New York rappers.) But his career was tightly connected to the war: the first Pop Smoke mixtape was called "Meet the Woo"—a reference to one of the two confederations. Similarly, Fivio's breakthrough track was "Blixky Inna Box." A "blicky" is a gun, but "Blixky"—the "x" is silent—is the name of a crew that was on the other side of the divide; the track functioned as an extended provocation.

Earlier this year, a pair of high-profile shootings focussed political attention on this world. In January, a rapper named Nas Blixky survived being shot in the Brooklyn neighborhood of Prospect-Lefferts Gardens. The next week, TDott Woo, who was known for his dance moves in videos by Pop Smoke and Fivio Foreign, was killed in Canarsie. Soon afterward, Mayor Eric Adams held a press conference in which he called drill music "alarming," and suggested that certain violent music videos be removed from social media in the name of public safety, much as President Donald Trump had been removed from Twitter. Adams convened a summit with a number of the city's leading rappers, including Fivio, who sat at the Mayor's right elbow, and who apparently made no promises—he is obligated, he says, to do no more and no less than talk about his life. "Niggas *always* talking about what's going on in the hood, or what they're going through in their life," Fivio told Flex, when asked about the summit. "That's what's gon' happen, regardless."

In recent years, many hip-hop hits have been druggy and escapist. (In the chorus of "Lemonade," one of the most popular tracks of 2020, the rapper and singer Don Toliver howled about getting high and buying a convertible: "Off the juice, codeine got me trippin'/Copped the coupe—woke up, roof is missin'.") Fivio belongs to a less fanciful tradition, and his success may mean that the hip-hop pendulum is swinging back, as it periodically does, toward tougher, scrappier characters. In hip-hop, street credibility can be an important narrative asset—a way of convincing listeners that the stories they're hearing aren't just stories.

Like any successful rapper, though, Fivio is using hip-hop not just to chronicle his surroundings but also to change them. He has moved, with his three children, to an undisclosed location on the far side of the Hudson River, and his rhymes have grown a bit less bloodthirsty and a lot more ruminative. Earlier this month, he released his first proper album, "B.I.B.L.E.," for which Ye served as the executive producer, and which aims to convert listeners who do not spend their free time trying to decode the intricacies of New York gang alliances. Pop Smoke was a gnomic figure with a rich, booming voice; Fivio is less enigmatic but more entertaining, a charismatic and sometimes witty host who wants to keep everyone happy. "This shit sound like *growth*," he exclaims, near the beginning of the album, which strikes an effective balance between thoughtfulness and recklessness. "Don't mistake me for a different nigga," he raps. "If I tell 'em to work, they'll clip a nigga/If I take me a Perc, I'll forget the nigga."

Twice in the past two years, Fivio's rise has been interrupted by allegations of criminal behavior. In 2020, he was arrested for assault, after an altercation with a woman he was dating, who was pregnant with his third child. She later announced that she didn't want Fivio to be prosecuted, and he claimed that the encounter was merely a loud argument. He still faces charges for an incident last year in New Jersey, when he was approached by police and fled. He was caught and, after a scuffle, arrested; police found a loaded gun with a defaced serial number. But he says that he has learned the importance of staying out of trouble: for someone like him, that means hiring professional security guards and steering clear of Brooklyn. "I don't miss *nothing* from my old life," he told me. But he can't afford to stop rapping about it—not yet.

"I was raised the right way," Fivio says. He grew up, as Maxie Ryles III, in a neighborhood known as the Nine: a slanted rectangle of blocks (including Ninety-first through Ninety-sixth Streets) affixed to the northeast corner of East Flatbush, dotted with Caribbean storefronts and neat little apartment buildings that are worth significantly more now than they were when Fivio was a boy. His father was a military veteran who remained married to his mother, a special-education aide, until her death, from a stroke, in 2016, which Fivio describes as the defining tragedy of his life. Despite his stable upbringing, he was intrigued by high-school classmates who disappeared for long stretches and then reappeared with better clothes than he could afford. And so he disappeared, too. (He eventually earned his diploma through a summer program.) "I was outside," he says. "Making some money here and there." As he remembers it, gang membership literally came with the territory. "It was no question of affiliation," he says. "You're from here? *This* is what it is."

When Fivio says that he avoids Brooklyn, he means the Brooklyn where he grew up; he had no problem travelling, with his security detail, to an Episcopal church in Park Slope, six consequential stops on the 3 train from his old neighborhood. His record label, Columbia, had rented the church to shoot a promotional video for "B.I.B.L.E." (Fivio's family was Pentecostal, but he says that his album is Biblical only insofar as it offers stories—ostensibly true ones—that listeners can learn from.) At a long table in the sacristy, he posed with a chalice of cranberry juice, and then, after changing into Gucci track pants and a matching shirt, he found a place in the dusty church kitchen,

where he was supplied with a legal pad and a pencil. Fivio adopted a thoughtful expression and, for the benefit of the cameras, did something he almost never does: he wrote down some of his lyrics. "I ain't even realize I was in Brooklyn," he said later.

When the shoot was over, Fivio's ride—an S.U.V. with L.E.D. lights in the ceiling, which fans may recognize from his Instagram videos—was waiting outside, and he moved quickly to get in. Not quickly enough, though, to escape the attention of a woman in the next car, with multicolored fingernails and an embarrassed smile. "I love you, Fivio," she told him.

As she recorded on her phone, Fivio leaned in through the window and asked her favorite song.

"Right now, it gotta be 'Self Made,'" she said, naming a track that has more than ten million views on YouTube but has never been released to streaming services, let alone radio stations.

"Boom!" Fivio said, firing an imaginary gun at the phone. "Good choice."

Once Fivio had left, the woman began to cry. "Oh, shit," she said, covering her mouth with her hand and still recording. "Where the fuck he just came from?"

Fivio Foreign has many Brooklyn hip-hop forebears, none more important than the Notorious B.I.G. and Jay-Z, who enacted their own succession drama a quarter of a century ago. They were both from Bedford-Stuyvesant, friends and friendly rivals. After the 1997 murder of B.I.G., who was one of the most beloved rappers in New York's history, Jay-Z replaced him as the biggest name in town, rapping, "I'm the focal point, like Biggie in his prime / On the low, though—*shhh!*—the city is mine."

By the time Fivio got serious about rapping, in the twenty-tens, Atlanta was establishing itself as the new hip-hop capital, and New York rappers sometimes struggled to keep pace with Southern styles. New York's hip-hop renaissance began, indirectly, in Chicago, where a generation of teen-age performers created a startlingly unfiltered subgenre that came to be known as drill music. Chief Keef was only sixteen when he released, in 2012, a transfixing video for a track called "I Don't Like." Keef and his friends crowded into an unfurnished apartment, waving guns in time to an ominous, chiming beat fit for a funeral procession. Chief Keef reeled off threats and complaints, sounding like a teen-ager with nothing to lose: "Playing both sides, shit that I don't like / Wartime, spark broad day, all night." The track was claustrophobic, but pleasurably so, and it became a sensation: Kanye West organized a remix, and major labels signed Keef and several other Chicago rappers. Something about the music captured the attention, too, of young people around the world. In the South London neighborhood of Brixton Hill, a crew of rappers called 67 began making low-budget drill videos of their own, livening up the Chicago template with skippy rhythms and sliding bass lines.

The pioneers of Brooklyn drill tended not to be scholars of British musical history: by all accounts, they typed "drill beats" into YouTube and rapped over whatever they found. A producer known as AXL was a teen-ager in London when he noticed that Brooklynites were using the work he posted, and sometimes drawing digital crowds. "It was a shock," AXL told me. "I'm all the way in London, and they're hopping on my beats!" Some of the rappers had no idea that AXL was British until they called to invite him to the studio.

One drill convert was a boyish, verbose Flatbush rapper named 22Gz, who turned one of AXL's compositions into an incendiary track called "Suburban." The title described not 22Gz's surroundings but, rather, his preferred getaway vehicle: "Pull up in all-black Suburbans / If he ain't dead, we reversin' / Blixky gang, know we gon' murk him." Fivio, too, began using beats by AXL and other British drill producers. He had been rapping for a few years, releasing rather generic home-town hip-hop, to little notice, but the new beats made him sound somehow both more serious and more playful. AXL, working from across the Atlantic, has since produced some of Fivio's best-known records.

Brooklyn drill, like hip-hop itself, was often mistaken for a passing fad, and some of the rough-and-tumble Brooklyn rappers who proliferated in the twenty-tens sought to assure listeners that they weren't merely drill rappers. Pop Smoke took the opposite approach: encouraged by Steven Victor, the executive who signed him, he released two mixtapes filled with beats

"Under my credit score, it merely says 'credit participation trophy.'"

by 808 Melo, another U.K. drill producer, intending to make himself the face of the movement before branching out. Pop Smoke did not live long enough to see this plan to completion, but Fivio has adopted a similar strategy, becoming the obvious choice for musicians seeking an infusion of drill energy. He appears on recent releases by Drake and Mary J. Blige, and on a current single by Nicki Minaj, who did more than anyone else to boost New York hip-hop during the fallow years. After Ye heard some Fivio tracks that he liked, he texted Fivio to see if he could call, and then started rapping over the phone, asking Fivio his opinion. Fivio wasn't sure what to think, but Ye followed up by sending a jet to bring him to Mercedes-Benz Stadium, in Atlanta, where he was finishing his 2021 album, "Donda." (The resulting collaboration, "Off the Grid," was one of the album's highlights.) Fivio is convinced, not unreasonably, that the fearsome sound of drill is more versatile than people think it is: his new album includes a lighthearted drill love song based on a snippet of "Say My Name," by Destiny's Child. Instead of leaving drill behind on his journey toward mainstream success, Fivio is trying to take it with him.

Drill, in the hip-hop sense, is not just a genre name but also a verb. "Since a young'un, I been drillin'," Pop Smoke announced, in "Welcome to the Party," the 2019 track that made him a star, and you could almost picture him wielding his weapon like a power tool. A close association with violence has always been part of drill music's appeal: like the so-called gangsta rappers of the nineteen-nineties, these performers offer listeners the thrill of immersion in a violent world, without promising to make things better—and frequently promising to make things worse.

It's easy to forget how controversial gangsta rap once was. Snoop Dogg is now widely regarded as a lovable uncle, and many of the people who enjoyed his whimsical Olympic-highlights show with Kevin Hart were probably unaware that in 1993, shortly before the release of his début album, he was arrested for the murder of a man reputed to be a member of a rival gang. (He was later acquitted.) Snoop's rhymes, full of sex and violence, inspired broad condemnation; C. DeLores Tucker, a civil-rights advocate, became a news fixture for leading protests against him and other objectionable rappers. But his threats were generally of the vague, "don't make me have to grab my strap" variety, and in those early years he alluded only obliquely to his affiliation with a local Crip gang.

The drill generation tended to be more forthright, partly because social media enabled rappers to communicate more directly with both their allies and their enemies, whom they refer to as "opps." Not long after "I Don't Like" was released, a rapper named Lil JoJo posted a track insulting Chief Keef's crew. A few months later, he was shot to death, and a sarcastic eulogy was posted on Keef's Twitter: "Its Sad Cuz Dat Nigga Jojo Wanted To Be Jus Like Us #LMAO." (Keef later claimed that he had been hacked, and no one has been charged in JoJo's death.) In the years that followed, something like a dozen Chicago drill rappers were killed, a figure that reflected both the astonishing level of violence on the city's streets and the democratizing nature of the music—it sometimes seemed as if every streetwise young person in Chicago were a rapper.

Fivio says that he wasn't in a particularly angry frame of mind when he recorded "Blixky Inna Box." He was just following the traditional logic of hip-hop. "They"—the Blixkys—"was dissing the hood, dissing people I know," he said. So he responded the way any rapper would: "twice as hard, twice as disrespectful, twice as *fire*." The video, shot by a drill auteur known as Flowtastic, shows Fivio and his allies in a spartan building lobby and on an empty playground; there are no visible guns but plenty of gang signs. The exuberant chorus puns on "Blixky," pairing it with another synonym for a firearm: "Got a brand

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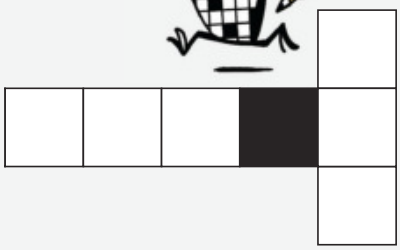

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new chop / That's a Blixky inna box."

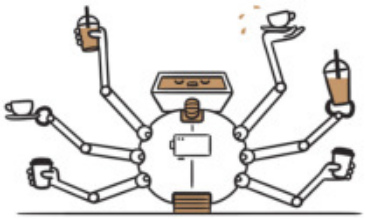
There were other, overlapping gang identifiers. Some of Fivio's enemies were affiliated with the Gangster Disciples, who originated in Chicago and spread nationwide, so Fivio identified himself as "G.D.K.," which stands for "Gangster Disciple killer." And he mentioned, offhandedly, that he and his confederates were the "flyest Crips in the game, flag tied around the leg," pointing to a blue bandanna above his left knee. As the video went viral, he thought that he saw an uptick in the number of young men in Brooklyn wearing the same bandanna in the same way.

Fivio has mixed feelings about the complicated role that gangs have played in his life. His new album includes "Left Side," a coded oath of allegiance to the Crips, recorded with the like-minded Los Angeles rapper Blueface. But one day, sprawled on a couch in a Columbia Records conference room, surrounded by photographs of Billy Joel and Bruce Springsteen, he told me—using the kind of hypothetical language favored by people with reason to avoid unequivocal admissions—that the reality of gang life was often miserable. "Somebody might get in a situation, and you don't know nothing about it, but you've got to deal with it," he said. "It gives you no soul, almost. 'Cause you not fighting for nothing you believe in." By the time "Blixky Inna Box" took off, in 2018, he had two daughters and no fixed address, and he is aware of the irony: the track that helped him escape old neighborhood beefs also made his name synonymous with neighborhood beefs. In the aftermath of the killings earlier this year, a Hot 97 host named DJ Drewski made an announcement on Instagram: "I will not support or play anymore Diss/Gang records on the radio! We r losing too many young men and women to the streets!" He later explained that he would continue to support drill music, just not tracks in which rappers taunted their opps.

This, more or less, is how the music industry responded to gangsta rap some thirty years ago. Radio stations, video networks, and record labels adopted a system of soft censorship: guns were blurred out of music videos, and soon omitted altogether; "radio versions" of songs were stripped of curse words and of the N-word, along with references to violence and drugs. This system is now so familiar that listeners barely seem to notice. The radio version of "Big Drip," one of Fivio's biggest tracks, features the line "Crip sh[obscured] / She wanna suck on a [obscured]."

But it's hard to imagine that this sort of censorship makes much difference, especially since impressionable young listeners have so many options besides terrestrial radio. Censoring rappers on social media, as Mayor Adams suggested, would be difficult and controversial. After the killing of Fivio's friend TDott Woo, a Brooklyn drill pioneer named Rowdy Rebel vowed, in a YouTube video, "I ain't posting up no pictures of my bro TDott / 'Til a body drop—spin, go get your G-lock." And 22Gz, who is on the other side of the great divide, released a track in which he celebrated the death of an unnamed foe: "Sniper Blixky, I'm a gremlin: get a rush, my opps die / He was dissin' on the dead—now *he* the one on Fox 5." But Fivio's response has been notably restrained, and he suggested that revenge was not the best way to honor slain friends like TDott. He thought, "What would my dog want me to do? How would my dog want me living?"

By the time the Mayor called his summit, in February, Brooklyn drill had spawned a new variant: Bronx drill, in which the stars were younger, the rapping shoutier, and the filmed prov-



ocations more brazen. One of the most notorious figures is Kay Flock, eighteen, who last summer released a thrilling, raw-throated statement of purpose called "Is Ya Ready" (twenty-four million views and counting). Kay Flock was also known for videos in which he drove into enemy territory, daring the opps to confront him. He was arrested in December and charged with killing a man after a brief altercation on the sidewalk, but, after pleading not guilty at his arraignment in March, he is more popular than ever. He recently collaborated with the borough's biggest hip-hop star, Cardi B, making her drill début—though she had to shoot the music video without him. Earlier this month, the Bronx District Attorney indicted the rapper Lee Drilly and nineteen others, on charges linked to a series of murders and assaults; the office noted that the defendants were "prominent in the Drill rap scene."

The pastor Louis Straker is a member of the 67th Precinct Clergy Council, also known as the God Squad, which aims to quell gun violence in East Flatbush and the surrounding area. He is taken aback by what he calls the "spirit of lawlessness" in the neighborhood, and by the sanguinary music that it has produced, although he acknowledges that it is hard to establish correlation, let alone causation. (According to police statistics, the precinct's homicide rate is less than half of what it was in the early nineties, even as the city's total shootings have risen in the past few years.) No doubt, anyone who loves this music would happily give it up if that would end the killing. The tragedy of drill music is not that there is a market for it but that there is a context for it. In the meantime, perhaps it is possible to hear drill music as proof of the stubborn persistence not just of violence but of poetry, too. A half century after hip-hop was born, young people in some of the country's roughest neighborhoods still feel moved to write and deliver rhymes about what's on their minds.

One of Fivio's managers is Jerry Reefer, a well-connected guy who spent his boyhood in Trinidad and in Jamaica, and who didn't realize the significance of his surname until he arrived in Queens and people began to snicker. Reefer met Fivio through a friend who was locked up with a friend of Fivio's, and he agreed to fund and guide Fivio's career partly as a lark—hoping, he told me, to help Fivio earn a hundred thousand dollars. Now Reefer and his partner, known as Bless, are in charge of Fivio's complicated evolution from local celebrity to actual celebrity. (A planned recent appearance at a strip club in Queens was cancelled, at the

last minute, because police warned the club that Fivio might attract an unmanageable crowd.)

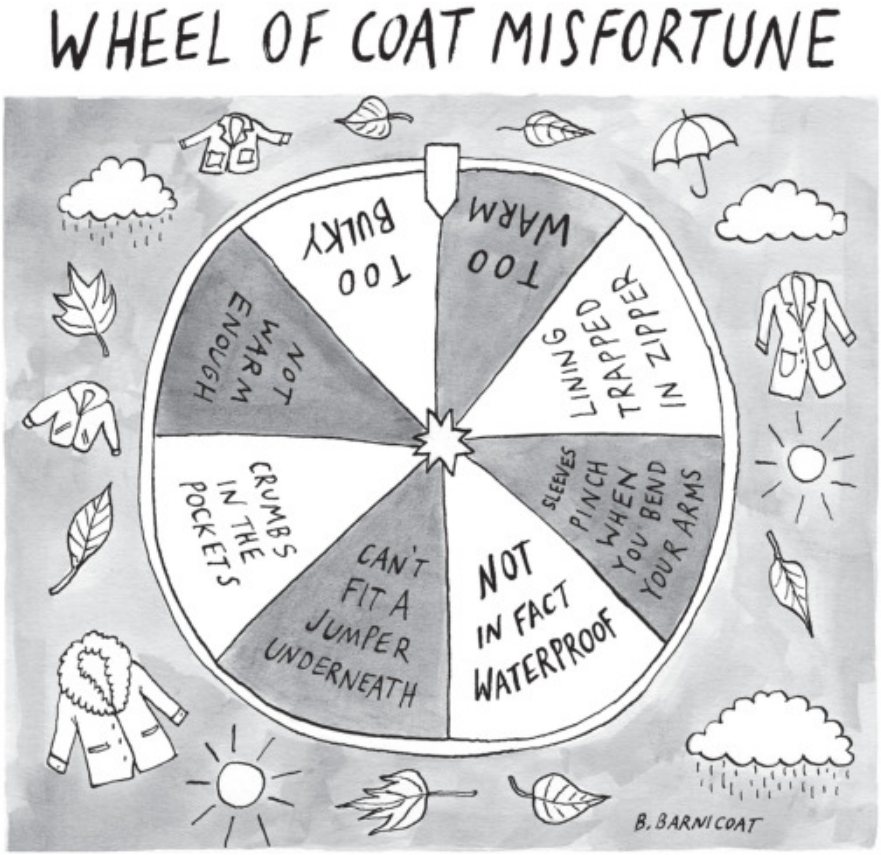
"What studio we going to?" Fivio asked Reefer one afternoon, as they set off in the S.U.V. to tweak his new album. When Reefer named a place in New Jersey, Fivio groaned. "I'm *bigger* than that," he said.

Reefer just laughed. "You got kicked out of every studio in Manhattan," he said.

The driver punched an address into his phone and took off, trailed by Fivio's security detail. As the vehicle crossed into New Jersey, Fivio seemed to relax slightly. He told the driver to stop at Target, where he led an expedition to the menswear section, in pursuit of a white thermal top that he felt would improve his outfit. One of his friends, a rapper known as Ether da Connect, inspected a Tupac Shakur T-shirt. "Mad dead people got merch in Target," Ether observed. "You can't be *alive* and get a deal with them niggas!"

In the parking lot, Fivio was waylaid by a couple of Nigerian American doctors, who didn't quite know who he was but knew that their kids would want a picture of him. Afterward, the group stopped at a Chinese restaurant and then a pizza restaurant, where Fivio tried with diminishing success to stick to a no-carb diet. In early interviews, Fivio seemed self-conscious about his advanced age. Asked how old he was when his mother died, he began a long nonanswer by saying, "What year is this now? 2020?" But his relative maturity surely enabled his rise to the top of the New York drill hierarchy, and he is known among fans for outworking the competition. (A comment posted below one of his recent tracks: "Fivio has definitely gotten better.")

Fivio attended the Grammys this year, and he is about to embark on his first real tour, playing theatres. These are signs of success for a drill rapper, but not proof that he has conquered the music industry. The world of hip-hop can be frustratingly—or thrillingly—unpredictable. For all the star power of "City of Gods," and despite a chorus, swiped from the pop duo the Chainsmokers, that seemed engineered for crossover appeal, the song has so far been only a modest hit. The year's biggest drill success story is "To the Moon," a dreamy track by a previously unknown British model turned rapper named Jnr Choi. He found the beat online, and his creation gathered momentum via TikTok, surpassing a hundred million plays on Spotify before anyone really knew who he was.



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Fivio's album, by contrast, leaves nothing to chance, being carefully divided between tough-guy tracks and ladies'-man tracks. Describing one of the more flirtatious efforts, he told me, "Bitches gon' be *getting dressed* to this song." Fivio is not generally regarded as a hip-hop virtuoso, but he has a fondness for good punch lines (as a boy, he loved watching rap battles) and an ability to keep the energy high without shouting, often rapping in cheerful dactyls. The first verse on "B.I.B.L.E." begins "Still got my bitches from back in the day." The primary theme is customer service, with collaborations designed to gratify a wide variety of tastes, and he even attempts to popularize a dubious new pickup line: "Baby, you *viral*." But the secondary theme is regret, because he can't quite decide whether he wants to celebrate his old life or disavow it:

> Boy, I shoulda been careful
> But I ain't really care to
> I was young, dumb and unfearful
> Two, three drillers jumping in the vehicle
> If the sirens loud enough, that scares you
> If you talking to that gun, it hears you
> Tell him to shoot and he didn't come near you
> You better do it, if them niggas dare you.

At the studio, Fivio asked an engineer to play a beat, and then, as a casual party continued outside, he disappeared into the unlit recording booth. Fivio doesn't write his tracks so much as build them, coming up with couplets and adding them to what he's already got. Having spent years developing his style, he finds that he can now crank out new lyrics efficiently. "I'm a make them niggas hear and feel me," he rapped. Then he matched that plain line with a more ornate and unexpected one, alluding to a drug bust: "Undercovers want to paraphernal' me." He didn't pause to celebrate. "Save that," he told the engineer. The beat stopped for a second, and then resumed, so that Fivio could think of the next rhyme. ♦

A REPORTER AT LARGE

THE SURVEILLANCE STATES

As democratic governments worry about sophisticated hacking software, they increasingly rely on it.

BY RONAN FARROW

The parliament of Catalonia, the autonomous region in Spain, sits on the edge of Barcelona's Old City, in the remains of a fortified citadel constructed by King Philip V to monitor the restive local population. The citadel was built with forced labor from hundreds of Catalans, and its remaining structures and gardens are for many a reminder of oppression. Today, a majority of Catalan parliamentarians support independence for the region, which the Spanish government has deemed unconstitutional. In 2017, as Catalonia prepared for a referendum on independence, Spanish police arrested at least twelve separatist politicians. On the day of the referendum, which received the support of ninety per cent of voters despite low turnout, police raids of polling stations injured hundreds of civilians. Leaders of the independence movement, some of whom live in exile across Europe, now meet in private and communicate through encrypted messaging platforms.

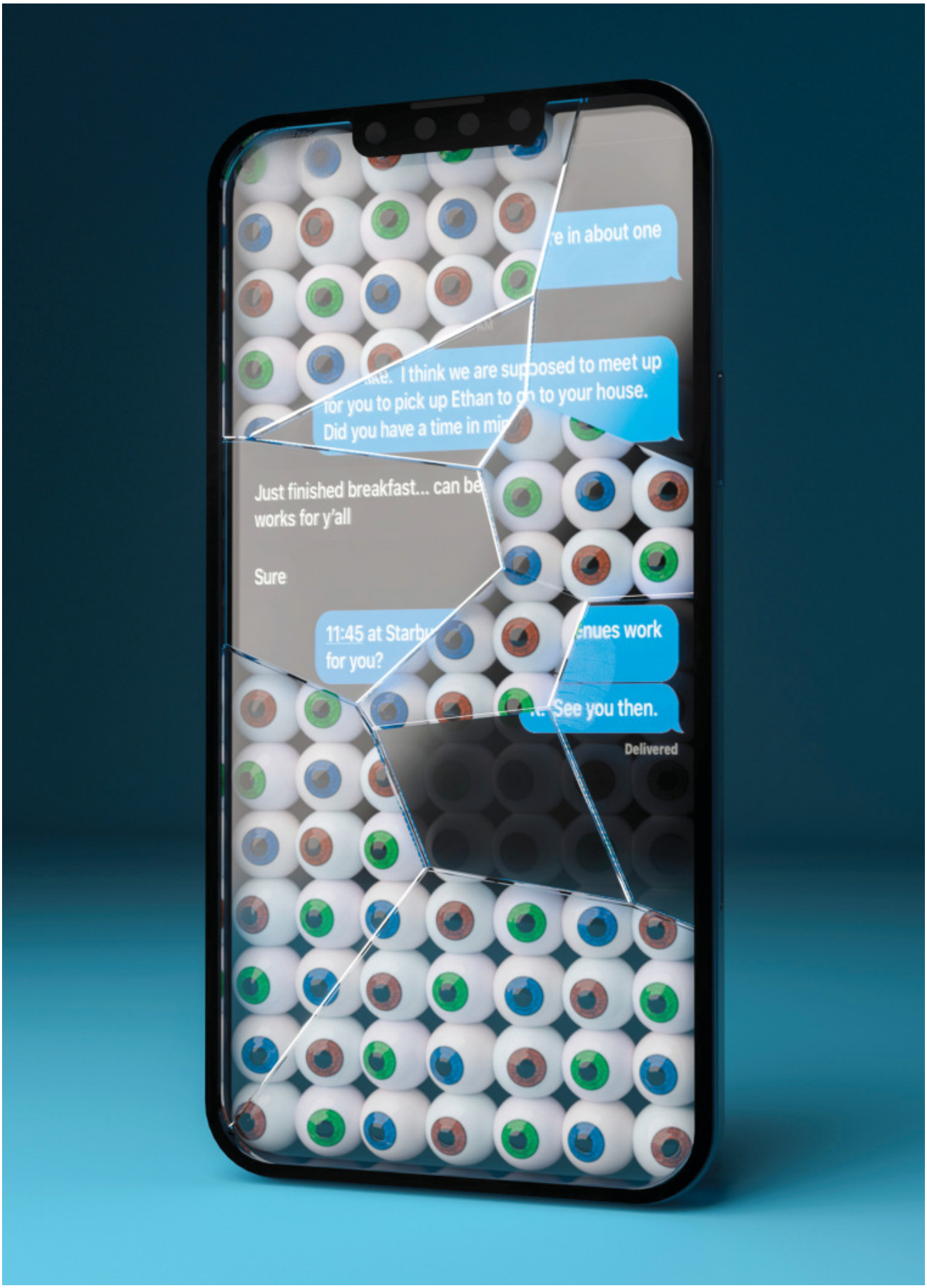
One afternoon last month, Jordi Solé, a pro-independence member of the European Parliament, met a digital-security researcher, Elies Campo, in one of the Catalan parliament's ornate chambers. Solé, who is forty-five and wore a loose-fitting suit, handed over his cell phone, a silver iPhone 8 Plus. He had been getting suspicious texts and wanted to have the device analyzed. Campo, a soft-spoken thirty-eight-year-old with tousled dark hair, was born and raised in Catalonia and supports independence. He spent years working for WhatsApp and Telegram in San Francisco, but recently moved home. "I feel in a way it's a kind of duty," Campo told me. He now works as a fellow at the Citizen Lab, a research group based at the University of Toronto that focusses on high-tech human-rights abuses.

