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The AMERICAN
SCHOLAR

SPRING 2020 / \$9.95

PUBLISHED BY PHI BETA KAPPA

The Long
Arctic Night

NEIL SHEA

Starvation
Looks Like This

ANNIE DILLARD

Will Robots Ever Think?

THE ANSWER
IS NO, AND
HERE'S WHY
MARK HALPERN



A MAGAZINE OF THE SOUTH

WINTER 2019

OXFORD AMERICAN

SOUTHERN MUSIC ISSUE VOL. 21

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— “The Uncertainty Principle,” Cristopher Moore and John Kaag, p. 32

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EDITOR'S NOTE

Autonomies

WOULD SOMEBODY PLEASE explain to me how the dutiful 0s and 1s of computer processes at some point unbind themselves and undertake independent thought? Could anyone describe the actual instant of transition? I've been asking these questions around the office for the last little while. Might we find a writer to explain, in terms that even I could understand, this moment when the warm breath of life turns a box of metal into Frankenstein's monster? One smart sciency friend of mine told me (rather dismissively, I thought) that it was all about algorithms. I'm sorry, but that doesn't take me very far.

Then several months ago there arrived unbidden an article that reinforced my doubts about computer autonomy in terms that I could not have expressed but could follow. The piece was written by a fellow who had, in these very pages almost two decades ago, made a similarly iconoclastic argument about language. "There is only one thing everyone knows about language," that article began, "—that it's a living growing thing—so it seems particularly unfortunate that the notion should be false." The writer, Mark Halpern, was described at the time as having written a book about computer programming, which lent some comfort to me in my decision to make his new piece on the limitations of computers the cover story in this issue.

Halpern's argument is that the

computer is and always will be a tool, like a hammer, its intrinsic simplicity disguised by the increasingly astonishing things it can do at speeds well beyond our comprehension. But speed and complexity are not thought, and certainly not independent thought. When computers escape

our literal desktops and our smartphones and become robots or drones, they have not escaped their definitional boundaries. Halpern attributes our notion that robots can or soon will be able to act on their own to the Isaac Asimov factor, to science fiction. This matters, he points out, because evidence exists that people making serious decisions in government and the military have bought into the notion that computers are about to become autonomous.

A counter to Halpern's argument asserts that computer programming has become so complicated, so deeply multilayered, that even if computers can do only what we tell them to do, we have lost control of them because we cannot follow all the implications of our instructions. And so the bonds of our control have been broken. Which perhaps reduces this to a semantic argument. But I think not. As Halpern wrote in that earlier piece, "greater clarity, coherence, and honesty" are "always the result when a process swathed in mystery is brought into the light, and we begin to understand and take responsibility for our own actions."

—ROBERT WILSON

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LETTERS

A Matter of Life and Death

Lincoln Caplan's "This Man Should Not Be Executed" (Winter 2020) is one of the best long-form articles that I have read in many years. It's left me stunned and heartbroken. I ardently hope that Billy Joe Wardlow's lawyers can use this piece to save him from execution. I find myself deeply curious about what forces in prison/solitary confinement/death row have facilitated Wardlow's maturation. How remarkable that he has matured into a kind of therapist for other inmates on death row.

How tragic—and what a miscarriage of justice and humanity—if he is put to death in April.

LAWRENCE LEVENSON
New Haven, Connecticut

I am nearly 81 years old and an immigrant from postwar England. After 25 years, I became a citizen of the United States without giving up my allegiance to my homeland and family still residing there, thanks to the Religious Society of Friends. The subject of the death penalty did not confront me until I discovered that the United States had retained it, whereas in Britain it had been abolished in 1965 by an act of Parliament. Reading Wardlow's story reminded me of the time when I wanted to actively help enact this necessary reform in this country, just as other Quakers seek to improve

the lives of prisoners in the spirit of restorative justice. The necessities of family life prevented me from making a further commitment, but this article has moved me to make a last-ditch effort not only to prevent this outrageous execution from taking place but to help ensure that this country is rid of the death penalty. Like slavery and torture, the death penalty is an abomination that shames civilization in the 21st century.

MELISSA PEROT
Sunderland, Massachusetts

To answer the question on your cover, certainly Wardlow deserves to die—he's a murderer. But that's not the right question to ask. The right question is whether we have any business killing Wardlow, or any other "deserving" criminal, for that matter. The death penalty is tremendously wasteful of resources, prolongs the suffering of victims' families for decades, and carries the horrifying possibility of irreversible error.

MARK S. ANDERSON
Park Ridge, Illinois

Of all the convicts Caplan could've written about, he chose a 6'4" 200-pound white man who was legally an adult in most countries when he robbed and shot—execution style, as Wardlow himself described it—a short, frail senior citizen. Most people don't commit murder after an abusive childhood.



THE AMERICAN SCHOLAR® is published quarterly for a general readership by the Phi Beta Kappa Society, 1606 New Hampshire Avenue, N.W., Washington, D.C. 20009; phone: (202) 265-3808; scholar@pbk.org. To subscribe or to order single copies, call (800) 821-4567 or visit theamericanscholar.org. Subscription rates: for individuals, \$29 one year, \$55 two years; for institutions, \$30 one year, \$58 two years. For Canadian subscriptions, add \$10 a year for postage; for other international subscriptions, add \$25 a year for postage. Single copies, \$9 (Canada, \$12; other international, \$15). Newsstand distribution through Disticor Magazine Distribution Services. For information: Dawn Cresser (dcresser@disticor.com); phone (516) 837-0832; fax (516) 825-8290. For advertising contact: Steven Anderson, sanderson@theamericanscholar.org, (202) 745-3247. Printed in U.S.A. Copyright ©2020 by the Phi Beta Kappa Society. ISSN 0003-0937. Periodical postage paid at Washington, DC, and at additional mailing offices. Postmaster: Send address changes to: THE AMERICAN SCHOLAR, P.O. Box 8511, Big Sandy, TX 75755-8511. Opinions expressed in this magazine are not necessarily those of the Phi Beta Kappa Society. To raise additional revenues, we may make our mailing list available to select organizations. If you don't want your name included, contact: THE AMERICAN SCHOLAR, P.O. Box 8511, Big Sandy, TX 75755-8511.

This man did. Some people turn themselves in after committing murder. This man did not. And regarding the non sequitur about Wardlow’s brain being “unformed” at 18: humans have neuroplasticity up to age 25.

“LEOPARDLILY”
from our website

I’ve read a ton about the death penalty, but very few things have moved me the way this piece did. Kudos to Caplan for bringing Billy Joe Wardlow’s case the attention it deserves, both on its own merits and for how it highlights so many of the pathologies of the American death penalty.

CAROL STEIKER
Cambridge, Massachusetts

so much about the author but also describes what it’s like being a young woman and having *any* adult take you seriously and listen to your ideas for the first time. The moments McCarthy calls forth are so vivid in detail, I can smell that Scotch and the burn following its traces down to my stomach.

VIRGINIA BALL
from our website

“Norman Maclean and Me” is a terrific narrative essay. I will make sure to have my composition students at Georgia State University read it next semester.

“REDWEATHER”
from our website

A River (of Scotch)
Runs Through It

Rebecca McCarthy’s beautifully written “Norman Maclean and Me” (Books Essay) captures

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Thank you, friends!

THE AMERICAN SCHOLAR thanks the following people for their financial support in 2019.

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Letter from
THE BARENTS SEA

Land of Perpetual Night

NEIL SHEA

IN LATE NOVEMBER LAST YEAR, I traveled to the Norwegian port city of Tromsø and boarded a northbound icebreaker called the KV *Svalbard*. The ship belonged to the *kystvakt*, the coast guard, and it was stout and gray with a steep bow for plowing into sea ice and a thick round bottom for crushing it. In the long blue twilight, sailors pulled supplies aboard and welcomed passengers, while below in the mess, cooks prepared salmon fillets and sang along to MC Hammer and Metallica. Many of the young crew members were conscripts, fulfilling their national service, and here and there they stood outside in the cold, smoking and soaking up cell phone signals before we sailed beyond reach.

In Old Norse, the language of the Vikings, the word *svalbard* could mean “the cold coast” or “a cold edge,” and either sense—geographical, metaphorical—worked to describe the coming journey: a tour of isolated outposts in Norway’s vast Arctic waters. First, northeast between the nation’s rugged outlying islands, past the town of Hammerfest and over the pipelines that crowd

Neil Shea, a contributing editor of the SCHOLAR, writes for *National Geographic* magazine. Recently, he has written on the militarization of the Arctic and spent several weeks living with Arctic wolves on Canada’s Ellesmere Island.

*As we traveled northward,
the twilight diminished,
the sky grew darker, until
finally our ship crossed
into polar night.*

the sea floor there, arteries carrying gas from distant drilling platforms. Then into the open water of the Barents Sea, where we would visit lonely weather stations on the islands of Bjørnøya and Hopen before finally turning toward the ship’s namesake, the Svalbard archipelago, home to the northernmost settlement in the world.

The Barents Sea at that time of year was mostly empty, trafficked only by big trawlers scooping up their last hauls of cod, wolffish, and haddock, or military ships eavesdropping before the weather grew too rough and the sea began to freeze. By then the sun had also set and would not rise above the horizon again for weeks or, farther north, months. In Tromsø, the sky brightened for a few hours each day and then stepped down into darkness through a range of blues unknown in lower latitudes. The twilight, as we traveled northward, would diminish, the sky grow darker, until finally our ship crossed into polar night.

All this created a feeling of looming closure. Of time, light, and traffic winding down even while space—the vastness of the Arctic itself—seemed to expand all around us. This was half of what I’d come for. My work for more than a year had focused on the Arctic. I had interviewed plenty of experts and traveled to other parts of

the North in search of the destructive effects of climate change. But Arctic darkness was something that warming could not destroy.

Hours later and many miles farther north, I stood on the blacked-out bridge of the *Svalbard*, staring into the kind of disruptive dark I'd previously known only underground. I could hear the voices of coast guard officers. I could *feel* in my feet the boat's roll. To the east and west, I knew there were snow-covered islands that in photographs appeared rugged and tersely beautiful. And yet this knowledge did not help. My brain rebelled, as it has done in deep caves, against the bear hug of Arctic night.

I felt my eyes straining, wide open. I was thrilled in the dark, but I also felt a primal longing for light, for a flare or star, something to mark our passage and let me know we were actually moving.

When it finally appeared, the light was beautiful, disorienting, a spray of golden globes somewhere to the east, piled up between black water and black sky like a fallen constellation. As we sailed closer, the chaos resolved into a strange geometry. It was not a boat, or a house, or even an oil platform. I asked the *Svalbard's* executive officer, who sat beside me, commanding the watch. He was silent for a moment, recalling English words.

"Fish farm," he said. "Those are cages."

"What kind of fish?"

"Salmon. Hundreds of them. Swimming in the same direction day after day after day." His hand turned circles in the air, silhouetted in the faint glow of a computer. "You know, the fillets you get at the market."

Yes. Sealed in plastic, priced per ounce, a little pink dye added to the flesh. In the darkness I could see them perfectly.

.....

IN 2010, AFTER 40 YEARS of argument and negotiation, Russia and Norway agreed to split the Barents Sea roughly in half. Some critics said Norway got less than it gave away, but the deal was generally described as a breakthrough, some observers

taking it as proof that Russia could play nice in the North. Behind the agreement, though, was an understanding that the Arctic was melting, and both nations were eager to sort through the slush. This was the other reason I'd come: to travel along one of the Arctic's freshest borders, and try to gauge how the neighbors were getting along.

Since the late 1970s, the Arctic has lost an average of 21,000 square miles of sea ice each year, according to scientists at NASA. Put another way, if you were to imagine sea ice as a territory the size of the United States, then Alaska and the Pacific Coast would have melted away, along with Idaho, Nevada, Arizona, Utah, and most of Montana. The scale of loss is astonishing, and the negative trend continues. One researcher told me that to understand it, I had to think in unprecedented terms: "There's a new ocean opening up before us in real time," he said. "That hasn't happened before."

The new ocean brings potentially catastrophic environmental consequences. But ice-free waters also offer business opportunities in oil and gas drilling, fishing, and shipping—a kind of disaster dividend that many nations and private enterprises hope to exploit. Among them, Russia and Norway have been the most proactive, investing billions in pipelines and platforms, Arctic-ready ships, and their militaries. Russia's military spending has been particularly robust, outstrip-





A crewman aboard the KV Svalbard makes one last phone call from Tromsø harbor before sailing beyond reach.



All of this has created a kind of frantic media cloud that seems to hang over the pole, swirling together news of climate change with stories describing how nations are scrambling after the few remaining slivers of Arctic pie. This great power competition is often seen as

ping every other Arctic nation with new bases, missile batteries, aircraft, and more.

a prelude to conflict. What I've found, though, is usually far less dramatic. Many experts—military, diplomatic, scientific—do not fear war starting in the Arctic: it's simply too cold. Too dark. Too expensive. There is common concern, however, that aggression in some other region—recent Russian actions in Ukraine, Syria, and Crimea, as well as the U.S. elections, were mentioned—could creep northward.

Aboard the *Svalbard*, officers (nearly always

officers) spoke of Russians genially, like odd but lovable neighbors who occasionally played their music too loud or set the yard on fire but who were at least entertaining. Some of this was Nordic optimism, planted in Arctic oil, gas, and fishing revenues that help make Norway the third richest country in Europe. But the attitude was also real-politik. Against the bear there is no defense, one officer told me: “We get along because we must.”

Still, older members of the crew pointed to the fishery we were at the moment sailing through. The Barents Sea, one of the richest in the world, is jointly managed by Russia and Norway in recognition of the reality that fish do not care about borders. Cod, the most lucrative species, begins its life in Russian waters and then swims to Norway, where it reaches adulthood. Ships from both nations are allowed to harvest each other’s waters, and both coast guards cooperate to keep fish schools and trawler crews in good shape.

Battling heavy winter swells, a coast guard crew delivers weather station personnel to the harbor at Bjørnøya.

Several experts I spoke with predicted such arrangements would become more frequent exactly because of

the Arctic’s vast distances, its physical dangers, and our comparatively shallow scientific understanding of the region. Some scientists said they even hoped for the new open waters to be governed by an international treaty, similar to the Treaty of Antarctica, which preserves the continent for research.

But that moment seems to have passed long ago: in late October 2018, NATO confirmed that no treaty was in the works by sending some 50,000

troops to Norway for a massive war game. The exercise was the largest of its kind since the collapse of the Soviet Union, involving 31 allies and a couple of observer states, all of them pretending Norway had

just been invaded by a foreign army. The imaginary adversary wasn’t named. No one doubted it was Russia.

NATO sent 50,000 troops to Norway for a massive war game. The adversary wasn’t named. No one doubted it was Russia.

AFTER DAYS OF RISING SWELLS, the icebreaker arrived off Bjørnøya at the western edge of the Barents Sea. On the map, the island was vaguely heart shaped, about 12 miles long and nine miles wide, dotted with lakes and small mountains, the tallest of which is called Misery. Invisible to us in the night were offshore columns of rock that rose from the sea like broken lighthouses, and the emerald sweep of plains above steep cliffs that sheltered enormous colonies of seabirds.

The island is home only to weather station staff and the occasional scientist. In summer, tourists cruising the Barents Sea on their way to Spitsbergen stop by for an hour or two. They strip down for a polar plunge, or visit the station’s gift shop and mail home cards stamped with its rare postmark. In winter, no one much visits.

It was easy to see why. In midmorning I stood on a middle deck and watched while a bright yellow boat was lowered over the gray side of the *Svalbard*, banging and shuddering in the waves. Aboard were weather station personnel dressed in orange survival suits, packed beside





A bunkhouse at the meteorological station in Bjørnøya, an island near the western edge of the Barents Sea

all the gear they'd need for a six-month stay on the island—duffel bags, cases of beer, a Christmas tree.