Campo collected records of Solé's phone's activity, including crashes it had experienced, then ran specialized software to search for spyware designed to operate invisibly. As they waited, Campo looked through the phone for evidence of attacks that take varied forms: some arrive through WhatsApp or as S.M.S. messages that seem to come from known contacts; some require a click on a link, and others operate with no action from the user. Campo identified an apparent notification from the Spanish government's social-security agency which used the same format as links to malware that the Citizen Lab had found on other phones. "With this message, we have the proof that at some point you were attacked," Campo explained. Soon, Solé's phone vibrated. "This phone tested positive," the screen read. Campo told Solé, "There's two confirmed infections," from June, 2020. "In those days, your device was infected—they took control of it and were on it probably for some hours. Downloading, listening, recording."

Solé's phone had been infected with Pegasus, a spyware technology designed by NSO Group, an Israeli firm, which can extract the contents of a phone, giving access to its texts and photographs, or activate its camera and microphone to provide real-time surveillance—exposing, say, confidential meetings. Pegasus is useful for law enforcement seeking criminals, or for authoritarians looking to quash dissent. Solé had been hacked in the weeks before he joined the European Parliament, replacing a colleague who had been imprisoned for pro-independence activities. "There's been a clear political and judicial persecution of people and elected representatives," Solé told me, "by using these dirty things, these dirty methodologies."

In Catalonia, more than sixty phones—owned by Catalan politicians, lawyers, and activists in Spain and across Europe—have been targeted using Pegasus. This is the largest forensically documented cluster of such attacks and infections on record. Among the victims are three members of the European Parliament, including Solé. Catalan politicians believe that the likely perpetrators of the hacking campaign are Spanish officials, and the Citizen Lab's analysis suggests that the Spanish government has used Pegasus. A former NSO employee confirmed that the company has an account in Spain. (Government agencies did not respond to requests for comment.) The results of the Citizen Lab's investigation are being disclosed for the first time in this article. I spoke with more than forty of the targeted individuals, and the conversations revealed an atmosphere of paranoia and mistrust. Solé said, "That kind of surveillance in democratic countries and democratic states—I mean, it's unbelievable."

Commercial spyware has grown into an industry estimated to be worth twelve billion dollars. It is largely unregulated and increasingly controversial. In recent years, investigations by the Citizen Lab and Amnesty International have revealed the presence of Pegasus on the phones of politicians, activists, and dissidents under repressive regimes. An analysis by Forensic Architecture, a research group at the University of London, has linked Pegasus to three hundred acts of physical violence. It has been used to target members of Rwanda's opposition party and journalists exposing corruption in El Salvador. In Mexico, it appeared on the phones of several people close to the reporter Javier Valdez Cárdenas, who was murdered after investigating drug cartels. Around the time that Prince Mohammed bin Salman of Saudi Arabia approved the murder of the journalist Jamal Khashoggi, a longtime critic, Pegasus was allegedly used to monitor phones belonging to Khashoggi's associates, possibly facilitating the killing, in 2018. (Bin Salman has denied involvement, and NSO said, in a



NSO Group's software has been linked to repressive regimes, but now "all types of governments" use it, an observer said.

ILLUSTRATION BY TIMO LENZEN

"Your résumé looks terrific, but I'm just not sure we can deal with the shedding."

statement, "Our technology was not associated in any way with the heinous murder.") Further reporting through a collaboration of news outlets known as the Pegasus Project has reinforced the links between NSO Group and anti-democratic states. But there is evidence that Pegasus is being used in at least forty-five countries, and it and similar tools have been purchased by law-enforcement agencies in the United States and across Europe. Cristin Flynn Goodwin, a Microsoft executive who has led the company's efforts to fight spyware, told me, "The big, dirty secret is that governments are buying this stuff—not just authoritarian governments but all types of governments."

NSO Group is perhaps the most successful, controversial, and influential firm in a generation of Israeli startups that have made the country the center of the spyware industry. I first interviewed Shalev Hulio, NSO Group's C.E.O., in 2019, and since then I have had access to NSO Group's staff, offices, and technology. The company is in a state of contradiction and crisis. Its programmers speak with pride about the use of their software in criminal investigations—NSO claims that Pegasus is sold only to law-enforcement and intelligence agencies—but also of the illicit thrill of compromising technology platforms. The company has been valued at more than a billion dollars. But now it is contending with debt, battling an array of corporate backers, and, according to industry observers, faltering in its long-standing efforts to sell its products to U.S. law enforcement, in part through an American branch, Westbridge Technologies. It also faces numerous lawsuits in many countries, brought by Meta (formerly Facebook), by Apple, and by individuals who have been hacked by NSO. The company said in its statement that it had been "targeted by a number of politically motivated advocacy organizations, many with well-known anti-Israel biases," and added that "we have repeatedly cooperated with governmental investigations, where credible allegations merit, and have learned from each of these findings and reports, and improved the safeguards in our technologies." Hulio told me, "I never imagined in my life that this company would be so famous. . . . I never imagined that we would be so successful." He paused. "And I never imagined that it would be so controversial."

Hulio, who is forty, has a lumbering gait and pudgy features. He typically wears loose T-shirts and jeans, with his hair in a utilitarian buzz cut. Last month, I visited him at his duplex in a luxury high-rise in Park Tzameret, the fanciest neighborhood in Tel Aviv. He lives with his three small children and his wife, Avital, who is expecting a fourth. There's a pool on the upper level of Hulio's apartment, and downstairs, in the double-height living room, is a custom arcade cabinet stocked with retro games and bearing a cartoon portrait of him, wearing shades, next to the word "Hulio" in large eight-bit font. Avital attends to the children, frequent renovations, and an ever-shifting array of pets: rabbits remain, a parrot does not. The family has a teacup poodle named Marshmallow Rainbow Sprinkle.

Hulio, Omri Lavie, and Niv Karmi founded NSO Group in 2010, creating its name from the first letters of their names and renting space in a converted chicken coop on a kibbutz. The company now has some eight hundred employees, and its technology has become a leading tool of state-sponsored hacking, instrumental in the fight among great powers.

The Citizen Lab's researchers concluded that, on July 7, 2020, Pegasus was used to infect a device connected to the network at 10 Downing Street, the office of Boris Johnson, the Prime Minister of the United Kingdom. A government official confirmed to me that the network was compromised, without specifying the spyware used. "When we found the No. 10 case, my jaw dropped," John Scott-Railton, a senior researcher at the Citizen Lab, recalled. "We suspect this included the exfiltration of data," Bill Marczak, another senior researcher there, added. The official told me that the National Cyber Security Centre, a branch of British intelligence, tested several phones at Downing Street, including Johnson's. It was difficult to conduct a thorough search of phones—"It's a bloody hard job," the official said—and the agency was unable to locate the infected device. The nature of any data that may have been taken was never determined.

The Citizen Lab suspects, based on

the servers to which the data were transmitted, that the United Arab Emirates was likely behind the hack. "I'd thought that the U.S., U.K., and other top-tier cyber powers were moving slowly on Pegasus because it wasn't a direct threat to their national security," Scott-Railton said. "I realized I was mistaken: even the U.K. was underestimating the threat from Pegasus, and had just been spectacularly burned." The U.A.E. did not respond to multiple requests for comment, and NSO employees told me that the company was unaware of the hack. One of them said, "We hear about every, every phone call that is being hacked over the globe, we get a report immediately"—a statement that contradicts the company's frequent arguments that it has little insight into its customers' activities. In its statement, the company added, "Information raised in the inquiry indicates that these allegations are, yet again, false and could not be related to NSO products for technological and contractual reasons."

According to an analysis by the Citizen Lab, phones connected to the Foreign Office were hacked using Pegasus on at least five occasions, from July, 2020, through June, 2021. The government official confirmed that indications of hacking had been uncovered. According to the Citizen Lab, the destination servers suggested that the attacks were initiated by states including the U.A.E., India, and Cyprus. (Officials in India and Cyprus did not respond to requests for comment.) About a year after the Downing Street hack, a British court revealed that the U.A.E. had used Pegasus to spy on Princess Haya, the ex-wife of Sheikh Mohammed bin Rashid al-Maktoum, the ruler of Dubai, one of the Emirates. Maktoum was engaged in a custody dispute with Haya, who had fled with their two children to the U.K. Her attorneys, who are British, were also targeted. A source directly involved told me that a whistle-blower contacted NSO to alert it to the cyberattack on Haya. The company enlisted Cherie Blair, the wife of former Prime Minister Tony Blair and an adviser to NSO, to notify Haya's attorneys. "We alerted everyone in time," Hulio told me. Soon afterward, the U.A.E. shut down its Pegasus system, and NSO announced that it would prevent its software from targeting U.K. phone numbers, as it has long done for U.S. numbers.

Elsewhere in Europe, Pegasus has filled a need for law-enforcement agencies that previously had limited cyber-intelligence capacity. "Almost all governments in Europe are using our tools," Hulio told me. A former senior Israeli intelligence official added, "NSO has a monopoly in Europe." German, Polish, and Hungarian authorities have admitted to using Pegasus. Belgian law enforcement uses it, too, though it won't admit it. (A spokesperson for the Belgian federal police said that it respects "a legal framework as to the use of intrusive methods in private life.") A senior European law-enforcement official whose agency uses Pegasus said that it gave an inside look at criminal organizations: "When do they want to store the gas, to go to the place, to put the explosive?" He said that his agency uses Pegasus only as a last resort, with court approval, but conceded, "It's like a weapon. . . . It can always occur that an individual uses it in the wrong way."

The United States has been both a consumer and a victim of this technology. Although the National Security Agency and the C.I.A. have their own surveillance technology, other government offices, including in the military and in the Department of Justice, have bought spyware from private companies, according to people involved in those transactions. The *Times* has reported that the F.B.I. purchased and tested a Pegasus system in 2019, but the agency denied deploying the technology.

Establishing strict rules about who can use commercial spyware is complicated by the fact that such technology is offered as a tool of diplomacy. The results can be chaotic. The *Times* has reported that the C.I.A. paid for Djibouti to acquire Pegasus, as a way to fight terrorism. According to a previously unreported investigation by WhatsApp, the technology was also used against members of Djibouti's own government, including its Prime Minister, Abdoulkadar Kamil Mohamed, and its Minister of the Interior, Hassan Omar.

Last year, as the Washington *Post* reported and Apple disclosed in a legal filing, the iPhones of eleven people working for the U.S. government abroad, many of them at its embassy in Uganda, were hacked using Pegasus. NSO Group said that, "following a media inquiry" about the incident, the company "immediately shut down all the customers potentially relevant to this case, due to the severity of the allegations, and even before we began the investigation." The Biden Administration is investigating additional targeting of U.S. officials, and has launched a review of the threats posed by foreign commercial hacking tools. Administration officials told me that they now plan to take new, aggressive steps. The most significant is "a ban on U.S. government purchase or use of foreign commercial spyware that poses counterintelligence and security risks for the U.S. government or has been improperly used abroad," Adrienne Watson, a White House spokesperson, said.

In November, the Commerce Department added NSO Group, along with several other spyware makers, to a list of entities blocked from purchasing technology from American companies without a license.

I was with Hulio in New York the next day. NSO could no longer legally buy Windows operating systems, iPhones, Amazon cloud servers—the kinds of products it uses to run its business and build its spyware. "It's outrageous," he told me. "We never sold to any country which is not an ally with the U.S., or an ally of Israel. We've never sold to any country the U.S. doesn't do business with." Deals with foreign clients require "direct written approval from the government of Israel," Hulio said.

"I think that it is not well understood by American leaders," Eva Galperin, the director of cybersecurity at the watchdog group Electronic Frontier Foundation, told me. "They keep expecting that the Israeli government will crack down on NSO for this, whereas, in fact, they're doing the Israeli government's bidding." Last month, the Washington *Post* reported that Israel had blocked Ukraine from purchasing Pegasus, not wanting to alienate Russia. "Everything that we are doing, we got the permission from the government of Israel," Hulio told me. "The entire mechanism of regulation in Israel was built by the Americans."

NSO sees itself as a type of arms dealer, operating in a field without established norms. Hulio said, "There is the Geneva Conventions for the use of a weapon. I truly believe that there

should be a convention of countries that should agree between themselves on the proper use of such tools" for cyber warfare. In the absence of international regulation, a battle is taking place between private companies: on one side, firms like NSO; on the other, the major technology platforms through which such firms implement their spyware.

On Thursday, May 2, 2019, Claudiu Dan Gheorghe, a software engineer, was working at Building 10 on Facebook's campus in Menlo Park, where he managed a team of seven people responsible for WhatsApp's voice- and video-calling infrastructure. Gheorghe, who was born in Romania, is thirty-five, with a slight frame and dark, close-cropped hair. In a photograph he used as a professional head shot during his nine years at Facebook, he wears a black hoodie and looks a little like Elliot Alderson, the protagonist of the hacking drama "Mr. Robot." Building 10 is a two-story structure with open-plan workspaces, brightly colored accent walls, and whiteboards. Engineers, most of them in their twenties and thirties, hunch over keyboards. The word "focus" is written on a wall and stamped on magnets scattered around the office. "It often felt like a church," Gheorghe recalled. WhatsApp, which Facebook bought for nineteen billion dollars in 2014, is the world's most popular messaging application, with about two billion monthly users.

Facebook had presented the platform, which uses end-to-end encryption, as ideal for sensitive communications; now the company's security team was more than two years into an effort to reinforce the security of its products. One task entailed looking at "signalling messages" automatically sent by WhatsApp users to the company's servers, in order to initiate calls. That evening, Gheorghe was alerted to an unusual signalling message. A piece of code that was intended to dictate the ringtone contained, instead, code with strange instructions for the recipient's phone.

In a system as vast as Facebook's, anomalies were routine, and usually innocuous. Unfamiliar code can stem from an older version of the software, or it can be a stress test by Facebook's Red Team, which conducts simulated attacks. But, as engineers in Facebook's international offices awoke and began to scrutinize the code, they grew concerned. Otto Ebeling, who worked on Facebook's security team in London, told me that the code seemed "polished, slick, which was alarming." Early on the morning after the message was discovered, Joaquin Moreno Garijo, another member of the London security team, wrote on the company's internal messaging system that, owing to how sophisticated the code was, "we believe that attacker may have found a vulnerability." Programmers who work on security issues often describe their work in terms of vulnerabilities and exploits. Ivan Krstić, an engineer at Apple, compared the concept to a heist scene in the film "Ocean's Twelve," in which a character dances through a hall filled with lasers that trigger alarms. "In that scene, the vulnerability is that there exists a path through all the lasers, where it's possible to get across the room," Krstić said. "But the exploit is that somebody had to be a precise enough dancer to actually be able to do that dance."

By late Sunday, a group of engineers working on the problem had become convinced that the code was an active exploit, one that was attacking vulnerabilities in their infrastructure as they watched. They could see that data were

AFTER MY BROTHER'S DEATH, I REFLECT ON THE ILIAD

The water cuts out while shampoo still clogs my hair.
The nurse who swabs my nose hopes I don't have the virus, it's a bitch.
The building across from the cemetery calls itself LIFE STORAGE.

My little brother was shot, I tell the barista who asks how things have been,
and tip extra for her inconvenience. We speak only
to the dead, someone tells me—to comfort, I assume, or inspire,

but I take it literally, as I am wont: even my *shut up* and *fuck*
and *let's cook tonight*,
those are for you, Stephen. You won't come to me in my dreams,
so I must communicate by other avenues.

A friend sends an image from Cy Twombly's "Fifty Days at Iliam"
—a red bloom, the words "like a fire that consumes all before it"—
and asks: Have you seen this? It's at the Philadelphia Museum of Art.

If I have, I can't remember, though I did visit
with you, when you were eleven or twelve, when you tripped
silent alarm after silent alarm, skating out of each room

as guards jostled in, and I—though charged with keeping you
from trouble—joined the game, and the whole time we never laughed,
not till we were released into the grand air we couldn't touch and could.

You are dead at twenty-two. As I rinse dishes, fumble for my keys,
buy kale and radishes,
in my ear Priam repeats, I have kissed the hand of the man
who killed my son.
Would I do that? I ask as I pass the store labelled SIGNS SIGNS.

I've studied the mug shot of the man who killed you; I can imagine
his hands.
Of course I would. Each finger, even.
To hold your body again. And to resurrect you? Who knows what
I am capable of.

If I were. Nights, I replay news footage: your blood on asphalt, sheen
behind caution tape.
Homer's similes, I've been told, are holes cut in the cloth between
the world of war
and another, more peaceful world. On rereading, I find even there, a man
kills his neighbor.

"Let Achilles cut me down, / as soon as I have taken my son into my arms
and have satisfied my desire for grief"—this, my mind's new refrain
in the pharmacy queue, in the train's rattling frame.

The same friend and I discuss a line by Zbigniew Herbert
"where a distant fire is burning / like a page of the Iliad."
It's nearly an ontological question, my friend says, the instability
of reference:

The fires in the pages of the poem, the literal page set afire.
We see double.
You are the boy in the museum. You are the body consumed, ash.

Alone in a London museum, I saw a watercolor of twin flames, one black,
one a gauzy red,
only to learn the title is "Boats at Sea." It's like how sometimes I forget
you're gone.
But it's not like that, is it? Not at all. When in this world, similes
carry us nowhere.

And now I see again the boy pelting through those galleries,
a boy not you, a flash of red, red, chasing, or being chased—
Or did I invent him? Mischief companion. Brother. Listen to me

plead for your life though even in the dream I know you're already dead.
How do I insure my desire for grief is never satisfied? Was Priam's ever?
I tell my friend, I want the page itself to burn.

—*Elisa Gonzalez*

being copied from users' phones. "It was scary," Gheorghe recalled. "Like the world is sort of shaking under you, because you built this thing, and it's used by so many people, but it has this massive flaw in it."

The engineers quickly identified ways to block the offending code, but they debated whether to do so. Blocking access would tip off the attackers, and perhaps allow them to erase their tracks before the engineers could make sure that any solution closed all possible avenues of attack. "That would be like chasing ghosts," Ebeling said. "Made a decision to not roll out the server-side fix," Andrey Labunets, a WhatsApp security engineer, wrote, in an internal message, "because we don't understand the root cause the impact for users and other possible attacker numbers / techniques."

On Monday, at crisis meetings with WhatsApp's top executive, Will Cathcart, and Facebook's head of security, the company told its engineers around the world that they had forty-eight hours to investigate the problem. "What would the scale of the victims be?" Cathcart recalled worrying. "I mean, how many people were hit by this?" The company's leadership decided not to notify law enforcement immediately, fearing that U.S. officials might tip off the hackers. "There's a risk of—you might go to someone who's a customer," he told me. (Their concerns were valid: weeks later, the *Times* has reported, the F.B.I. hosted NSO engineers at a facility in New Jersey, where the agency tested the Pegasus software it had purchased.) Cathcart alerted Mark Zuckerberg, who considered the problem "horrific," Cathcart recalled, and pressed the team to work quickly. For Gheorghe, "it was a terrifying Monday. I woke up at like 6 A.M., and then I worked until I couldn't stay awake anymore."

NSO's headquarters are in a glass-and-steel office building in Herzliya, a suburb outside Tel Aviv. The area is home to a cluster of technology firms from Israel's thriving startup sector. The beach is a twenty-minute walk away. The world's most notorious commercial hacking enterprise is remarkably unprotected: at times, a single security guard waved me through.

On the building's fourteenth floor, programmers wearing hoodies gather in a cafeteria outfitted with an espresso machine and an orange juicer, or sit on a terrace with views of the Mediterranean. A poster reads "LIFE WAS MUCH EASIER WHEN APPLE AND BLACKBERRY WERE JUST FRUITS." Stairs descend to the various programming groups, each of which has its own recreational space, with couches and PlayStation 5s. The Pegasus team likes to play Electronic Arts' football game, FIFA.

Employees told me that the company keeps its technology covert through an information-security department with several dozen experts. "There is a very large department in the company which is in charge of whitewashing, I would say, all connection, all network connection between the client back to NSO," a former employee said. "They are purchasing servers, V.P.N. servers around the world. They have, like, this whole infrastructure set up so none of the communication can be traced."

Despite these precautions, WhatsApp engineers managed to trace data from the hack to I.P. addresses tied to properties and Web services used by NSO. "We now knew that one of the biggest threat actors in the world has a live exploit against WhatsApp," Gheorghe recalled. "I mean, it was exciting, because it's very

rare to catch some of these things. But, at the same time, it was also extremely scary." A picture of the victims began to emerge. "Likely there are journalists human rights activists and others on the list," Labunets, the security engineer, wrote on the company's messaging system. (Eventually, the team identified some fourteen hundred WhatsApp users who had been targeted.)

By midweek, about thirty people were working on the problem, operating in a twenty-four-hour relay, with one group going to sleep as another came online. Facebook extended the team's deadline, and they began to reverse engineer the malicious code. "To be honest, it's brilliant. I mean, when you look at it, it feels like magic," Gheorghe said. "These people are very smart," he added. "I don't agree with what they do, but, man, that is a very complicated thing they built." The exploit triggered two video calls in close succession, one joining the other, with the malicious code hidden in their settings. The process took only a few seconds, and deleted any notifications immediately afterward. The code used a technique known as a "buffer overflow," in which an area of memory on a device is overloaded with more data than it can accommodate. "It's like you're writing on a piece of paper and you go beyond the bounds," Gheorghe explained. "You start writing on whatever the surface is, right? You start writing on the desk." The overflow allows the software to overwrite surrounding sections of memory freely. "You can make it do whatever you want."

I spoke with a vice-president for product development at NSO, whom the firm requested I identify only by his first name, Omer—citing, without apparent irony, privacy concerns. "You find the nooks and crannies enabling you to do something that the product designer didn't intend," Omer told me. Once in control, the exploit loaded more software, allowing the attacker to extract data or activate a camera or a microphone. The entire process was "zero click," requiring no action from the phone's owner.

The software was designed by NSO's Core Research Group, made up of several dozen software developers. "You're looking for a silver bullet, a simple exploit that can cover as much mobile devices around the world," Omer told me. Gheorghe said, "A lot of people, you know, would think about the hackers as being, like, just one person in a dark room, like, typing on a keyboard, right? That's not the reality—these people are just, like, another tech company." It is common for tech companies to hire people with backgrounds in hacking, and to offer bounties to outside programmers who identify vulnerabilities in their systems. Facebook's headquarters have the vanity address 1 Hacker Way. At both NSO and WhatsApp, the engineers closest to the coding are often described by colleagues as quirky introverts, resembling the hacker archetypes of fiction. "They are special people. Not all of them can communicate clearly with other human beings," Omer said, of the programmers who work on Pegasus. "Some of them don't sleep for two days. They get crazy when they don't sleep."

Late in the week, Facebook's security team devised an act of subterfuge: they would simulate an infected device, to get NSO's servers to send them a copy of the code. "But their software was smart enough to basically not be tricked by this," Gheorghe said. "We never really were able to get our hands on that."

Omer told me, "It's a cat-and-mouse game." Although NSO says that its customers control the use of Pegasus, it does not dispute its direct role in these exchanges. "Every day, things are being patched," Hulio said. "This is the routine work here."

At times, WhatsApp users received repeated missed calls, but the malware wasn't successfully installed. Once the engineers learned about these incidents, they were able to study what it looked like when Pegasus failed. Toward the end of the week, Gheorghe told me, "we said, O.K., we don't have a full understanding at this point, but I think we captured enough." On Friday morning, Facebook notified the Department of Justice, which is developing a case against NSO. Then the company updated its servers to block the malicious code. "Ready to roll," Gheorghe wrote on the internal messaging service that afternoon. The fix was constructed to look like routine server maintenance, so that NSO might continue to attempt attacks, providing Facebook with more data.

The next day, WhatsApp engineers said, NSO began to send what looked like decoy data packets, which they speculated were a way to determine whether NSO's activities were being watched. "In one of the malicious packets, they actually sent a YouTube link," Gheorghe told me. "We were all laughing like crazy when we saw what it was." The link was to the music video for the Rick Astley song "Never Gonna Give You Up," from 1987. Ambushing people with a link to the song is a popular trolling tactic known as Rickrolling. Otto Ebeling recalled, "Rickrolling is, I don't know, something my colleague might do to me, not some sort of semi-state-sponsored people." Cathcart told me, "There was a message in it. They were saying, We know what you did, we see you." (Hulio and other NSO employees said they could not recall Rickrolling WhatsApp.)

In the months that followed, WhatsApp began notifying users who had been targeted. The list included numerous government officials, including at least one French ambassador and the Djiboutian Prime Minister. "There wasn't, you know, overlap between this list and, like, legitimate law-enforcement outreach," Cathcart said. "You could see, wow, there's a lot of countries all around the world. This isn't just one agency or organization in one country targeting people." WhatsApp also began working with the Citizen Lab, which warned victims of the risk that they might be hacked again, and helped them secure their devices. John Scott-Railton said, "It really was interesting how many people were upset and saddened, but in a deep way not surprised, almost relieved, as if they were getting a diagnosis for a mystery ailment they had suffered for many years."

Five people in the initial group identified by WhatsApp were Catalans, including elected lawmakers and an

activist. Campo, the Catalan security researcher, realized that the cases "were probably just the tip of the iceberg." He added, "That's when I found myself in the intersection of technology—a product that I contributed to building—and my home country."

WhatsApp continued sharing information with the Department of Justice, and, that fall, the company sued NSO in federal court. NSO Group "breached our systems, damaged us," Cathcart told me. "I mean, do you just do nothing about that? No. There have to be consequences."

Hulio said, "I just remember that one day the lawsuit happened, and they shut down the Facebook account of our employees, which was a very bully move for them to do." He added, referring to scandals about Facebook's role in society, "I think it's a big hypocrisy." NSO has pushed for the suit to be dismissed, arguing that the company's work on behalf of governments should grant it the same immunity from lawsuits that those governments have. So far, the U.S. courts have rejected this argument.

WhatsApp's aggressive posture was unusual among big technology companies, which are often reluctant to call attention to instances in which their systems have been compromised. The lawsuit signalled a shift. The tech companies were now openly aligned against the spyware venders. Gheorghe described it as "the moment the whole thing just exploded."

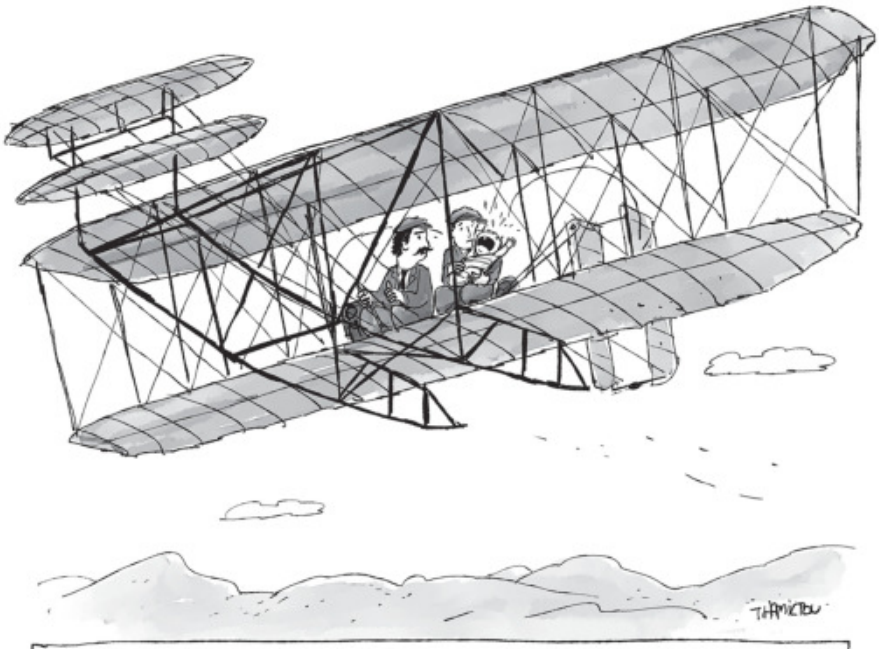
Microsoft, Google, Cisco, and others filed a legal brief in support of WhatsApp's suit. Goodwin, the Microsoft executive, helped to assemble the coalition of companies. "We could not let NSO Group prevail with an argument that, simply because a government is using your products and services, you get sovereign immunity," she told me. "The ripple effect of that would have been so dangerous." Hulio argues that when governments use Pegasus they're less likely to lean on platform holders for wider "back door" access to users' data. He expressed exasperation with the lawsuit. "Instead of them, like, actually saying, 'O.K., thank you,'" he told me, "they are going to sue us. Fine, so let's meet in court."

Microsoft, too, has a security team that engages in combat with hackers. Although Pegasus is not designed to target users through Microsoft platforms, at least four people in Catalonia running Microsoft Windows on their computers have been attacked by spyware made by Candiru, a startup founded by former NSO employees. (A spokesperson for Candiru said that it requires its products to be used for the "sole purpose of preventing crime and terror.") In February, 2021, the Citizen Lab identified evidence of an active infection—a rarity for spyware of this calibre—on a laptop belonging to Joan Matamala, an activist closely connected to separatist politicians. Campo called Matamala and instructed him to wrap the laptop in aluminum foil, a makeshift way of blocking the malware from communicating with servers. The Citizen Lab was able to extract a copy of the spyware, which Microsoft dubbed DevilsTongue. Several months later, Microsoft released updates blocking DevilsTongue and preventing future attacks. By then, the list of activists and journalists targeted "made the hairs on the back of our neck stand on end," Goodwin said. Matamala has been targeted more than sixteen times. "I still have the aluminum paper stored here, in case we ever have a suspicion of having another infection," he told me.