The sea heaved, all foam and black water, the swirl of nightmares. I tugged on a survival suit and boarded a second boat. Fifteen minutes later, I jumped onto a concrete dock where a little crowd stood waiting. It was the old station crew, men and women who were finishing their tour of duty on Bjørnøya and who'd eventually catch a lift back to civilization aboard the *Svalbard*. We stripped off our orange suits and mucked along a dirt road toward the station itself, a cluster of buildings on a headland skinned with old snow and ice.

I walked with Arild Lyssand, the outgoing station chief. He pointed out various buildings, warned me not to fall off the cliffs. But what I

most remember was the story of his previous life. For years he'd been a policeman on Spitsbergen, one of a handful of cops stationed at the end of the world. His work had taken him all over the Svalbard archipelago. He'd investigated polar bear attacks and murders, watched boatloads of German tourists sail into remote ice-curtained fjords and party to the sound of oompah bands.

I had imagined Lyssand as a kind of Norwegian Kurt Wallander, stalking through contrasty landscapes, haunted by what he'd seen men do in the Arctic darkness. But he hadn't much noir about him. He loved the archipelago's stark beauty, reveled in its emptiness, the way life below zero pared things down. Later, when we discussed a homicide in a remote Russian coal town called Barentsburg, he said it'd been relatively easy to solve.

"It's hard to get away with anything up here," he said. "Everybody knows what you're doing."

THE FIRST THING YOU NOTICE upon entering the Bjørnøya Meteorology Station is the rifle rack. Hard by the door, half a dozen high-powered weapons, loaded and ready. Like those I've seen in certain police stations, or on military bases in war zones, as though the Norwegians were waiting for a Russian invasion. Beyond the guns, a case displaying extraordinary eggs of birds that nest here—Brünnich's guillemots, common guillemots, auks, fulmars, gulls, puffins, terns. And then, through a doorway, a fine, wood-paneled living room lined with bookshelves—and a polar bear.

The bear was stretched across the wall, mouth open, fur gleaming in the lamplight. Lyssand told me it had been shot on the island five years before. Since polar bears are protected in Norway, and because Lyssand was a cop back then, he investigated the case and later made sure the

skin was returned to Bjørnøya. He and others thought it was appropriate, after all. *Bjørnøya* means "bear island."

Bears had for centuries been regular visitors during winter, when sea ice crept down and enclosed the island like a fist around a jewel. In 1971, a weather station crew member was killed by a bear. Shortly afterward, a new regulation required all personnel to carry rifles whenever they went outside.

That explained the rifle rack by the door, and the other weapons and flare pistols scattered throughout the station and its outbuildings. The station's doors were also left unlocked at all times—to accommodate someone fleeing in a bear-induced panic. Dogs had even been employed to help

An Alaskan husky named Laban, one of two dogs standing watch for polar bears outside Bjørnøya's weather station



guard the station crews, and outside, two Alaskan huskies, Yukon and Laban, were chained to neat Nordic doghouses. In theory they would bark at the approach of a bear; in reality, everyone thought they'd just hide.

By the time of my visit, though, the guns, flares, doors, and dogs had mostly outlasted their purpose. Polar bears are essentially marine animals; they spend their lives wandering sea ice, hunting other creatures that live along its edges. But climate change had so altered this quadrant that ice hadn't reached Bjørnøya for years, and no bears had been seen since 2011. (A few months after my visit, a station staffer told me that the thick ice finally returned, in March, bringing with it a solitary bear. The bear found its way to the station, she said, nosed around the buildings, and soon wandered back out to sea.)

.....

TO TRAVEL IN THE ARCTIC TODAY is to enter a perpetual vigil. Crossing the Circle, you are aware that you have come at an environmental cost, that you are privileged to be there, that the behavior of your own country is helping to melt this one. Every village, every shore, each encounter with an animal is heightened by the question of what will happen, what is happening, as new ocean appears and the Arctic is transformed.

Once, during my time on Bjørnøya, a friend who had just spent the summer working in the Canadian Arctic texted me and asked, "Is the Arctic still the Arctic when all the ice is gone?" It was the sort of thing he and I, as outsiders—southerners—could entertain without consequence. Human activity had long ago wholly transformed the landscapes on which we lived. Down south there was little left to mourn but our illusions. I wrote back to my friend and said that at least in the Arctic there would still be darkness.

On the final evening of my island visit, I went

for a walk along the shore with two station staffers, Alex and Tina. Both were about to return to Oslo after their half-year stay. Alex carried a rifle, Tina went unarmed. The huskies bounded along with us, slipping happily between our legs. In the moonlight, we could see just enough. The shore, the hills in the distance, all appeared like an old memory, blue and uncertain. Something

crunched underfoot. Walrus bones, Alex said. Walrus had at one time thrived here, but they were hunted out hundreds of years ago: another animal exiled from Bjørnøya.

Earlier, Alex had taken me into an old house on the station grounds. Radio crews had once lived there, in small rooms, huddled around small stoves, and now it had become a kind of museum. In the attic, artifacts were stored—old rifles, bits of a Nazi bomber that had crashed here, radios, whale bones, skis. In a corner under an eave lay the most unsettling object: a small rectangular frame made of driftwood, about the size of a rabbit hutch and set on driftwood legs.

Alex explained that this was a polar bear trap. Many years ago, hunters would position a sawed-off shotgun within the box, its trigger tied to a tripwire, which was fastened to a hunk of seal blubber. Inevitably a hungry bear would come along and tug at the blubber. Alex told me one or two traps still stood on the island. They were harmless now, he said. Broken by time and the elements, waiting for trophies that would never arrive.

I instantly hated the trap, but it also clarified things. Bjørnøya was like a stone dropped by a receding glacier and mired now in the warm mud of the Anthropocene. The island and most everything on it were relics of a larger, colder age. The true line of demarcation was not some border drawn between nations, but one that separated us from the Arctic of the past, and revealed how far things had come. ●

WORKS IN

A Beautiful Vision

When she was four years old, photographer **REBECCA GAAL** got her first pair of glasses. The

experience changed the way she thought about sight and the world around her. Through her

work with the Seva Foundation, Gaal documented doctors and patients at an eye hospital in India for her ongoing photo series “Finding Light in the Darkness.” She wants to focus



PROGRESS

on the women seeking treatment, since two-thirds of the world's people living with visual impairment are women and girls. —KATIE DANIELS

“ I’ve been fascinated with the idea of sight, vision, and interpretation since I was a child, and photography is how I explore these issues. My experience at the Center of Commu-

nity Ophthalmology at Sadguru Netra Chikitsalaya, a hospital in Chitrakoot, India, was overwhelming. It was mind-boggling to see the sheer numbers of patients and the surgeries taking place around the clock. But the hospital was really a work of art. Everyone took such pride in their work and enjoyed sharing the experience. The patients were so thankful. It was a beautiful thing to watch the relationships.

I was at the hospital during a patient outreach clinic—the doctors go to rural villages where people don’t have access to eye care or health care. The people who are screened and need further attention are then offered a bus ride to the hospital. This image was taken in the recovery ward. The patients are all allowed to stay a night or two to recuperate before being offered transportation back to their villages. Patients and family members are fed and offered clothing and other health services free of charge.

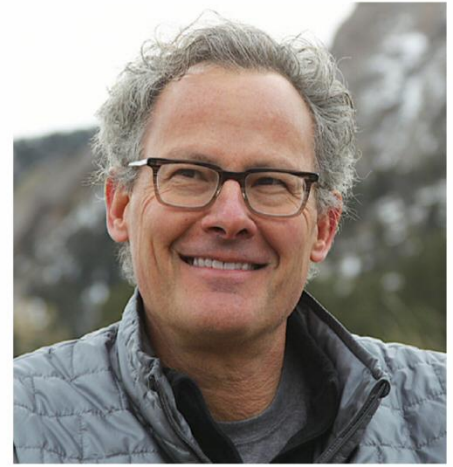
It was a bustling scene, and I loved the colors and the movement. For a crowded room, it was quite peaceful. It’s easy to focus on tragedies and negativity, but there are so many people doing so much good. ”



THE FUTURE OF ...

Our Heads in the Cloud

NICHOLAS CARR is the best-selling author of several books about technology and its consequences. A new, expanded edition of his 2010 book *The Shallows: What the Internet Is Doing to Our Brains*, a finalist for the Pulitzer Prize, will be published this spring. We asked him to pose four questions about how the Internet will affect our future.



..... 1

The way people use the Internet changed dramatically over the past decade as the smartphone became the personal computer of choice and social media became the main conduit for information of all sorts. Recent research confirms what most of us know from experience: our phones, with their constant updates and notifications, are mesmerizing. They keep us in a more or less permanent state of distraction. One 2017 study led by Adrian Ward, a cognitive psychologist at the University of Texas at Austin, showed that even when our phones are turned off, they maintain a grip

on our attention and weaken our mental acuity. People who had their switched-off phones in their pockets performed significantly worse on two standardized tests of intelligence than did those who left their phones in a different room. Will we learn, in the coming years, to use our phones and apps more thoughtfully and deliberately, or are we doomed to technological dependency and distraction?

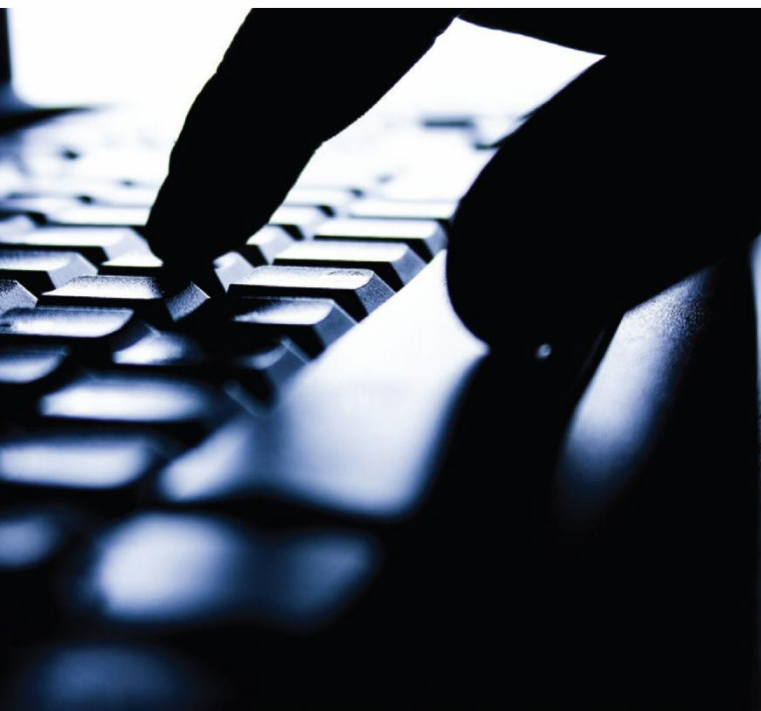
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Two years ago, news broke that Cambridge Analytica, a UK consulting firm, had extracted personal data from millions of Americans' Facebook accounts and secretly used the information to aim political ads at individuals. The report stirred outrage. A #DeleteFacebook hashtag went viral, and Facebook's stock price plummeted. One month later, however, Facebook announced that its membership had actually grown in the wake of the scandal, and the company's stock

market valuation rebounded to a new high. It's a pattern that repeats itself frequently: disclosure of an online privacy violation prompts a public outcry, which soon fizzles. Instead of curtailing our social media use, we ratchet it up, handing companies such as Facebook and Google ever more intimate information about our lives and habits. Will we ever care enough about online privacy to change our behavior in response to corporate trespasses?

..... 3

The huge volumes of data that circulate on the Internet are used for more than just advertising. They provide the raw material for a new generation of artificial intelligence programs. Using machine-learning algorithms, computers can discern subtle patterns in data and make predictions or other judgments about complex phenomena. Already, companies and governments are using such algorithms to make a raft of important decisions, from determining which news stories people see and selecting which would-be homebuyers get loans to choosing which prisoners



get parole. As the technology advances, more decisions that once required human insight will be made by machines. The potential benefits are many, but so are the risks. Where should we draw the line between decisions we hand off to computers and those we keep for ourselves?

4

As more and more control over the nation's financial, transport, and energy networks moves to "the cloud," the threat of a debilitating attack on critical national infrastructure through the Internet will escalate. We got a preview of the dark possibilities in the summer of 2017,

when the massive "NotPetya" cyberattack, allegedly launched by the Russian military, temporarily crippled the global shipping company Maersk and many other businesses. When will systems critical to the U.S. economy be targeted by a large-scale online assault, and will we be prepared?

NONFICTION EXCERPT

We've Got a Fight on Our Hands

JILL LEOVY is the author of *Ghettoside: A True Story of Murder in America*, which examined the reasons behind the high homicide rate among black Americans. The following passage is from her current project, a book tentatively titled *Haters*, about the role of petty conflict (and conflict resolution) in human history.

Big violence is a big topic. Small violence barely qualifies as a topic at all. War swims in seas of politics and history. Quarrels, fights, and feuds, on the other hand, are seen as mundane, trivial. Indeed, the word *petty* often attaches itself to this kind of conflict, as in petty infighting, petty disputes.

What I want to convince you of is this: the big lurks in the small. Tamping down arguments, the inevitable, tiresome fussing and fighting of daily life, is a problem of enormous proportions. It is, I submit, the *fundamental* problem. It seems to have come along very early in human history. Dispute resolution belongs among those early endeavors that archaeologists say are vital, like settling down or planting crops. Perhaps it came before them. It may have made them possible.

For, make no mistake, the most intimate personal relations are shot through with potential for limitless violence. Every human enterprise contains the seeds of argument, every argument a quickening of murder. G. K. Chesterton once compared the mystic vision of Saint Francis of Assisi to an image of the world upside down, as if magically suspended in midair, its very existence miracu-

lous. When I think of communal life, I think of Chesterton's metaphor. I see this thing people call "community" as if hanging upside down—as if it were miraculous that, at any moment, all human interactions didn't collapse into bloodshed. It is perhaps too obviously a sign of having worked too long as a police reporter, but I often wonder: why aren't more people killing each other?

What would human history look like if we were to make that question the heart of the matter? What if we were to drop this habit of talking about human "communities" and assume instead that all personal interaction, at all levels, naturally tends toward rancor and eventually to violence, and that once started, virtually no fight will end of its own accord? What if we see people not as natural collaborators, but as natural antagonists, born haters? What if we stopped automatically assigning the word *petty* to jealousy, spats, and minor dustups, and instead promoted these to the status of grave threats, primal challenges to stability, even to survival?

Only then does a great mystery take shape through the fog of human history: the boggling mystery of cooperation.

PROGRESS REPORT

REBECCA McCARTHY

Trending Down

For the past three years, the life expectancy of Americans has been decreasing, and Steven Woolf, a professor of population health at Virginia Commonwealth University, is trying to figure out why. He's skeptical of the hypothesis that attributes this decrease solely to "deaths of despair"—such as those caused by suicide, opioid addiction, or alcoholism—because deaths related to hypertension, diabetes, and obesity have also increased during this period. "What is it about American life that's causing this pattern?" he asks. "There are lots of unanswered questions."

After examining 60 years of data from each of the 50 states, Woolf has concluded that a decline in our collective health has been under way since the 1980s, when the country experienced massive economic changes, including deregulation and a rise in unemployment. Around the same time, President Reagan and Congress also rolled back funding for 1960s programs such as Medicaid and Head Start that had produced robust gains in life expectancy and other measures of health, Woolf says. "You ended up with communities in which people have been under enormous economic stress for decades," he says. "They may adopt unhealthy coping behaviors to deal with this stress, such as smoking or drinking more, or overeating, or taking drugs."

Woolf finds that the recent drop in life expectancy is concentrated in the Rust Belt, southern Appalachia, and northern New England, regions that have seen manufacturing plants, coal mines, and car factories close. Although mortality rates decreased for children and the elderly, the rates among the working-age population of 25- to 64-year-olds in these areas increased. The problems of finding work and supporting their families have taken a toll on workers' health.