Last November, after iPhone users were allegedly targeted by NSO, Apple filed its own lawsuit. NSO has filed a motion to dismiss. "Apple is a company that does not believe in theatrical lawsuits," Ivan Krstić, the engineer, told me. "We have this entire time been waiting for a smoking gun that would let us go file a suit that is winnable."

Apple created a threat-intelligence team nearly four years ago. Two Apple employees involved in the work told me that it was a response to the spread of spyware, exemplified by NSO Group. "NSO is a big pain point," one of the employees told me. "Even before the stuff that hit the news, we had disrupted NSO a number of times." In 2020, with the launch of its iOS 14 software, Apple had introduced a system called BlastDoor, which moved the processing of iMessages—including any potentially malicious code—into a chamber connected to the rest of the operating system by only a single, narrow pipeline of data. But Omer, the NSO V.P., told me that "newer features usually have some holes in their armor," making them "more easy to target." Krstić conceded that there was "a sort of an eye of a needle of an opening still left."

In March, 2021, Apple's security team received a tip that a hacker had successfully threaded that needle. Even cyber warfare has double agents. A person familiar with Apple's threat-intelligence



THE WRIGHT BROTHERS DISCOVER THE FIRST NIGHTMARE FLIGHT

capabilities said that the company's team sometimes receives tips from informants connected to spyware enterprises: "We've spent a long time and a lot of effort in trying to get to a place where we can actually learn something about what's going on deeply behind the scenes at some of these companies." (An Apple spokesperson said that Apple does not "run sources" within spyware companies.) The spyware venders, too, rely on intelligence gathering, such as securing pre-release versions of software, which they use to design their next attacks. "We follow the publications, we follow the beta versions of whatever apps we're targeting," Omer told me.

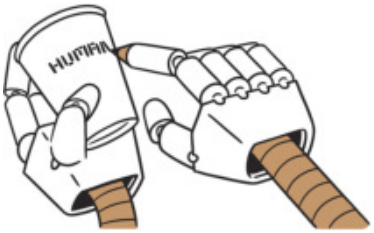
That month, researchers from the Citizen Lab contacted Apple: the phone of a Saudi women's-rights activist, Loujain al-Hathloul, had been hacked through iMessage. Later, the Citizen Lab was able to send Apple a copy of an exploit, which the researcher Bill Marczak discovered after months of scrutinizing Hathloul's phone, buried in an image file. The person familiar with Apple's threat-intelligence capabilities said that receiving the file, through an encrypted digital channel, was "sort of like getting a thing handed to you in a biohazard bag, which says, 'Do not open except in a Biosafety Level 4 lab.'"

Apple's investigation took a week and involved several dozen engineers based in the United States and Europe. The company concluded that NSO had injected malicious code into files in Adobe's PDF format. It then tricked a system in iMessage into accepting and processing the PDFs outside BlastDoor. "It's borderline science fiction," the person familiar with Apple's threat-intelligence capabilities said. "When you read the analysis, it's hard to believe." Google's security-research team, Project Zero, also studied a copy of the exploit, and later wrote in a blog post, "We assess this to be one of the most technically sophisticated exploits we've ever seen, further demonstrating that the capabilities NSO provides rival those previously thought to be accessible to only a handful of nation states." In the NSO offices, programmers in the Core Research Group printed a copy of the post and hung it on the wall.

Apple shipped updates for its platforms that rendered the exploit useless. Krstić told me that this was "a massive point of pride" for the team. But Omer told me, "We saw it coming. We just counted the days until it happened." He and others at the company said the next exploit is an inevitability. "There might be some gaps. It could take two weeks to come up with a mitigation on our side, some work-around."

During interviews in NSO's offices last month, employees exchanged nervous glances with hovering public-relations staffers as they answered questions about morale in the midst of the scandals, lawsuits, and blacklisting. "To be honest, not every time the mood is actually good," Omer said. Others claimed loyalty to the company and belief in the power of its tools to catch criminals. "The company has a very strong narrative that it tries to sell internally to the employees," the former employee told me. "You're either with them or against them."

Israel has become the world's most significant source of private surveillance technology in part because of the quality of talent and expertise produced by its military. "Because of the compulsory service, we can recruit the best of the best," the former senior intelligence official told me. "The American dream is going from M.I.T. to Google. The Israeli dream is to go to 8200," the Israeli military-intelligence unit from which spyware venders often recruit. (Hulio,



who describes himself as a mediocre student whose upbringing was "nothing fancy," often emphasizes that he did not serve in Unit 8200.) NSO has historically been regarded as an appealing job prospect for young veterans. But the former NSO employee, who quit after becoming concerned that Pegasus had facilitated Jamal Khashoggi's murder, told me that others had become disillusioned, too. "Many of my colleagues decided to leave the company at that stage," the former employee said. "This was one of the major events that I think caused many of the employees to, like, wake up and understand what's going on." In the past few years, the departures have been "like a snowball." Hulio, in response to questions about the company's problems, said, "What worries me is the vibes of the employees."

In 2019, NSO was saddled with hundreds of millions of dollars in debt as part of a leveraged-buyout deal in which a London-based private-equity firm, Novalpina, acquired a seventy-per-cent stake. Recently, Moody's, the financial-services firm, downgraded NSO's credit rating to "poor," and Bloomberg described it as a distressed asset, shunned by Wall Street traders. Two top NSO executives have left, and relations between the company and its backers have deteriorated. Infighting among Novalpina's partners led to the transfer of control of its assets, including NSO, to a consulting firm, Berkeley Research Group, which pledged to increase oversight. But a BRG executive recently claimed that coöperation with Hulio had become "virtually non-existent." Agence France-Presse has reported that tensions emerged because NSO's creditors have pressed for continued sales to countries with dubious human-rights records, while BRG has sought to pause them. "We indeed have some disputes with them," Hulio said, of BRG. "It's about how to run the business."

NSO's troubles have complicated its close alliance with the Israeli state. The former senior intelligence official recalled that, in the past, when his unit turned down European countries seeking intelligence collaboration, "Mossad said, Here's the next best thing, NSO Group." Several people familiar with those deals said that Israeli authorities provided little ethical guidance or restraint. The former official added, "Israeli export control was not dealing with ethics. It was dealing with two things. One, Israeli national interest. Two, reputation." The former NSO employee said that the state "was well aware of the misuse, and even using it as part of its own diplomatic relationships." (Israel's Ministry of Defense said in a statement that "each licensing assessment is made in light of var-

ious considerations including the security clearance of the product and assessment of the country toward which the product will be marketed. Human rights, policy, and security issues are all taken into consideration.") After the blacklisting of NSO, Hulio sought to enlist Israeli officials, including Prime Minister Naftali Bennett and Defense Minister Benny Gantz. "I sent a letter," he told me. "I said that as a regulated company, you know, everything that we have ever asked was with the permission, and with the authority, of the government of Israel." But a senior Biden Administration official said that the Israelis raised only "pretty mild complaints" about the blacklisting. "They didn't like it, but we didn't have a standoff."

In Israel's legislature, Arab politicians are leading a modest movement to examine the state's relationship with NSO. The Arab party leader Sami Abou Shahadeh told me, "We tried to discuss this in the Knesset twice . . . to tell the Israeli politicians, You are selling death to very weak societies that are in conflict, and you've been doing this for too long." He added, "It never worked, because, first and morally, they don't see any problem with that." Last fall, an investigation by the watchdog group Front Line Defenders identified Pegasus infections on the phones of six Palestinian activists—including one whose Jerusalem residency status had been revoked. Abou Shahadeh argued that the history of Israel's spyware technology is tied to the surveillance of Palestinian communities in the West Bank, East Jerusalem, and Gaza. "They have a huge laboratory," he told me. "When they were using all the same tools for a long time to spy on Palestinian citizens, nobody cared." Asked about the targeting of Palestinians, Hulio said, "If Israel is using our tools to fight crime and terror, I would be very proud of it."

"I know there have been misuses," Hulio said. "It's hard for me to live with that. And I obviously feel sorry for that. Really, I'm not just saying that. I never said it, but I'm saying it now." Hulio said that the company has turned down ninety customers and hundreds of millions of dollars of business out of concern about the potential for abuse.

"You still have to choose which chef you want to prepare your food."

• •

But such claims are difficult to verify. "NSO wanted Western Europe mainly so they can tell guys like you, Here's a European example," the former Israeli intelligence official, who now works in the spyware sector, said. "But most of their business is subsidized by the Saudi Arabias of the world." The former employee, who had knowledge of NSO's sales efforts, said, "For a European country, they would charge ten million dollars. And for a country in the Middle East they could charge, like, two hundred and fifty million for the same product." This seemed to create perverse incentives: "When they understood that they had misuse in those countries that they sold to for enormous amounts of money, then the decision to shut down the service for that specific country became much, much harder."

Asked about the extreme abuses ascribed to his technology, Hulio invoked an argument that is at the heart of his company's defense against WhatsApp and Apple. "We have no access to the data on the system," he told me. "We don't take part in the operation, we don't see what the customers are doing. We have no way of monitoring it." When a client buys Pegasus, company officials said, an NSO team travels to install two racks, one devoted to storage and another for operating the software. The system then runs with only limited connection to NSO in Israel.

But NSO engineers concede that there is some real-time monitoring of systems to prevent unauthorized tampering with or theft of their technology. And the former employee said, of Hulio's assurances that NSO is technically prevented from overseeing the system, "That's a lie." The former employee recalled support and maintenance efforts that involved remote access by NSO, with the customer's permission and live oversight. "There is remote access," the former employee added. "They can see everything that goes on. They have access to the database, they have access to all of the data." The senior European law-enforcement official told me, "They can have remote access to the system when we authorize them to access the system."

NSO executives argue that, in an unregulated field, they are attempting to construct guardrails. They have touted their appointment of a compliance committee, and told me that they now maintain a list of countries ranked by risk of misuse, based on human-rights indicators from Freedom House and other groups. (They declined to share the list.) NSO also says that customers' Pegasus systems maintain a file that records which numbers were targeted; customers are

contractually obligated to surrender the file if NSO starts an investigation. "We have never had a customer say no," Hulio told me. The company says that it can terminate systems remotely, and has done so seven times in the past few years.

The competition, Hulio argued, is far more frightening. "Companies found themselves in Singapore, in Cyprus, in other places that don't have real regulation," he told me. "And they can sell to whoever they want." The spyware industry is also full of rogue hackers willing to crack devices for anyone who will pay. "They will take your computers, they will take your phone, your Gmail," Hulio said. "It's obviously illegal. But it's very common now. It's not that expensive." Some of the technology that NSO competes with, he says, comes from state actors, including China and Russia. "I can tell you that today in China, today in Africa, you see the Chinese government giving capabilities almost similar to NSO." According to a report from the Carnegie Endowment for International Peace, China supplies surveillance tools to sixty-three countries, often through private firms enmeshed with the Chinese state. "NSO will not exist tomorrow, let's say," Hulio told me. "There's not going to be a vacuum. What do you think will happen?"

NSO is also competing with Israeli firms. Large-scale hacking campaigns, like the one in Catalonia, often use tools from a number of companies, several founded by NSO alumni. Candiru was started in 2014, by the former NSO employees Eran Shorer and Yaakov Weizman. It was allegedly linked to recent attacks on Web sites in the U.K. and the Middle East (Candiru denies the connection), and its software has been identified on the devices of Turkish and Palestinian citizens. Candiru has no Web site. The firm shares its name with a parasitic fish, native to the Amazon River basin, that drains the blood of larger fish.

QuaDream was founded two years later, by a group including two other former NSO employees, Guy Geva and Nimrod Reznik. Like NSO, it focusses on smartphones. Earlier this year, Reuters reported that QuaDream had exploited the same vulnerability that NSO used to gain access to Apple's iMessage. QuaDream, whose offices are behind an unmarked door in the Tel Aviv suburb of Ramat Gan, appears to share with many of its competitors a reliance on regulation havens: its flagship malware, Reign, is reportedly owned by a Cyprus-based entity, InReach. According to *Haaretz*, the firm is among those now employed by Saudi Arabia. (QuaDream could not be reached for comment.)

Other Israeli firms pitch themselves as less reputationally fraught. Paragon, which was founded in 2018 by former Israeli intelligence officials and includes former Prime Minister Ehud Barak on its board, markets its technology to offices within the U.S. government. Paragon's core technology focusses not on seizing complete control of phones but on hacking encrypted messaging systems like Telegram and Signal. An executive told me that it has committed to sell only to a narrow list of countries with relatively uncontroversial human-rights records: "Our strategy is to have values, which is interesting to the American market."

"If you win, the game is rigged, but if I win it's flawless and beyond critique."

In Catalonia, Gonzalo Boye, an attorney representing nineteen people targeted by Pegasus, is preparing criminal complaints to courts in Spain and other European countries, accusing NSO, as well as Hulio and his co-founders, of breaking national and E.U. laws. Boye has represented Catalan politicians in exile, including the former President Carles Puigdemont. Between March and October of 2020, analysis by the Citizen Lab found, Boye was targeted eighteen times with text messages masquerading as updates from Twitter and news sites. At least one attempt resulted in a successful Pegasus infection. Boye says that he now spends as much time as possible outside Spain. In a recent interview, he wondered, "How can I defend someone, if the other side knows exactly everything I've said to my client?" Hulio declined to identify specific customers but suggested that Spain's use of the technology was legitimate. "Spain definitely has a rule of law," he told me. "And if everything was legal, with the approval of the Supreme Court, or with the approval of all the lawful mechanisms, then it can't be misused." Pere Aragonès, the current President of Catalonia, told me, "We are not criminals." He is one of three people who have served in that role whose phones have been infected with Pegasus. "What we want from the Spanish authorities is transparency."

Last month, the European Parliament formed a committee to look into the use of Pegasus in Europe. Last week, Reuters reported that senior officials at the European Commission had been targeted by NSO spyware. The investigative committee, whose members in-

clude Puigdemont, will convene for its first session on April 19th. Puigdemont called NSO's activities "a threat not only for the credibility of Spanish democracy, but for the credibility of European democracy itself."

NSO Group also faces legal consequences in the U.K.: three activists recently notified the company, as well as the governments of Saudi Arabia and the U.A.E., that they plan to sue over alleged abuses of Pegasus. (The company responded that there was "no basis" for their claims.)

NSO continues to defend itself in the WhatsApp suit. This month, it filed an appeal to the U.S. Supreme Court. "If we need to go and fight, we will," Shmuel Sunray, NSO's general counsel, told me. Lawyers for WhatsApp said that, in their fight with NSO, they have encountered underhanded tactics, including an apparent campaign of private espionage.

On December 20, 2019, Joe Mornin, an associate at Cooley L.L.P., a Palo Alto law firm that was representing WhatsApp in its suit against NSO, received an e-mail from a woman who identified herself as Linnea Nilsson, a producer at a Stockholm-based company developing a documentary series on cybersecurity. Nilsson was cagey about her identity but so eager to meet Mornin that she bought him a first-class plane ticket from San Francisco to New York. The ticket was paid for in cash, through World Express Travel, an agency that specialized in trips to Israel. Mornin never used the ticket. A Web site for the documentary company, populated with photos from elsewhere on the Internet, soon disappeared. So did a LinkedIn profile for Nilsson.

Several months later, a woman claiming to be Anastasia Chistyakova, a Moscow-based trustee for a wealthy individual, contacted Travis LeBlanc, a Cooley partner working on the WhatsApp case, seeking legal advice. The woman sent voice-mail, e-mail, Facebook, and LinkedIn messages. Mornin identified her voice as belonging to Nilsson, and the law firm later concluded that her e-mail had come from the same block of I.P. addresses as those sent by Nilsson. The lawyers reported the incidents to the Department of Justice.

The tactics were similar to those used by the private intelligence company Black Cube, which is run largely by former officers of Mossad and other Israeli intelligence agencies, and is known for using operatives with false identities. The firm worked on behalf of the producer Harvey Weinstein to track women who had accused him of sexual abuse, and last month three of its officials received suspended prison sentences for hacking and intimidating Romania's chief anti-corruption prosecutor.

Black Cube has been linked to at least one other case involving NSO Group. In February, 2019, the A.P. reported that Black Cube agents had targeted three attorneys involved in another suit against NSO Group, as well as a London-based journalist covering the case. The lawyers—Mazen Masri, Alaa Mahajna, and Christiana Markou—who represented hacked journalists and activists, had sued NSO and an affiliated entity in Israel and Cyprus. In late 2018, all three received messages from people who claimed to be associated with a rich firm or individual, repeatedly suggesting meetings in London. NSO Group has denied hiring Black Cube to target opponents. However, Hulio acknowledged the connection to me, saying, "For the lawsuit in Cyprus, there was one involvement of Black Cube," because the lawsuit "came from nowhere, and I want to understand." He said that he had not hired Black Cube for other lawsuits. Black Cube said that it would not comment on the cases, though a source familiar with the company denied that it had targeted Cooley lawyers.

"People can survive and can adapt to almost any situation," Hulio once told me. NSO Group must now adapt to a situation in which its flagship product has become a symbol of oppression. "I don't know if we'll win, but we will fight," he said. One solution was to expand the product line. The company demonstrated for me an artificial-intelligence tool, called Maestro, that scrutinizes surveillance data, builds models of individuals' relationships and schedules, and alerts law enforcement to variations of routine that might be harbingers of crime. "I'm sure this will be the next big thing coming out of NSO," Leoz Michaelson, one of its designers, told me. "Turning every life pattern into a mathematical vector."

The product is already used by a handful of countries, and Hulio said that it had contributed to an arrest, after a suspect in a terrorism investigation subtly altered his routine. The company seemed to have given little consideration to the idea that this tool, too, might spur controversy. When I asked what would happen if law enforcement arrested someone based on, say, an innocent trip to the store in the middle of the night, Michaelson said, "There could be false positives." But, he added, "this guy that is going to buy milk in the middle of the night is in the system for a reason."

Yet the risk to bystanders is not an abstraction. Last week, Elies Campo decided to check the phones of his parents, scientists who are not involved in political activities, for spyware. He found that both had been infected with Pegasus when he visited them during the Christmas holiday in 2019. Campo told me, "The idea that anyone could be at risk from Pegasus wasn't just a concept anymore—it was my parents sitting across the table from me." On his mother's phone, which had been hacked eight times, the researchers found a new kind of zero-click exploit, which attacked iMessage and iOS's Web-browsing engine. There is no evidence that iPhones are still vulnerable to the exploit, which the Citizen Lab has given the working name Homage. When the evidence was found, Scott-Railton told Campo, "You're not going to believe this, but your mother is patient zero for a previously undiscovered exploit."

During a recent visit to NSO's offices, windows and whiteboards across the space were dense with flowcharts and graphics, in Hebrew and English text, chronicling ideas for products and exploits. On one whiteboard, scrawled in large red Hebrew characters and firmly underlined, was a single word: "War!" ♦

ONWARD AND UPWARD WITH THE ARTS

NORWEGIAN WOOD

In Scandinavia, ecologically minded architects are building skyscrapers with pillars of pine and spruce.

BY REBECCA MEAD

Brumunddal, a small municipality on the northeastern shore of Lake Mjøsa, in Norway, has for most of its history had little to recommend it to the passing visitor. There are no picturesque streets with cafés and boutiques, as there are in the ski resort of Lillehammer, some thirty miles to the north. Industrial buildings, mostly for the lumber industry, occupy the area closest to the lake, and the waterfront is cut off by a highway. The town, which has a population of eleven thousand, was until recently best known to Norwegians for a series of attacks on immigrant residents three decades ago, which led to street clashes between anti-racism protesters and supporters of the far right. Since 2019, however, Brumunddal has achieved a more welcome identity: as the site of Mjøstårnet, the tallest all-timber building in the world.

Mjøstårnet—the name means "Tower of Mjøsa"—stands at two hundred and eighty feet and consists of eighteen floors, combining office space, residential units, and a seventy-two-room hotel that has become a destination for visitors curious about the future of sustainable architecture and of novel achievements in structural engineering. It's the third-tallest tower in Norway, a country whose buildings rarely extend above ten stories. Although Mjøstårnet dominates the Brumunddal skyline, it is a tenth the height of the world's tallest structure, the Burj Khalifa, in Dubai. Its scale is similar to that of New York's Flatiron Building, which, when completed in 1902, topped out at just over three hundred feet. (Three years later, it was capped with a penthouse.)

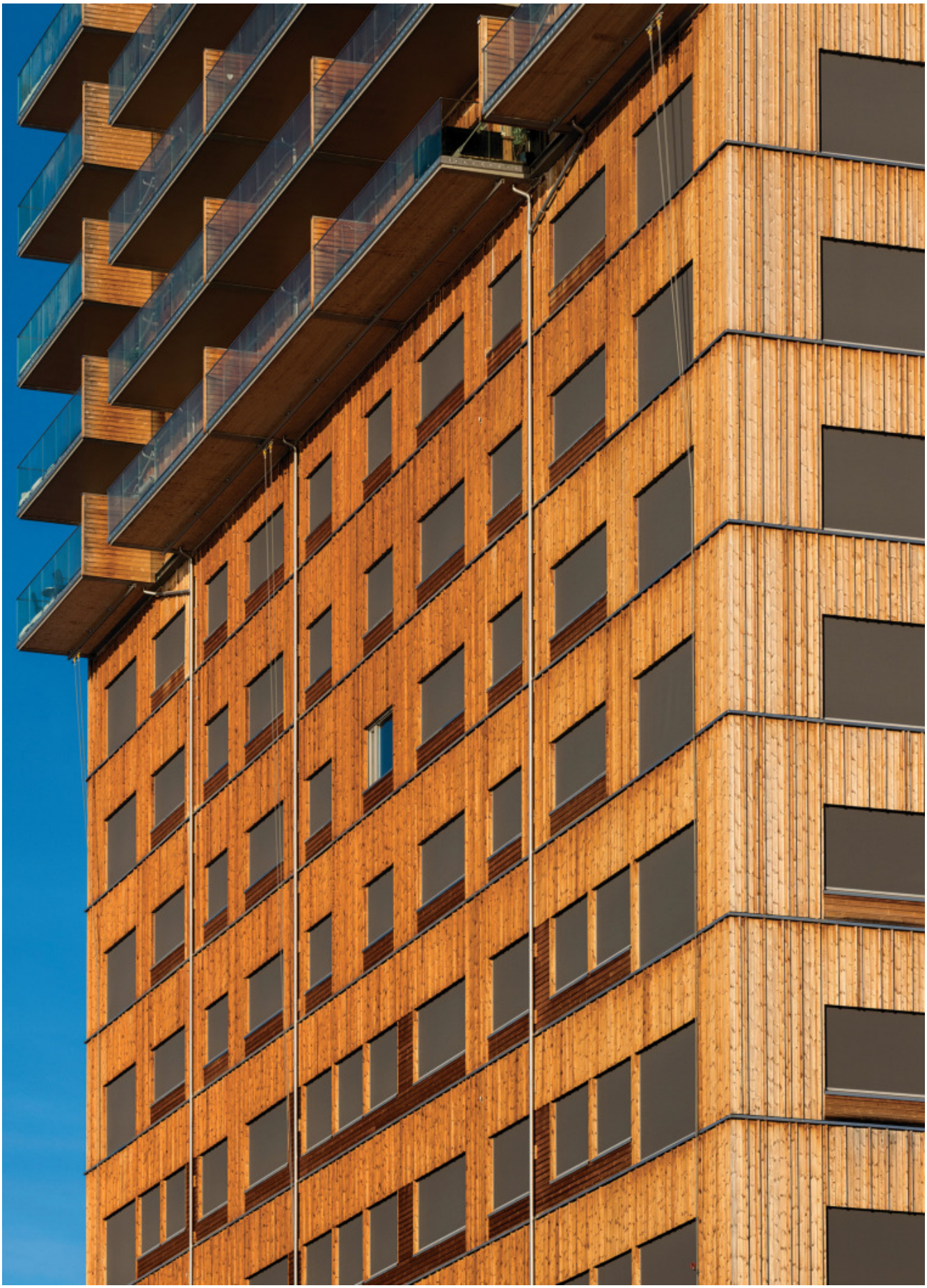
Like the Flatiron Building—one of the earliest steel-frame skyscrapers, which defied public skepticism about the sturdiness of a building that tapers to the extreme angle of about twenty-five degrees—Mjøstårnet is an audacious gesture and a proof of concept. It depends for its strength and stability not on steel and concrete but on giant wooden beams of glulam—short for "glued laminated timber"—an engineered product in which pieces of lumber are bound together with water-resistant adhesives. Glulam is manufactured at industrial scale from the spruce and pine forests that cover about a third of Norway's landmass, including the slopes around Brumunddal, from which the timber for Mjøstårnet was harvested.

I went to see the building in mid-December, arriving by a train from Oslo that passed through farmland and woodland before reaching the edge of Lake Mjøsa, which is Norway's biggest. The steely waters lapped a shoreline of charcoal-colored rock, on which traces of the previous weekend's snow remained. The forested bank opposite, when it emerged from clouds of fog, was dark green against the pallid sky. The journey north from the capital takes about an hour and a half, but I didn't need a watch to tell me when I had arrived at Brumunddal—the incongruous sight of a tower block rising from the water's edge was a sufficient signpost. Descending from the train, I wheeled my suitcase for fifteen minutes across town—past the parking lot of the local McDonald's and across the highway, which was nearly empty. As I walked, Mjøstårnet loomed in the mist, resembling from a distance a box of matches. On the roof, there was an angled wooden canopy that might have been fashioned from a handful of matches taken from the box's drawer.

The tower is flanked by two other all-timber structures: on one side, a low building that houses the municipal swimming pool; on the other, an office building. Some low-rise wooden apartment buildings edge the lake. Mjøstårnet's sheer façade is clad in panels of orange-brown knotty timber, whose dark vertical lines of wood grain lure the eye upward. By the entrance, an English-language sign attests that a group called the Council on Tall Buildings and Urban Habitat has certified the tower's record-breaking status. Passing through a revolving door, I smelled the enticing scent of pine—though its source, I realized, to my mild disappointment, was a Christmas tree.

The material from which the tower had been built was evident, though, in the airy ground-floor lobby and restaurant, where wooden dining tables and chairs were arrayed on bare wooden floorboards, wooden pendant lampshades dangled on long cords, and large bamboo palms in pots were clustered at the base of a curved wooden staircase that rose to a mezzanine. Large columns supporting the building, as well as angled braces cutting across the restaurant's walls of windows, were formed from massive glulam blocks, the thickest of which were almost five feet by two feet, like pieces from a monstrous Jenga set. Riding a glass-walled elevator to my room, on the eleventh floor, I noticed that the elevator shaft was built from similar chunky blocks.

I had been assigned a corner room with two huge picture windows. One faced southwest, across the lake, where the view was obscured by fog; the other faced southeast, along the waterfront, offering a painterly sweep of gray skies and water, the shoreline clustered with denuded deciduous birches and evergreen spruces. An enormous glulam pillar between the windows held up the corner of the building. Its surface had been treated with a translucent white-tinted wax, but otherwise it was recognizably derived from the forests through which I'd passed on the journey from Oslo. I rapped my knuckles on the glulam: it was smooth, resonant,



Mjøstårnet, the world's tallest all-timber tower, rises two hundred and eighty feet—about the height of the Flatiron Building.

PHOTOGRAPHS BY PAUL S. AMUNDSEN

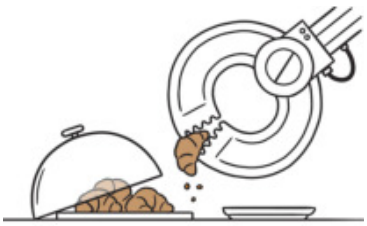
and much less cold than a metal pillar would have been.

I put my bag down on a blond-wood coffee table by the window, and settled into a low swivel chair, its comfortable backrest fashioned from bent-wood strips. In December, Brumunddal enjoys less than six hours of daylight; had I sat there long enough, I could have watched the sun rise and set with only the barest swivel to adjust my line of sight. The room was quiet and, despite the lowering skies, it was light. With its minimal, tasteful furnishings—a narrow blond-wood desk; a double bed made up with white linens and a crimson blanket—it had the virtuous feel of a spa. I had no desire to go elsewhere, and, given the town's lack of other attractions, that was just as well. Between the heft of the wooden building and the evanescence of the fog encircling it, the atmosphere was seductively calming—as long as my mind did not linger on the metaphor of the matchbox.