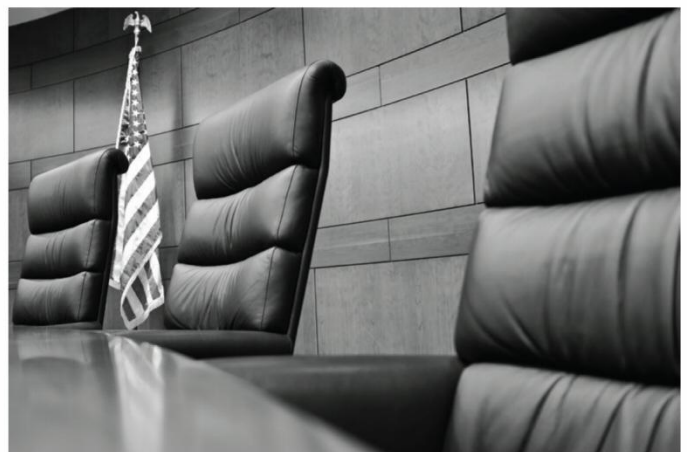
Woolf also noticed a divergence in life expectancy at the state level, a phenomenon that began

almost 30 years ago. For example, the gap in life expectancy between adjacent states, like Kansas and Colorado, grew after the 1990s. New York had a lower life expectancy than Oklahoma in the early 1990s; now, it ranks third in the nation for life expectancy. Woolf wonders whether this divergence reflects the different policy choices states made after the 1980s, when power shifted from the federal government to the states—some of which have chosen not to adequately fund health care programs.

The trend affects not only public health outcomes, Woolf notes, but also the economy: a sicker workforce that's dying earlier generates higher health care costs and is not as competitive in a global economy. "There has to be some middle ground," he says.

A Question of Fairness

Anyone who has ever asked Alexa a question or watched a movie recommended by Netflix has dabbled in artificial intelligence. But many professionals have been slow to apply AI technology to their day-to-day work. Joseph Avery, a psychology PhD candidate at Princeton with a background in computer science and law, believes that the criminal justice system in particular could benefit from this technology. He sees AI as a way to help attorneys identify and root out racial biases, forming "clear, unbiased baselines on which to anchor their decisions."



PHIL ROEDER/FLICKR

With support from the New Jersey-based Horowitz Foundation for Social Policy, Avery surveyed 327 criminal defense attorneys from around the country and collected data on their implicit and explicit racial attitudes. Implicit attitudes are less subject to conscious control and are difficult to change, which could be a problem for attorneys and their clients in criminal cases.

One solution? Eliminate some reliance on the individual attorney. In a forthcoming report for the IBM Center for The Business of Government, Avery uses data from an Illinois prosecutor's office to show how computer models could help establish race-neutral, machine-generated scenarios by providing attorneys information for making their decisions, such as which charges to pursue and which to dismiss during a plea bargain.

One model shows how a case would resolve according to the historical record. A second model shows how the case would resolve according to some counterfactual, such as if the defendant were white rather than African American. The third model shows how the case would resolve if the defendant were treated race-neutrally. Armed with these "suggestions," the prosecutor can then better assess his or her decision-making as a case progresses through the criminal justice system.

Avery's goal is to have prosecutors use computer modeling for actual cases. Having devised a protocol to ensure that the modeling is fair, he is currently exploring how the models can help train new prosecutors.

Beneath Our Feet

Harvard University seismologist Marine Denolle has studied geologic hotspots such as Indonesia and Tokyo to better understand destructive earthquakes. Now she and a team of graduate students are turning their attention to Seattle.

Seattle is located in a large sedimentary basin, which can trap and amplify seismic waves. It also is in a fault zone that runs across Puget Sound and into the city's southern neighborhoods. Denolle's team buried 100 seismic sensors across this zone to record every vibration in the ground, including in the sedimentary basin. When she and her students went to South Seattle, residents were eager for them to install the sensors. In some cases, the



residents even helped dig the holes.

"It's unusual in science to get such a warm welcome from the community," said Natasha Toghrumadjian, a Harvard graduate student on Denolle's team. "People wanted their kids to be home when we installed the sensors."

Denolle is trying to learn whether an earthquake's shaking would be more intense near the edge of the basin. If it is, she says, such information would be useful to earthquake engineers and local authorities. So far, Denolle says, the data coming in are "so rich, we can work on it for years."

Wasting Time Online

Ever look up and realize with horror that the three minutes you planned to spend on your phone have turned into an hour? The University of Washington's Alexis Hiniker, who studies how humans interact with computers, wants to change that experience. With a grant from the National Science Foundation, Hiniker is researching ways to make smartphone app usage more positive and less compulsive.

People "don't have full control when using some platforms," such as YouTube and Twitter, she says, and they don't feel good about the amount of unproductive time they spend on these sites. Although Hiniker acknowledges that such platforms are designed to hold users' attention for as long as possible, she believes that social pressure will compel developers and designers to talk about such issues. Unless companies make some changes, they'll leave themselves open to disruption when people simply delete the apps, "because it's crucial that people feel good about the investment of their time." ●

TUNING UP

Trade Winds

I thought tenure meant I could retire with the team that drafted me

JAY NEUGEBOREN

Andre Drummond is in a funk. His coaches see it. Opposing teams see it. Anyone with a pair of eyeballs can see it. The trade chatter in recent weeks has crept into Drummond's head.

—*Sports Illustrated*, January 17, 2020

LESS THAN AN HOUR into the week of free agency, my ex-wife Dee tweeted me from Los Angeles to congratulate me on being traded to the Los Angeles Central University English Department for two assistant professors, a dean, and one adjunct-to-be-named-later. I wasn't surprised. Still, I went to my department chair—I teach at the City University of New York's Gowanus Canal Campus in Brooklyn—and he confirmed the news.

"Just taking orders, Harry, and my instructions were to get rid of sludge and inject some young blood into our program," he said. "In addition to which, you didn't have a no-trade clause in your contract."

"But what am I, Marvin—just a piece of property to be bought and sold regardless of my wishes?"

"Exactly," Marvin said.

"And wasn't the reserve clause replaced by free agency?"

Jay Neugeboren is the author of 22 books of fiction and nonfiction.

My wife said if I wanted to be the Curt Flood of Academia, I could go for it, but she intended to invoke the equal-but-separate clause of our prenup.

"Listen, Harry—we may all think of ourselves as free agents, but the courts have consistently ruled that it's in the national interest to set aside the Dred Scott case and antitrust laws so that neither professional sports nor education are subject to the whims of the marketplace," Marvin said. "And also, to be perfectly brutal, your salary left us no cap-and-gown space."

"Cap-and-gown space?"

"Enrollments and graduation rates," he said.

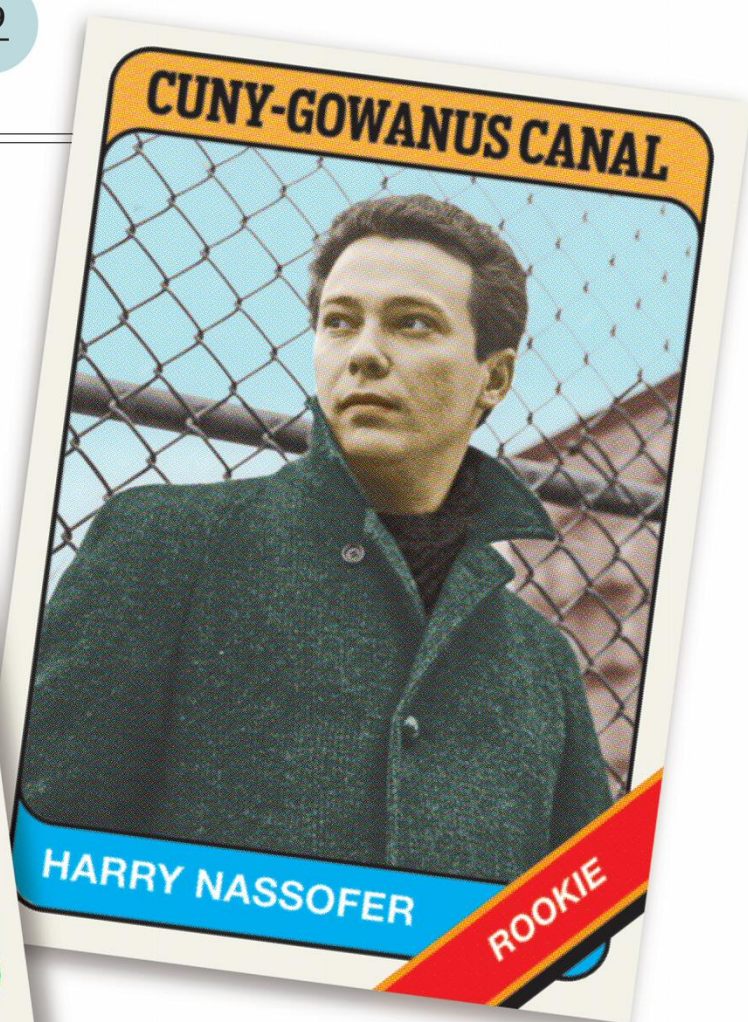
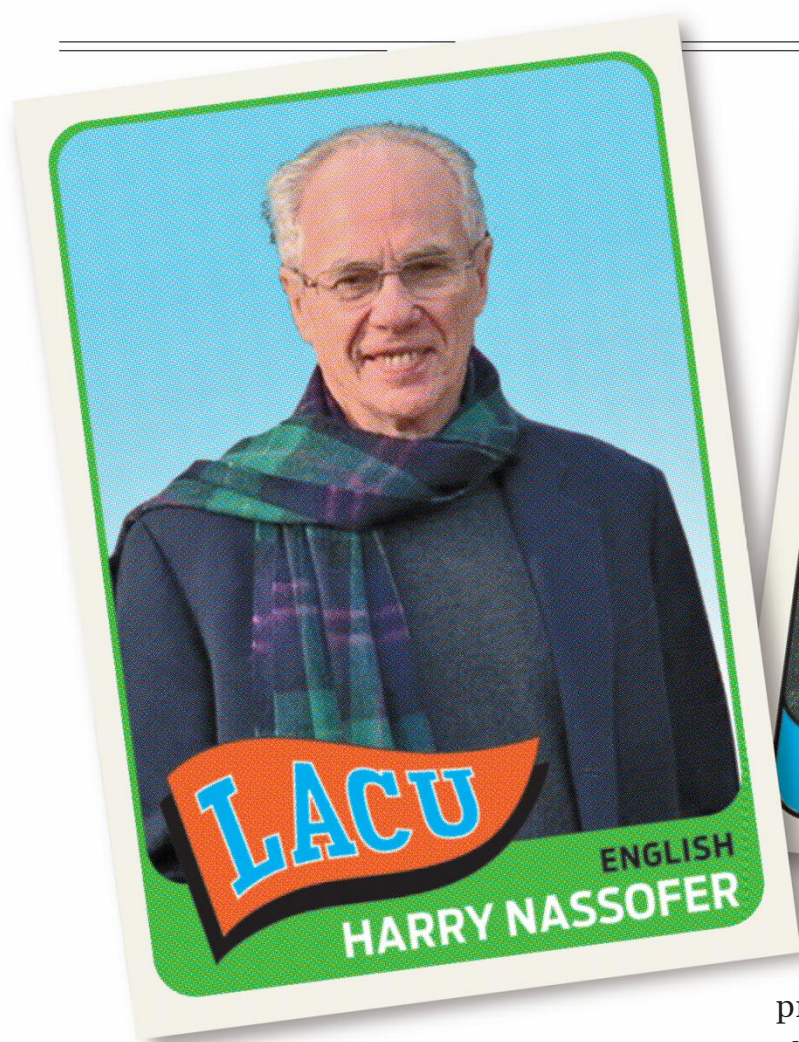
"That's what keeps our department in business, and our numbers have been slipping badly. For one 50-year-old professor we get two 25-year-old PhDs who will bring their phenomenally popular series of budget-saving online courses—'Texts,

Tweets, and You!'—to Gowanus."

"But I'm the last faculty member left at Gowanus who actually teaches *literature*—who requires students to read novels and poems written before the 21st century," I said. "And what happens if I refuse to go to LACU, and get the ACLU to take my case?"

"Don't start getting acronymious with me, Harry! You do that and—bottom line—you'll never teach again."

When I arrived home, my wife, Beth, informed me that as soon as she read Dee's tweet, she'd asked her lawyer to use the Setoff Adjustment clause of



our prenup agreement to draw up a separation agreement for us so that I could live in LA with Dee until the end of the semester—without “unnecessary conflicts of prurient interest”—at which point, in the absence of a viable Qualifying Offer, LACU would probably buy me out or trade me.

Dee told Beth that by ridding themselves of two assistant professors, a young dean, and an adjunct-to-be-named-later, LACU could hire me short-term while giving themselves Luxury Tax space to expand the department, especially if, as seemed likely, they could package me with other faculty members and send me to a school that would gain salary space by writing off part of my Unguaranteed Remaining Salary, or having the state pick up a piece of my Veteran’s Reimbursement Adjustment, which, Gowanus informed LACU, was down to zilch because I’d borrowed heavily against its capital for a down payment on our Park Slope brownstone.

I told Beth that I was determined to protest, and she said that if I wanted to be the Curt Flood of Academia, I could go for it, but that she intended to invoke the equal-but-separate clause of our

prenup. She did agree that to be able to actually trade *people* from team to team, or college to college, was indeed akin to slavery, though it was surely a measure of consolation to professional athletes to be *wealthy* slaves. But I didn’t have that luxury, she said.

“Look at the NBA, babe—and I’m not talking about the National Book Awards,” she said. If I wanted to increase my marketability, she suggested, I should find out which prizewinning East Coast writers had Waive-and-Stretch or Buyout Adjustment provisions in their contracts, and recruit them to join me on a Dream Team that could make a run at winning the annual National Writing Program Literary Poetry and Fiction Slam Championship, thereby increasing Strategic Negotiability for authors without SuperMax contracts.

Still, I told Beth, even if I was forced to accept an Unprotected Veteran’s Minimum that contained an Early Termination Option, and lost everything—job, salary, benefits, and travel allowance—the only thing that mattered to me was if she would still love me.

“Of course I’ll still love you,” she said. And then: “I’ll *miss* you ...” ●

No Ghost in the Machine

ARTIFICIAL INTELLIGENCE ISN'T AS
INTELLIGENT AS YOU THINK

MARK HALPERN

It is desirable to guard against the possibility of exaggerated ideas that might arise as to the powers of the Analytical Engine. In considering any new subject, there is frequently a tendency, first, to *overrate* what we find to be already interesting or remarkable; and, secondly, by a sort of natural reaction, to *undervalue* the true state of the case, when we do discover that our notions have surpassed those that were really tenable. The Analytical Engine has no pretensions whatever to *originate* anything. It can do whatever we *know how to order it* to perform. It can *follow* analysis; but it has no power of *anticipating* any analytical relations or truths. Its province is to assist us in making *available* what we are already acquainted with.

—Augusta Ada King, the Countess of Lovelace, 1843

The first words uttered on a controversial subject can rarely be taken as the last, but this comment by British mathematician Lady Lovelace, who died in 1852, is just that—the basis of our understanding of what computers are and can be, including the notion that they might come to acquire artificial intelligence, which here means “strong AI,” or the ability to think in the fullest sense of the word. Her words demand and repay close reading: the computer “can do whatever we *know how to order it* to perform.” This means both that it can do *only* what we know how to instruct it to do, and that it can do *all* that we know how to instruct it to do. The “only” part is what most earlier writings on the subject have been concerned with, but the “all” part is

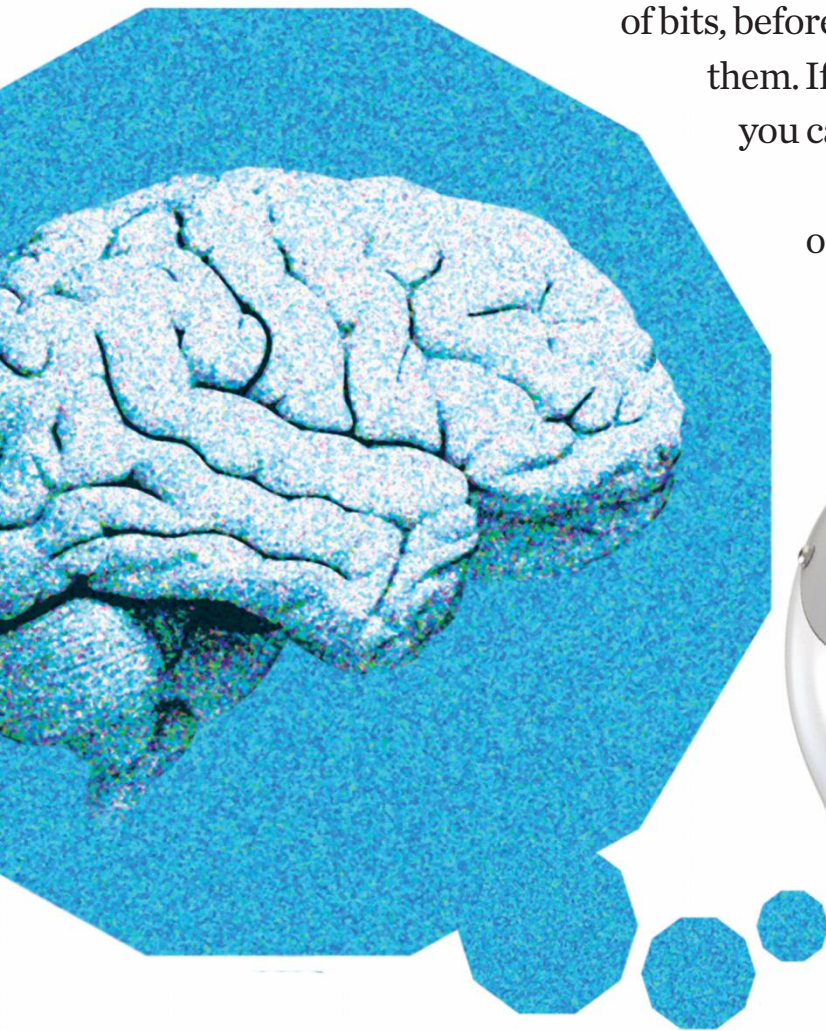
Mark Halpern joined IBM’s Programming Research Division in 1957, just after the release of Fortran, and later worked for a number of software companies. He writes about computing and linguistics.

just as important—it explains (for those open to explanation) why the computer keeps performing feats that seem to show that it’s thinking, while critics, like me, continue to insist that it is doing no such thing.

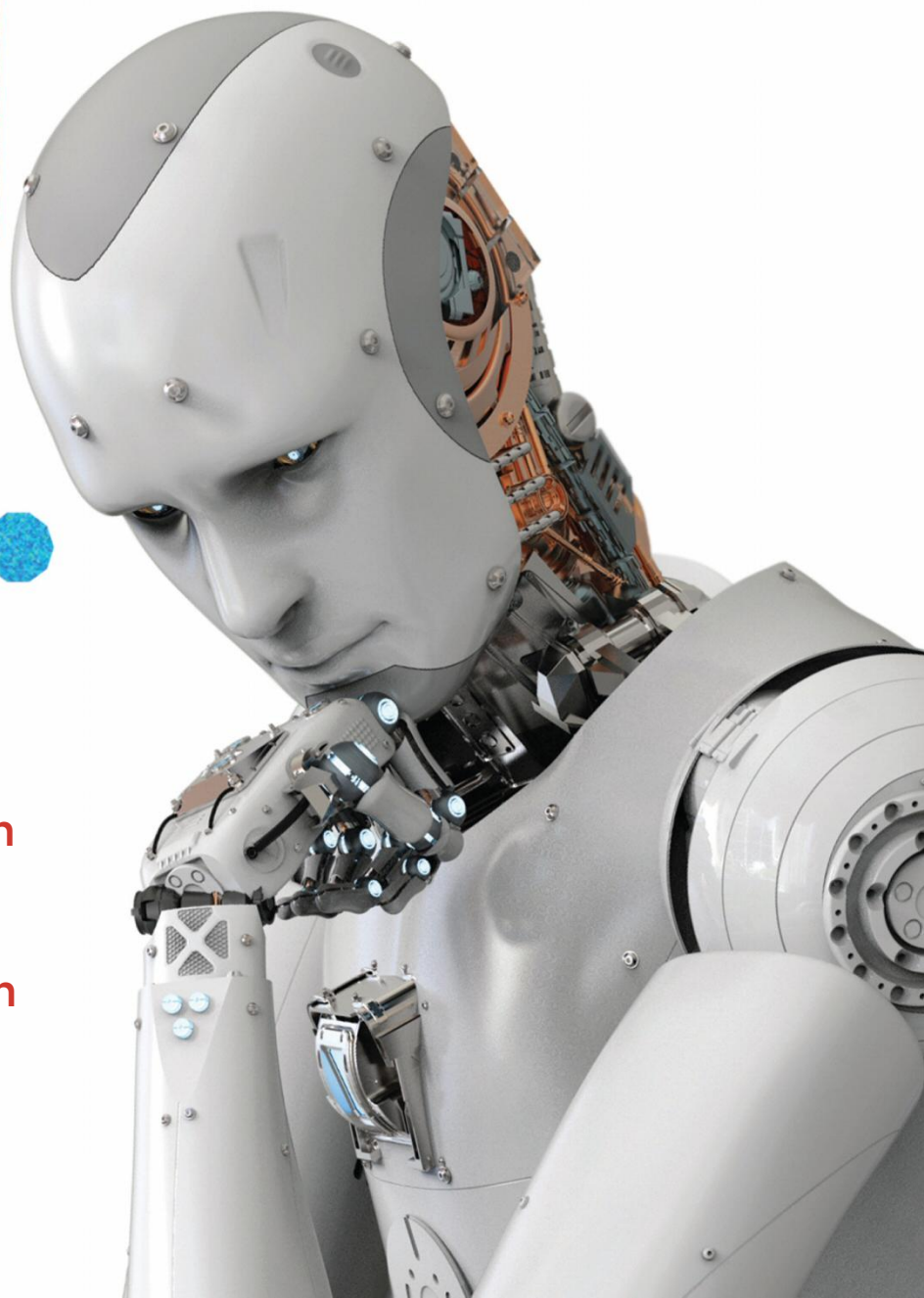
The amazing feats achieved by computers demonstrate our progress in coming up with algorithms that make the computer do valuable things for us. The computer itself, though, does nothing more than it ever did, which is to do whatever we know how to order it to do—and we order it to do things by issuing instructions in the form of elementary operations on bits, the 1s and 0s that make up computer code. The natural-language instructions offered by higher-order programming systems seem to suggest that computers understand human language. Such a delusion is common among those who don’t know that such higher-level instructions must first be translated into the computer’s

built-in machine language, which offers only operations on groups of bits, before the computer can “understand” and execute them. If you can read Dante only in English translation, you cannot be said to understand Italian.

Adding to the confusion surrounding claims of AI is the lack of agreement on what technical



New software is often credited with being AI when it first appears, but these supposed breakthroughs are regularly demoted when their novelty wears off.



developments deserve the name. In practice, new software created by an institution with “AI” in its title is often credited with being AI when it first appears—but these supposed breakthroughs are regularly demoted to plain old applications when their novelty wears off. “It’s a crazy position to be in,” laments Martha Pollack, a former professor at the Artificial Intelligence Laboratory at the University of Michigan, executive editor of the *Journal of Artificial Intelligence Research*, and since 2017, the president of Cornell University. “As soon as we solve a problem, instead of looking at the solution as AI, we come to view it as just another computer system,” she told *Wired*. One sympathizes with Pollack, who is no doubt familiar with the last of science-fiction writer Arthur C. Clarke’s three laws about the future: “Any sufficiently advanced technology is indistinguishable from magic.” But she may not have appreciated that “is indistinguishable from” is a symmetric relation, just as readily yielding Halpern’s Corollary: “Any sufficiently explained magic is indistinguishable from technology.”

PART I: ONLY WHAT WE KNOW HOW TO ORDER IT TO PERFORM

The computer *can’t* think, and its value lies precisely in that disability: it lets *us* think and preserves our thoughts in executable form. It has so often been touted as the first machine that *does* think, or at least *will* think someday, that this assertion may seem paradoxical or perverse, but it is in fact merely unconventional. The computer is a greatly misunderstood device, and the misunderstanding matters greatly.

Computers routinely carry out tasks without error or complaint, and they are very fast. Speed has the power to overawe and mislead us. We all know, for example, that movies are merely sequences of still images projected onto the screen so rapidly that the brain’s visual cortex transforms discrete images into continuous action. But knowing this does not prevent the trick from working. Likewise, the speed with which a computer achieves its effects supports the notion that it’s thinking. If we were to slow it down enough to follow it step by step, we might soon conclude that it was the stupidest device ever invented. That conclusion, however, would be just as invalid: the computer is neither intelligent nor stupid, any more than a hammer is.

Then there is our tendency to personify any device, process, or phenomenon with which we come into contact: our houses, cars, ships, hurricanes, nature itself. We invest with personality and purpose just about everything we encounter. The computer makes us particularly susceptible to such thinking, in that its output is often symbolic, even verbal, making it seem especially human. When we encounter computer output that looks like what we produce by thinking, we are liable to credit the computer with thought, on the fallacious grounds that if we are accustomed to finding some good thing in a particular place, it must originate in that place. By that rule of inference, there would have to be an orchestra somewhere inside your CD player and a farm in your refrigerator. Urban children are understandably likely to suppose

that food originates at the supermarket; AI enthusiasts are less understandably prone to thinking that intelligent activity originates within the computer.

Computers likewise benefit from our preference for the exciting positive rather than the dreary negative. If it were widely understood that the computer isn't thinking, how could journalists continue to produce pieces with headlines like "Will Robots Take Over the World?" and "AI Is the Next Phase of Human Evolution," and all the other familiar

scare stories that editors commission? These stories implicitly attribute not just intellect to the computer but also *volition*—the computer, if we are to get alarmed, must want to conquer us or replace us or do something equally dramatic. The reading public acts as a co-conspirator. Most of us would prefer a sensational, scary-but-not-too-scary story about how machines are threatening or encroaching on us over a merely factual account of what's going on. There aren't any man-eating alligators in the sewers.

With regard to computers, though, the sober truth is more interesting than the sensational falsehoods. We tend to credit machines with thinking just when they are displaying characteristics most unlike those of thinking beings: the computer never gets bored, has perfect recall, executes algorithms faultlessly and at great speed, never rebels, never initiates

any new action, and is quite content with endlessly repetitive tasks.

Is such an entity thinking—that is, doing what human minds do?

A prime example of our tendency to believe in thinking computers comes from the game of chess. When IBM's Deep Blue beat Garry Kasparov, many AI champions were ready to write QED.

After all, isn't chess-playing ability one of the hallmarks of intellectual power? And if a computer can beat the world champion, mustn't we conclude that it has not merely a mind but one of towering strength? In fact, the computer does not play chess at all, let alone championship chess. Chess is a game that has evolved over centuries to pose a tough but not utterly discouraging challenge to humans, with regard to specifically human strengths and weaknesses. One human capacity it challenges is the ability to concentrate; another is memory; a third is what chess players call *sitzfleisch*—the ability to resist the fatigue of sitting still for hours. The computer knows nothing of any of these. Finally, chess prowess depends on players' ability to recognize general situ-



Garry Kasparov, the reigning world chess champion, playing IBM's Deep Blue computer in Philadelphia in February 1996

ations that are in some sense “like” ones they’ve seen before, either over the board or in books. Again, the computer largely sidestepped what is most significant for humans, and hence for the game, by analyzing every position from scratch, and relying on speed to make up for its weakness at gestalt pattern recognition.

Perhaps most effective, though, in making it seem that the computer can think is our occasional surprise at what a computer does—a surprise that puts us in a vulnerable condition, easy pickings for AI enthusiasts: “So, you didn’t think the computer could do such-and-such! Now that you see it can, you have to admit that computers can think!”

But surprise endlessly generates paradoxes and problems. It names a sensation we cannot even be sure we’ve experienced. What we once took for a surprise may now seem no such thing. Consider this example: a stage magician announces that he will make an elephant disappear and ushers it behind a curtain. He waves his wand, draws the curtain to show that the elephant has disappeared, and we are duly surprised. What if he had drawn the curtain only to reveal Jumbo still placidly standing there? What would we have experienced? Why, a *real* surprise. And if, while we are laughing at the magician’s chagrin, the elephant suddenly vanishes like a pricked bubble, what would we call our feelings at *that*? Surprise again.

In his influential 1950 essay “Computing Machinery and Intelligence,” British computer scientist Alan Turing rejects Lady Lovelace’s characterization of the computer, and, for many AI champions, this disposes of her. But Turing not only fails to refute her, he also resorts to the shabby suggestion that her omission of *only* from “It can do whatever we *know how to order it* to perform” leaves open the possibility that she did not mean utterly to deny computer originality—shabby because he knew perfectly well that she meant *only*, as he inadvertently admits when, elsewhere in the same paper, he paraphrases her statement as “the machine can only do what we tell it to.”

When members of the AI community need some illustrious forebear to lend dignity to their position, they often invoke Turing and his paper as holy writ. But when critics ask why the Turing test—a real-world demonstration of artificial intelligence equal to that of a human—has yet to be successfully performed, his acolytes brush him aside as an early and rather unsophisticated enthusiast. Turing’s ideas, we are told, are no longer the foundation of AI work, and we are tacitly invited to relegate the paper to the shelf where unread classics gather dust, even while according its author the profoundest respect. The relationship of the AI community to Turing is much like that of adolescents to their parents: abject dependence accompanied by embarrassed repudiation.

PART II: ALL THE THINGS WE KNOW HOW TO ORDER IT TO PERFORM

The place to begin to understand the computer, and to appreciate the value of its inability to think, is with the *algorithm*. An algorithm is a complete, closed procedure for accomplishing some well-defined task. It consists of a finite number of simple steps,

where “simple” means within the powers of anyone of ordinary ability and education. We have all executed algorithms, at least arithmetic ones—long division or multiplication of one multidigit number by another, for example. All algorithms are, in principle, executable by humans, but there is a host of potentially valuable algorithms that we cannot possibly carry out unaided because they consist of millions or billions of steps. The computer, however, is perfectly suited to the task. Because it is fitted to do this, we begin, paradoxically, to hear claims that the computer is thinking. Yet the computer never behaves mysteriously, never appears to have volition. In short, it seems to be thinking precisely because, being unable to “think for itself,” it’s the perfect vehicle for and executor of *preserved human* thought—of thought captured and “canned” in the form of programmed algorithms. And we must not be so thunderstruck at our success in building a perfectly obedient servant that we take it for our peer, or even our superior. Jeeves is marvelous but is, after all, a servant; Bertie Wooster is master.

We ought to clear the computer out of the way, once and for all, in this and every discussion of AI, since it has no necessary part in them. The computer merely executes a program. But even the program is extraneous to the fundamental issue—it is itself only one of an indefinite number of representations of the underlying algorithm, just as there are an indefinite number of sentences that can express a given proposition. The role of the computer is purely economic: it is the first machine that can execute lengthy algorithms quickly and cheaply enough to make their development economically attractive. Yet it is the algorithm that is ultimately the subject of contention.

PART III: THE SPECTER OF AUTONOMY

Many people suppose that computers do not merely think but do so independently, that we may soon lose control over them as they become “autonomous” and begin doing things we don’t want them to do. This is especially frightening when the computer is a military robot armed with weapons that can kill humans.

In late 2007, articles and books about the ethical implications of military robots appeared with such frequency that one could hardly open any serious journal without coming across another warning of the terrible problems they posed. That November, the *Armed Forces Journal* published several articles devoted to the subject, placing special emphasis on how to control robot weapons now that they seemed to be on the verge of acting autonomously. The November 16 issue of *Science* also focused on the ethical issues robots seemed to raise. In 2013, a new wave of such articles appeared as robots began to be called “drones,” suggesting they are something new. The fears these pieces raise about robots “taking over” or “getting away from us” are baseless, but there is indeed something frightening in them: they show that there are some widespread misconceptions about robots, and these misconceptions are going to cause serious problems for us unless corrected very soon.