Buildings are among the worst contributors to greenhouse gases. The Global Alliance for Buildings and Construction has reported that twenty-eight per cent of global emissions are generated by building operations—heat, lighting, and so on. An additional eleven per cent comes from the manufacture of materials and from the construction process. A 2019 report by Chatham House, a British think tank, estimated that the four billion tons of cement that are produced annually worldwide account for eight per cent of emissions; carbon is released into the atmosphere by the combustion required for the manufacture of cement, and by the chemical processes involved. (By contrast, the aviation industry contributes just under two per cent of emissions.) Buildings have an environmental cost when they go up and when they come down: concrete waste usually ends up as landfill, especially in countries whose economies are still emerging. Even in places where technologies for recycling the material have been developed, the process is complex, since structural concrete is threaded unpredictably with rebar, which is difficult to remove. Because of the relatively low cost of manufacturing concrete, recycling it—into gravel, say, or fill-in material for landscaping—is hard to justify in purely economic terms.

Engineered wood products such as glulam and cross-laminated timber—a close relative in which flat boards are glued in perpendicular layers—offer an alternative model for the construction industry. Lumber pillars, given their earlier incarnation as trees, retain carbon dioxide captured from the atmosphere. One cubic metre of glulam timber stores about seven hundred kilograms of carbon dioxide. About eighteen thousand trees were required to produce the wood products used in the construction of Mjøstårnet and the adjoining pool. In aggregate, those trees sequester more than two thousand tons of carbon dioxide. (Norwegian law requires harvested acres to be replanted.)

Many municipalities and nations are embracing the environmental advantages of building with timber. In 2020, the housing minister of France stated that new public buildings should incorporate wood or other biological materials such as hempcrete—a composite of hemp, water, and lime. The city government in Amsterdam has decreed that, starting in 2025, a fifth of all new buildings must be constructed mainly with bio-based materials. Other countries have taken a different tack: in the United Kingdom, recent legislation has banned the use of combustible materials, including wood, on the exterior of residential buildings more than sixty



feet tall. This ruling was introduced after the Grenfell Tower fire, in 2017, when a twenty-four-story housing block burned like a terrible beacon over West London, killing seventy-two people. The fire was exacerbated by the building's cladding, which was made not from timber but from aluminum and highly flammable polyethylene. Historically, cities have restricted the use of timber in buildings after deadly conflagrations. In 1667, after the Great Fire of London destroyed in excess of thirteen thousand houses—and more than eighty churches—the city passed legislation mandating construction in brick or stone. In the wake of the Great Chicago Fire of 1871, in which more than seventeen thousand buildings were destroyed and nearly a hundred thousand people left homeless, local officials expanded requirements to use fireproof materials in the downtown area. In Norway, timber structures were outlawed in urban contexts in 1904, after the town of Ålesund was ravaged by fire. (That law has since been rescinded.)

Architects and engineers who specialize in mass-timber buildings say that fears of fire are misplaced. I met with Martin Lunke, a project manager for Hent, the contractor responsible for the wooden complex in Brumunddal, and he told me that some locals initially referred to Mjøstårnet as "the world's biggest torch." Lunke explained that the kind of laminated wooden blocks used in Mjøstårnet exceed modern fire standards. Unlike wood planks or beams cut from individual trees, the massive blocks of engineered timber used in large-scale construction projects do not burn through: they char only on the surface, to a depth of one or two centimetres, much the way a large log placed in a fireplace will the next morning be blackened but not incinerated. At least, that's what has been demonstrated in tests: Lunke, like others in the industry with whom I spoke, could not cite any fires in the real world which involved mass-timber buildings. A recent architectural competition in Oslo provided an oblique endorsement of the material's safety: the city's fire department elicited proposals for a new station and elected a firm that had designed a two-story structure built from wood and clad in panels of scorched timber.

Engineering wood to make it stronger and more adaptable is not a recent innovation: plywood, in which thin strips of lumber are glued together, with the grain running in alternating directions, has been used as a building material since the early twentieth century. Glulam and cross-laminated timber, which are more recent innovations, are manufactured according to similar principles. Large planks of sawn timber are

THE YEARS

All the parties you spent
watching the room
from a balcony
where someone joined you
to smoke then returned.
And how it turns out no one
had the childhood they wanted,
and how they'd tell you this
a little drunk, a little slant
in less time than it took
to finish a cigarette
because sad things
can't be explained.
Behind the glass and inside,
all your friends buzzed.
You could feel the shape
of their voices. You could
tell from their eyes they were
in some other place. 1999
or 2008 or last June.
Of course, it's important
to go to parties. To make
life a dress or a drink
or suede shoes someone wears
in the rain. On the way home,
in the car back, the night sky
played its old tricks. The stars
arranged themselves quietly.
The person you thought of drove
under them. Away from the party,
(just like you) into the years.

—*Alex Dimitrov*

dried in a kiln—a process that can take weeks—then glued together and compressed. Computer imaging allows pieces of engineered wood to be cut precisely to size before they're transported to a building site, producing less waste than conventional construction methods. (Unlike steel, timber elements don't clang, so less noise is generated by the raising of a timber building.)

Because building with glulam and cross-laminated timber is still in its infancy, it can be more expensive than conventional construction: the Mjøstårnet development cost approximately a hundred and thirteen million dollars, about eleven per cent more than an equivalent development would have cost in concrete and steel. Although some regions of the world have plentiful forests of harvestable, renewable trees—Germany, Austria, Canada—others lack a ready supply of wood to turn into engineered timber. Despite Dubai's appetite for architectural innovation, it wouldn't be a sensible location for a timber tower: the ecological cost of shipping the wood would cancel out its green credentials.

Building towers with wood poses certain design challenges: the supporting columns in a timber office tower must be thicker than those in steel-and-concrete towers, causing precious metres of rentable floor space to be lost. The inherent lightness of wood can also prove tricky for architects. The engineers of Mjøstårnet determined that the upper levels needed to be equipped with concrete floors to weigh the tower down. Rune Abrahamsen, the C.E.O. of Moelven Limtre AS, the Norwegian company that provided the timber elements for Mjøstårnet, explained to me that, otherwise, although the tower would have been structurally sound, the wind that blows off the lake would have caused it to sway so much that some occupants would have become nauseated, "as when you're on a boat."

Other developers are now making plans to build hybrid timber buildings that are even taller than Mjøstårnet—and their designs break from the geometric simplicity of the Brumunddal tower. The architectural firm Penda has designed a jagged eighteen-story apartment building whose modular structure will have large jutting balconies that can accommodate fully grown trees. Vancouver will soon become home to several innovative timber buildings, including the Earth Tower, a forty-story apartment block that incorporates shared winter gardens for residents and a rooftop greenhouse. A new home for the Vancouver Art Gallery, designed by Herzog & de Meuron, combines structural-timber elements with a woven-copper façade. The New York architectural firm SHoP, which recently completed the skinniest skyscraper in the world—Steinway Tower, in midtown Manhattan—has designed a forty-story wooden tower, in Sydney, for the tech company Atlassian. An internal-timber structure is to be wrapped with a curvy exoskeleton of steel and glass; solar panels will adorn the façade, and indoor terraces will have naturally ventilated gardens.

Mass-timber materials encourage architects to try something different from the cool, shimmery blue-glass towers omnipresent in large cities. Structural-timber designs have an inherent warmth: for the headquarters of SR Bank, in Stavanger, Norway, the architecture firms SAAHA and Helen & Hard created a stunning wood building whose soaring atrium features interlacing staircases and walkways that resemble a giant marble run. Øystein Elgsaas, an architect based in Trondheim, Norway, whose firm, Voll, was responsible for Mjøstårnet, told me that he saw no reason that wooden buildings should look markedly different from those made of steel and concrete: rather, a design should be

suited to its particular setting. "Mjøstårnet has wooden cladding, but I believe that should not be the rule—we need *more* colors in our environment, and not only brown or gray façades," he told me. "But, if we look at some concepts for new wooden designs, they do feel a bit more organic. If you use glass on the façade, you can show the wooden construction inside and make passersby understand that it is a wooden building." Many wooden buildings, he noted, evoke "something growing up from the ground—rooted in the earth and reaching for the skies, like a tree."

On the outskirts of Copenhagen, ground will soon be broken on an all-wood housing development, Fælledby, by the design studio Henning Larsen, with eighty-odd buildings that include wooden balconies, expansive glass windows, and nooks for bird's nests integrated into the façades; the structures will be connected by plank paths that lead pedestrians through wetlands. Signe Kongebro, the firm's global design director for urbanism, believes that the growing use of timber is likely to encourage lower-rise, denser districts, with more room for nature. "In a way, we are returning to our roots," she told me, in an e-mail. "Timber is one of the oldest building materials we have—it has been used for thousands of years." She noted that various cultures have developed distinct timber idioms: in Japan, traditional wooden buildings are often detailed and highly tactile; the American tradition of the frontier log cabin is far more functional. Scandinavia's mass-timber movement highlights wood's unique qualities while also using it in much the same way that steel and concrete are used. Kongebro thinks that architects will eventually embrace "the aesthetic experimentation with wood that happens at the level of products—for example, innovation in laminated wood led by the Eameses in the mid-twentieth century." Such boldness, she said, "could generate an architectural language for timber that we have never seen before."

In Oslo, I visited the practice of Oslotre, an architecture firm that works exclusively in timber. Its offices are on the ground floor of a nineteenth-century stone building. In most architectural offices, tabletops showcase scale models of prospective buildings—with flawless concrete contours rendered in paper, and tiny figurines walking across a paper plaza. But the office of Oslotre's founding partner, Jørgen Tycho, displays an enormous chunk of wood: two precisely cut pieces of cross-laminated timber that were slotted together at a right angle, then secured with wooden dowels. The dowels, Tycho explained, were made from beech wood, rather than the spruce from which the cross-laminated timber was fashioned. The wood for the joined blocks had been dried down to a moisture content of twelve per cent, to match the humidity of the air in the office: if the levels are not calibrated, the wood will absorb ambient moisture, causing swelling, or it will dry out, causing shrinking and cracking. The beech for the dowel had been dried down to six per cent. After it was introduced into a hole bored through the cross-laminated timber, Tycho explained, the dowel absorbed atmospheric moisture and expanded, creating a tight fit that obviated the need for metal screws. The technique was both old and new. Oslotre had been experimenting with it while designing an office building, for Save the Children, that should be completed by the end of the year. "We can see this technology in Japanese and Chinese architecture that goes back hundreds of years, but we are also relying on more modern calculations," he told me. "This is *super*-strong. This won't go anywhere."

Tycho took me to see Valle Wood, a seven-story timber office building in Oslo that Oslotre had worked on; it opened in 2019, in a development adjacent to a soccer stadium. It was a damp, misty day, and when viewed from a remove the building's cladding—warm reddish-brown wood—looked like rusted steel, though up close I could see that thin horizontal strips of pine had been arranged in angled modernist patterns. The exterior was naturally water-resistant, thanks to resins in the wood. The cladding will turn gray with time; the south side, which is exposed to more direct sunlight, will transform more quickly than the north.

The tower's base was occupied by a cafeteria. In its concrete floor, blond-wood furnishings, and floor-to-ceiling windows partly obscured by massive trusses made with blocks of glulam, I could see a wooden-architecture vernacular emerging: airy spaces formed by pale wood beams and columns that had visibly been slotted and joined together. The wooden surfaces had been treated only minimally, to prevent the kind of yellowing that Norwegians associate with old-timey country cabins—the "Norwegian wood" of the Beatles song. Instead, the palette was a globally fashionable greige and cream.

Tycho also showed me around some co-working spaces at Valle Wood, and cited an Austrian study indicating that schoolchildren who attend class in a room with wooden walls and furniture have lower heart rates than those who occupy conventional classrooms. (Such studies tend to be underwritten by the forestry or the lumber industry, although that does not invalidate their claims.) The stairwells had been equipped with durable flooring made from wood blocks cut against the grain, so that tree rings formed beautiful patterns underfoot, like elegant Italian tiles. Tycho flinched with annoyance at a wall that had been painted black; along the seams, the pallor of the original timber had become exposed. "We tried to tell the interior architects that if it is going to be painted black it needs to be done in the wintertime!" he said. "This was done in the summertime. When you heat up the building, it takes away a lot of the moisture, and the wood is always adapting to the climate it's in. It shrinks." Cracks in the beams had similarly been caused by seasonal changes, he said; in summer, the beams would expand, rendering the surfaces smooth again. In this building, and in others that Oslotre has worked on, the use of wood walls helps regulate the level of moisture indoors, reducing the need for mechanically balanced ventilation.

Next, we drove to one of Oslotre's current projects: two private homes that were nearing completion in what had once been the yard of a larger property. The houses, both modernist in style, were perched on a hillside with near-flat roofs and walls of windows

The timber for Mjøstårnet was harvested from the forests that blanket about a third of Norway's landmass.

opening onto outdoor living areas; Tycho assured me that on fog-free days the houses had views overlooking both forests and a fjord. The exteriors were clad in wood, with curved corners. The interiors had wood ceilings, floors, and walls, and attractive laminate kitchen cabinets. In a bedroom, Tycho showed me a wall panel that came with a hole for electrical cables already cut in its predetermined spot: very little drilling had to be done on site, which meant less dust and noise.

Our final visit was to a timber music school that had opened only weeks earlier, in the town of Rakkestad, an hour's drive south of Oslo. Much of the formative work of Oslotre's practice was in designing and building wooden public schools. Tycho not only believed that timber interiors improved the well-being of students and staff; his designs also provided a way of using up an excess of available timber in Norway. Despite the country's reputation for being blanketed with forests, Norway has not always been as densely tree-covered as it is now. From the nineteenth century until the middle of the twentieth century, the country's forests were severely degraded, its trees having been chopped down and used in the boatbuilding and mining industries or exported as construction material—often to the U.K., which lacked sufficient timber of its own.

Today's extensive forestation is the result of a program, instituted by the Norwegian government after the Second World War, in which schoolchildren planted trees as part of their curriculum. The resulting forests, it was thought, would spur economic growth through the expansion of wood-based industries, including paper manufacturing. But, starting at the end of the nineteen-sixties, a more lucrative natural resource presented itself when giant oil deposits were identified beneath the North Sea. That discovery meant that Norway's forests grew to an unplanned maturity. Spruce and pine planted in the immediate postwar years are now ripe for industrial use—all the more reason to harvest them as timber, in which carbon dioxide remains trapped, rather than allowing them to die and decay, releasing the gas back into the atmosphere.

Norway's nineteenth-century experience demonstrated the dangers of deforestation, and a related objection is sometimes mounted against using timber in large-scale construction projects: why cut down a healthy tree to sequester carbon in a building when the tree is doing a perfectly good job of sequestering carbon in the forest? Advocates of timber-based architecture stress that the industry's viability depends on sustainable forestry methods, and argue that, given the environmental damage caused by conventional construction methods, we have no choice but to explore alternative materials, including wood and other bio-based products. (Mycelium—networks of fungi—and straw,

for example, can be used as insulation.) As Tycho drove us through the Norwegian countryside, he said, "In the short term, the building industry has to do things differently. And then, maybe in the long term, we will have other technologies for carbon sequestration, and green energy, and other ways of solving it. But at the moment we don't do enough fast enough."

We arrived at the music school as daylight was fading. Set in a plaza, the two-story building was warmly lit from inside. Rain and snow had left damp patches on the exterior cladding, which still had the scent of the sawmill. The school's principal gave us a tour, taking evident pleasure in his new professional home. In one large room, a terrazzo floor and heavy burnt-umber curtains fit harmoniously with the wood walls and ceiling; in a small practice studio, the bars of a wooden xylophone were visually echoed by the strips of wood covering the walls and the ceiling.

As luthiers and piano-makers can attest, wood is a resonant material. When we walked into a loftlike practice-and-performance studio, it felt almost as if we were inside a musical instrument ourselves. Here, the director admitted, there had been a slight problem with the acoustics. He clapped his hands, and the sound bounced off the walls with an ugly, unintended reverberation. Tycho looked closely at the wall: it appeared that someone had forgotten to place a layer of sound-absorbing material behind the wood panelling. It wouldn't be too hard to remedy, he said. In this respect, an all-timber building is just like a conventional one: the construction process is likely to include a few missteps.

I slept well in my corner hotel room at Mjøstårnet, though I cannot report any measurable lowering of my heart rate from one night's exposure to its wooden components. I can, however, attest to the resonance of its wood walls; when a chiming iPhone alarm went off in a neighboring room at 7 A.M., it was so loud that I groggily reached for my own phone.

"Please fall asleep so I can go to bed and look at photos of you being quiet."

Later that morning, I had coffee in the hotel restaurant with Arthur Buchardt, the developer behind the building of Mjøstårnet. He said that timber architects will have to learn how to better quell the sound-transmitting qualities of wood. "The material is very porous, especially when you walk on it," he said, rapping on the tabletop to demonstrate. In many rooms of the tower, he noted, interior walls had been covered with painted plasterboard for sound insulation—resulting in an unfortunate reduction of the promised health-giving benefits of exposed wood.

Buchardt, who is seventy-three, grew up in a small town near Oslo, but he spent his later teens in Brumunddal, where his father worked for a timber company. Buchardt's professional breakthrough came when he built a hotel in Lillehammer in time for the 1994 Winter Olympics; since then, he has built twenty-three hotels in Nordic countries. Mjøstårnet was a labor of love, he told me: an idea conceived on a restaurant napkin, to demonstrate the possibilities that wood could deliver. "This is not a smart place to build this building," he noted. "If I had built it in Oslo, the cost would have been almost the same, and the value would have been double." But the tower had been good for Brumunddal's economy, and for improving the town's reputation: "Some things you do for economic reasons, and some you do for enthusiasm." Originally, the tower was designed to be two hundred and sixty-five feet tall, but when word spread of a rival project under construction in Austria—the two-hundred-and-seventy-five-foot HoHo Hotel, in Vienna—the architect stretched the top of Mjøstårnet by a further four or five metres, securing its world-record status. The building showed what the future of sustainable architecture might look like, Buchardt told me. "Norway is an oil nation, but the oil will end," he said. "All the politicians talk about 'green change'—we must do something else that must be environmentally friendly, and we must use local resources. I thought I could build something like this, as an answer."

At the moment, assessments of the construction cost of a building do not

generally take carbon emissions into account. Buchardt feels that such a penalty is inevitable, at least in Scandinavia. If developers have to weigh the environmental costs of building as a matter of hard cash, engineered timber will start to look particularly appealing.

After our coffee, Buchardt and I rode the elevator to the top of Mjøstårnet, where there is a viewing platform beneath the wood frame that tops the building. Buchardt called the structure a pergola, though it would be a foolish gardener who tried to trail ivy along its massive, windswept struts. Before visiting Brumunddal, I had read about the rooftop space, and had entertained visions of rustic Scandi outdoor seating—accessorized, perhaps, with sheepskins, and equipped with a cabin serving *gløgg* in turned-wood mugs. Such notions swiftly evaporated as I climbed an icy metal staircase to the upper terrace, which was blasted by a chill wind and covered with crunchy remnants of the most recent snowfall. Above our heads, the pillars and struts of the pergola looked like the masts of a gigantic ship—their edges rounded, like huge pencils, to diminish the force of winds that can pummel the tower.

Another late revision to the building's blueprints was a penthouse apartment for Buchardt, like the one atop the Flatiron Building. Some packing boxes remained by the front door, but the place was well on its way to being a spectacular cabin in the sky, with an elegant dove-gray couch positioned with a view across the lake, handsome Flos lighting, and a gas fireplace in a pillar of gray stone. Buchardt sat in an armchair and explained that he travels a hundred days out of the year. In a decade or so, though, he hoped to slow down, and this seemed a congenial place in which to do so.

The clouds had lifted, and low sunlight bounced off the lake and filled the room with replenishing warmth. Feeling that it would be hard not to have one's spirits lifted by these surroundings, I asked Buchardt if he believed that being in a wood environment was conducive to better mental health.

"Yes, because it's warm, and the surfaces are not so hard," he replied. He went on, "Most of us already live in wooden buildings—only not so tall." Pulling out his phone, he showed me photographs of one of his other homes: a log cottage in Hafjell, where the Olympic competition for slalom skiing was held in 1994. It, too, looked like a very pleasant place in which to spend one's retirement, or just to spend the weekend. "The building is twenty years old," he said. "But the timber is two hundred years old."

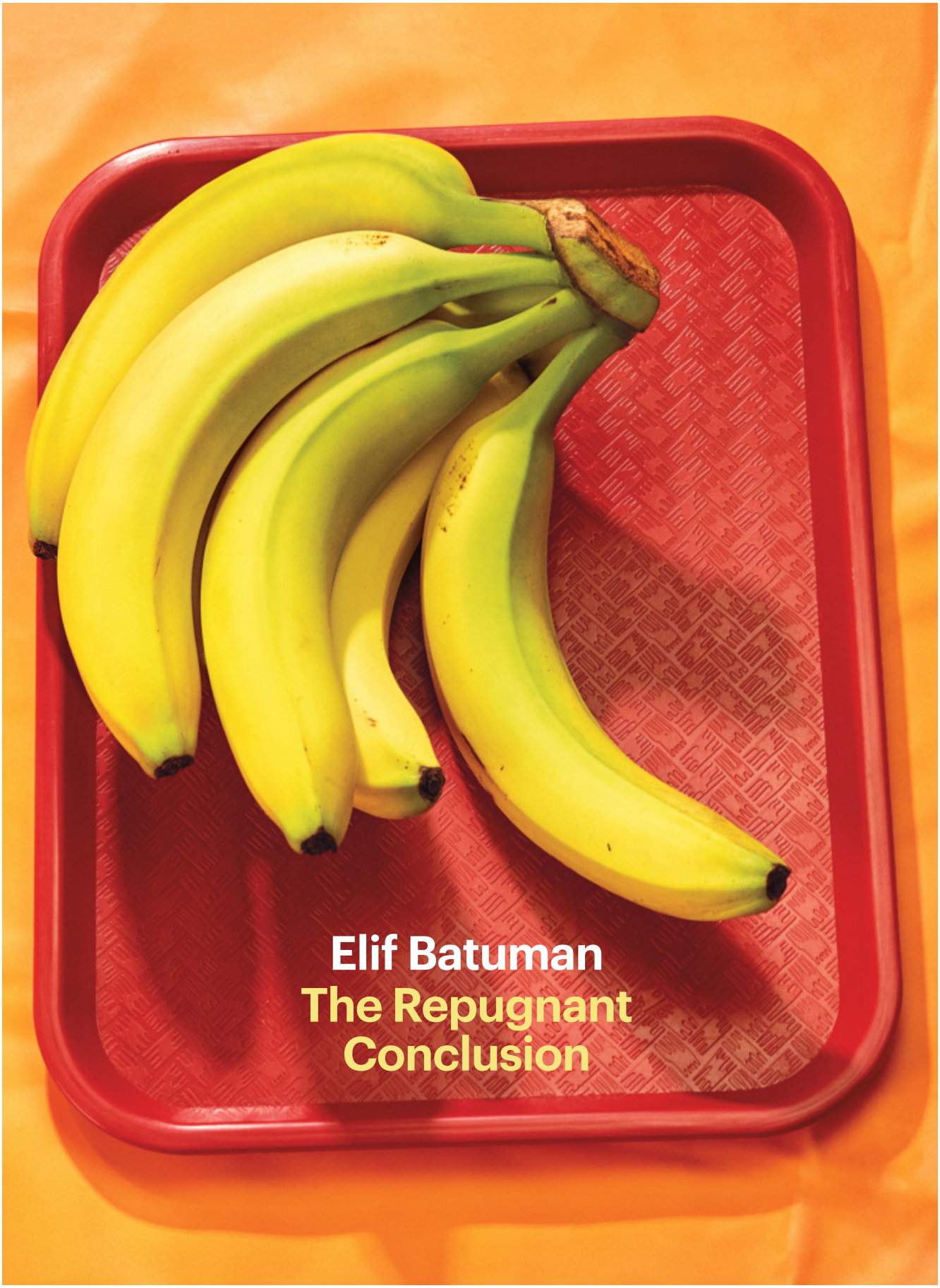
When I returned to Oslo, I went to see a group of buildings made from even older timber. At the open-air Norsk Folkemuseum, a hundred and sixty historical buildings from around Norway have been gathered in hilly, wooded parkland. It was a bright, cold morning, and there were few other visitors—it was too late in the season for school groups.

There were eleven zones, each dedicated to a different geographical part of the country. There was a schoolhouse with a turf roof from western Norway. Built in the eighteen-sixties, it had a wood ceiling and floor, and wooden benches and desks that had been installed with no thought of their effect on the students' well-being. A farmhouse from Telemark had survived from the first half of the eighteenth century. The largest room was illuminated by leaded windows and furnished with a long dining table that could easily have seated twenty. About fifty yards away, I came across a storehouse that consisted of a turf-roofed cabin raised up on a log base. It looked almost animate, like Howl's moving castle, and appeared alarmingly off balance, though it had presumably stood without collapsing since it was first constructed, in about 1300. The museum offered a reminder that, not so long ago, the skills required to build enduring buildings with wood—taking into account how the substance was affected by moisture and temperature, and how it can be bent and torqued to meet different needs—were common.

The most prized building in the museum is a church that originated in the village of Gol, in the interior of Norway. It was acquired in the late eighteen-hundreds, by the Society for the Preservation of Ancient Norwegian Monuments, and presented to King Oscar II, whose collection of antique Norwegian buildings forms the basis of the museum's holdings. The church dates to approximately 1200, and, although it has repeatedly been restored since then, it preserves the characteristics of what is known as stave construction: an all-wood method of building in which load-bearing posts allowed for the raising of towering structures whose walls were made of vertical boards. Stave churches usually had steep, tiered wooden roofs, and were often decorated with fantastically shaped carvings. They used to be widespread in northern Europe, but only a few remain, almost all of them in Norway.

The church was on a hill, approached along wooded pathways. Silhouetted against the sky, the pine-tar-treated timbers of the façade looked stark and black—almost threatening. Close up, the building was less fearsome. Walking along a raised, covered gallery that surrounded the church's core, I could hear my footfall ringing on the plank flooring with a familiar, reassuring resonance. The main doorway was richly carved with interlocking floral patterns. The gate to the interior was locked, but when I peered inside I could see—warmly illuminated by concealed electric lighting—religious paintings that dated from the mid-seventeenth century.

Daylight fell on the polished floorboards from concealed peepholes in the highest parts of the roof. Despite the chill of the day, the interior of the church seemed cozy and welcoming, the kind of space that promises to hold you safe, like an ark. After a few minutes, I descended the path, turning around to look at the building again from a distance. It was an extraordinary architectural gesture: rising on the hilltop like a ship lifted by waves, towering above the clusters of pine trees surrounding it. Once, I thought, this must have been the tallest building that anyone who laid eyes on it had ever seen. ♦



Elif Batuman
The Repugnant Conclusion

PHOTOGRAPH BY ROE ETHRIDGE

Svetlana got back to Harvard the day after me, though it felt like years. I had already slept the night in my new room, eaten breakfast and lunch in the cafeteria, and made numerous trips to the storage facility, having the same conversation over and over with people whose existence I had forgotten. "How was your summer?" "How was your summer?" "How was Hungary?"

"So, how was Hungary? Did anything happen?" Lakshmi asked, with a conspiratorial sparkle. Lakshmi was one of the people I remembered: last year, when we were freshmen, we had exchanged confidences; we had both been in love with older guys. There had been certain similarities between our situations, between Ivan and Noor. And, notwithstanding my feeling that a lot of things had happened, I answered the question truthfully, in the sense that I knew Lakshmi intended it. Nothing had happened. Meaning, nothing had happened with Ivan. Meaning, we hadn't had sex.

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The last time Svetlana and I had spoken, she was at her grandmother's apartment in Belgrade, and I was at a phone booth in a Hungarian village, where Ivan, who had just graduated, had found me a summer job teaching English.

"Did anything happen?" Svetlana asked.

"Well, like, *that one thing* didn't happen," I said.

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When Ivan first told me about the teaching job, he said I should take my time to think about it, because he didn't want to force me into anything. Svetlana said that, if I agreed to go, he was going to try to have sex with me. It was a possibility I had never previously considered. I daydreamed about Ivan all the time, imagining different conversations we might have, how he might look at me, touch my hair, kiss me. But I never thought about having sex. Nothing I knew about having sex corresponded to anything I thought about or wanted.

I had tried, on multiple occasions, to put in a tampon. No matter what direction I pushed the applicator, or how methodically I tried the different angles, the result was blinding, electric pain. I kept rereading the instructions. Where was I going wrong? It was worrisome, especially since I was pretty sure that a guy—that Ivan—would be bigger than a tampon. At that point my brain stopped being able to entertain the idea; it became unthinkable.

Svetlana had said I had better think about it. "You wouldn't want to end up in that situation and not have thought about it," she said, reasonably. And yet it turned out that there wasn't much to think about. If Ivan tried to have sex with me, it was obvious that I would let him. Maybe he would be able to tell me what I had been doing wrong, and it wouldn't be as terrible as trying to put in a tampon.

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Svetlana's trip to Belgrade—her first since the war—had gone well. There had been only one moment, at the store downstairs from her grandmother's apartment, when she dropped a coin and bent to pick it up, and had suddenly remembered with horror how a milk bottle had smashed on those particular tiles. That was all there was: a six-year-old image of splintering glass, the blob of milk spreading over the dingy tiles like a diabolical hand.