Two great sources of confusion typically feature in discussions of robots and their supposed ethical issues. The first is that we seem to have a rich literature to draw upon for guidance: science fiction. Whole libraries of books and magazines, going back at least as far as Mary Shelley's *Frankenstein*, deal with the creation of beings or the invention of machines that we cannot control. It would not be surprising if literary artists turned to this literature for insight. What is surprising—and alarm-

ing—is that scientists and military officers are doing the same thing, under the false impression that science fiction sheds light, however fancifully, on the issues we are now called upon to face.

Scientists and military officers are turning to science fiction under the false impression that it sheds light, however fancifully, on the issues we are called upon to face.

The acknowledged dean of modern imaginative literature on robots was Isaac Asimov (1920–1992). For over half a century, the astonishingly prolific Asimov wrote science-fiction stories and novels about future civilizations in which human-

oid robots play an important role. He made himself so much the proprietor of this subgenre of literature that many of the conventions about man-robot relationships first introduced in his writings have been adopted by other writers. In particular, his “three laws of robotics,” first announced in one of the earliest of his robot stories, are now virtually in the public domain. These laws, wired unalterably into the “positronic brains” that are the seat of his robots’ intelligence, are as follows:

1. A robot may not injure a human being, or, through inaction, allow a human being to come to harm.
2. A robot must obey orders given to it by human beings except where such orders would conflict with the First Law.
3. A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.

The difficulty of applying the three laws in real life, let alone of embodying them in electronic circuitry, is ignored; they are simply literary conventions, allowing the author to plot his stories. Asimov's robots face problems only at the margins, such as when they have to interpret the laws in tricky cases—but because they can think, and wish humans well, they regularly overcome these difficulties.

Unfortunately, the Asimovian robot, thinking and making decisions, is what almost everyone envisions when the topic of robots and how to control them comes up. We are asked to deal with certain questions in this context: Do we want a computer or a

human being to decide whether to kill someone? Who gets the blame if a robot does something bad? What rights might a robot have, since it apparently has some degree of free will?

Armed Forces Journal and *Science* could hardly be more different in ethos, but they are united in promulgating a view of robots that is false and dangerous—and in large part the unintended legacy of Asimov and his school. In a guest editorial in *Science*, for example, Canadian science-fiction author Robert J. Sawyer writes:

As we make robots more intelligent and autonomous, and eventually endow them with the independent capability to kill people, surely we need to consider how to govern their behavior and how much freedom to accord them—so-called roboethics. Science fiction dealt with this prospect decades ago; governments are wrestling with it today. ... Again, science fiction may be our guide as we sort out what laws, if any, to impose on robots and as we explore whether biological and artificial beings can share this world as equals.

The idea that Asimov's three laws (what Sawyer has mainly in mind) should help governments decide matters of life and death is chilling.

The second great misconception is entwined with the first, and widely entertained by policymakers. It is that we have succeeded, or are about to succeed, in creating robots with volition and autonomy. We should be embarrassed at our presumption in supposing that we have created machines with minds and wills, but much more serious is the danger that we will sincerely come to feel that misdeeds committed by robots are the fault of the robots themselves, rather than of their programmers and users. Consider the introduction to the *Armed Forces Journal* issue on military uses of robots. "The next ethical minefield is where the intelligent machine, not the man, makes the kill decision," it reads. But no existing or presently conceivable robot will ever make such a decision. Whether a computer kills a man or dispenses a candy bar, it will do so because its program, whether or not the programmer intended it, has caused it to do so. The programmer may be long gone; it may be impossible even to identify him; the action he has inadvertently caused the robot to take may horrify him—but if anyone is responsible, it will be either the programmer or the commander, who despite knowing that robots have no common sense, dispatches one to deal with a situation for which common sense is required. In no case will responsibility rest with the robot.

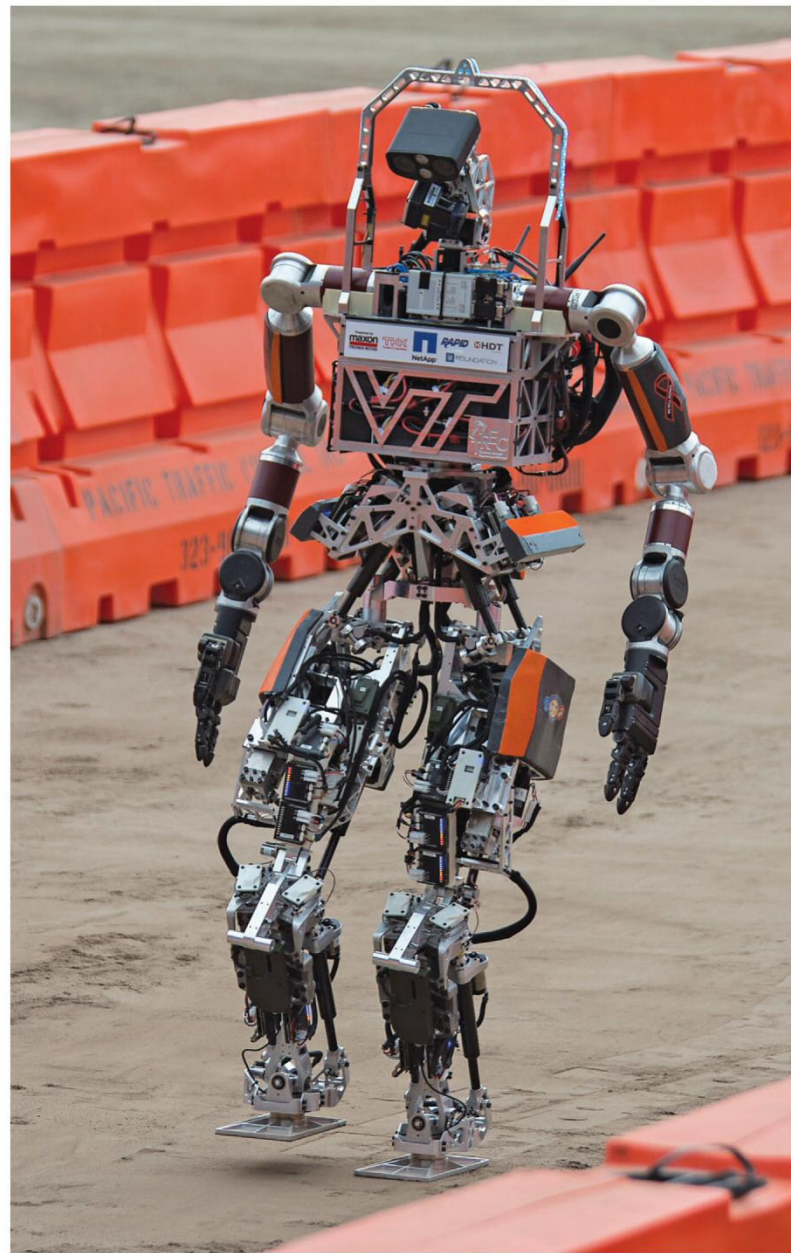
Our society, in both peace and war, regularly sets in motion processes that are so complex that it is rarely possible to attach blame or credit for their outcomes to any one person. We recognize this when we refer off-handedly to the "law of unintended consequences." The designer of a robotic system might put any number of layers of

processing between the system's initial detection of a situation and the actions that it will finally perform as a result. If the designer puts in enough layers, it may become impossible to foresee just how the system will deal with a particular scenario. This uncertainty may cause observers—and sometimes, amazingly, even the designer—to think that the system is deciding the issue. They are wrong. The system will likely execute a sequence of programmed steps much faster than anyone can follow, but that does not mean it is exercising judgment, for it has none. Yes, it may *seem* so, just as that series of still photographs, projected at the right speed, will convince our eyes that they're seeing continuous motion. We will undoubtedly continue to personify robots and other computerized systems much as we personify everything. It's a harmless human habit, so long as we don't forget the underlying reality.

The “should a man or a robot decide?” debate, then, is wrongly framed. The only correct question is whether the person making the decision will be the designer-programmer of the robot or an operator working with the robot at the moment of its use. The advantage of having the designer-programmer make the decision is that it will be made by someone working calmly and deliberately, with advice and input from others, and with time for testing, revising, and debugging. The algorithm programmed into the system will likely be the best available. The disadvantage is that if the designer-programmer *has* overlooked some critical factor, the robot may do something disastrous.

The advantage of having users make the decision is that, at least in principle, they will take into account the context in which the robot is being applied and make whatever changes may be necessary to adapt the robot to the situation. The disadvantage is that users will be acting on the spur of the moment, perhaps in panic mode, and without the benefit of anyone else's advice.

Which is the right way to go? It depends on the situation. Some systems will be so complex that in the heat of battle, the user will be unable to correct an oversight made by a designer-programmer. An antiballistic missile defense system is an



A prototype of a humanoid first responder is demonstrated at a U.S. Defense Department robotics event in California in 2015.

example of a computer-based system whose complexity is such that no user can be expected to make last-minute improvements to it at the moment of use; for better or worse, whatever decisions designers built into the system is what we will have to live—or die—with.

At the other end of the spectrum of possibilities, an unmanned aerial vehicle targeting a terrorist leader with a missile is an example of a system that the user should be enabled to control up to the last second, as the decisions to be made are dependent on unforeseeable details. Most robotic applications, I think, would fall at some intermediate point along this spectrum, and we must think carefully to arrive at an optimum balance. But nothing of value can be accomplished if we get the question wrong. As Francis Bacon noted, “Truth emerges more readily from error than from confusion.” And so we must think through the best way to handle each type of situation, knowing that our robots will do exactly what we have told them to do (not necessarily what we *want* them to do), and leave the dreams of thoughtful, loving, and above all, autonomous robots to Asimov and other writers of fiction.

PART IV: “MACHINE LEARNING,” THE NEW AI

Since 2015, there has been a resurgence of excitement over AI, and not only in programming circles. Industrial and military organizations throughout the world are all trying to take advantage of a new technical development in programming that bears a variety of names—“neural networks” and “deep learning” among them—but is founded on the idea that giving computers enough data and a very general goal (e.g., “Learn to identify the subject of these pictures”) can enable them to produce useful information for us without our telling them exactly how to do it.

A computer can recognize images of things of interest—cats, say—without being told how to recognize them. This is done by (1) having the computer scan thousands of pictures of cats of many different kinds, in many different contexts; (2) having it extract common features from these pictures and saving them as a tentative solution; and (3) feeding the computer another batch of pictures, some of cats and some of other things, and testing whether it can distinguish the cat pictures from the noncat pictures. So far, the computer can do this with significantly greater success than chance would account for. Law enforcement and military officials hope such technology might be able to find terrorists in pictures of crowds, or defects in manufactured articles, or targets in photographs of terrain.

The programs that do this are modeled roughly on our knowledge of the structure of the human brain as multiple layers of interconnected neurons, although the importance of this analogy is unclear. The programmer begins by assigning neutral default weights to each layer of neurons in the program. When tested, if layers recognize cats better than chance would have it, or better than previous results, they get “rewarded”—their weight is increased. If they fail to do so, they are “punished” by

having their weight decreased. It is hoped that this process, like evolution by natural selection, will produce an ever-improving cat-recognition program. Success to date has caused a great deal of excitement and investment of resources.

What such a program is looking for when deciding whether a given picture shows a cat, we don't know: it could be that that program has noted that in all samples given it of cat pictures, a certain pixel in the upper right corner of each image was "on," and that's what it looks for rather than anything truly feline. At present the program's idea of the significant feature, whatever it is, is unknown, and that's where the champions of AI find their opening: maybe in learning to recognize cats without being told what to look for, the "computer is thinking!" But unfortunately for the enthusiast, some investigators are already trying to determine just what it is that the new AI programs are doing in their internal levels. When they succeed, we will be back in the situation so lamented by Pollack: that of seeing an AI "breakthrough" or "major advance" as just more software, which is what it will be.

The intellectual incoherence of believing that computers can think or make independent decisions is self-evident, but for those unconcerned with such incoherence, there are practical dangers that may be more impressive.

.....

ON APRIL 25, 1984, in a hearing before a Senate subcommittee on arms control, a heated dispute broke out between several senators, particularly Paul E. Tsongas (D-Mass.) and Joseph R. Biden Jr. (D-Del.), and some officials of President Reagan's administration, particularly Robert S. Cooper, the director of the Defense Advanced Research Projects Agency (DARPA), and the president's science adviser, George Keyworth, about reliance on computers for taking retaliatory action in case of a nuclear attack on this country.

A new program called the Strategic Defense Initiative, better known as "Star Wars," was studying the feasibility of placing into Earth orbit a system of laser weapons that would disable Soviet intercontinental missiles during their "boost" phase, thereby preventing them from deploying their warheads. But the system's effectiveness, the administration officials told the subcommittee, would be predicated on its ability to strike so quickly that it might be necessary for the president to cede his decision-making powers to a *computer*.

According to the Associated Press, members of the subcommittee were outraged by the idea. "Perhaps we should run R2-D2 for President in the 1990s," Tsongas said. "At least he'd be on line all the time. ... Has anyone told the President that he's out of the decision-making process?"

"I certainly haven't," Keyworth responded.

Biden worried that a computer error might even initiate a nuclear war by provok-

ing the Soviets to launch missiles. “Let’s assume the President himself were to make a mistake ...” he said.

“Why?” interrupted Cooper. “We might have the technology so he couldn’t make a mistake.”

“OK,” said Biden. “You’ve convinced me. You’ve convinced me that I don’t want you running this program.”

The crucial point here is that the two parties, although diametrically opposed on the issue of whether computer involvement in a missile-launching system was a good thing, agreed that such involvement might be described as “letting the computer decide” whether missiles were to be launched, in contrast to “letting the President decide.” Neither party seemed to realize that the real issue was the utterly different one of *how* the president’s decision was to be implemented, not whether it was his or the computer’s decision that was to prevail; that what is really in question is whether the president, in the event of nuclear attack, will seek to issue orders by word of mouth, generated spontaneously and on the spur of the moment, or by activating a computer-based system into which he has previously had his orders programmed. The director of DARPA accepted as readily as did the senators that the introduction of the computer into the system would be the introduction of an independent intelligence that might override the judgment of the duly elected political authorities; he differed only in considering that such insubordination might be a desirable thing.

The point at which AI ideology affects important real-world matters has, then, already been passed. Even 36 years ago, it was corrupting debate among decision makers.

These political leaders were conducting their debate, and formulating national policy, on the basis of this nonsensical assumption because hundreds of journalists and popularizers of science have succeeded in convincing too many of the computer laity that computers think, or almost think, or are about to think, or can even think better than humans can. And this notion has been encouraged and exploited by many computer scientists who know, or should know, better. Many apparently feel that if the general public has a wildly exaggerated idea of what computer scientists have accomplished in this direction, so much the better for their chances when funds are disbursed and authority granted. The point at which AI ideology affects important real-world matters has, then, already been passed. Even 36 years ago, it was corrupting a debate among decision-making parties on one of the most urgent issues of the day. The intervening years do not offer encouragement about this state of affairs, should one of those senators soon become the president himself. ●

For a longer version of this essay that includes citations, go to rules-of-the-game.com.

The Uncertainty Principle

IN AN AGE OF PROFOUND DISAGREEMENTS,
MATHEMATICS SHOWS US HOW TO PURSUE TRUTH TOGETHER

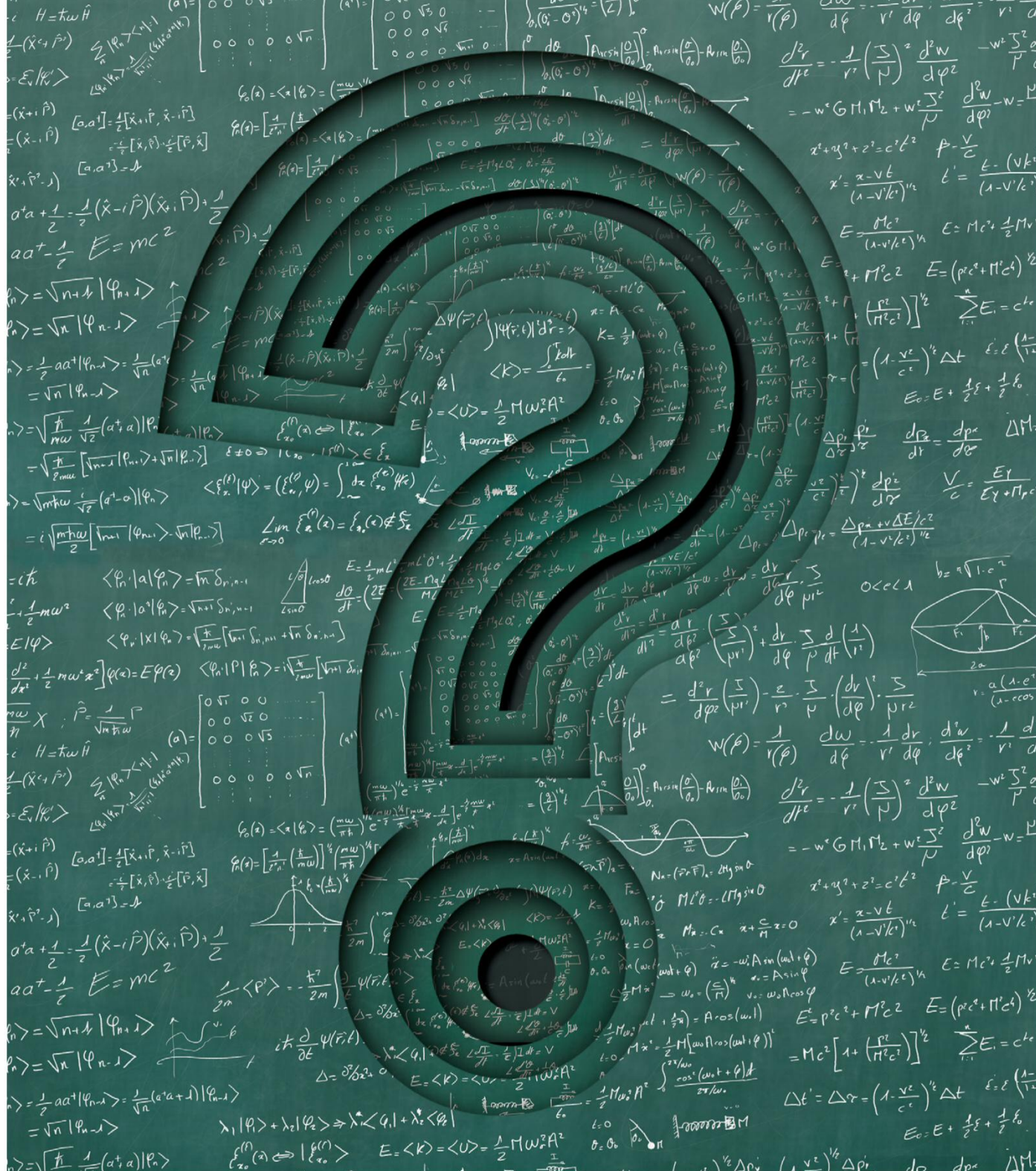
CRISTOPHER MOORE AND JOHN KAAG

HUMANS CRAVE CERTAINTY. We long to know what will happen, what to believe, and how to live. This desire drives some of us to depths of soul-searching and heights of scientific inquiry. It drives others into the arms of authoritarians, who are all too willing to put our doubts, and our unquiet minds, to rest.

Philosophers have long warned that this desire for certainty can lead us astray. To think and learn about the world, we must be willing to be uncertain: to accept that we don't yet know everything. In 19th-century Europe, when the urge for certainty was deepening national and religious divisions, Goethe wrote, "Nothing is sadder than to watch the absolute urge for the unconditional in this altogether conditional world; perhaps in the year 1830 it seems even more unsuitable than ever." In the year 2020 it seems even more so. Many of us rely on political and tribal loyalties, dismissing any argument that could make us less certain of our views. At its worst, the desire for certainty crushes all subtlety and complexity under its heel.

Nietzsche called this desire to make the crooked straight the "will to truth." In *The Gay Science*, he argued that for most of us, "nothing is more necessary than truth; and in relation to it, everything else has only secondary value." But he suggests in another work, *Beyond Good and Evil*, that the will to truth is a vestige from a simpler time that has dominated the human psyche for far too long:

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The Will to Truth, which is to tempt us to many a hazardous enterprise ... what questions has this Will to Truth not laid before us! What strange, perplexing, questionable questions! It is already a long story; yet it seems as if it were hardly commenced. Is it any wonder if we at last grow distrustful, lose patience, and turn impatiently away? ... We inquired about the VALUE of this Will. Granted that we want the truth: WHY NOT RATHER untruth? And uncertainty? Even ignorance?

As Nietzsche writes, when our demand for certainty is frustrated—when the quest for truth is longer and stranger than we would like—we often give up. And just as some people turn to authority, others abandon even the idea of truth, deciding that there is no truth to be found.

Yet there is a middle way, between the extremes of absolute certainty and despair, that honors Nietzsche’s call to embrace uncertainty and ignorance, while maintaining our pursuit of meaning and truth.

Uncertainty can be a source of terror and anguish. It keeps us up at night. But it is also a generative force, and an invitation for deeper exploration. It forces us to earn our certainties, rather than buying them cheaply and wholesale. Indeed, a dynamic, honest search for truth requires us to regard uncertainty as an enduring companion rather than an enemy to be fled or vanquished. To wrestle with it, we must embrace it.

We can learn something about how to live with uncertainty from a field that few associate with it: mathematics. As we'll see, mathematicians have been forced to struggle with uncertainty on many levels. This is true not just in probability and statistics—which address uncertainty quantitatively—but even in the bedrock of logic, arithmetic, and geometry, where most people expect rigid certainty to rule.

These struggles have given mathematicians a keen sense of the *nature* of truth: of when certainty can be achieved and when it is out of reach, as well as the boundless creativity we need to find it. There are lessons here for how all of us can pursue truth together, even in the face of the disagreements and uncertainties that surround us.

LIKE PHILOSOPHY, MATHEMATICS was born of the basic human need to sort out the messiness of life, to bring order to chaos, to identify the underlying and often obscured forms that structure reality. In Philosophy 101, students study “proofs” of the existence of God, Descartes’ proof of the existence of the self (*Cogito, ergo sum*), and Kant’s transcendental deductions. Similarly, the gold standard in mathematics is a formal proof—a step-by-step demonstration that a statement follows unavoidably from an agreed-upon set of principles.

In 300 BC, Euclid proposed five postulates for geometry that let us prove things by drawing lines and circles with rulers and compasses and seeing how they inter-

FIGURE 1

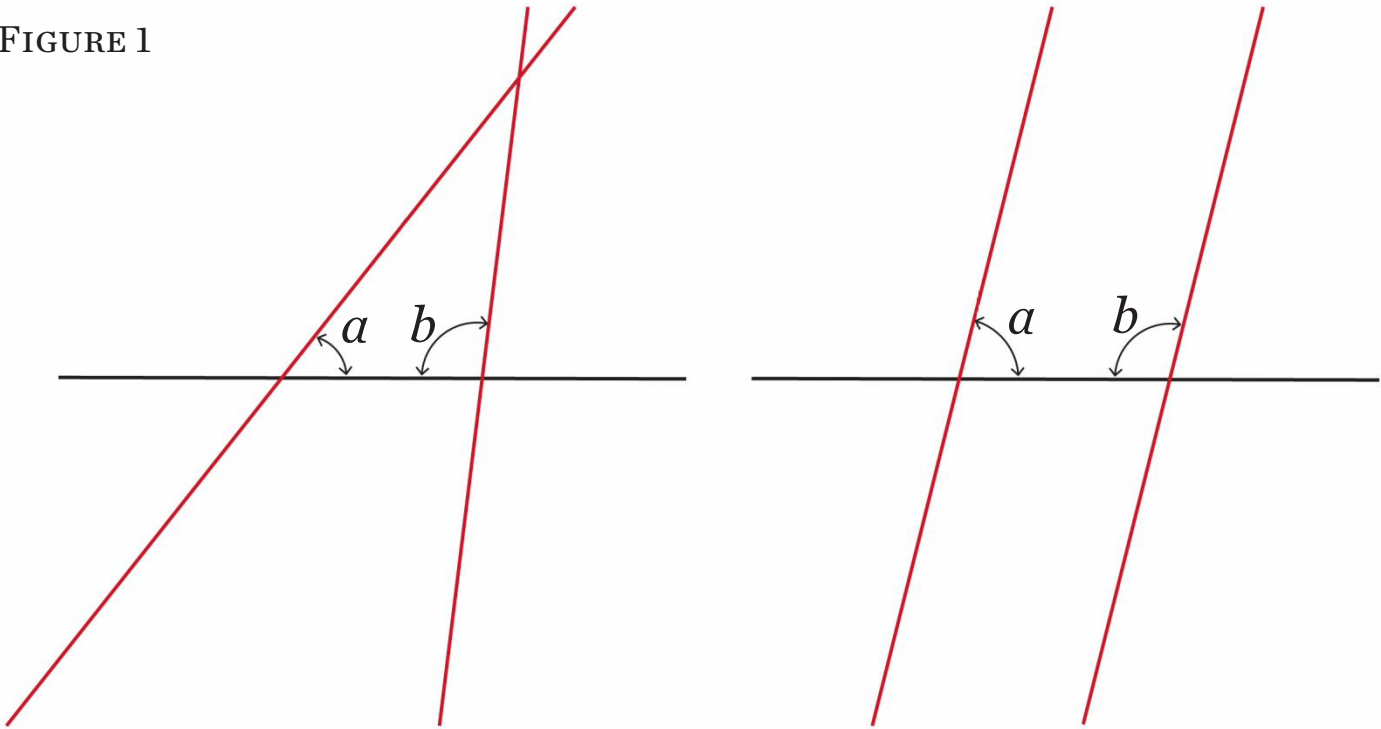
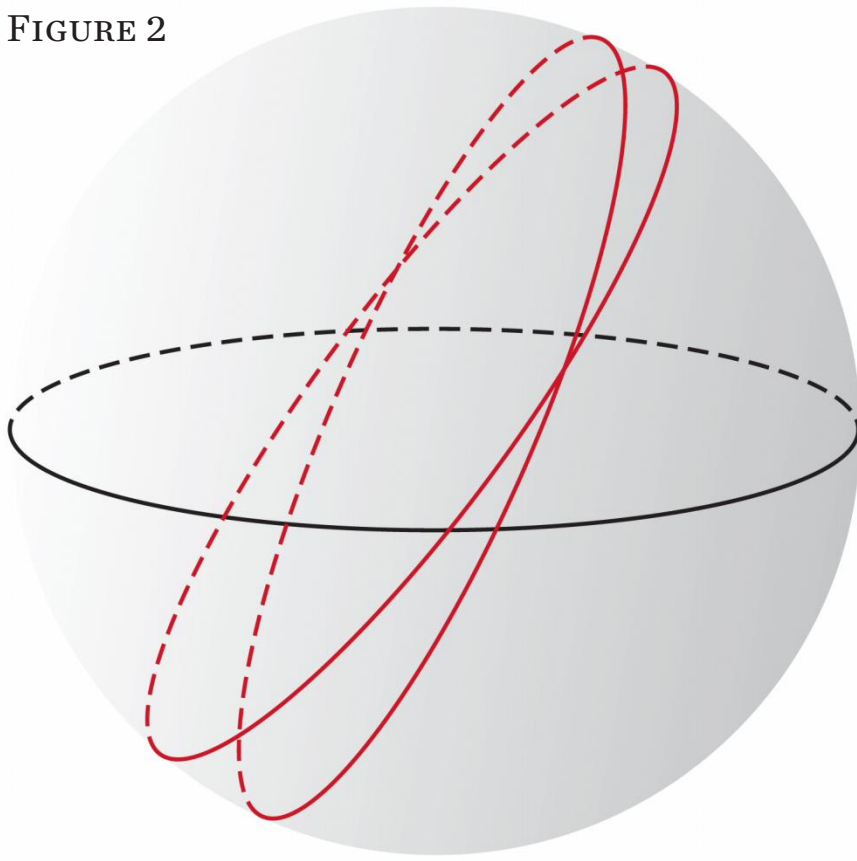


FIGURE 2



sect. Most of these postulates seem straightforward and incontrovertible. The first one, for instance, states that between any two points there is a straight line that connects them. Absolutely straight and narrow.

Euclid's fifth postulate, however, is the source of a curious instability. It says that if two straight lines cross a third one but make angles with it that add up to less than 180 degrees, so that they lean toward each other, then those two lines cross somewhere

above the third line, and not below it. If the sum of the angles exactly equals 180 degrees, then these lines are parallel, meeting only at infinity. This is certainly true in the geometry we are used to. Either two lines are parallel, or they tend toward each other and will eventually cross at one and only one point. (See Figure 1, p. 34.)

But for two millennia, mathematicians wrestled with the fifth postulate and struggled to prove it from the other four—or, like the poet and astronomer Omar Khayyam (1048–1131), to replace it with something simpler. Note that the question here is not just whether the fifth postulate is true. There is also the “metamathematical” question of whether it can be proved from more basic statements, or whether assuming it helps us prove other things in turn.

A revelation occurred in 1830, the same year that Goethe reflected on our urge for unconditional truth. There are alternate “non-Euclidean” geometries where Euclid's first four postulates are true but the fifth is false. For instance, suppose we are moving on the surface of the Earth instead of on a flat plane. The closest thing we have to a straight line is a “great circle” such as the equator—the path we would follow if we proceeded straight ahead until we came all the way around to our starting point (and didn't fall into the sea). A section of a great circle is the shortest path we can take between two points while staying on the Earth's surface instead of tunneling under it. But no two great circles are parallel: any two great circles that cross the equator also cross each other twice, once in the Northern Hemisphere and once in the Southern, whereas Euclid's postulate says they should cross once or not at all. (See Figure 2, above.)

You might object that these are not lines at all. They are curves and decidedly not

straight. Yes, but because of the Earth's curvature, so is every line we draw on a map. The point is that if we adapt the phrase "straight line" to the curved world we live in, geometry works differently from the way it does on a flat piece of paper. There are more exotic so-called hyperbolic geometries where space spreads out rather than curving back on itself, and lines can fail to intersect, even if they start out moving toward each other.

So is the fifth postulate really true? In the flat worlds Euclid had in mind, yes. In curved worlds—including the universe we live in, as Einstein showed us—no. Where geometry is concerned, modern mathematicians are happy to accept the existence of alternate worlds in which different things are true. To be more precise, we think that a straight line is not a fixed object about which fixed things are true. It has different meanings in different worlds. All of these worlds have so much beauty, and so much internal coherence, that they are worthy of study.

Non-Euclidean geometry resolves our uncertainty about the fifth postulate by replacing it with pluralism—a willingness to gear truth to the worlds we choose to occupy, or the perspectives we choose to take. In Nietzsche's words, "There is *only* a perspective seeing, *only* a perspective 'knowing'... the *more* eyes, different eyes, we can use to observe one thing, the more complete will our 'concept' of this thing, our 'objectivity' be." By embracing other possible worlds of geometry, we gain a better understanding of geometry as a whole.

.....

PLURALISM IS HARDER TO SWALLOW in some other branches of mathematics. Consider the nonnegative integers, also known as the whole numbers. The basic properties of the integers do not seem to admit any uncertainty. For example, an integer is prime if it can't be written as the product of smaller integers: 7 and 11 are prime, but 15 is not, because $15 = 3 \times 5$. Euclid proved that there are infinitely many prime numbers. Although we don't have room for it here, his proof is delightful, and anyone familiar with division and remainders can understand it.