I wanted to hear more about the diabolical hand, but Svetlana only wanted to talk about the wilderness, where she had just been a co-leader on one of the freshman-orientation programs. She described the sublimity of nature, and the intense relationships that she had formed with boring-sounding freshmen, through trust exercises and games that had been devised, over the years, for just this purpose. She didn't seem disturbed, as I would have been, by the idea that the experience had been designed *for* her, to make her feel a certain way.

An increasingly large role was played in her narration by her co-leader, Matt. Each group had two leaders, a guy and a girl. I understood why it would have been exciting to have a shared mission with a guy. At the same time, there was something sinister about everyone being so into this camping-themed mom-and-dad dress-up. Or did I feel that way only because my parents were divorced?

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Svetlana and I were reading the course catalogue. It was like the book of all human possibilities. I thought there was something wrong with the way it was organized. Why were the different branches of literature categorized by geography and language, while sciences were categorized by the level of abstraction, or by the size of the object of study? Why wasn't literature classified by length? Why wasn't science classified by country? Why did religion have its own program, instead of falling under philosophy or anthropology? What made something a religion and not a philosophy? Why was the history of nonindustrial people anthropology and not history?

"Well, of course they're arbitrary categories," Svetlana said, "but it's because they're historical, not formal." She said that you couldn't actually separate the subject from the history of how it had been conceived since ancient Greece. Personally, I thought we should be trying to think of a better way to organize knowledge than whichever one we happened to have inherited.

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Under Comparative Literature, I came to a listing for a class called Chance. "Topics include the flâneur and the random walk as the paradigmatic site of urban experience," I read. Chance was what Ivan had gone to California to study—his thesis had been about random walks. And flâneurs were something that literature people talked about, and literature was what I was going to study. Could the flâneurs and the random walks help me understand what had happened with Ivan?

The course description mentioned André Breton's "Nadja," a book I'd noticed once in Svetlana's room, when I was waiting for her to get ready to go running.

"Is this good?" I asked.

"I don't know if you would like it. You can borrow it if you want."

I turned to the last page. It said, "Beauty will be convulsive or will not be at all."

"Maybe another time," I said.

Months later, Ivan had written me

"It's expensive and difficult, but at least if you win you get to take home a huge piece of garbage."

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a long e-mail about Fellini and clowns, and the last line was "Beauty, Breton says, will be convulsive or will not be at all." I had resolved to look at "Nadja" again, the next time I was in Svetlana's room, to see if there were any context clues that might help with the clowns. But the year had somehow ended without my ever again waiting for Svetlana in her room, looking at her books.

Now we lived in different buildings, and eventually we would live far apart, and I would never hang out in her bedroom. How brief and magical it was that we lived so close to each other and our most important job was to solve mysteries. The temporariness made it all the more important to follow the right leads.

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It was exciting to turn the corner in the bookstore from Computer Science to Comparative Literature—to see the unwieldy textbooks give way to normal-sized books that looked as if a person might actually read them just in the course of life. But the Chance books had an off-putting minimalism, with slim bindings and wide margins. The books I usually liked were thicker, less expensive, less visibly cool. That was how you knew they would contain long descriptions of furniture and people falling in love.

Just then, my eye was caught by a fat Penguin Classics volume with a poorly reproduced nineteenth-century painting on the cover: "Either/Or," by Søren Kierkegaard. I opened it to a random page and read, "Either, then, one is to live aesthetically or one is to live ethically." My heart was pounding. There was a *book* about this?

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I had first heard the phrase "aesthetic life" last year, in a class called Constructed Worlds. We were reading a French novel titled "Against Nature"—about the degenerate scion of a noble family who devoted himself to "decadent" projects, like growing orchids that resembled meat. In the end, I didn't think much of what that guy had accomplished. Still, I found the idea of an aesthetic life tremendously compelling. It was the first time I had heard of anyone having an organizing principle or goal for life, other than just trying to make money and have kids. People never openly said that that was their organizing principle, but I had often noticed, when I was growing up, the way adults acted as though trying to go anywhere or achieve anything was a frivolous dream, a luxury, compared with the real work of having kids and making money.

Nobody ever explained what was admirable about having kids, or why it was the default course of action for every human being. If you ever asked why any particular person had had a kid, or what good a particular kid was, people treated it as blasphemy—as if you were saying that they should be dead, or the kid should be dead. It was as if there was no way to ask what the plan had been without implying that someone should be dead.

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One day, early in our friendship, Svetlana had told me that she thought I was trying to live an aesthetic life, and it was a major difference between us, because she was trying to live an ethical life. I wasn't sure why the two had to be opposed, and worried for a moment that she thought that I thought that it was O.K. to cheat or steal. But it turned out she meant something else: that I took more risks than she did and cared more about "style," while she cared about history and traditions.

When it came to choosing classes, Svetlana liked taking introductions and surveys, "mastering" basics before moving to the next level. I had a terror of being bored, so I preferred to take highly specific classes with interesting titles, even when I hadn't taken the prerequisites and had no idea what was going on.

According to the back of "Either/Or," the first half of the book was about the aesthetic life, and included a no-

vella called "The Seducer's Diary," while the second half was about the ethical life, and consisted of some letters from a judge about marriage. So the ethical life was related to getting married: I had suspected as much. It was somehow implicit in my friendship with Svetlana that she wanted to be in "a stable relationship" and to someday be a mother, while I wanted to have interesting experiences that would help me be a writer.

Unsurprisingly, the back of "Either/Or" didn't tell you which way of living was right. All it said was "Does Kierkegaard mean us to prefer one of the alternatives? Or are we thrown back on the existentialist idea of radical choice?" That had probably been written by a professor. I recognized the professor's characteristic delight at not imparting information.

•

Lakshmi had come to the bookstore with me, but she never actually bought anything. She always just browsed the post-colonial and critical theory, and later scrounged up whatever books she decided she needed from Noor and his scary friends. That was a difference between us: I had barely met Ivan's friends, but Lakshmi spent most of her time with Noor's circle.

It had taken me months to realize that Lakshmi wasn't rich. Her clothes came from invitation-only sales in New York that she went to with Noor's friend Isabel, or from some kind of consignment store where rich women and teens off-loaded barely worn couture items, using the proceeds to buy one another's anxiety and A.D.H.D. medications. I had never heard of such goings on, which Lakshmi spoke of as routine. Lakshmi had grown up in palatial residences in Dubai and Copenhagen, because her father was an ambassador. Her parents had hosted lavish parties, attended by a large staff, without actually owning any of the things in their house.

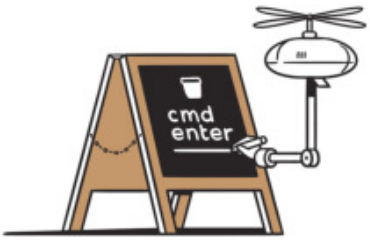
•

According to the introduction to "Either/Or," lots of people skipped the "ethical" half, and even most of the "aesthetic" half, and just read "The Seducer's Diary." Kierkegaard himself had said of "Either/Or" that you had to *either* read the whole book *or* just not read it at all. Kierkegaard was funny! Nonetheless, I, too, flipped forward to "The Seducer's Diary."

"The Seducer's Diary" started with a description of Johannes, the seducer, and how he was able, using his "mental gifts," to make a girl fall in love with him, "without caring to possess her in any stricter sense." When I read that, I almost threw up. Wasn't that what had happened to me? Hadn't I been brought to the point where I would sacrifice everything—only for Ivan to leave off without the slightest advance? Because he never had tried to have sex with me, and all the nights we sat up till dawn all we did was talk.

The diary was about how this guy saw some random seventeen-year-old girl on the street, and decided he would not spare her, and slowly, over the course of weeks and even months, he insinuated himself into her life, into her family circle, presenting himself as an honorable suitor. When he proposed, he did it as confusingly as possible, so she would have no idea what she had agreed to. "If she can predict anything, then I have gone wrong and the whole relationship loses its meaning," he wrote. This was just how I had felt when Ivan told me about the Hungary program.

Once they were engaged, Johannes put on a huge campaign to convince her that engagements were dumb, and got her to break it off. Then he tricked



her into having sex with him . . . and then he disappeared forever, because that was his M.O. Afterward, the girl scarcely knew what, if anything, had happened to her—whether it had been real. "As soon as she wanted to speak of it to another," Kierkegaard wrote, "it was nothing." The extent to which the seducer left a girl with nothing was the very mark of his artistry. It meant having the self-control to not get her pregnant or abandon her at the altar. It meant no spectators, no proof.

•

For Russian class, I had to read a short story called "Rudolfio." It was about a sixteen-year-old girl named Io, who was in love with a twenty-eight-year-old married man. Io, who was whimsical, maintained that, when she and this man Rudolf were together, they formed a single entity: Rudolfio. Rudolf laughed and said that Io was funny.

One day, when Rudolf's wife was out, Io showed up at his house. Her breasts resembled "little nests built by unknown birds to hatch their nestlings." Rudolf lent Io a copy of "The Little Prince," which he, a grown man, had for some reason.

Io and Rudolf took a walk in a vacant lot full of garbage. Io asked Rudolf to kiss her. Rudolf kissed her on the cheek, and said, "Only the closest people kiss on the lips." Io slapped him in the face and ran away, through the garbage.

Io didn't go home that night. She turned up only the next afternoon. Rudolf rushed over and found her sitting on her bed, facing the wall. She wouldn't say anything about where she had been, and only told Rudolf to go to Hell. Then Rudolf nodded, picked up his raincoat, and went to Hell.

•

In class, Irina Nikolaevna asked us whether Rudolf had loved Io. Everyone agreed that he hadn't.

"Maybe he loved her a little bit," Julia said.

"He didn't love her," Andrei said. "He was playing games."

"I don't personally consider it love, and maybe, after all, he wasn't capable," Svetlana, who spoke Russian a billion times better than the rest of us, said.

We discussed the difference between kissing on the cheek (accusative singular) and on the lips (accusative plural). Irina Nikolaevna asked each of us to describe the first time we kissed anyone on the lips.

Julia said she had kissed a boy in a playground when she was nine. Andrei said he had kissed his girlfriend

at a Christmas party when he was eleven. Svetlana said she had kissed her cousin's boyfriend at the zoo when she was thirteen.

I said, untruthfully, that I had kissed a boy at summer camp when I was fifteen.

"Fifteen? Are you sure?" Irina Nikolaevna wrote "15" on the board. It turned out that she thought I had to have been younger. She asked, then, what the boy had been like. I said he played the mandolin, inviting follow-up questions about how and where he had played the mandolin.

"He played the mandolin everywhere—incessantly," I said.

•

"Russian is so weird," Svetlana said afterward, in the bathroom. "I don't think when you learn other languages you have to talk about your sexual history. It's funny—back when I was thirteen, I felt so bad about kissing my cousin's boyfriend. But it really came in handy today, because if it wasn't for that I would never have kissed anyone. I was wondering what I would have said. Then I suddenly felt worried about you, because I know you never had a boyfriend, either. I actually almost turned around and told you, 'Selin, for once in your life, just don't tell the truth, O.K.?' But then you had mandolin boy up your sleeve! I was so relieved!"

"Mandolin boy saved the day," I agreed, looking in the mirror. My hair resembled the nest of an unknown bird prepared to hatch its nestlings.

•

I started auditing an ethics seminar taught by a philosopher from Oxford. He used a lot of overhead transparencies, usually putting them on upside down or backward. The transparencies were charts and graphs, about the quality of life for different populations.

One question we talked about in the seminar was how to weigh the benefit of a slight improvement in the present quality of life for millions of people against a risk of great harm to millions of people who hadn't been born yet. It was complicated, because if you improved the present quality of life, then more people would have children—meaning that the people you were potentially harming in the future were people who might not otherwise have been born, so maybe you had done them a favor.

In general, a lot of ethical questions were related to causing people to be born. Was it morally wrong not to have a child if you knew she would be happy? What if you knew that most of her life would be happy but the last five years would be extremely unhappy? I didn't get why the extremely unhappy person wasn't allowed to kill herself before she messed up her average.

The ethics seminar always left me feeling dissatisfied and anxious. That offhand way of invoking "the quality of life," as if we could measure it. I wished there was a class where you learned what it actually was: the quality of life.

•

Lakshmi said it was weird that I wasn't on the literary magazine, like everyone else who wanted to be a writer, or like Lakshmi herself, who "wasn't a writer" but cared about writing. I didn't get what Lakshmi meant when she said she wasn't a writer.

"I'm rubbish at it," she said.

"Well, none of us are *good*."

"No, it's different. I used to write poems. . . ." Horror flickered across her face.

For the application to work on the literary magazine, you had to read a short story, describe its strengths and weaknesses, and say what revisions you would ask for if you were going to publish it. The story they gave you was about a plumber who had sex with a housewife whose toilet he was fixing. I wrote down some ways that I thought the story could be less dumb. I got onto the fiction board. Lakshmi was voted to be the person in charge of parties, an area in which her expertise was widely recognized.

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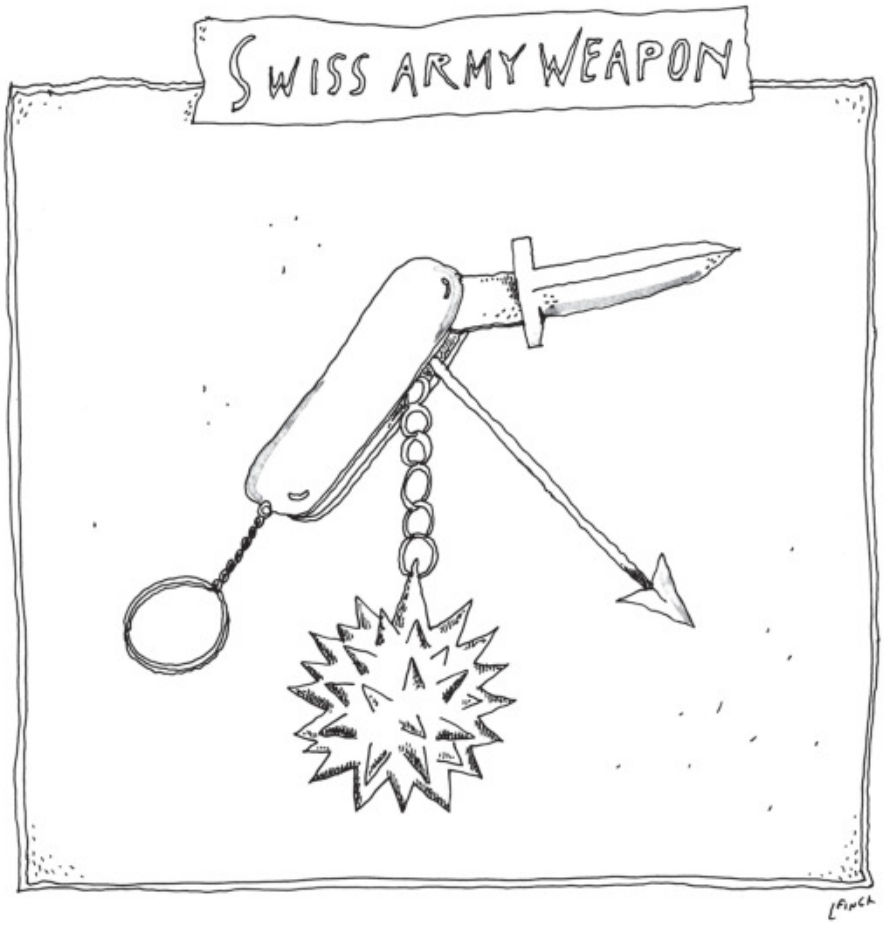
A recurring problem in the ethics seminar was how to avoid ending up at something called "the Repugnant Conclusion." The Repugnant Conclusion said that it was possible to justify decreasing a population's quality of life if you made the population bigger. It was



really hard not to get there. Even if you said something inoffensive-sounding, like, "I think we should do the most good for the most people." That meant that, if there were a million people whose lives were "well worth living," and you had the opportunity to transform them into a billion people whose lives were "barely worth living," you would be morally obligated to do it, and there you were at the Repugnant Conclusion. The phrase "barely worth living" made a knot form in my stomach. In what country was it happening?

•

One afternoon, when I stopped by Svetlana's room to pick her up to go running, she came to the door wearing just leggings and a sports bra.

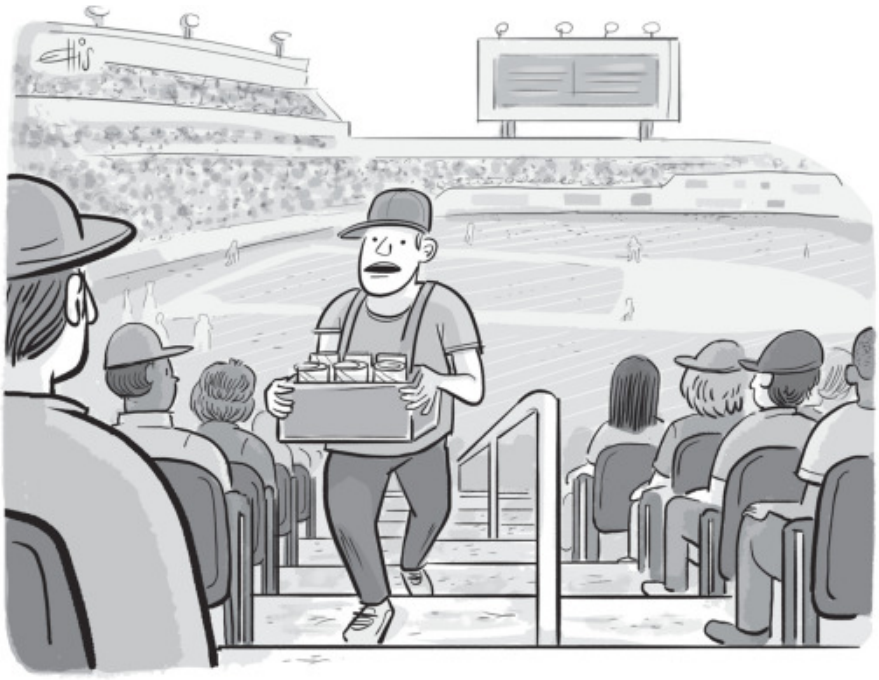
"I hooked up with Matt," she said, indicating some red marks on her chest and shoulders. Was that hives? Did some action have to be taken? Who was Matt? Not that camping guy? I felt relieved when Svetlana zipped up her fleece. Maybe things would go back to normal.

Nothing went back to normal. Matt was now Svetlana's boyfriend. I felt surprised by my own emotions—not by the resentment and the jealousy but by the relief, guilt, and disappointment. Insofar as Svetlana and I had been in competition over whose world view was better . . . that was over. She would never again be what she had been, not in my life, and not in her own. This boyfriend, or his successor, would restrict her activities, her thoughts. In a way, I had won, but it felt like defeat. How could she drop out of the race when we had only just started?

•

It became impossible to have a real conversation with Svetlana. The minute you tried to talk about anything interesting, Matt would swiftly, good-naturedly, inexorably change the subject back to one of the only three things he ever talked about.

Once, when Matt was travelling with his a-cappella group, and Svetlana and I were talking the way we used to, Svetlana surprised me by saying, "This is the kind of conversation we can't have when Matt is around." I felt unutterable relief—finally, she had noticed that Matt wasn't fully capable of meaningful discourse!—followed by sinking horror: Svetlana had always known, and she didn't care.



"Beer here! Get your beer here! We could get a beer and hang! No pressure!"

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Lakshmi still loved Noor but had started dating Jon, a senior who wrote fiction and had a short story in almost every issue of the literary magazine. I had never successfully read any of his stories. Lakshmi said that Jon was too good-looking and smart for her. "I should probably dump him," she said. "If I wait too long, *I'll* get dumped."

Jon, who lived off-campus, had cooked dinner for her.

"Was it good?" I asked.

"It was fine." She dispassionately described the mushroom risotto, the sauvignon blanc, the candles, and the pitcher of chrysanthemums.

I said it sounded as if he liked her.

"No, it's part of his whole thing."

"What thing?"

"Like, he stares into my eyes and says I'm a mysterious exotic beauty, and he can't decipher me. It's Orientalist bullshit." She tilted up her chin in a way that made her cheekbones stand out.

Lakshmi said that the problem with Jon was that eventually he was going to want to have sex. I didn't get why it was a problem, since she thought he was so good-looking and smart.

"But I'm going to be a virgin when I get married," Lakshmi said.

I was stunned. "But what about Noor?" I asked, though it wasn't the right question.

"Nothing ever happened with Noor," she said.

I frowned, trying to think of how to formulate what it was I wanted to know. It was something about what rules she was following, and with what expectations, and how she had come up with the rules and the expectations. "So you don't think you have to know you're sexually compatible with someone before you decide to get married?" I said.

"But I'm having an arranged marriage," Lakshmi said, seeming as surprised by my reaction as I was by this new information. She said it wasn't new. "You knew about my sister," she pointed out, accurately. But almost the first thing Lakshmi had ever told me about her sister was that she "wasn't an intellectual." It wasn't the same as not being intelligent—she was brilliant at entertaining, decorating, and fashion—but she didn't care about

books. To me, it made sense that someone who cared more about entertaining than about books might have an arranged marriage. But Lakshmi said that it wasn't related to your interests. Everyone in her extended family had had an arranged marriage. Marriage *was* arranged marriage.

"What if you don't want to get married?"

"But I do want to. I think living alone is really difficult, especially for a woman. I admire people who do it, but it's not for me. Anyway, I want children."

Feeling obscurely wounded, I found myself asking whether she didn't want to be free to choose her own husband.

As I heard myself speak, I felt childish and dumb, in a particularly American way. What was it about Americanness that made a person feel so childish, so unaesthetic? When I was growing up, I was the only American and the only child in my family, and there was no clear distinction between my Americanness and my childishness: the way my parents had to carry my peanut butter and Flintstones vitamins with us to Ankara, and my cousins had to be warned not to make fun of me for not knowing about things. But it wasn't just my family; didn't everyone in the world think that American people were babies—with their innocence, their Disney, their inability to drive a stick shift?

Lakshmi said that dating and romance were fun when you were young, but that freedom of choice in love was an illusion. It had something to do with Sartre and how freedom meant you were condemned to constant flux and potential annihilation. Anyway, when it came to choice, Lakshmi had always been her father's favorite, and she knew that he would demand more for her than she could ever demand for herself. Furthermore, an arranged marriage meant that the husband was committing not to you personally but to thousands of years of tradition—to his whole family, as well as to yours. That took a lot of pressure off your looks, which wouldn't last forever, and off the rest of you, too. Lakshmi's father sometimes joked about women who made love matches: how highly they must value themselves, to think they were fascinating enough, without the institution of family, to keep a man faithful to old age.

•

"It finally happened," Svetlana said at lunch one day. "I had sex with Matt. Afterward I thought, Today, this really important step in my life has taken place. But how is it physically different than if I had just jammed in a banana?"

The dining hall seemed to have got a shipment of particularly large and underripe bananas. Rigid and green-tinged, they were sharply curved at one end and less curved at the other, which gave them a smirky, jaw-like aspect.

"It's *literally* the same thing," Svetlana said, holding a banana. I estimated its girth at about six times that of a tampon. And yet Svetlana wasn't the kind of person who used "literally" to mean "figuratively."

"It turns out that Matt has a really big one," she said.

"But, like . . ." I glanced—eloquently, I felt—at the banana.

"I know—I was so surprised. It's weird how you can't tell what size a guy is going to be."

"But how did you . . . How did it . . ."

"Well, it was excruciatingly painful, especially the first time. But after two or three times it basically goes in. You don't *feel* like it's possible, but obviously your body's capacity is greater than your awareness of it. I mean, the circumference of a baby's head is thirty-five centimetres."

I felt a wave of despair.

Svetlana asked if I thought she looked different. In fact, her face seemed softer, rounder. She was wearing a white cardigan I didn't recognize, and the white seemed to hold a different meaning than it would have before.

•

I went to a party that Lakshmi had organized at the literary magazine. She was greeting people at the door, smiling dazzlingly through fake eyelashes.

"You came!" She kissed my cheek and touched my skirt. "What's this? Finally you're wearing something that shows your body."

My aunt had bought me the skirt and matching top from the DKNY section at Bloomingdale's. They were made of some velvety, drapey material. The way the skirt hung looked intentional, almost sentient. The cost for the two items—more than three hundred dollars—had struck me as obscene. How was a person allowed to have something like that?

Making my way through the crowd upstairs, I was surprised to spot Şahin, the president of the Turkish Students Club. He was standing near a window, talking to a fair-haired guy.

"Oh, so I actually know a literature person," Şahin said, when I approached. "This isn't really my scene." He had to lean over for me to hear him. I had never stood so close to him before, and hadn't realized how tall he was. His friend, too, was over six feet. It was pleasant to stand beside them, to feel like the smallest and most delicate person. They were drinking to Şahin's getting a grant to study Antarctic seabirds. Şahin brought me a plastic cup of wine.

"What's new with birds?" I asked. Şahin said that somebody had discovered that dinosaurs had had feathers. This was true not just of avian dinosaurs but of some other dinosaurs as well.

That reminded me of a Woody Allen line, about how "the thing with feathers" wasn't hope but was actually his—Woody Allen's—nephew. I didn't have positive feelings about Woody Allen, whose movies often included scenes of men my father's age having remedial conversations about "free will," or dating catatonic-seeming teen-agers. Yet I now found it hilarious that his nephew, like the non-avian dinosaurs, had feathers.

Şahin's friend refilled my cup. Was it wine that helped a person appreciate things uncritically? How easy and pleasant it was to stand there with those guys, saying whatever random, irrelevant stuff came to mind. It turned out that I could ask whatever questions I

thought of, and they would answer. I asked the friend where his accent was from, and he said Poland. I asked about the public transportation in Warsaw. He said you could ride a tram for free if you had fought in the Warsaw Uprising, or if your mother had given birth to you on a tram.

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At some point, we were at another party. Why did all parties sound and smell the same, even when the component people were different? It was as if all the different individuals came together and formed the eternal entity Party Person. This reminded me of "Voltron," a cartoon about five space pilots who were supposed to defend the universe. In every episode, they got into a terrible predicament, where the one who was a girl was always about to be forced to become a sex slave and carry fruit on her head. At the last minute, they would remember to merge their five rockets, thereby forming Voltron: a giant invincible robot-man with rocket arms and legs. It was unclear why they didn't become Voltron sooner.

"It's probably their selfish American individualism," Şahin said.

I was impressed by this evidence that he had been following my long story about "Voltron." On the other hand, I was pretty sure that "Voltron" wasn't an American show. Then again, maybe that was why the people's selfish individualism didn't get better results.

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I asked whether there was anything in a gin-and-tonic besides gin and tonic. Şahin's friend said that the beauty of a gin-and-tonic lay precisely in its simplicity. The conversation turned to quinine. Şahin said that malaria sometimes affected native Hawaiian songbirds.

"So get a grant to go to Hawaii and make them tiny gin-and-tonics," Şahin's friend said, handing out another round.

•

In the mirror, my eyes looked big and especially bright. Tea lights twinkled on the edge of the bathtub. The bathroom door opened and Şahin's friend came in. I started to leave, but he walked right up to me, looked down at my face with a speculative, almost affectionate expression, leaned over, and kissed me. It felt slow and easy and endless and immediate. For something that had seemed so impossible for so long to happen so effortlessly, like a row of cards falling over, and falling, and falling . . .

I remembered an article I had read in *Seventeen* about what to do with your hands under these precise circumstances. It said to put one hand on his neck and the other on his chest. The hand on the chest let you feel how strong and sexy he was but also gave you "control."

I put one hand on his chest, to feel how strong and sexy he was. With the other hand, I tentatively felt the place where his buzz cut started. It felt tender and dear—so full of life. What an amazing thing a neck was, the way all the blood in a human body had to pass through it, and how easy that made it to kill someone.

He slid his hand under the waistband of my skirt, first over my underwear, then under it. I felt a wave of panic and pushed lightly with the hand on his chest. Right away, he took his hand out of my underwear—just like *Seventeen* magazine had implied that he would. How amazing that it was possible to communicate like that. He touched my face, tilted my chin up, and the angle of the kiss changed and got deeper.

"Shall we get out of here?" he said in a suave, euphemistic-sounding tone. I nodded. I *always* wanted to get out of here, and nobody ever asked.

•

The cold was breathtaking. Our hands brushed against each other, and then he took my hand in his, which was warm and smooth. Why wasn't it possible to hold hands all the time? I suddenly remembered that, in grade school, my friend Leora and I would routinely walk down the hallway holding hands. When had that stopped seeming normal?

Now he was slowing down in front of some random iron gate. "Here's

"I didn't want to tell you in front of the boys, but it's 'yee-haw,' not 'yahoo.'"

where I live," he murmured. It hadn't occurred to me that we were going to where he lived.

In one movement, he unlocked and opened the door of his suite and flicked on a sallow overhead light. When he leaned in to kiss me, it was like sliding back into the water on one of those long days at the beach, where you get out just so you can go back in again.

At some point, he said he would be right back, and disappeared into the bathroom. I remained standing, contemplating a pile of outdoor equipment that was leaning against the wall. After I had looked at it for a while, I walked around the room. There was nothing else in it but a sofa. The sofa, when I sat on it, had an organic, swamp-like quality.