It's a short step, however, from Euclid to the boundaries of mathematical knowledge. Certain kinds of prime numbers place us in unfamiliar territory once again, on the brink of uncertainty. A Mersenne prime is a power of 2, with 1 subtracted from it. The first few of these are,

$$\begin{aligned} 2^2 - 1 &= 2 \times 2 - 1 = 3 \\ 2^3 - 1 &= 2 \times 2 \times 2 - 1 = 7 \\ 2^5 - 1 &= 2 \times 2 \times 2 \times 2 \times 2 - 1 = 31 \end{aligned}$$

Are there infinitely many Mersenne primes? The largest prime we know of today is $2^{82,589,933} - 1$, which has about 25 million digits. The sequence of Mersenne primes

seems to go on forever, but we have no proof of this yet. But whether or not we can prove it, surely this claim is *either true or false*. Either these numbers go on forever, or they don't. The truth is out there. It has nothing to do with what we poor humans think.

Why is it so hard to be pluralists when it comes to the integers? Why can't we take the freewheeling attitude that we took toward Euclid's fifth postulate, responding to questions about straight lines with a cheerful, "Well, it depends on what you call a straight line"? Could there be alternate worlds for the integers as well, some in which the Mersennes go on forever, and others in which they stop?

Like geometry, arithmetic and algebra *can* have alternate worlds. We could decide that the symbol 7 means something different, or that addition and multiplication work differently. In certain alternate systems of arithmetic, numbers could curve back on themselves like the surface of the Earth instead of marching off to infinity, and $x + y$ might not equal $y + x$.

But here's the rub: only one of these worlds is the real one. Only one corresponds to the arithmetic that we know and love. If you ask a mathematician whether she thinks the Mersenne primes are infinite, she will know what you mean; she won't ask you to define your terms. The integers are so concrete and rigid that they seem to exist independently of our ability to describe them. Surely 7 was prime long before humans came along to think about it, and it will continue to be prime long after we are gone.

One way to justify this sense that the integers are solid and objective is to think in terms of computation. Consider a machine that looks for Mersenne primes. It tries larger and larger powers of 2, subtracts 1 from each one, and checks to see if the result is prime or not. Whenever the result is a prime, it rings a bell. Will that bell continue to ring indefinitely into the future, no matter how long the machine has been running, or will there be some final time after which it will never ring again?

There is nothing fantastical about this machine. You could build it out of electronic parts, or out of wooden gears and Legos, or you could use one of Alan Turing's machines that reads and writes simple symbols on a paper tape. Admittedly you would need to provide it with an endless supply of energy and paper and avoid the heat death of the universe, but this is no greater an idealization than the frictionless world of Newtonian mechanics. If you grant that much, either the bell will ring forever or it won't. We might not know which is true, but there is a fact of the matter. (Some readers will dig in their heels at this point and argue that the finite span of the universe—and of our lives—makes any claims about infinity nonsensical. Indeed, there are "finitists" who think that not all the integers exist, or at least not all at once, or even that only those numbers that exist are those that we will have time to write down and think about. We refuse to live in such an impoverished, solipsistic world.)

The stance that mathematical objects exist independent of human thought or experience is an example of *realism* or *Platonism*. In Book VII of Plato's *Republic*,

Socrates tells us that discovering the truth is like stepping into daylight after a lifetime in darkness. The truth is like the sun—it's out there, singular and illuminating. For the most part, however, we live in a cave surrounded by images, mere representations of things that are real and external. For Plato and the Platonist, the point of thinking is to escape the world of mere appearances and to see truth as it truly is.

Of course, just as in moral philosophy, a debate continues to rage about whether mathematics is a series of discoveries revealing objective truths, or merely a human invention. But we don't have to believe in some astral plane of existence inhabited by integers, perfect circles, and the like. To be a "pragmatic Platonist" like the American logician Martin Davis, we just have to believe that some mathematical questions have answers—that some things really are true and that the job of mathematics is to figure out what these are. We possess Nietzsche's will to truth precisely because we believe there is a truth to find.

.....

IF WE ARE PLATONISTS about mathematics, if the truth is out there, how can we perceive it? And can such truth ever really be grasped? Computers are powerful tools in the search for examples and counterexamples to our conjectures, revealing tantalizing patterns in complex systems. For this reason, empirical mathematics is of increasing importance throughout the sciences.

But to see all the way to infinity, we need a proof—that old gold standard. As every mathematician knows, achieving this standard can be hard, even for things that seem obviously true. Is there a complete system for doing mathematics that can prove every truth and settle every question? Or are there some questions we can never answer, as the physiologist Emil du Bois-Reymond argued in a speech to the Prussian Academy of Sciences in 1880, questions about which we can only say *ignoramus et ignorabimus*—we do not know, and we will never know?

The German mathematician David Hilbert (1862–1943) found the idea of *ignorabimus* intolerable. He attacked it as a "fall of culture" and asserted that every question in mathematics and science had an answer. Hilbert thundered, *Wir müssen wissen—wir werden wissen*: we must know—we will know. His will to truth was absolute.

Hilbert and the other titans of late-19th- and early-20th-century mathematics formulated a list of basic postulates, or axioms, on which they hoped all of mathematics could be built—axioms powerful enough to prove all true statements while not mistakenly "proving" any false ones. This turns out to be a subtle enterprise, for these axioms have to capture all the forms of logical and mathematical reasoning we have grown accustomed to—proofs by contradiction, by induction, and so on—while avoiding paradoxes and inconsistencies.

If our axioms allow us to define mathematical objects too freely, we can easily fall into paradox. One of the most basic objects in mathematics and logic is a set—the set

of six-legged insects, the set of blue things, the set of even numbers, and so on. How about the set of mathematical objects mentioned in this essay? This set includes lines, angles, and Mersenne primes. But it also includes *itself*, since we just mentioned it.

Now Bertrand Russell comes along and asks us about the set S of all sets that *don't* include themselves. Does S include itself or not? If it does, then—by its own definition—it doesn't. But if it doesn't, then—again by definition—it does. (You may have heard a more colloquial version of this paradox, involving a barber who shaves those who don't shave themselves.) Somehow the act of defining S has gotten us into trouble by creating a statement, " S includes itself," which is both true and false, or maybe neither.

This series can be long and complicated. Even if we have a finite set of axioms, the number of possible proofs is infinite. How can we search this infinite space?

We can't allow a paradox like this to lurk at the heart of mathematics. Our system must be *consistent*—it must never contradict itself and never provide "proofs" that something is both true and false. As Hilbert wrote, "If mathematical thinking is defective, where are we to find truth and certainty?" But more positively, paradoxes create a delicious form of uncertainty, forcing us to reexamine the basic building blocks of thought. As Niels Bohr

said in the early days of quantum mechanics, "How wonderful that we have met with a paradox. Now we have some hope of making progress."

By the 1920s, mathematicians had begun to heal the breach that Russell had revealed, arriving at what appeared to be a satisfactory set of axioms, known as ZFC. Z stands for the German logician and mathematician Ernst Zermelo, F for the German-born Israeli mathematician Abraham Fraenkel, and C for the axiom of choice, a particular way to define infinite sets. ZFC lets us talk about everything from arithmetic to infinity while avoiding paradoxes like Russell's—in particular, by not allowing us to discuss sets that include themselves. As far as we know, ZFC never contradicts itself or produces falsehoods. Although there are alternatives, it is generally accepted as the default foundation of modern mathematics.

But even a good set of axioms does not remove uncertainty from mathematics. A formal proof is a series of steps, each of which combines previous steps according to one of the axioms, until the final goal is reached and we announce, QED. But this series can be long and complicated. Even if we have a finite set of axioms, the number of possible proofs is infinite. How can we search this infinite space?

In 1928, Hilbert posed the *Entscheidungsproblem*, or "decision problem." He asked for a general procedure to decide whether a mathematical statement is true or, more precisely, whether it can be proved from a set of axioms. He stipulated that this pro-

cedure should be something that we can carry out in a finite number of reliable steps, without leaps of intuition—in modern terms, the way a computer program or algorithm operates. If such a procedure exists, and if its axioms are powerful enough to prove all truths, then mathematics would be complete. We would finally know.

In the 1930s, Hilbert's dream was rudely interrupted. First, in 1931 the Austrian logician Kurt Gödel proved that there were unprovable truths. Specifically, he showed that any axiomatic system powerful enough to talk about the integers could also express the paradoxical statement, "This sentence can't be proved." Either this sentence can be proved or it can't. If it can be proved, then it is false—but then we have "proved" a falsehood. So if our axioms never prove false things, this sentence can't be proved, just as it claims—making it true but unprovable.

Admittedly, we are playing fast and loose with two different concepts here: whether an axiomatic system is *sound* (it never proves a falsehood) versus whether it is *consistent* (it never contradicts itself). Soundness requires a notion of truth that is external to the system—which a Platonist would heartily endorse—whereas consistency can be defined inside the system. Gödel was a Platonist, but he carefully phrased his argument in terms of consistency: if his sentence can be proved, then we have by definition proved its opposite as well, and the system has contradicted itself.

All of this may seem like a verbal game, but Gödel's unprovable truths are not idle paradoxes. They are concrete statements about the integers, different in degree but not in kind from the statement that there are infinitely many Mersenne primes. His incompleteness theorem shows that no finite set of axioms can prove all true statements about the integers, unless it mistakenly proves some false ones as well.

At a minimum, Hilbert wanted to prove that mathematics was consistent and would never contradict itself. Gödel put even this modest goal out of reach with his second incompleteness theorem, which states that no axiomatic system can prove its own consistency. We can't use ZFC to prove that ZFC will never blow up in our faces, proving that something is both true and false. To prove that our mathematical foundation is sound, we will always have to use some kind of higher-level reasoning. No finite foundation can give us the certainty we crave: the foundation must be supported from above.

The blows kept coming. In 1936, Alan Turing proved that we couldn't even tell which statements could be proved. If we want to know whether our favorite mathematical statement has a proof, we can build a machine like the Mersenne prime searcher that

Mathematics will never be complete. No machine or system can tell the entire story. But this uncertainty is not a source of despair—it is the most essential part of being human.

looks for longer and longer proofs, and program it to halt if it ever finds one. Turing called the question of whether a machine (or computer program) would ever halt, as opposed to running forever, the “halting problem.” If we can solve the halting problem for this proof searcher, we can solve Hilbert’s *Entscheidungsproblem*.

Of course, if we run this machine and it does indeed halt, we have our proof. But if it runs for a billion years and still hasn’t found a proof, we have no idea whether it ever will. If only we could tell whether a machine will halt someday, without having to run it forever! But if we could do that, we would have a paradox. We could build a machine that predicts its own behavior and then does the opposite, halting if it will run forever and running forever if it will halt. The only escape from this paradox is to accept that no general halt-predicting machine exists. There is no algorithm for the halting problem: it is *undecidable*, and so is Hilbert’s *Entscheidungsproblem*. With enough work, we might achieve certainty about some mathematical questions, but no general method—or machine—can provide that certainty for us.

The same argument shows that, for at least some of Turing’s machines, the fact that they will run forever is an unprovable truth. To see this, suppose that all truths of the form “this machine will run forever” were provable. If that were true, we could solve the halting problem for any machine by doing two things simultaneously: running the machine to see whether it halts, and looking for longer and longer proofs that it never will. Unless the fact that it never halts is sometimes unprovable, one of these two methods will always yield the answer. Thus Turing’s undecidable problems and Gödel’s unprovable truths are intimately related.

In 2016, the computer scientists Adam Yedidia and Scott Aaronson devised a Turing machine that searches for contradictions in ZFC. According to Gödel’s second incompleteness theorem, ZFC can’t prove its own consistency. Thus, while we fervently hope that this search for contradictions would be in vain and that this machine would run forever, ZFC can’t prove that it would.

Unprovability, undecidability, uncomputability—these are defeats for Hilbert’s program, and they seem like defeats for mathematics itself. How can we pursue truth if every tool we have for that pursuit is flawed? Is there even a truth to pursue?

These may indeed be defeats for a naïve and rigid notion of certainty. But we argue that they are actually triumphs of the human intellect’s ability to work through intractable questions and better understand when and to what extent these questions can be resolved. Indeed, many of today’s mathematicians and computer scientists view these negative results in a positive light. No machine will do our mathematics for us, but would we want it to? Shouldn’t mathematics, like everything that matters, be an arena in which the full force of creativity and intuition must be brought to bear?

The mathematical community took some time to digest the work of Gödel and

Turing, and several decades passed before this positive spin emerged. But already in 1944, just eight years after Turing's proof, the logician and mathematician Emil Post wrote, "The conclusion is unescapable that even for such a fixed, well-defined body of mathematical propositions, mathematical thinking is, and must remain, essentially creative." In 1952, the British mathematician John Myhill followed up with:

Negatively this discovery means that no matter what changes and improvements in mathematical technique the future may bring, there will always be problems for whose solution those techniques are inadequate; positively, it means that there will always be scope for ingenuity and invention in even the most formalized of disciplines.

Mathematics will never be complete. No machine or axiomatic system can tell the entire story. But this uncertainty is not a source of despair—it is the most essential part of being human, the boundary of our finitude. We are limited beings, but these limits are meant to be faced and transcended.

PLATONISM SEEMS TO FIT our understanding of the integers and computer programs, but we have reason to be far less confident in the more remote branches of mathematics. Consider the set of all real numbers: not just numbers we can name, like $\frac{2}{3}$ or π , but the entire number line you drew in school, with every possible sequence of digits after the decimal point. In 1874, the German mathematician Georg Cantor proved that there are more real numbers than there are integers. Both sets are of infinite size, but one is more infinite than the other.

In 1878, Cantor put forward the "continuum hypothesis." It states that there are no sizes of infinity between these two: that the continuum of real numbers is the smallest set bigger than the set of all integers. (The alert reader may point out that the set of rational numbers—fractions such as $\frac{1}{2}$, $\frac{2}{3}$, $\frac{17}{10}$, and so on—includes all the integers but not all the reals, so it seems to lie in between those two sets. But there is a way to line up the integers and the rationals with each other such that each integer corresponds to a rational and vice versa. Thus these two sets are actually the same infinite size.) Cantor, however, was unable to find a proof. At the outset of the 20th century, this was considered one of the leading open questions in mathematics, appearing at the top of a list of problems that David Hilbert presented to the International Congress of Mathematicians in 1900. Over the next decades, many of the great logicians and set theorists tried to prove or disprove it.

Gödel was one of those who believed that the continuum hypothesis was false. But in 1940, he proved that it couldn't be disproved using the standard axioms of set theory, namely ZFC, and in 1963 the American mathematician Paul Cohen showed that it couldn't be proved from ZFC either. We really can have it both ways: there are many

consistent pictures of infinity. In some, there is no intermediate infinity between the reals and the integers. In others, there is one, or even infinitely many. The standard axioms simply do not exclude either possibility: we say that the continuum hypothesis is *independent* of the axioms.

One might have several reactions to this. Gödel was delighted by Cohen's proof of independence. But since he was also a Platonist, he felt that questions about infinite sets had answers, as surely as do questions about the integers. Either the continuum hypothesis is true or it is false. If the standard axioms can't settle it either way, let's look for stronger axioms that will.

We could adopt a pluralistic attitude instead and conclude that we can think about infinity in many ways. Unlike with the bell-ringing Mersenne-searching machine, there is no conceivable physical system whose behavior depends on whether the continuum hypothesis is true or not: infinity is not subject to experiment. Cohen's work was based on a new technique called "forcing," which allows set theorists to create a wide variety of possible worlds. As with non-Euclidean geometry, as long as these worlds are beautiful and interesting, we can embrace all of them. Perhaps the realm of the infinite is more like religion than physics. Perhaps it has no singular truth shining like Plato's sun, and we should let our fellow humans believe what they like.

OUR WILL TO TRUTH IS OFTEN frustrated, even in the crystal world of mathematics, where we might expect certainty to rule. Hilbert's hopes for a complete system that would provide truth once and for all were irrevocably dashed by Gödel and Turing.

But we have not reacted by abandoning the search for truth—quite the opposite. This search has revealed a rich array of mathematical worlds, with different methods of proof, different axioms, and different visions of infinity. None of these alternate worlds captures all of mathematical truth. Each one offers a perspective, and in their plurality they hint at the whole. Thus one might say that modern mathematics has moved us from Platonism to pluralism.