Şahin's friend came out of the bathroom, went over to where we had been standing, and seemed surprised that I wasn't there. His eyes swept the room without seeing me. In his bemused yet tolerant expression, I felt that I could see his whole attitude toward girls. They could be anywhere! He actually opened the closet and looked inside, like maybe I would be sitting in there thinking about my period. "Over here," I said. He seemed slightly annoyed, as if it was unfair of me to expect him to guess that I would do something like sit on the sofa. But maybe I had imagined it, because then he was saying, again in the suave voice, "I was afraid I had lost you."

•

In the bedroom, the bottom bunk had been removed to make a loft bed, but there was no desk or dresser underneath—just empty space. With nothing there to step on, it was unclear how to get into the bed.

"I like this fabric," he said, fingering my top for a moment before pulling it over my head: something I hadn't experienced since age six. How strange that *this* was like *that*—that the most adult thing was, in some way, like being a child. He found the hidden zipper and the skirt fell to the floor with a soft *whoosh*.

It turned out that the way you got into the bed was by climbing on the desk and sort of jumping. Why would a person choose to live this way?

I had never seen eyes that color up close: grayish-blue with hazel flecks. He slid his hand into my underwear again.

"Ah, Jesus." His voice had some kind of regret in it, as if something was going to get him in trouble. The feeling of being able to get him in trouble was breathtaking.

I was struggling to process both the external developments and the possibilities for action.

I knew that the first time you had sex was supposed to be with someone special who cared about you. And, even if you'd had sex before, you weren't supposed to do it on a first date. Since I had never had sex before, and hadn't been on even one date with this guy, indications were that I should not let him have sex with me, if that was what he was trying to do, on this, our zero date.

On the other hand, Svetlana had done everything the way you were supposed to, and none of it had sounded appealing. Svetlana herself hadn't seemed that enthused. And even if I did want to follow that route—who knew when the opportunity would arise? Special, caring guys, the kind who were always talking about respecting women, never did seem interested in me. Frankly, I wasn't their No. 1 fan, either.

Insofar as this guy didn't seem to think I was special—it felt euphoric and freeing, it was one of the most exciting things that had ever happened to me.

Then he moved his hand farther back and did something that made me freeze in pain and terror, and I realized that, as often happened, all my thinking had been beside the point. I couldn't "decide" to let him do it, any more than I could decide to bend my elbow in the opposite direction.

"I'm not very experienced," I blurted.

"That's fine," he said, and withdrew his hand. It was weird how some things I said seemed to have no meaning to him, while others had a recognized meaning that he immediately responded to.

"I'll show you what you can do," he said in the suave voice.

•

Planes and satellites blinked inscrutably against the gray glowing sky,

and the moon hung low and full over the river. I could hear everything, and smell everything: the twigs in the current, the rain from half an hour ago, the cars' tires on the wet asphalt. I understood that this was it: this was the quality of life, and I wouldn't have access to it forever. I had to think through everything now, while the window was still open.

How did a person live an aesthetic life? In "Either/Or," it involved seducing and abandoning young girls, making them go crazy, and writing a book about it. But what did you do if you were a young girl? Did you have to be seduced and abandoned? Maybe the challenge then was to not go crazy, so you could write the book yourself. Yes, writing a book was key—that was the most important part for me. That was what I needed the aesthetic life for: if you lived your life as if it were a novel, then at some point you just had to write everything down.

In Russian, the word they used for "novel," *roman*, was also used for "love affair." Everything that had happened with Ivan: had it been a *roman*, or hadn't it? At the time, I had thought so. But didn't a "love affair" imply sex? Was that where I had made my miscalculation: somewhere between "being in love" and sex? From age twelve, I had known that it was related to "being in love" that my underwear would get wet, that I wanted to look up "orgasm" in a dictionary. But I hadn't thought about it any further—because I always had more pressing problems, like the problem of escape—and because what had been the point of thinking about it, when nobody had showed any signs of wanting to have sex with me?

Now multiple variables had changed. I *had* escaped; the pressing problem was how to become a writer. And that guy—Şahin's friend—hadn't he wanted to have sex with me? I went over the interaction again in my mind, and couldn't think of any other interpretation.

•

I found myself remembering a conversation I had had once with Svetlana, about whether women were more affected by heartache than men were, or whether they just weren't as good at compartmentalizing. On an impulse, I had asked if she ever thought our lives would be simpler if we could just date girls.

Svetlana didn't reply right away. "I find most lesbians intimidating," she said finally. "I don't think I'd fit in. Especially since I'm always lusting after boys."

That was something I, too, had considered: the physical response I had felt to Ivan, the dull electric jolt, like the starting up of some heavy, slow machinery. But was that feeling enough to counterbalance all the disadvantages?

"But girls are so beautiful," I said. "And easier to negotiate with."

Again, Svetlana didn't answer right away. "I would feel squeamish with anything beyond kissing and playing with each other's breasts," she said.

I realized that I, too, had been thinking only about kissing and playing with each other's breasts. What else did lesbians even do? Other than oral sex, which was apparently horrible. The way people talked about it on sitcoms: "Does he like . . . deep-sea diving?" You had to be altruistic to do it—a generous lover.

"Do you not feel squeamish when you think about boys?" I asked.

"I do," she said, "but it still feels exciting. The idea of being penetrated and dominated."

I recognized that the idea of being penetrated and dominated was exciting to me, too, even if the mechanics, as well as the implications, were unclear and troubling. Svetlana was right: love wasn't a slumber party with your best friend. Love was dangerous, violent, with an element of something repulsive. Love had death in it, and madness. To try to escape those things was childish and anti-novelistic.

•

Inconveniently, I seemed not to have retained Şahin's friend's name. Şahin had introduced us, but we both had foreign names, the kind you needed to hear a couple of times. In retrospect, it didn't seem auspicious that he hadn't asked me to repeat my name. On the other hand, maybe he had just missed the right moment, and had planned to ask Şahin later, and I would hear from him soon.

When some days had passed and I hadn't heard anything, I got his name from Şahin myself, and sent a carefully composed e-mail, asking if he wanted to get a coffee. He replied immediately: "To be honest, I don't really drink coffee."

•

It turned out there was always a party somewhere. You didn't have to know the people whose room it was in. At one party, I ran into Ham, a guy from my Constructed Worlds class. His hair was longer now, and green. He seemed pleased to see me. I walked around the room, drinking warm beer from a Solo cup. Everyone was obsessively drinking this beer, which came out of a keg. I had never seen a keg before. It looked comically literal. I went back to where Ham was standing and stood nearby. Within two minutes, he had put his arm around me and asked if I wanted to get out of there. Had it always been this easy?

Armies of tiny painted lead figures, belonging to different tribes or races, were stationed on every surface of his dorm room. The dresser drawers were pulled out to varying extents and covered with green felt boards, to make terraces, and a war was happening on the terraces. Clearing a platoon of militarized trolls from the bed, Ham talked about his girlfriend in Anchorage, who had an eating disorder, and said that he had always been attracted to me. I told him that I had never had sex before. He said there were lots of other things we could do.

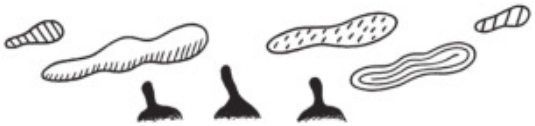
•

I e-mailed Şahin's friend again. "O.K., forget the coffee," I wrote. "There's this other thing I need you to help me out with." I wasn't sure how good of a reader he was, so I tried to explain it really clearly: how the situation I had been in when we met I needed to not be in anymore; how I needed his help.

After I hit Send, I went back to doing my Russian homework. I had finished only three exercises when the phone started to ring. ♦

NEWYORKER.COM
Elif Batuman on choosing an aesthetic life.

THE CRITICS



BOOKS

AMERICAN HUNGER

The journals of Alice Walker.

BY LAUREN MICHELE JACKSON

"The Color Purple" is a novel about women, but one man takes up precious room. For much of the book, Celie, the narrator, refers to the epistolary novel's principal patriarch (aside from the God to whom she addresses her letters) only as "Mr. _____." She has passed from one man's domain to another's, handed off by the only father she knows to live with Mr. _____ in wedlock, though her sister, Nettie, is the one he really wanted. Yet, in a world ruled by men, Celie provides our perspective; even their speech must flow through her pen. And so she at least sets the tone. We hear breathlessness, for example, when she learns that "Shug Avery is coming to town!" That Shug Avery—the sharp and singing Queen Honeybee—knows exactly who she is. Shug knows Celie's husband, too, but not as Mr. anything. In the novel's twenty-third letter, Shug lies abed in his home, barking orders at someone called Albert, a name Celie doesn't recognize. "Then I remember," she writes. Albert is Mr. _____. The name is not a secret; Celie has always known it.

It was the fall of 1985, and Alice Walker was in London when she received an "urgent call from Steven." She had spent much of the past summer on Steven Spielberg's set, in North Carolina, as a consultant and as an awed bystander amid the wounding process of adapting her novel to film. The novel itself had taken on the aura of stardom, having won both the National Book Award and the Pulitzer Prize, and surpassed a million copies in sales. But filmmaking has its own exigencies, and that fall, to her annoyance, two days elapsed before she and Spielberg were able to connect (owing in part, as she puts it, to the "nasty hoarding of the single lobby telephone by our receptionist"). And then:

> Alice, he says, how is it that Nettie knows Albert's name? he asks. Everyone knows his name, I reply. Even Celie. She doesn't write it on her letters out of fear. That's what I thought, he says. But we were wishing you were here because some folks felt differently. Anyhow, we shot it that way.
>
> What are you doing in London?
>
> Readings.

The exchange appears in "Gathering Blossoms Under Fire: The Journals of Alice Walker, 1965–2000" (Simon & Schuster), edited by the late Valerie Boyd. I am struck by the entry's final lines. The last word sags with fatigue, or maybe a certain pragmatism, pulling Albert and Celie and Steven back down to earth. "What are you doing in London?" the director asks. "Readings," the writer answers—no more, no less.

Walker knew that her words, even the most diaristic, could well be destined for a public audience, and she knew this even before a word of hers was ever published. This conviction seems a precondition for a writing career, the kind of vanity without which one writes in vain. The pages of the journal leave a record of both the pulsing epiphanies and the irritations of daily existence, and chart, for a dimly perceived intimate reader, the progress of a literary pilgrim. Pain, joy, spells of depression, unease, engagement, even disaffection—all are material. They'll feed the writings; they'll sustain the readings.

Born in 1944, Walker grew up within a familial arrangement fixed by its historical background. Throughout her life, Walker's parents, Willie Lee and Minnie Lou, worked on and around the land, in and around white people's homes—legacies of that postbellum enterprise sharecropping, "which so resembles slavery," Walker later reflected. The Walkers were proud that they could pay the midwife who brought Walker into the world, but her mother was returned to the fields not long after giving birth. As the last of eight children, Walker was adored and also distanced from her older siblings, many of whom were her part-time caretakers. Then, at the age of eight, a shot from a brother's BB gun struck her right eye. She lost vision in the eye and the injury left behind a crust of scar tissue that Walker began lowering her head to hide. As she later wrote, "It was great fun being cute. But then, one day, it ended."

She withdrew into her room and into novels, scribbled poems, and thought about suicide. She conceived of herself as an unsightly, blighted person; only when she was fourteen did the surgical assistance of a kindly ophthalmologist help her regain the sense that she might be beautiful. "It was during those six years that much new feeling was born within me," Walker reflects in a 1977 entry. "Those six years that made me a human being. Those six years—so unbelievably painful—that made me a writer." Still, she adds, "Knowing all this, I ask myself, Would you be willing to go through those 6 years again? And I answer, No."

After two years at Spelman College, she transferred to Sarah Lawrence, bent on becoming a writer. Walker then reversed her great migration and arrived

ABOVE: PHILIPPE PETIT-ROULET

"It has dawned on me lately that insecurity is one of the biggest killers of art," Walker wrote in October, 1977.

in Jackson, Mississippi, invigorated by Dr. King's cause. There she met another civil-rights activist named Melvyn Leventhal, a New York University law student interning with the N.A.A.C.P. Legal Defense Fund. She didn't think much of white people in the movement, but she was paired with the intern on the task of taking depositions from cheated sharecroppers. Their mutual vulnerability nurtured familiarity, a Black woman and a Jewish man driving around hostile territory, dodging racist threats by day which kept them up at night. At a motel, the two read aloud from the Song of Songs while awaiting the cloaked wrath of a sundown town.

Leventhal was neither the first white boy Walker ever messed with nor the first she dared bring home, but he was the one she married, in 1967. Walker's entries as a newlywed glow with a passion forged in an atmosphere of righteousness. Yet the confluence of Mississippi and marriage proved suffocating. After the birth of their daughter, Rebecca, Jackson was no longer a city of burgeoning love but an enclosure bounded by bigotry and small-mindedness on both sides of the color line. Leventhal, working with the Legal Defense Fund full time, kept long hours, eroding Walker's time to write and her pride in the nobility of her husband's profession. "Mel wants to stay here til he makes his mark—am I to stay here til Mississippi makes its mark on me?" she writes.

Three days before her daughter was born, Walker completed the manuscript for her début novel, "The Third Life of Grange Copeland" (1970). The title character is a Black sharecropper made mean by the emasculating, embittering circumstances of his time, race, and class; his "third life" comes with the epiphany of personal responsibility for his violence. "Nobody's as powerful as we make them out to be," he tells his son at the end of the novel. "We got our own souls, don't we?" Reviews were mostly complimentary, but *Jet* played up the supposed hypocrisy that a novelist who espoused racial pride married a white man—a sidelong critique of Walker's political fitness that followed her throughout her career. A woman who had published a study of Flannery O'Connor, writing in the *Saturday Review*, was scandalized by Copeland's seemingly redemptive violence toward whites. Walker wrote a letter to the *Saturday Review* and sent copies of it to several close associates (including Muriel Rukeyser) and new book-tour acquaintances (Jesse Jackson, Studs Terkel), with the following note: "Let me put it this way, all my heroes died during the last ten years, and they did not die for me or my people to continue to be insulted by people who apparently spent the last decade reading Updike."

In 1971, Walker was granted a fellowship at the Radcliffe Institute, at Harvard, which allowed the work of writing to continue. She finished a second manuscript of poems, "Revolutionary Petunias," which became a finalist for the National Book Award for poetry. Perhaps best known for the incantatory poem "Be Nobody's Darling" ("Be an outcast. / Take the contradictions / Of your life / And wrap around / You like a shawl"), the volume, inspired by her mother's green thumb, exalts the moxie of that flower, cut and resurrected into beauty. The flower, as the final poem has it, is now "Blooming / For Deserving Eyes. / Blooming Gloriously / For its Self."

The next year, Walker returned to the Radcliffe Institute "alone," as she writes in her journal—Rebecca had been left in her father's care—in order to write fiction. Reflecting on her newfound solitude, which offered what Walker called a "much needed sense of freedom and possibility," she left behind a beatific reminder: "Don't forget that during this period you wrote 3 stories & began the 2nd novel!" "In Love & Trouble," thirteen short stories about thirteen Black women, appeared in 1973; "Meridian," a novel about a student of that name who becomes a civil-rights activist, came out in 1976. Between those books, Walker travelled to Eatonville, Florida, in search of the resting place of an author "who had guts & soul & a loud mouth!" That was Zora Neale Hurston, the nearly forgotten author of "Their Eyes Were Watching God."

When Walker was asked whether she thought artists should have children, she responded (in her own recounting), "They should have children—assuming this is of interest to them—but only one." In a 1979 essay titled "One Child of One's Own," she elaborated on her peculiar twist on such woman-to-woman wisdom ("since we were beyond discussing why this question is never asked artists who are men"), and revisited the issues that Virginia Woolf had broached half a century earlier concerning writing's material requirements. Black women especially, Walker observed, live out the marginality of the domestic, in their homes and those of others. "Progress affects few," she writes. "Only revolution can affect many."

Walker's journals become a place for accounting, often literally, tallying earnings from teaching, advances, honoraria. At times, the financial receipts are interspersed among a more general inventory. In an entry from 1974, when she and her husband moved to New York, she notes, "We are leaving Jackson. . . . My father is dead. . . . My novel is between 1st and 2nd drafts. . . . I have accepted a job as an editor of *Ms*. For $700.00 a month plus $750 per article. . . . *In Love & Trouble* was the editor's choice of The New York Times last week. . . . Revolutionary Petunias was nominated for a National Book Award." She adds, "It will be interesting to see if my depressions continue, after all this."

Reality is one way of accounting for Walker's accounting. Such caution was necessary for a writer who is not only a writer but Black and a woman and single to boot; she and Leventhal split up in 1976. In an entry from the following year:

> After taxes my Ms salary is 8,400. My rent is 3,600.00
>
> $4,800.00 is what's left for food, clothing, Rebecca.
>
> If I could add another $10,000 each year from lectures & royalties—we'd be okay. More than okay really.

Then she writes, "Risk makes my back ache."

The plain math belies an insistent apprehension that extends beyond bills. Tracking the business of being a writer serves the dual function of recording growing renown, honoraria, and advances tucked beside notices of reviews and awards. "More than okay," for Walker, won't be secured by an added zero or two. In an entry from 1978, little punctuation separated financial and emotional needs:

> If worse comes to worse the IRS can wait, or I can even take out a loan.
>
> I am in need of love. And loving.

PREVIOUS PAGE: SARA KRULWICH / COURTESY THE STUART A. ROSE MANUSCRIPT, ARCHIVES, AND RARE BOOK LIBRARY, EMORY UNIVERSITY

At this point, she was with Robert Allen, a longtime editor of *The Black Scholar* and someone she'd known from her Spelman days. She was as worried about falling out of love with him as she was about loving him at her own expense. The precarities of love matched those of money.

Walker's permanent departure from the South and her further freedom of movement—toward New York, then toward San Francisco—accompanied her rising profile. Not that she was universally adored; her mixed feelings about movement work didn't go unnoticed. Like Hurston before her, she was viewed within certain literary circles as someone who had opportunely endeared herself to white women. Gloria Steinem was a friend, and Walker became a regular contributor to *Ms.*, which published such essays of hers as "In Search of Our Mothers' Gardens" and "One Child of One's Own," both of which later appeared in a collection that defined "womanism," the Black-woman-loving ethos that Walker had named. Skeptics such as Sonia Sanchez and Ishmael Reed suggested that Walker had somehow sold out Black folks in order to get in good with white feminism. But Walker was ambivalent toward *Ms.*, and not just because of the "starvation wages" she was paid. A draft of a letter from the eighties that she sent to two editors at the publication discloses the paternalism she experienced at the office: "Whenever I spoke there was a curiously respectful silence punctuated by even more respectful chuckles. Then the business of the magazine continued."

If such experiences felt diminishing, the recurring tallies—bills of literary health—were evidently restorative:

> I have completed another volume of poems. I am finishing a collection of my essays. I have compiled a Zora Neale Hurston Reader. I have taught Advanced Fiction a semester at Yale. I have continued in pleasant fashion at Ms. I have been invited to read and have accepted, all over the United States. I have given benefit readings. I have left my husband & have been mutually and amicably divorced. I have moved into my own apartment where I have now lived a full year and a month. I have had my failing ear improved by surgery. I have replaced my front teeth. I have made new friends & many new kinds of love. I have contemplated suicide seriously only twice—or perhaps 3 times. I have resolved not to be a suicide because I love life which I know, better than death which I don't, and which I suspect is the ultimate bore.

"You don't mind staying home to watch the TV while I'm gone, do you?"

• •

It was New Year's Day, 1978.

Even after such careful, consoling inventory, though, peace can be easily dashed, perhaps by an article in the paper about a writer you know. The next year, reading a profile of Toni Morrison in the *Times Magazine*, Walker snags on the fact that the paperback rights to "Song of Solomon" sold for more than three hundred thousand dollars:

> I've been looking inside myself to see how I feel about this. A little jealous? A little envious? Probably. But on the other hand, it helps that she writes so beautifully—even if I feel her characters never go anywhere. They are created, I feel, so they might legitimately exist. And that's art, for sure, but not inspiration, direction, *struggle*.
>
> . . . I resent the little flashes of dis-ease when I hear the loud hosannas & the large $ figures. I have everything I need. Why do I feel—when hearing of others' riches—it is not enough?

Later, after a dinner with Morrison, Walker reports on a remark of Quincy Jones's: "Anyone would expect you to be enemies." She balks at the notion, albeit in a way that undermines the avowed magnanimity: "Even when I've felt bad about something Toni allegedly said or did against me—for instance, keeping Bob Gottlieb from taking me on at Knopf when I was trying to leave Harcourt—I've always felt that if I did my work things would be okay." Noting that Morrison has been offered a "substantial position" at Princeton, she adds, "I feel glad for her success. It isn't my kind of success. There doesn't seem much laying up for days with her lover in it, but perhaps there is. I hope so. I know I couldn't stand Princeton for a day."

Walker's preoccupation with finances seems to increase in proportion to her resources. A series of 1981 entries affix the completion of her third novel—"I intend to call it: . . . The Color Purple . . . Or Purple . . . I think the first"—to the prospect of land acquisition in Mendocino, in Northern California: "I offered 90,000. The place haunts me a little still. Though in order to afford it I would have to raise my offer at least 10,000. . . . How could I do it?" She does the math again, and it works out; the following year, she purchases "20 acres of very hilly but beautiful Mendocino land."

"Looking back over this diary I see I'm concerned about money," she worries at one point. "It has dawned on me lately that insecurity is one of the biggest killers of art. Somehow the novel, or the next collection of stories, is seen as happening only when I'm in my own house, and managing things okay." As much as she insists on her detachment from material things, her journaled inventories reveal a rich person's penchant for collecting homes. ("Just sold 'Goodnight, Willie Lee, I'll See You in the Morning' to Dial for $2,500 advance—that will pay for the bathroom! Fantastic.") Yet the sharecropper's eighth child always saw herself as a tourist in the realm of affluence, even with cash on hand.

It's possible to divine a connection between a habit of acquisition that

seems compulsive, if only for the apparent discomfort she feels about it, and the intense, erratic bouts of depression that choke her ability to write. Walker never knows what triggers them—menstrual hormones, she surmises, or "deep loneliness." She puts her faith in the usual measures: a healthier diet, less weed, and lots and lots of meditation. By the time the writing returns, the episodes are in the rearview mirror. "The point is, I am all better now," she writes on one occasion. "Enjoying being alive." In later years, with the guidance of a therapist, Walker speculates about why she finds herself managing so many rooms of her own: "I buy houses because I need places to run to."

In the spring of 1983, the news that "The Color Purple" had won the Pulitzer Prize for fiction—Walker was the first Black woman to receive it—appears in an entry warmed by a lover's body heat. "I just had to take him in my arms & have our way with him," she writes of Robert. The relationship, perhaps because it dates to their youth, isn't untouched by the loves-me-nots of adolescent drama. From a previous inventory: "I love the way his body feels. His skin. His chest. I love his touch. . . . I love the dumb way he holds me, as an animal would hold me, loving but without words." One month Walker giddily exhales her ardor, and the next she begs for another kind of release, from love itself, and then it starts all over again. A true romantic, she is both sustained and crushed by the exquisite agony of love's repetitions.

Against the occasional pose of a jaded intellectual, Walker's infatuations exhibit the unabashed pleasures of being charmed. Her trepidation at Steven Spielberg's plans is alleviated over a dinner: "After a moment of near I don't know what, uneasiness, he came in & sat down & started right in showing how closely he has read the book. . . . Quincy & Steven & I got slightly tipsy and energetic in our thoughts of a movie about Celie & Shug & Nettie." The rapturous sense of creative intimacy that hangs in the air is a kind of romance, too.

Something else has long hung in the air. One Veterans Day, when she's in her twenties, the haze of cannabis unlocks a thought: "Sexual and strong and not always heterosexual." The "daughters of bilitis," as she refers to them in the entry, in sidelong reference to the historic activist organization, were never far from Walker's world, as a student at Sarah Lawrence and as a woman writer of the nineteen-seventies. Her time with Robert and with male crushes like Quincy Jones coincide with nights out at the lesbian bar La Femme and spent with other lovers—we encounter the names Bertina, Mercedes.

But Walker remains cautious about naming herself as late as the nineties, even as she suspects that her sexuality might be "a case of everyone knowing I'm a lesbian but me." A 1992 entry mentions dinner with the musician Tracy Chapman, who comes "in jeans & boots, and carrying a coffee cake she baked herself" and arrives like an exhalation, at last. "I consider it a gift from the universe—at last the figure I've walked behind has turned around! And she is a woman! And she is black! And she is a singer! Only the first fact, that she is a woman, kept me afraid of wanting this to happen before." The journals offer an intimate view of a relationship that was kept as quiet as it could be at the time. Yet Chapman, like other partners, becomes something of an emotional lifeline as well. Walker speculates that this is the end of her real-estate habit: "Houses no longer mean love to me. Love means love."

"Bisexuality," a word favored by her longtime friend June Jordan, doesn't suit her. "Of course I am bi-sexual, if by that is meant I find both women and men sexually & spiritually attractive," she writes in 1995, a journaled draft of a talk for an upcoming Black gay and lesbian conference:

> And I have occasionally used the term. However, knowing I'd soon be coming to see you, and being, as many of you know, picky about words, I decided that the word that I preferred to be "out" with you as was one that did not make me feel cut in half, as bi-sexual does, but instead makes me feel whole, even holy, a woman of all my spiritual & sexual parts. . . . The word is *full*.

The word that Walker chooses for herself is a purple womanism meant to capture the boundless flush of ecstasy and good sex and good company evidenced in her journals. But the appetite of ambition isn't to be slaked. To be full is an achievable condition; to stay full is not.

The journal entries selected for "Gathering Blossoms Under Fire" conclude eight days into the year 2000, but Walker has maintained a blog since 2008. Her posts are more hortatory than her journal entries, but not necessarily more disciplined. In 2012, she wrote her first post on David Icke, whose "freedom of mind," she writes, "reminds me very much of Malcolm X." She recommended a video for those who "haven't been exposed to his thinking." Icke's thinking includes the theory that mankind has unwittingly been ruled by an intergalactic race of reptilians since antiquity. In an interview four years ago for the *Times Book Review*, Walker praised Icke's 1995 book, "And the Truth Shall Set You Free," which promotes anti-Semitic crackpottery about who runs the world. Walker, a proper boomer, seems also to have been diving deep into the brackish waters of YouTube.

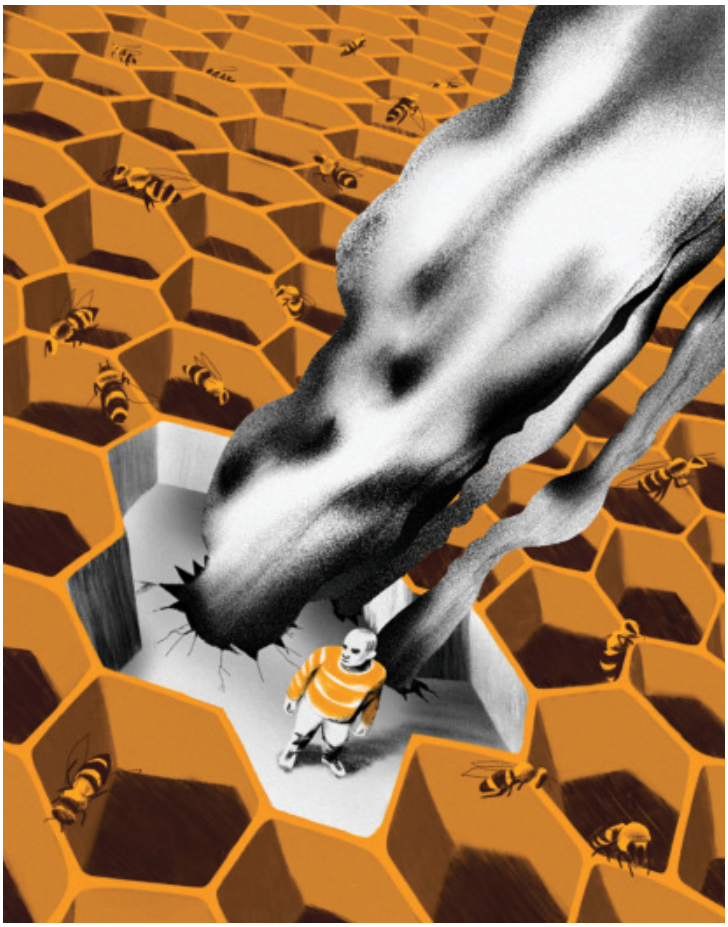
Is this a late-life aberration, or can the tropism be traced to a deeper angst that was missed in its time? "Gathering Blossoms Under Fire" does not contain the totality of the journals (sixty-some volumes in their entirety repose in the Rare Book Library at Emory University, embargoed until 2040), but what's here exposes no sinister taproot. Rather, its entries accumulate to tell a story about accumulation—of pages, prizes, lovers, real estate, renown—and about the perpetual inadequacy of accumulation. Perhaps it's significant, though, that Walker remains best known for a book of letters by a young woman for whom writing is a register of emancipation and self-discovery, but also of fear, tattooed on the page by an elided name that everyone knows but that cannot be spelled out. Having grown up in a place where conspiracies, racial and sexual, were daily realities to be reckoned with, Walker may have developed a belated hunger for more. "And, of course, there will be a volume two," she writes in a 2021 postscript to the selection of journals. We like stories that take us from yearning to fulfillment, from blinkered parochialism to high-hearted enlightenment, but, as her journeys attest, the traffic on such routes moves in both directions. ♦

BOOKS

DEMILITARIZED

The novelist Andrey Kurkov writes of a Ukrainian beekeeper at war with war.

BY KEITH GESSEN



In "Grey Bees," life in Ukraine's gray zone has elements of the post-apocalyptic.

The incremental Russian invasion of Ukraine in 2014—which began with the seizure of Crimea and continued as a hybrid operation, capitalizing on anti-Kyiv sentiment in eastern Ukraine and backed by an information war, mercenaries, and, ultimately, tanks and rockets—was eventually halted by Ukrainian forces, that summer, about fifty miles from the Russian border. A shaky ceasefire was signed in Minsk, and a so-called "line of contact" emerged. It ran for three hundred miles and separated Ukrainian government-controlled territory from the self-proclaimed Donetsk and Luhansk People's Republics. Along this line of contact, Ukrainian troops dug in on one side and Russian-backed troops on the other, with about nineteen miles between them. For more than seven years, with ebbs and flows in their frequency and intensity, the conflict featured sniper fire and shelling and even, toward the end, armed drones, which the Ukrainian government had procured from Turkey.

Andrey Kurkov's novel "Grey Bees" (Deep Vellum) takes place in the area, known as the "gray zone," between the two armed camps. Sergey Sergeyich is a retired mine-safety inspector turned beekeeper who is one of only two people left in the village of Little Starhorodivka. As Sergeyich recalls the beginning of the fighting, "Something broke in the country, in Kyiv, where nothing had ever been quite right. It broke so badly that painful cracks ran along the country, as if along a sheet of glass, and then blood began to seep through these cracks."

The village cleared out slowly, then all at once.

> The first shell hit the church, and the very next morning people began to leave Little Starhorodivka. First, fathers bundled their wives and children off to safety, wherever they had relatives: Russia, Odessa, Mykolayiv. Then the fathers themselves left, some becoming "separatists," others refugees. The last to be taken away were the old men and women. They were dragged off weeping and cursing. The noise was awful. And then, one day, things grew so quiet that Sergeyich stepped out onto Lenin Street and was nearly deafened by the silence.

As it turned out, one other person, Pashka, an old schoolmate with whom Sergeyich had never been friendly, had also remained behind. When the book begins, it is 2017, and Sergeyich and Pashka have been alone in the village for almost three years. By Sergeyich's account, they are keeping the village alive: "If every last person took off, no-one would return." This way, perhaps, they would. Sergeyich's house, on Lenin Street, looks out onto the Ukrainian lines, though he can't quite see them; Pashka's, on Shevchenko Street, is closer to the separatists. In ways congruent with this accident of geography, the two have slightly different sympathies.

The book, which was published in Ukraine four years ago, opens in a kind of stasis; the reader wonders whether it will be a twenty-first-century "Robinson Crusoe," in which the two men try to outdo each other in their ability to survive without the comforts of civilization. But soon the gears of the plot start churning. Pashka shows up at Sergeyich's house with a charged cell phone. How could Pashka possibly have charged it, Sergeyich wonders, when the electricity has been out for years? Pashka explains that the electricity came on in the middle of the night; Sergeyich must have slept through it. Impossible, Sergeyich says. He keeps all his light switches in the on position—the lights would have woken him. Pashka holds his ground. The mystery of the cell phone lingers.

Before long, Sergeyich also has a chance to charge his phone. He receives a surprise visit from a young Ukrainian soldier; because Sergeyich's yard faces

ILLUSTRATION BY ANNA IVANENKO

the Ukrainian lines, and because he is often working in it and tending to his bees, the Ukrainian soldier, who introduces himself as Petro, has been watching Sergeyich. They talk about the war and the state of things in Ukraine. Sergeyich has no access to television or the news, and the soldier tells him that people on TV are always arguing, that in the country at large place-names are being changed but otherwise everything is the same. As a gift to Sergeyich, he offers to charge his phone; in return he asks only that Sergeyich let him know if he ever needs help. When Sergeyich gets his phone back, he is left with the dilemma of whom to call.

Sergeyich is an eastern Ukrainian Everyman. He is supremely practical. In loving detail, Kurkov describes Sergeyich's care for his bees, his nighttime preparations, his careful rationing of his limited provisions. Sergeyich has found himself in a war zone but does not think about politics. He wants nothing to do with the government, and doesn't even bother to arrange for the delivery of his pension. Gradually, though, he is pulled into politics despite himself. He learns that Pashka has been hanging out with separatists and their Russian backers; Sergeyich disapproves. Meanwhile, his relationship with Petro deepens; when the Ukrainian lines are shelled, Sergeyich uses his cell phone to send the soldier a text. "Alive?" he asks him. "Alive," Petro texts back. In an attempt to keep their small village up with the times, Sergeyich renames Pashka's street Lenin, and his own Shevchenko. Pashka, who never liked living on a street named for the national poet of Ukraine, is delighted.

When the shelling becomes too much for Sergeyich's bees (and maybe for Sergeyich), he decides to take them on a journey. The book becomes a kind of odyssey, with Sergeyich, driving his trusty old Lada, in the role of a Ukrainian Odysseus. First, he navigates various checkpoints and ends up in Ukraine proper. Then he sets up camp in a peaceful, wooded spot and lets his bees fly about and refresh themselves. He even meets a woman, a friendly and practical-minded shopkeeper named Galya, and begins to settle down.

The war follows him. People can tell from his license plate that he is from the Donetsk region, and they are suspicious of him. Eventually, he is forced to take his bees and leave. Recalling a friend he once met at a beekeepers' convention, he decides to head for Crimea.

If, in the gray zone, people get along and help one another despite inhabiting a denuded, post-apocalyptic landscape, Crimea turns out to be the opposite. It is literally a land of honey—Sergeyich's bees thrive there—but the threat of the state hangs over everything. Sergeyich's friend, whom he had hoped to visit, is a Crimean Tatar, and through his family Sergeyich learns how the Russian occupiers—Crimea, as a border guard reminds him, is part of Russia now—deal with people they find inconvenient. They use violence, coercion, enticements. Sergeyich behaves honorably, but during every interaction with the authorities he experiences a kind of fear that he hadn't known even in the gray zone: "It was a strange, almost inexplicable fear, in that it was purely physical, paralysing his facial muscles but giving rise to no thoughts whatsoever." Sergeyich "tried to find words that might better explain his fear" of the powers that be, "and not just the powers that be, but the Russian powers that be"—but he finds it impossible. It is an "inarticulate fear," "a skin-freezing fear." In the end, Sergeyich escapes their clutches, but only barely, and not totally intact. The Russian security service confiscates one of his beehives, for "inspection," and returns the bees in an altered state. They seem sickly to Sergeyich, and gray—hence the book's title—and the healthy bees kick them out of their hives.

"Grey Bees," although grounded deeply in the disturbing reality of war, sometimes has the feeling of a fable. When it was published, it joined a small shelf of books about the war by Ukrainian writers such as Artem Chapeye, Yevgenia Belorusets, Serhiy Zhadan, and Artem Chekh. "Grey Bees" is a gentle, sometimes ambivalent book about a conflict that had its share of moral complexity. Reading about it now, one feels transported to a more innocent time. Place-names that in "Grey Bees" connote safety and freedom—the port city of Mykolaiv, or the town of Vesele, near where Sergeyich meets Galya—are now under Russian attack or even Russian occupation. The subtle gradations relating to conversations about citizenship and belonging also seem the product of an earlier time. Sergeyich, when he first meets the soldier Petro, has an exchange with him about names. Petro is the Ukrainian version of Peter, and Sergeyich asks if Peter is the soldier's real name. The soldier says no, Petro is his name:

> "Says so in my passport."
>
> "Well, my passport says I'm Serhiy Serhiyovych—but I say I'm Sergey Sergeyich. That's the difference."
>
> "You probably don't agree with your passport," Petro said.
>
> "No, I agree with my passport, just not with what it chooses to call me."
>
> "Well, I agree both with my passport and with what it chooses to call me," the guest said with a smile. It was an easy smile, even disarming—although a rifle hung on the back of his chair.

Petro is entirely at home in Ukraine, whereas Sergeyich, while accepting that he is a Ukrainian citizen, wants to retain his Russian-language identity: Sergey, rather than Serhiy.

This is also, as it happens, Kurkov's dilemma as an author. Kurkov is a Ukrainian novelist who was born in St. Petersburg, grew up in Kyiv, and writes his fiction in Russian, at a time when Ukrainian-language literature is enjoying a post-Soviet renaissance. He is the president of the Ukrainian branch of PEN and a frequent commentator on Ukraine in the international media, and he has spoken in favor of a multilingual or hybrid identity for Ukraine. But he has also been sensitive to the unavoidable valences of Russian in times of trouble. Russian is "the language of the aggressor," he said, back in 2014, and returning to the question more recently, in this magazine, he wrote that, for the moment, it didn't matter what compelling arguments you could make for the Russian language—that many of Ukraine's defenders spoke it; that countless other people dying and fighting and fleeing from the east of the country spoke it; that Vladimir Putin could not lay sole claim to it—because such arguments were beside the point. Hybrid identity was fine during times of hybrid war; when the missiles started flying, everyone became simply Ukrainian.

War resolves old questions and raises new ones. But mostly it destroys—lives,

homes, memories, families. A cult of war can take root only in a place that has forgotten what war is, or maybe never knew in the first place. Ukrainian historians will tell you that, as much as Russia suffered during the German onslaught of the Second World War—in Leningrad, Smolensk, Stalingrad—Ukraine suffered, proportionally, even more. And now, once again, Ukraine is in flames. Nobody can say whether, at the end of this conflagration, Ukraine will regain control of its territory, or whether a new gray zone will be formed. In the Donbas, at least, where Russia has begun a new, large-scale offensive, there is not a lot of basis for optimism.

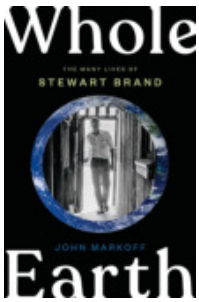
There is a touching moment in "Grey Bees" when Sergeyich and his bees have settled temporarily in the Ukrainian heartland. Galya, the shopkeeper, comes to their campsite three evenings in a row with food she has prepared for Sergeyich. On the third night, she says that the next day she will be unable to come. Sergeyich assumes she is busy, but it turns out she cannot bring the food because the dish she is preparing is borscht. He will need to come to her place to eat it. Sergeyich agrees.

The eating of the borscht, in Boris Dralyuk's deft translation, is described with immense pleasure:

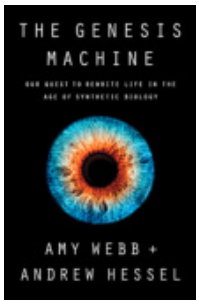
> Galya's borscht slayed Sergeyich. There were dried porcini mushrooms swimming in it, and beans, and pieces of veal. He ate it steadily, unhurriedly, occasionally gazing up at her; this was, after all, the first time they had dined together—not like their evenings by the fire, when she had fed him without eating herself.
>
> There was a bottle of shop-bought vodka on the table, to accompany the meal. Sergeyich and Galya drank without toasting, half a shot glass at a sip. Galya had also peeled several cloves of garlic, which lay on a saucer beside the bottle and a dish of salt. They ate these cloves in turn—first he would take one, dip it in the salt and place it in his mouth, then she.
>
> No conversation arose; there was no need for talk. After the third bowl, Sergeyich realised he had had enough, although, at the same time, he felt he could have overcome a fourth.

It is a scene of total contentment. But this is not a contented book. Bees make honey and a pleasant buzzing sound, yet they can also sting. Sergeyich must soon flee from this refuge, as he must from the next. Finally, he returns to his village, to his home, because someone needs to keep the place going, just in case the war ends, and people decide to come back. ♦

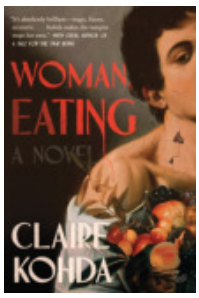
BRIEFLY NOTED



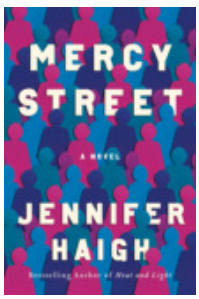
Whole Earth, *by John Markoff (Penguin Press)*. This biography of Stewart Brand, the creator of the "Whole Earth Catalog," explores the varied career of a "quixotic intellectual troubadour." An early techno-utopian—he coined the phrase "information wants to be free" and was the first journalist to use the term "personal computer"—Brand also organized parties for Ken Kesey's Merry Pranksters and helped spark the environmental movement, befriending such luminaries as Marlon Brando, Brian Eno, and the California governor Jerry Brown along the way. What emerges is a view of an insistently holistic thinker unafraid to pursue idiosyncratic ideas and possessing "an uncanny sixth sense for being in the right place at the right time."



The Genesis Machine, *by Amy Webb and Andrew Hessel (PublicAffairs)*. Predicting that technologies for editing and programming DNA will bring a "great transformation" in our conception of life, the authors of this introduction to "synthetic biology" set out a road map for navigating the field's opportunities and perils. If harnessed responsibly, these technologies may help humankind secure its food supply, combat climate change, and eradicate disease. Conversely, what will happen if, say, technology that's intended to study and fight viruses is instead used to unleash them as bioweapons, or if wealthy people begin genetically "enhancing" their offspring? Answering these and other difficult questions will require robust public dialogues, which this book seeks to initiate now.



Woman, **Eating**, *by Claire Kohda (HarperVia)*. The chief trait that Lydia, the protagonist of this artful vampire novel, shares with monsters of old is hunger. A "Buffy"-watching, British Japanese Malaysian performance artist interning in London's gallery scene, she is anxious and overwhelmed, torn between vampiric urges and human scruples. Most traditional lore doesn't apply; Lydia won't be destroyed by the sight of a cross or combust in direct sunlight (acute sunburn notwithstanding). But her vampire mother has taught her that their kind are "unnatural, disgusting, and ugly." As Lydia encounters new people, including a pleasant artist turned property manager, and a new boss, a man with more influence than decency, she comes to understand what it is to become something "that is neither demon nor human."



Mercy Street, *by Jennifer Haigh (Ecco)*. Dedicated "to the one in four" American women who has had an abortion, this novel revolves around a counsellor at an abortion clinic, a protester, and a would-be domestic terrorist who rants that abortion is theft as well as murder, because "there was a second, invisible victim, a man robbed of his progeny." The novel's central figure, the counsellor, is the most fully realized, experiencing her own path to motherhood while remaining devoted to her work. Musing on the way that anti-abortion arguments turn people into vessels for the production of babies, she asks, "What was the point of making yet another person, when the woman herself—a person who already existed—counted for so little?"

POP MUSIC

REVIVAL

The rousing sounds of Arcade Fire.

BY AMANDA PETRUSICH

It's evident within the opening minute of "The Lightning I, II," a vigorous, urging single from Arcade Fire's excellent sixth album, "WE," that the band has returned—prodigally, ardently—to the hard-charging sound that once made its live shows resemble tent revivals. If you've ever driven a little too fast on the highway—all your earthly belongings wedged into the trunk, cheap sunglasses on, hair blowing everywhere, booking it from somewhere to somewhere else—you likely have a sense of the gasping exhilaration Arcade Fire specializes in. It's tough to think of another band that's as formally concerned with (or as preternaturally adept at) enabling full-body catharsis, and it's tough to imagine another moment in which this sweaty, hyper-intimate brand of absolution might be more welcome.

Yet, for a brief while, Arcade Fire—which was formed in Montreal, in 2001, and is fronted by the married duo of Win Butler and Régine Chassagne, with Richard Reed Parry, Tim Kingsbury, Jeremy Gara, and, until recently, Win's brother, Will Butler—veered away from grandeur in favor of a more cerebral and lightly scolding approach. The band's previous record, 2017's "Everything Now," was an indictment of digital culture and our hunger for "infinite content"—worthy adversaries, certainly, except that, by then, the toxicity of those forces already felt like old news. (Radiohead asked many of the same questions on "Kid A," which was released in 2000.) Most people know instinctively that staring at Instagram for hours on end, dead-eyed and increasingly embittered, is less meaningful than spending time with family and friends. The tepid critical reception of "Everything Now" presaged, in a way, a change in our collective tolerance for art that feels too expressly didactic. These days, nobody wants to be taught a lesson, especially by the rich and famous. (I thought of "Everything Now" when, at the start of the pandemic, the actor Gal Gadot released a bizarre montage of celebrities singing bits of John Lennon's "Imagine," a video so unnecessary and ill-met that Slate later called it "one of the worst things to have ever happened.")

"WE," which was produced by Butler, Chassagne, and Nigel Godrich, is less obvious and more compassionate, and makes better use of the band's musical assets: Butler's tender, reaching voice (he has become one of the great rock vocalists of his generation), the group's love of Haitian rara (a heavily percussive, often mesmeric parade music), and its knack for writing rousing, propulsive anthems that make you feel as if you're climbing a hill, throwing your fist in the air, and cartwheeling down the other side. The band is expert at building tension by creating a simple but potent melody—Chassagne is especially dexterous on a synthesizer—escalating the volume, tamping up the rhythm, and facilitating a sudden, noisy release. This is not a new trick, but, when it hits, boy, does it hit.

The band's pandemic record is exhausted, sorrowful, and loaded with hope.

In 2020, there was some fretting over what sort of creative work might appear in the wake of the COVID-19 pandemic. "WE" was recorded between February, 2020, and mid-2021, in New Orleans, El Paso, and Maine's Mount Desert Island, during one of the most spiritually and politically tumultuous eras in recent memory. Maybe more than any other album released since, "WE" feels like a thorough and dynamic document of that time, a Pandemic Record in the truest sense; it's frantic, exhausted, sorrowful, and, on occasion, overloaded with hope and joy. The first half, "I," is about the ways in which humans tend to suffer and droop in isolation; the back half, "We," honors the

ILLUSTRATION BY TRACY CHAHWAN

ecstasy and the absolution of sustained connection. Butler and Chassagne, who co-wrote these songs, have a tendency toward "The Family of Man"-style observations, and with lesser singers the ideas might feel limp or platitudinous. Here they feel exciting. In the video for "The Lightning I, II," Butler plays an acoustic guitar with "CALL YOUR MOM" painted in black letters on the front. I suspect I'm not the only one who soon found herself grasping for the phone.

Sometimes Butler's language grows more abstract and playful, as on "Age of Anxiety II (Rabbit Hole)":

> Hardy har har
> Chinese throwing star
> Lamborghini Countach
> Maserati sports car

The verse feels equally indebted to David Byrne, Beck, and the country singer Billy Ray Cyrus, who also sings the oddly mellifluous phrase "Maserati sports car" in his remix of Lil Nas X's "Old Town Road." In 2022, is it ballsy to take a skittering, eighties-inflected synthesizer jam featuring Peter Gabriel and title it "Unconditional II (Race and Religion)," as Arcade Fire does here? (Race Street and Religious Street intersect in New Orleans, where Butler and Chassagne bought a house in 2014.) "I'll be your race and religion, you be my race and religion," Chassagne sings in a high, round voice over congas, djembe, and agogô bells. I never imagined I'd be idly humming the phrase "race and religion" to myself while tossing groceries into my shopping cart. "This love is no superstition," Chassagne adds. "United body and soul."

At this point, Arcade Fire's musical influences are well parsed: the band has gleaned drama and strategic restraint from artists such as David Bowie, U2, and Bruce Springsteen. But it also relies heavily on themes culled from literature. Butler has said that "WE" was inspired in part by "We," a dystopian science-fiction novel by the Russian writer Yevgeny Zamyatin, first published in English in 1924. "We" is often thought to be the model for George Orwell's "1984" and Aldous Huxley's "Brave New World," also books in which gutsy individuals challenge the control of a heartless state. In a note that Butler shared with fans before the album's release, he wrote, "My grandmother read me a book when I was a little kid that had the word 'WE' stamped into its cover in broken 1920s gold leaf." It got him thinking about what unites us as human beings. "It is the 'ONE' of Marley, the Buddha, and Abraham," he wrote. "It's the lightning strike / of our magic mutual creation / it's the root."

Butler has also said that he has spent decades mulling over Lawrence Ferlinghetti's poem "I Am Waiting," from the best-selling 1958 collection "A Coney Island of the Mind." Butler borrows the phrase "Age of Anxiety" from one of the poem's stanzas ("and I am waiting / for the Age of Anxiety / to drop dead"), using it to title two tracks on "WE." It is easy to see Ferlinghetti as a spiritual forefather for Butler—both are interested in what Ferlinghetti calls the "rebirth of wonder," the bold and insistent reclamation of our humanity in the face of capitalism, technology, and our own vanity and fear. Butler's rebelliousness can flit from funny ("We unsubscribe / Fuck season five," he sings on "End of the Empire I-IV," a multipart epic that recalls the scope and vigor of Radiohead's "Paranoid Android") to grave ("We can make it, baby, please don't quit on me," he implores on "The Lightning I").

Before his death last year, at a hundred and one, Ferlinghetti was filmed reading his poem "The World Is a Beautiful Place" in a back office at City Lights, the bookstore and publishing house he co-founded in San Francisco in 1953. Ferlinghetti's slight, singsongy cadence gives the poem a playful saunter. He writes of life's thrills ("and walking around / looking at everything / and smelling flowers / and goosing statues / and even thinking / and kissing people and / making babies and wearing pants") and their inevitable interruption ("Yes / but then right in the middle of it / comes the smiling / mortician"). Arcade Fire is also interested in how momentary and evanescent our lives are, and in what we can do before we die. "WE" culminates in a pleading coda. "When everything ends / Can we do it again?" Butler asks, his voice soft. Knowing the answer might not be enough to untether us from our cursed devices, or to make us more responsible stewards of our planet, but it is nonetheless a useful reminder. The mortician, she always smiles. Or, as Butler puts it, "Heaven is so cold / I don't wanna go." ♦

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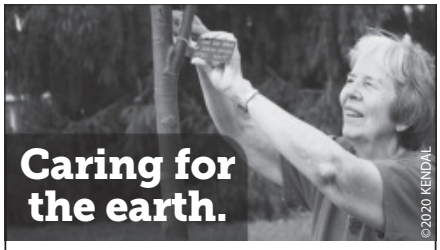
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THE THEATRE

FIGHTING WORDS

A minimalist "Cyrano de Bergerac" trades rapiers for rappers.

BY ALEXANDRA SCHWARTZ

The mania and melancholy of James McAvoy's Cyrano disguise a desperate rage.

A confession, and a sheepish one for a Francophile to make: my heart does not thrill to the prospect of sitting through "Cyrano de Bergerac." This may be the fault of my Anglophone ear, which is too clumsy to pick up the rapid-fire panache of Edmond Rostand's rhyming Alexandrine couplets as they fly by in the original, and English translations have a way of starching the esprit right out of the language. Fairly or not, I have come to associate the play with an aura of whipped-cream foppishness, heavy on swordplay, swishing capes, and swelling bosoms, like the ones in Joe Wright's recent film adaptation of Erica Schmidt's musical version. Wright, who cast Peter Dinklage in the title role, traded a big schnoz for small stature as his hero's signature weakness, a fine idea, but not enough to make up for the general corniness.

I offer such prejudice as an overture to praise for the English director Jamie Lloyd's dazzling, feral take on "Cyrano," which has finally arrived at BAM, after a celebrated pre-pandemic run in London. This is not Lloyd's first Rostand rodeo. In 2012, he directed a production of the play on Broadway—a traditional affair of boots, bodices, and feathered hats. The balcony scene had a balcony; verisimilitude carried the day. Since then, Lloyd has converted to minimalism. The set for his 2019 production of Harold Pinter's "Betrayal" basically consisted of two chairs. Now he has blasted away "Cyrano"'s damask-draped tropes, and what's left is little more than a bare stage lit by harsh white fluorescents, a fitting backdrop for a strictly formalist mise en scène, all lines and triangles. We're still nominally in the sixteen-forties, but the costume designer Soutra Gilmour (she's also responsible for the set) has put the cast in contemporary street clothes—joggers, jumpsuits, Adidas slides. The actors sound contemporary, too, thanks to the playwright Martin Crimp, who, in his capacity as "translator-adaptor," has radically reworked Rostand's text. It's good to be suspicious of the urge to remake classics in our own image, but Crimp's interventions profoundly energize the soul of the play. He understands that rhyme doesn't have to be treated as a clopping, powdered-wig contrivance. It's the lifeblood of hip-hop, the most flexible of modern forms and one with its own battle conventions. Instead of rapiers, Lloyd and Crimp give us rappers. Puns before guns, words before swords: it may sound silly on paper, but it's dynamite onstage.

First up to the mike is Ligniere (Nima Taleghani), a strutting young poet who presides as m.c., warming up the crowd with some home-town boasts. "The Parisian isn't superior/just everyone else is inferior," he brags, adding, "Just never mention Algeria." (The play's playful anachronisms delight rather than rankle.) He's preening for the benefit of Christian (Eben Figueiredo), a provincial soldier who has just arrived in the capital to enlist as a cadet. This being France, Christian has already fallen in love at first sight, with Roxane (the wonderful Evelyn Miller), a lovely university student with brains to match. Christian, alas, is a handsome dummy. How will he manage to pry such a lady from the clutches of her sinister admirer, the Count de Guiche (Tom Edden)?

Enter Cyrano, Roxane's trusted cousin and the popular leader of Christian's new regiment—well, first enter Cyrano's friends' description of him as the "Madman. Soldier. Writer," whom they talk up like prizefighter promoters before slicing him down to size. "The enormity / of his nose is a deformity / . . . They say when he came through his mother's va-

ILLUSTRATION BY MATT WILLIAMS

gina/the nose poked out first as a painful reminder/of all the agony to come." Ouch. Yet, when Cyrano does appear, he takes the divinely proportioned form of James McAvoy, clad in tight black jeans and form-fitting puffer jacket, with nothing but a smattering of beard adorning his famous face. If that's agony, sign me up for a world of pain.

Hold on. Here we have one of cinema's most gorgeous leading men playing theatre's ugliest. Is this a joke? A gimmick? Maybe. But isn't a bulbous prosthetic a gimmick, too? If you can get on board with the emperor's-new-clothes nature of Lloyd's illusion—and, thanks to McAvoy's smoldering, ferocious barrage of a performance, it doesn't take long—the unaugmented nose proves less an obstacle to accepting the play's conceit than a key to unlocking its deeper levels. Here is a man so affected by the notion of his deformity that he refuses to risk the ultimate humiliation of self-exposure; his block is mental, and thus impossible to surmount.

Cyrano, too, has a passion for Roxane; while Christian merely appreciates her face, Cyrano adores her beautiful mind. A great strength of this production is its depiction of Roxane as a formidable intellectual force. Her insistence that Christian woo her with wit isn't a coquette's trick of putting her beau through the ritualized paces of courtly love but a smart woman's search for a partner, a worthy match. When Cyrano agrees to help his rival by writing love letters to Roxane and signing Christian's name, the deception allows him to give voice to his own feelings, of course—but that's not the only reason he suggests it. McAvoy's sadboi Cyrano gets off on self-expression and self-abasement, and he can't always distinguish between the two. In the scene in which a concealed Cyrano pretends to be Christian while speaking to Roxane, McAvoy is so steady, so relentlessly purposeful in his passion, that his Scottish whisper scorches your ears. Cyrano is often played as a man of unfettered brilliance who has learned to be a buffoon as a matter of self-preservation. McAvoy's Cyrano likes to clown around, too, but make no mistake: his mania and melancholy disguise a desperate rage.

In the play's second act, de Guiche sends Christian, Cyrano, and the rest of the cadets off to war, and a grimmer reality sets in. There's a lot here about male competition, male bonding, the male gaze, toxic masculinity, the works—inevitably, homoeroticism is part of the deal, though it's treated too obviously for my taste, and has the unfortunate effect of sidelining Roxane. One compensation for all this male stuff is the transformation of Rostand's Ragueneau, a jolly pastry cook and poets' patron, into a woman (Michele Austin), who mothers Cyrano and Roxane alike, though she can't save them from an ending even darker than Rostand's. The truth will out, but it sets no one free.

"Cyrano" is obsessed with theatre. The play, in fact, opens at a play, a horrible take on "Hamlet" that Cyrano interrupts and rips to pieces. He's an aesthete with a vengeance, who can't tolerate such "fly-paper for mediocrity." How I wish that he had been at the Roundabout's American Airlines Theatre the other day to rescue the audience from Noah Haidle's dreadful misfire, "Birthday Candles."

Talk about gimmicks. The show starts on the seventeenth birthday of its protagonist, Ernestine (Debra Messing). She's making a cake with her mother, a tradition that she will carry on, alone or in company, every birthday, for the rest of her endless life. The passage of time is signalled by a bell: ding, Ernestine is eighteen, then in her thirties, her fifties, and on and on for something like a century. What happens over the decades? Merely every cliché you can think of, from infidelity to divorce to mental illness, enacted by cardboard cutouts instead of characters, who speak in a language of mind-numbing tweeness and banality. "The world is so big," Ernestine says, with her arms spread wide—and yet not big enough for the two of us.

The incoherent direction, by Vivienne Benesch, left me with a number of questions. When does the action take place? What kind of adolescent plays pin the tail on the donkey? On Ernestine's thirty-ninth birthday, her daughter is a college senior—was Ernestine pregnant when she went to the prom? How come Messing slides into an English accent when Ernestine gets old? Why did anyone produce this dreck? If sentimentality is a lie about life, "Birthday Candles" is the whopper of them all. ♦

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WORK-LIFE BALANCE

"Severance," on Apple TV+.

BY NAOMI FRY

There's an old episode of "Seinfeld" in which Jerry, in his opening monologue, riffs on office workers who keep family photographs at their desks. "Do they forget that they're married?" he asks. "They go, 'All right, it's five o'clock, time to hit the bars and pick up some hookers. Hold it a second . . . I've got a wife and three kids! I'd better head home!'" This scenario—temporarily forgetting your home life while at work—is the premise of the gripping dystopian drama "Severance," which just completed its first season on Apple TV+. In the series, which was created by Dan Erickson and directed by Ben Stiller and Aoife McArdle, the employees who work on the so-called severance floor at Lumon Industries—a shadowy megacorporation—know nothing of their lives outside the office. They have chosen to undergo a surgical procedure in which their consciousness is bifurcated between work and home. Their two selves—referred to as their "innie" and their "outie"—know of each other, but otherwise lead separate existences.

Our protagonist is Mark Scout, or Mark S., as he is known at Lumon. (He is played by Adam Scott, who has made his mark in comedies that tease out the existential malaise of the contemporary workplace, such as Starz's "Party Down" and NBC's "Parks and Recreation.") Mark is a former university professor who began working at Lumon after his wife died in a car accident. "Forgetting about her for eight hours a day isn't the same as healing," his sister, Devon (Jen Tullock), tells him, but Mark's outie thinks that he's made the right choice. "It's helped me," he insists later. At night, he sits at home alone brooding and drinking whiskey; at work, the tragedy lifts, and he immerses himself in senseless tasks.

Mark works in the department of Macrodata Refinement (M.D.R.). It's a four-person team: in addition to Mark, there's Petey K. (Yul Vazquez), the department chief and Mark's best work pal; Irving B. (John Turturro), a soulful, courtly figure and a stickler for company policy; and Dylan G. (Zach Cherry), a wisecracking pragmatist who is competitive about earning the corporate perks that Lumon doles out. "Being refiner of the quarter gets you a waffle party," he explains. (Cherry is as delightful here as he was in the second season of "Succession," in which he played a Waystar Royco trainee, in a not dissimilar role.) For the most part, these innies seem untroubled by their split existence. "I like to imagine my outie's love-made with a MILF or two, which is obviously bad-ass, but I do pity the husbands," Dylan tells his colleagues. Atop their desks, they each keep a framed group photo of the department.

But not all is hunky-dory. One day, Mark arrives at work to discover that Petey has disappeared. In his absence, Mark is tasked with training a newly severed employee, Helly R. (Britt Lower). Helly's innie struggles to adjust to her reality; she simply can't believe that her outie would elect to be severed. She makes numerous attempts to quit her job, even though her colleagues warn her that doing so would be tantamount to death: should Helly leave Lumon, her innie would cease to exist. As it turns out, Helly's innie doesn't have much choice in the matter; despite her best efforts, she cannot get her outie to accept her resignation, and I couldn't take my eyes off Lower, who is excellent in portraying her character's increasingly desperate resistance.

"Severance" is a visually gorgeous show. The look of Lumon HQ is mid-century brutalism meets Apple: endless,

Adam Scott plays an office worker with a split consciousness.

ILLUSTRATION BY XIAO HUA YANG

spotless hallways and clean angles, all figured in shades of white and gray and blue and green. The hypercontrolled aesthetics—Helly's pencil skirts, the company's space-age décor—suggest an environment on the verge of upheaval, its smooth surfaces thrumming with the strain of repression. Easy-listening tunes score the scenes, but nothing at Lumon is truly easy. There is, for one, Ms. Cobel (Patricia Arquette), Mark's silver-haired boss, a thrashing and threatening presence. Like the other senior employees at Lumon, Cobel is not severed; in an early twist, she is also revealed to be Mark's nosy next-door neighbor, the seemingly innocent Mrs. Selvig. Cobel is cultishly devoted to the teachings of Lumon's mysterious founder, Kier Eagan—a kind of nineteenth-century L. Ron Hubbard—whose koans the employees are trained to accept as gospel. She is the overtly punishing counterpart to Lumon's more covertly disciplinary protocol. "Your friends are gonna suffer!" she hisses at a mutinous Helly, in one especially chilling moment. (Arquette pours it on a bit thick in the role, but it's hard not to be spooked.) When employees misbehave, she sends them to a place called the break room, where they are made to ask for forgiveness, again and again, as a polygraph-like machine tests their sincerity.

The world of "Severance" put me in mind of a slew of cultural precursors: the endless surveillance of George Orwell's "1984," the deadening sameness of office life in Billy Wilder's "The Apartment," the lambs-to-slaughter march of factory laborers in Fritz Lang's "Metropolis," the despair of Harold Pinter's "The Dumb Waiter." But the show, at its core, is a mystery—a piquant riddle for Mark and the viewers to solve. What is the purpose of the department that Mark and Helly stumble upon in the basement, which is full of baby goats? Does it have anything to do with the watering cans that are inexplicably produced at the department of Optics and Design, headed by the elegant Burt G. (Christopher Walken)? Burt, who is also severed, becomes Irving's love interest, despite the company's attempts to separate them, and this raises another question: why is Lumon so desperate to keep its various departments isolated?

More important, what business is Lumon in, anyway? One benefit of the severance process is that employers can presumably trust their workers with confidential information, but the employees of M.D.R. are kept in the dark. All day, they sort out a grid of numbers that float on their monitor screens, but they have no idea what the numbers represent, or what purpose their work serves. ("What if the goats are the numbers?" Helly asks.) This is a question of plot, but it is also an ethical query with contemporary implications. Outside the office, Mark is sought out by Petey, who explains that he fled Lumon in order to try to reverse his severance. "What if . . . you're murdering people eight hours a day and don't know it?" Petey asks. "Am I?" Mark wonders, recalling the plight of so many of us whose labor, as well as our leisure, is alienated from its potential moral cost. The fact that "Severance" streams on Apple, and that its aesthetic is pointedly Jobsian, is a relevant irony. We love our iPhones, but we'd rather not think about what it takes to make them.

Ben Stiller, who directed six of the show's nine episodes, is emerging as a preëminent television auteur. In 2018, he directed "Escape at Dannemora," a Showtime miniseries about a prison break, which, much like "Severance," with its downbeat pacing, long silences, and drab, monochromatic palette, showcased his ability to confidently take his time when telling a story. Thematically, too, both shows investigate the notion of freedom in environments suffused with power, brute or soft. In "Severance," the employees of M.D.R. come across a contraband copy of a self-help book, "The You You Are," which informs their growing anti-Lumon consciousness. "Your so-called boss may own the clock that taunts you from the wall, but, my friends, the hour is yours," Mark reads aloud to the group. "Page 197 slaps," Dylan responds. What none of these innies know is that the book's author is Mark's brother-in-law, Ricken (Michael Chernus), a wannabe guru who, although mostly harmless, is also self-serving and buffoonish. "Our job is to taste free air," Mark reads from the book, but the outside world, although not as Gulag-like as the severance floor, is still thick with faulty ideology.

Ricken's book sparks a revolt, and the M.D.R. employees begin to rebel, first in small ways, such as exploring Lumon's labyrinthine basement, and later by devising a plan to wake up their innies while out in the world. But although "Severance" focusses on a group of workers becoming radicalized, it would be a stretch to characterize the show itself as radical: the central characters, as far as we can tell, have chosen to undergo the severance procedure for personal reasons, rather than out of a need to make ends meet. As we learn in the finale—spoilers ahead—Helly's outie is a Lumon heiress who agreed to be severed in order to help the family business; her goal is to assuage the public's doubts about the procedure. When her innie wakes up outside the office, she finds herself at a Lumon gala, where she sees a promotional video in which her outie sings the praises of severance. "I took a severed job because it sounds freaking awesome," she says in the clip. "I don't think severance divides us. I think it brings us together."

This is clearly P.R. speak, but Helly's outie isn't entirely wrong. Under the pressure of severance, she and her fellow-employees form genuine bonds, and I found the most affecting moments in the show to be those in which solidarity trumps self-interest: Irving's hand secretly touching Burt's; Helly and Mark's cautiously developing closeness; Dylan volunteering, at his own peril, to stay behind at Lumon in order to trigger the mechanism that wakes the other innies up. "Severance" is political in spite of itself—the employees' dawning realization of their mutual oppression makes them accidental proletariat. And yet it is almost impossible to watch the show and not think of real-life parallels to the situation at Lumon. Three days after workers at an Amazon fulfillment center in Staten Island became the first at the company to successfully unionize, the Intercept reported that Amazon had been developing an internal messaging app for its employees that would block certain words—among them "union," "slave labor," and "pay raise"—in what the article described as an effort to enhance "happiness" and "productivity" among workers. "As Kier said," Irving reminds his colleagues, " 'Be ever merry.'" ♦

THE CURRENT CINEMA

MEN ON A MISSION

"The Duke" and "The Northman."

BY ANTHONY LANE

The British film director Roger Michell died last year. His death was sudden and premature: he was only sixty-five. By all accounts a kindly soul, full of wise counsel, he has been much mourned; according to Kate Winslet, who worked with him on "Blackbird" (2019), he was "the master of no fuss." "The Duke," one of his most genial features, turned out to be his last. Nobody who saw it, as I did, at a festival in the fall of 2020 imagined that it would be kept from public view for so long by the global pandemic, still less that, by a cheerless irony, Michell would not live to see "The Duke" released. Now, at last, it's here.

Jim Broadbent and Helen Mirren star in Roger Michell's film.

Despite the title, this is not a costume drama, set in the loftier reaches of the aristocracy. Most of the story, until we arrive at the final stretch, takes place in Newcastle upon Tyne, in northeast England, in 1961. Here, in an ill-lit house, dwells Kempton Bunton (Jim Broadbent). What lord could boast a name more sonorous? Kempton is a working-class hero, or, at any rate, he would be if he could hold down a job. He is fired from a local taxi firm, in part for being constitutionally unable to leave his passengers in peace, and then from a bakery, for defending an Asian colleague from a racist superior. In his spare time, of which there is plenty, Kempton writes plays and dispatches them, in vain, to the BBC. He also takes a stand (sometimes sitting down in the rain) against the license fee that all television viewers, including pensioners, must pay. Kempton himself refuses to buy a license, and is sent to prison for his pains. In short, he is so bristling with principles that his wife, Dorothy (Helen Mirren), is in despair. When he invokes "the greater good of mankind," she retorts, "Mankind? What about your own kind?" Charity stops at home.

Enter the duke. The Duke of Wellington, that is, whose portrait, by Goya, has recently been acquired by the National Gallery, for a sizable sum that Bunton believes should have been spent on more honorable causes. Thus, a plan is hatched. Bunton goes to London. The painting—"It's not very good, is it?" he says—is stolen overnight, smuggled to Newcastle, and stashed in a wardrobe. Ransom notes are sent to the authorities, who announce that the theft was clearly carried out by a "trained commando," on the orders of an "international criminal gang." In fact, the only other person involved is one of the Buntons' sons, Jackie (Fionn Whitehead), and what he and his father dread most is not the heavy hand of the law but the thought that Dorothy might find out. Which, of course, she does. Bunton returns the picture to the gallery, explaining that he had merely borrowed it. He is arrested, charged, and put on trial. The nation, whose love of an underdog is stronger by far than its taste for nineteenth-century Spanish art, awaits.

"The Duke" is as funny and as implausible as Michell's "Notting Hill" (1999), the slight difference being that the ludicrous events in the new film happen to be true. There really was a Kempton Bunton, and he was indeed tried, in a tumult of publicity, for pinching the Goya. A satisfying courtroom scene is rarer than you might suppose, and the one that forms the climax of "The Duke" has a comic concision denied to the drawn-out shenanigans of, say, "The Trial of the Chicago 7" (2020). There's something other than swiftness, though, to Michell's method. He and his screenwriters, Richard Bean and Clive Coleman, are tapping into the kinship—explored by Dickens, and then by Gilbert and Sullivan—between legal and theatrical practice.

Exhibit A: Jeremy Hutchinson, the barrister who defends Kempton (and who was married, as the movie reminds us, to the great Shakespearean actress Dame Peggy Ashcroft). He is played by Matthew Goode, an actor whose sleek demeanor can seem like a protective shell. Here, however, that very suavity becomes a weapon, gracefully wielded in tandem with his client's cussedness. When Hutchinson sits down, having made his final pitch to the jury, the prosecutor—his opposite number—looks across at him and smiles, as if to say, "Beautifully done, you bastard." If this is Goode's best performance to date, it's because he conveys the conscious delight with which his character, bewigged and robed, is performing a starring role.

Like Hutchinson, Kempton rises to

ILLUSTRATION BY ILYA MILSTEIN

the rhetorical occasion, flush with the pride of the autodidact. "I'd just finished reading Joseph Conrad's 'Heart of Darkness' and I felt a need to explore Sunderland," he tells the court. Alternately beaming and doleful, his face is that of a Mr. Punch who, in his own mind, has taken more blows from the world than he has dealt. In other words, we are squarely in Broadbent territory, where the stubborn abuts the crumpled, and it's hard to conceive of anyone else in the part of Kempton. The result can be relished as a companion piece to Michell's "Le Week-End" (2013), in which Broadbent portrayed a man less plumped-up with confidence, yet equally stuck in a stalled marriage.

On second viewing, "The Duke" loses some of its capering gusto and takes on a surprising hue of sadness. I hadn't realized, at first, how often we hear about the Buntons' teen-age daughter, who died in an accident, and how much genuine grievance lurks in Dorothy's defeated air. The film confirms that one of Michell's enduring themes was exasperation—an unglamorous emotion, familiar to us all but, unlike rage, seldom given its cinematic due. Hence, perhaps, his interest in autumnal characters; facing and fearing a wintry future, they take stock of what they have done thus far, or frustratingly failed to do. Look at Kempton, grabbing a spot in the limelight before it's too late; at the widow in "The Mother" (2003), who asks out loud, "Why shouldn't I be difficult?," and takes a younger lover; and, above all, at the peppery Peter O'Toole, in "Venus" (2006), slapping himself three times on the cheek and growling, "Come on, old man!" What a harvest of old men and women Roger Michell might have brought to the screen, as he ripened with age. Now we shall never know.

Blood, mud, iron, fire, decapitated horses, and more blood: such are the main components of "The Northman," a new movie from Robert Eggers. It's a gutsy piece of work, not only in the reach of its ambition but also in its willingness to show us actual guts. We are in the era of the Vikings, one of whom is our hero. He is a man—or, rather, as somebody says, "a beast, cloaked in manflesh"—called Amleth (Alexander Skarsgård), who gets to pillage a village, roaring and baying as he glories in the rout, and thinks nothing of using his brow as a battering ram to crush the head of his foe. I couldn't help wondering what Kempton Bunton would make of him. "Steady on, son," he'd say, laying a friendly hand on Amleth's shoulder. "How about a nice cup of tea?"

As a boy, Amleth sees his father, King Aurvandil (Ethan Hawke), slain by the foul-hearted Fjölnir (Claes Bang), who is Amleth's uncle. Just to compound the transgression, Fjölnir carries off the dead man's widow, Queen Gudrún (Nicole Kidman), and marries her. Amleth's mission, should he choose to accept it, is to avenge this treachery. In short, as his name suggests, he is the ur-Hamlet, though not in every particular; I doubt that he was ever a freshman at Wittenberg, for instance, though he might have enjoyed the hazing. In an unprincely twist, Amleth *becomes* a rogue and peasant slave, like Maximus in "Gladiator" (2000)—biding his time, and awaiting a grand stage on which to deal the fateful blow.

The biding is a problem for "The Northman." Amleth comes upon Fjölnir, his target, less than halfway through the film, and you think, Now might he do it pat. One swing of an axe and his retribution would be complete. Instead, we have an hour's delay, or more, in which Amleth—whose mind, if he has one, is never going to be wracked with the footling indecisions that hamper Hamlet—embarks on an earthy dalliance with Olga (Anya Taylor-Joy), a fellow-slave, and plays a game of what appears to be homicidal Quidditch.

"The Northman" is at once overwhelming and curiously uninvolving. It lacks the momentum of Eggers's "The Witch" (2015), which was set among Puritan settlers in New England. You felt the shudders of their spiritual dread, as it drove the story onward, whereas the mystical visions that punctuate the new movie—a floating tree, say, hung with bodies—tend to slow the action down. Yet the period detail is unstinting; scholars of Old Norse who were unconvinced by Tony Curtis's miniskirt, banded with chevrons, in "The Vikings" (1958), will be reassured by Eggers's dedication. And, to be fair, few directors can draw with such zeal from the deep well of the uncanny. We see a proud king abase himself, on all fours, to lap from a bowl of gore; an unkindness of ravens, kindly pecking the captive Amleth free from the ropes that bind him; and, at the climax, two naked warriors scything each other with swords beside rivers of flaming lava. Do you find this world of brainless savagery so distant from our own as to be beyond belief? Try watching the news. ♦

NEWYORKER.COM
Richard Brody blogs about movies.

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CARTOON CAPTION CONTEST

Each week, we provide a cartoon in need of a caption. You, the reader, submit a caption, we choose three finalists, and you vote for your favorite. Caption submissions for this week's cartoon, by Tom Toro, must be received by Sunday, May 1st. The finalists in the April 11th contest appear below. We will announce the winner, and the finalists in this week's contest, in the May 16th issue. Anyone age thirteen or older can enter or vote. To do so, and to read the complete rules, visit contest.newyorker.com.

THIS WEEK'S CONTEST

" "

THE FINALISTS

"Don't worry, you'll be running in no time."
Tony Bittner, McMurray, Pa.

"That's gonna cost you an arm and a leg."
Susan Gale Wickes, Richmond, Ind.

"Good news—your car troubles are over."
Steve Korba, Jeffersonville, N.Y.

THE WINNING CAPTION

"Turns out they only check to see if you return the shoes."
Jonathan Carter, Fredericksburg, Va.

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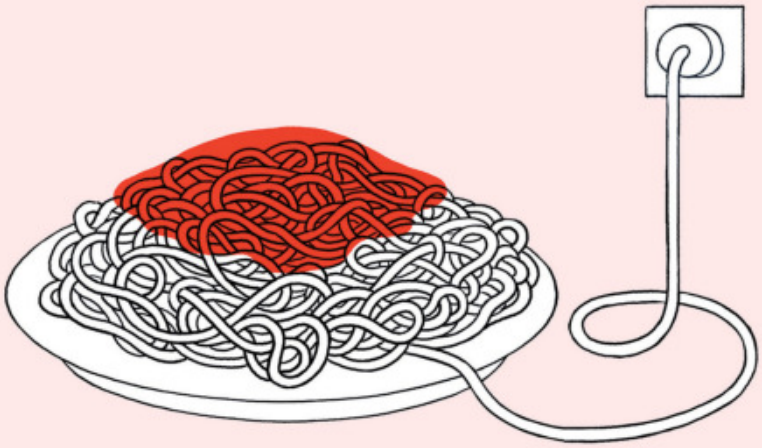

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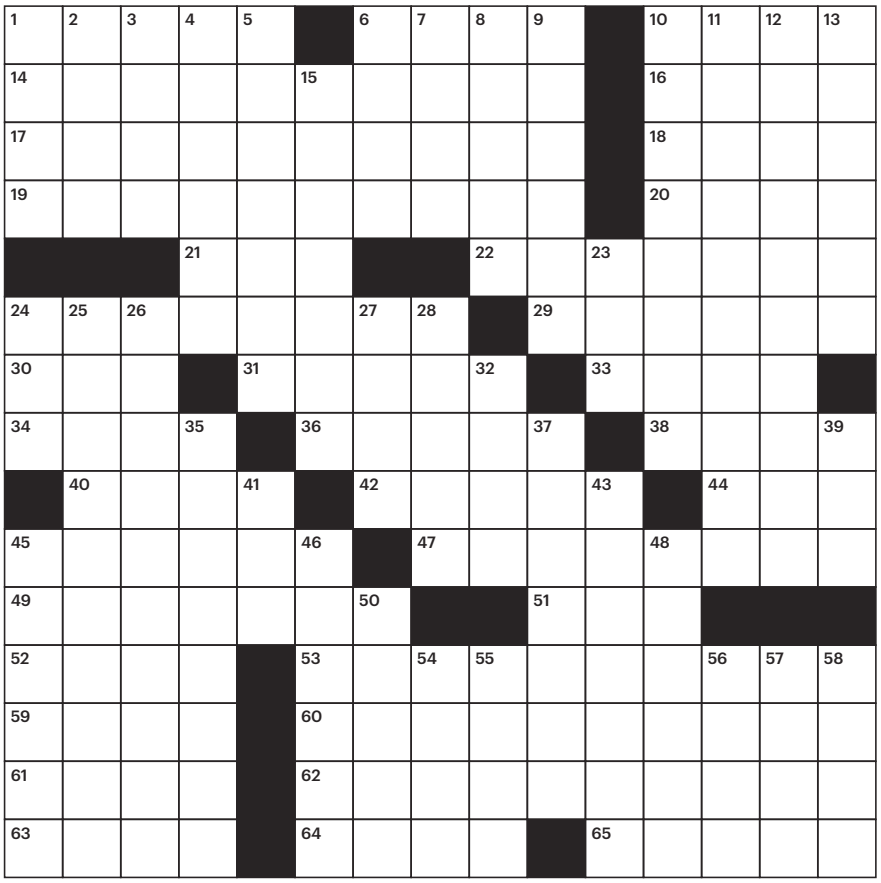
PUZZLES & GAMES DEPT.

THE CROSSWORD

A lightly challenging puzzle.

BY PATRICK BERRY



ACROSS

1 Site of an 1836 battle
6 Ming-dynasty antique
10 Come up with
14 Reward for getting a new credit card, perhaps
16 Car-collecting comedian
17 "Quit it!"
18 Person to emulate
19 Joint where you might buy a round?
20 "Dibs!"
21 Moreover
22 Colorful Navajo creations
24 Unlikely fan of white zinfandel
29 Plot drivers in some farces
30 Lovelace with a namesake programming language
31 Animated character who exclaims, "By the power of Grayskull!"
33 Pakistani living abroad, e.g.
34 Hard row to hoe
36 Longtime Toyota hatchback
38 ___ Scott v. Sandford (1857 decision widely regarded as one of the worst in the history of the Supreme Court)
40 Birds that hatch from dark-green eggs
42 Discovery in an ancient shrine
44 Dashboard light that signals fuel-efficient driving
45 Periods of service
47 Ability to react quickly
49 Chewed noisily
51 Work of art that can't be resold, in brief
52 Stellar animal?
53 Big business meetings
59 Disclosure from an inside source
60 Green thing on a roof?
61 Water-skiing venue
62 How busy honorees might receive their awards
63 Take the lead?
64 Noun-forming suffix
65 For-profit university since 1931

DOWN

1 Basic knowledge
2 Boor
3 Pot addition
4 Change at the genetic level
5 Wisconsin town once dubbed the Sawdust Capital of the World for its lumber industry
6 ___ Corleone (Oscar-winning role for Marlon Brando)
7 Multigenerational baseball surname
8 Geisel's nom de plume
9 Respect
10 Hit a dramatic high
11 Play that ends with the hero blinding himself
12 Unharmed, so to speak
13 To boot
15 "Frasier" actor John
23 Unburden
24 "As I ___ saying . . ."
25 Warning that's safe to ignore
26 Tennis player who wrote the 2021 *Time* article "It's O.K. to Not Be O.K."
27 Reggaetón musician Don
28 Less fully stocked, as shelves
32 "The lifeblood of Egypt"
35 Browning or Colt, e.g.
37 Hand-cranked kitchen gadgets
39 MS-___ (early PC platform)
41 Brand once owned by the Studebaker Corporation
43 Held tightly
45 Boats with two oars per rower
46 Becomes established
48 Gas with the chemical formula C_2H_6
50 Flying alternative to a Technocrane
54 "Would that it were so!"
55 Paint quantities on a palette
56 How many watch the Olympics
57 "Dead Poets Society" director Peter
58 Vanquish, as a dragon

Solution to the previous puzzle:

H	O	T	M	I	C				P	L	A	N	B	S
A	K	E	R	M	A	N		P	E	A	C	O	A	T
S	E	X	T	A	P	E		E	N	G	A	R	D	E
P	E	T		C	O	U	P	O	N	S		M	B	A
	F	E	R		S	T	I	N	E		B	A	U	M
	E	D	I	T		R	N	S		C	A	R	N	E
			B	R	O	O	K		P	O	L	A	N	D
	U	N	C	A	N	N	Y	V	A	L	L	E	Y	
S	N	E	A	D	S		R	A	T	I	O			
O	F	A	G	E		P	I	C		N	O	U	N	
M	O	R	E		P	I	N	U	P		N	R	A	
M	L	S		L	A	N	G	U	O	R		B	T	S
E	L	I	D	I	N	G		M	W	A	H	A	H	A
R	O	D	E	N	T	S		S	E	M	I	N	A	R
S	W	E	A	T	S				R	I	P	E	N	S

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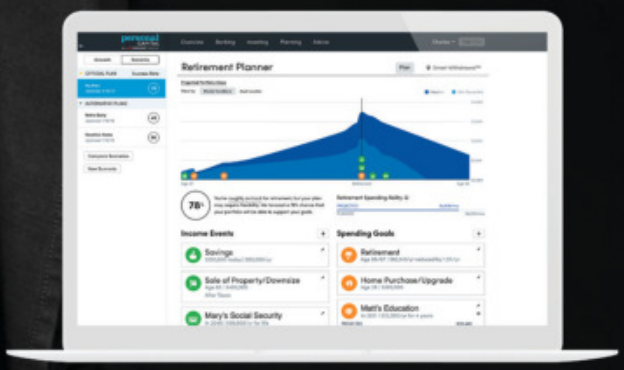

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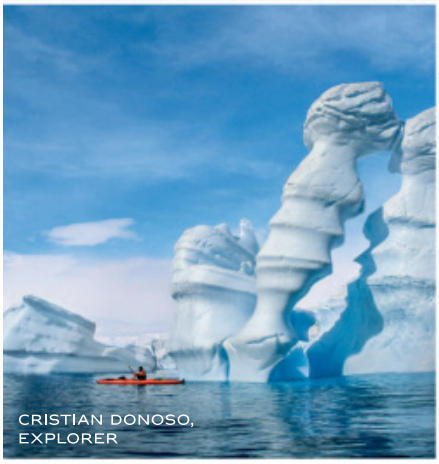
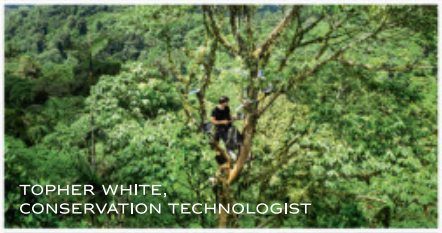
NATIONAL GEOGRAPHIC AND ROLEX PERPETUAL PLANET TUPUNGATO VOLCANO EXPEDITION TEAM

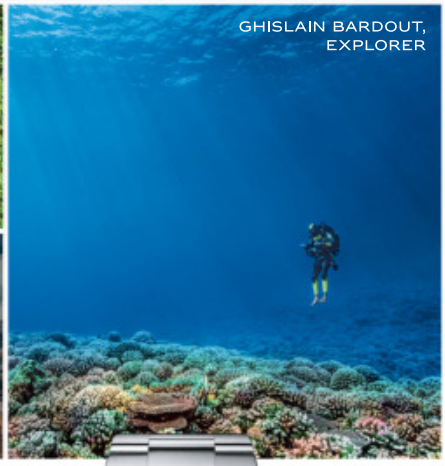


CRISTIAN DONOSO, EXPLORER



TOPHER WHITE, CONSERVATION TECHNOLOGIST

FRANCESCO SAURO, EXPLORER



GHISLAIN BARDOUT, EXPLORER

WHAT DO THEY SEEK?

Explorers, adventurers, scientists. Men and women who always broadened the horizons, for all humankind to share. Rolex was at their side when they reached the deepest point in the oceans, the highest summits of the Earth, the deepest jungles and both poles. But now that we know, more than ever, that our world has its limits, why do they continue to venture out there, again and again? Certainly not for kudos, accolades, or an ephemeral record. What they truly seek is to understand more intimately how complex and delicate our planet is, to document its change and how together, we can affect it for the better. So as long as they need it, we will be at their side. Because today, the real discovery is not so much about finding new lands. It's about looking with new eyes at the marvels of our planet, rekindling our sense of wonder, and acting to preserve our pale blue dot in the universe… **Doing our very best for a Perpetual Planet.**

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