But this pluralism is not an empty relativism, where we agree to disagree and go our separate ways, as if we have nothing to say to each other. Neither is it a nihilistic relativism where we declare that it's all nonsense anyway, then retreat to our separate bubbles muttering about "alternative facts" and "fake news." It is more akin to the active, vibrant pluralism of a civil society, where we work to understand each other's ways of thinking, explore our similarities and differences, and seek common ground. It requires us to respect each other's views but insists on our right to question them. It admits our ignorance while remaining optimistic that we can learn more. It insists that there is a truth that we can and should pursue together—but that this pursuit is endless, with uncertainty our constant companion. ●

For Richer, For Poorer

A JEWISH IMMIGRANT MARRIED A GILDED AGE SCION. THEY WORKED TOGETHER FOR SOCIAL JUSTICE UNTIL THEY DIDN'T

ADAM HOCHSCHILD

A CENTURY AGO, *The New York Times* was even more sober than it is today, seldom deigning to cover the titillating stories of love or scandal that fueled its lowbrow competitors. But on April 6, 1905, an extraordinary headline greeted readers at the top of the paper's front page: "J. G. Phelps Stokes to Wed Young Jewess." Other newspapers across the country and the world were no less enthralled. The *San Francisco Chronicle's* story, "New York's Most Interesting Romance," was framed by drawings of two winged cupids. The religious press weighed in as well, *The Christian Advocate's* account titled "Hearts Making Havoc of Conventionalism."

In the America of 1905, intermarriage between gentiles and Jews was indeed unconventional. But something else made this match even more startling: the enormous gap in class between bride and groom. We feel the same fascination with inter-ethnic and rags-and-riches marriages today. Would most of us, for instance, even know who Meghan Markle was if she had not married into the British royal family?

If American royalty existed, the Phelps Stokes dynasty was it. At 33 years old and six feet four inches tall, James Graham Phelps Stokes, Graham to his friends, was its crown prince. Several Phelps Stokeses were among the legendary 400 people—the capacity of Mrs. William Backhouse Astor Jr.'s ballroom—who constituted New York's Gilded Age high society. The roots of the clan's fortune went back to colonial times and included Manhattan real estate, a Nevada railroad, and the Phelps Dodge mining empire. A decade prior to Graham's engagement, his parents had built a 100-room summer "cottage" in the Berkshires, at the time the largest private home in the United States.

Adam Hochschild's new book, *Rebel Cinderella: From Rags to Riches to Radical, the Epic Journey of Rose Pastor Stokes*, from which this article is excerpted, will be published this month.



Rose and Graham Stokes on their wedding day in 1905. They had met two years earlier, when Rose interviewed him for the Jewish Daily News.

A story had it that one of Graham's brothers, in the class of 1896 at Yale, telegraphed his mother that he was bringing "some '96 men home for the weekend." The apostrophe failed to appear in the telegram, and his mother replied, "Many guests here already, don't bring more than 50."

The woman Graham chose to marry, auburn-haired, 25-year-old Rose Pastor, was from the most different kind of family imaginable. With less than two years of formal schooling, she had gone to work at the age of 11, spending the next dozen years laboring in cigar factories. By the time she was in her 20s, that work provided the only earnings to support herself, her mother, and six younger brothers and sisters who had been abandoned by Rose's ne'er-do-well stepfather. It wasn't enough, and several of the children were placed in foster care. Moreover, Rose was a refugee in an America as roiled by hostility to immigration as it is today. When she was a small child, she and

her mother had fled the spate of pogroms that followed the assassination of Russia's Tsar Alexander II in 1881.

No American match of its time won more attention—or more enthusiasm. An effusive editorial in New York's *Evening World* called it an “amazing marriage” and praised Graham: “All honor, in this generation of idle, rich and spendthrift young men, to one who has the courage of his convictions, the fervor of his faith and the daring of his devotion!” When the two appeared in public for the first time after news of their engagement broke, at a speech Graham gave at New York's Municipal Ownership League—not normally a venue for displays of great emotion—the crowd waved handkerchiefs and cheered for minutes before they would let him speak.

Why such joy? Surely one reason is that we always want to feel that love conquers all, and the nation of 1905 had a deep divide to be conquered. While robber barons enjoyed yachts, mansions, and private railroad cars, millions of new immigrants lived in grimy tenements without hot water. Hazards ranging from collapsing mine tunnels to exposed gears and moving belts that snagged the limbs of exhausted factory laborers claimed the lives of roughly 35,000 workers annually. Legal protection for labor organizing was almost nonexistent, and the National Guard and armies of private detectives put down labor revolts: 200 workers were killed and nearly 2,000 injured in this domestic warfare every year.

In celebrating the marriage of Graham Stokes and Rose Pastor, wealthy Americans could comfort themselves into thinking that maybe the country wasn't so divided after all. Working-class women could hope for their own Prince Charming. And to idealistic radicals, what could better symbolize human brotherhood than such a marriage of rich and poor, native-born and immigrant, gentile and Jew?

From the moment the press learned of their engagement, Rose and Graham lived in a blaze of unrelenting publicity that would last nearly two decades. Reporters chronicled their every move, and some readers were so fascinated that they compiled scrapbooks about the couple. A thick one full of brittle, yellowing newspaper clippings can be found at the New-York Historical Soci-

Rose Pastor at the age of 15, third from left in the back row, with other cigar factory workers. She did the work for a dozen years.



ety today. And then, some dozen years after they married, a series of events that no one anticipated put Rose Pastor Stokes in the news even more. Over a three-year period, she became the woman whose name was most often mentioned in the nation's press (only five Americans—all men—received more coverage). The journalists of the time would have paid Rose even more attention had they known that a close relative of Graham's was covertly trying to have her arrested and deported. But this is getting ahead of our story.

DESPITE THE DEEP DISMAY of Graham's family, the couple did marry, in July 1905. After a long honeymoon in Europe, they returned to New York. Graham, who had been involved in various do-good reform groups, and Rose were determined to work together to attack the vast social problems of the day. These ills were nowhere more glaring than in the city's dilapidated tenements.

Hundreds of men, women, and children were squeezed, five or six to a room, into each six-story walkup. In these buildings, where about two-thirds of New York's population dwelled, 350,000 rooms had no windows at all, or ones that opened only onto an air shaft so narrow, you could reach across and shake a neighbor's hand. The bottom of the shaft was typically filled with stagnant water and rotting garbage, and in warm weather the stench, added to air already ripe with horse manure and coal smoke, could be overpowering. Outside, wrote one observer, a person on foot "had to pick and nudge his way through dense swarms of bedraggled half-washed humanity, past garbage barrels rearing their overflowing contents." Hungry, sharp-eyed children roamed the streets scavenging coal and wood scraps for family stoves.

For some months, the newlyweds were unsure what they should do. One of Graham's sisters invited Rose to several meetings of the National Flower Guild. This consisted, as Rose later put it, of wealthy women who "were supplying the poor in the tenements with window-boxes 'at a very low price,' and sending their no-longer-fresh boudoir bouquets to the sick in the hospital wards. The spectacle filled me with a fierce impatience." Traditional charity, she said, was like a small boy with a tin pan trying to empty a pool of water fed by an unseen fountain.

In 1906, they thought they had found a way forward: both Rose and Graham joined the Socialist Party. As with the kingdom of heaven promised by Christianity, socialism was a blueprint of a yearned-for future, always seen in the most glowing terms. Because the people would own and control the economy, there would be no more of the boom-and-bust cycles that regularly threw millions of Americans out of work. There would be no more concentration of wealth at the top while the bottom half of the population remained miserably poor. There would be generous pensions, care for the elderly, and free kindergarten. And, of course, there would be no more war, for solidarity among workers throughout the world would transcend national rivalries. Other problems

of all kinds would be solved: under socialism, Graham declared, a police force “would hardly be necessary.” A headline in a socialist newspaper Rose would soon be writing for declared, “Socialism Would Cure Tuberculosis.”

The party was delighted to embrace this celebrity couple and quickly conscripted them to campaign for its candidate for governor of New York, John Chase, a former shoe-factory worker. The three traveled across the state together, calling each other “comrade” on the platform. Rose spoke as a worker who had experienced injustice firsthand, Graham as an intellectual who had studied different visions of society and had found socialism the best. Chase, a skillful raconteur, kept audiences laughing with funny stories. “It was a great night for the workingman,” reported the *New York Sun* of one campaign rally, “and the capitalists got many a hard wallop.”

Chase won only a small percentage of the vote, but the campaign proved a turning point for Rose. For the first time, she fully discovered her talent as a public speaker. She realized something else as well: she could connect with audiences in a way that the Yale-educated Graham could not. On the platform, one witness remembered, “he hemmed and stammered and made grotesque gestures.” Rose, on the other hand, had an instinctive sense of how to hold a crowd’s attention. “I made no notes and had no set speech,” she later wrote. “I coined my words as I stood and faced the audience. Speeches differed in approach as my audiences differed. ... I [was] determined to learn to think on my feet.”

In this era before radio and TV, the best way to reach an audience was public speaking. Rose and Graham were soon doing so sometimes three or four nights a week. They spoke to men’s clubs, women’s clubs, church suppers, a meeting of 60 clergymen, a demonstration of the unemployed, the Odd Fellows, the Woman’s Christian Temperance Union, as well as to distinctly unsocialist groups like the Daughters of the American Revolution—who were as curious as everyone else about this remarkable marriage.

The range of their audiences thrilled Rose. “I felt I could remove mountains,” she later wrote. “Nothing was too difficult, no campaign so hard and trying, but that I could come through it stronger and more buoyant.” When she talked to middle-class suburban groups, she evoked her life in inner-city tenements and sweatshops. When she spoke to workers, she told how happy she had once been to hear a factory owner flatter her for rolling cigars so fast, only to realize that she had provided him the excuse to drop the piece rate. When she spoke at the religiously oriented Chautauqua Institution summer colony in upstate New York, she likened “the wolves of Wall Street” to the thieves who fell upon the man on the road to Jericho.

“Mrs. Phelps Stokes made quite a hit at Barnard last night,” a worried Republican wrote to the president of Columbia University, suggesting that the college invite someone to speak against socialism. “She is immensely effective as a speaker,” reported *The New York Times*. “Her voice is vibrating and high. It is not strong, but by very distinct enunciation she makes herself heard perfectly.” She widened her own sense of America on

these tours, seeing new parts of the country, learning from those she spoke to, entering a coal mine in Pennsylvania to see the dark, cramped tunnels where the miners worked.

In the fall of 1908, Graham ran as a Socialist candidate for the New York State Assembly. Despite his militant denunciations of the “able-bodied men who live idly upon the product of the toil of others,” this lanky, gaunt figure did not set alight the “comrades” he spoke to. Campaigning for Graham at dozens of rallies, however, gained Rose more experience before crowds that ranged from a meeting of 3,000 women workers to impromptu gatherings she addressed from a fire escape or the back of a wagon. She spoke in English or Yiddish as the occasion required. “She is as much at home on the stump,” observed one newspaper, “as she is in her study or on the lecture platform.”

To the mainstream press, Rose remained Cinderella. The radicals who flocked to hear her may not have been completely immune to the Cinderella dream, but this couple who so obviously loved each other symbolized a future where all barriers of class and ethnicity would be dissolved. When the two appeared together, audiences often went wild. After they both spoke to an election rally at Rutgers Square on the Lower East Side, an enthusiastic, shouting crowd unhitched the horses from the open carriage carrying Rose and Graham and pulled it several times around the square themselves.

Eugene V. Debs was the Socialist candidate for president that year, and Graham was on the platform when he addressed a New York throng of 7,000. During his visit, New York Socialist Party leaders held a banquet. When it came time to pass the hat for funds, a clergyman mounted a table to better address the 500 diners. Rose then seized the headlines when she, too, climbed onto the table. She had no money with her, she told the crowd, “but I and many women here are wearing jewels which we really do not need.” She placed a large pearl stickpin on the table and then added, “I have a brooch at home and I never wear it. That, too, I’ll give.” This unleashed “great applause,” the *Times* reported, “and then from several parts of the room women cried out their gifts. A gold purse, a ring, a gold watch, a chain. ... Mrs. Stokes was so overcome that she burst into tears.”

.....

A FEW YEARS AFTER THE COUPLE married, a wave of strikes began that would deeply shake the United States for a decade to come. One of the first upheavals was a 1909 walkout by New York garment workers. Rose backed them enthusiastically, going often to court to help organize bail for arrested strikers. At one point, strike organizers dispatched her to two clothing factories on Broadway between 12th and 13th streets. As she tried to persuade a woman strikebreaker not to cross the picket line, a reporter was on hand to record a rare occasion when someone got the better of her in an argument.

“What is there in the future for you without the union?” Rose asked.

“I’m in hopes that some rich man will come along and marry me,” the strikebreaker answered. “Things like that occasionally happen.”

A strike in a different industry, however, would gain Rose even more attention.

Across the street from Grand Central Terminal was one of New York's most elegant hotels, the Belmont, adorned with frescoes, crystal chandeliers, and marble pillars. On the evening of May 7, 1912, a waiter in the Belmont's bar brought a black whistle to his lips and blew a loud blast, immediately answered by whistles from the hotel's several dining rooms. Patrons were startled, but the waiters, in white shirts and black coats, napkins over their arms, knew what to do. Organized by the "Wobblies," the Industrial Workers of the World, "one hundred waiters noiselessly departed into the streets," reported *The Evening World*. "Guests waited in vain while sautés cooled and salads withered and wine grew warm. A strike was on."

A long list of grievances led at least 5,000 waiters, busboys, dishwashers, chefs in tall white toques, and aproned chambermaids to heed whistles in some 50 other New York hotels and restaurants as well. Rose jumped into the fray immediately, serving on the strike committee, running some of its meetings, setting up a food kitchen for picketing workers, speaking at a gathering of black waiters to urge them to join the union, writing leaflets, and making daily phone calls from union headquarters to the socialist *New York Call* in time for the paper's deadline.

In notes she scribbled to herself during these weeks, you can feel her simmering outrage. Most hotel employees ate on the job, but the food was often "trimmings, refuse, leavings unclean and unwholesome. ... Everywhere the ordinary bill of fare is hash and stew—so the boss may use up the scrapings and leavings from the plates of the patrons." Sometimes the menu was horsemeat. "Coffee in 'Help's Hall' is usually brewed from yesterday's grounds." The sleeping quarters for women workers were "bunks, one above the other. Ten, fifteen, crowded into one room ... No ventilation; rarely a ray of sunlight." In one hotel, the women had to wash themselves and their clothing in the same tub where meat and poultry were cleaned. Worried hotel managers distributed photographs of Rose to front-desk clerks in case she tried to register as a well-dressed guest and then begin organizing the staff.

At the Amsterdam Opera House, 3,000 striking waiters and hotel workers rallied while another 2,000 stood outside. "Rose Pastor Stokes was greeted with applause when she entered the hall, and another outburst came when she rose to speak," reported the *Sun*. "Half way through her talk she was interrupted to receive a big bouquet of American Beauties and a smaller bunch of white roses." Cheering men raised their hats high as she swept down the aisle after her talk. It is striking, the bouquet: there is no mention of other women speakers at the rally receiving one. These workers seemed to recognize that Rose, born one of them, now lived in a world where flowers were abundant, but she was still on their side.

One object of the strike was the Ansonia, a luxury hotel that stretched—and, reborn as an apartment building, still stretches—for an entire block on Broadway, between



Rose Pastor Stokes in 1906. She was just finding her voice as a member of the Socialist Party, speaking on behalf of the poor.

73rd and 74th streets. This immense, turreted, white-brick-and-limestone edifice, frosted with Beaux-Arts balconies, cornices, scrollwork, and satyrs, was said to be the largest hotel in the world, and possibly its 2,500 rooms made this true. Its owner was Graham's uncle, William Earl Dodge Stokes, a real-estate mogul with a handlebar mustache.

Uncle Will, as Rose and Graham called him, was a notorious playboy always getting into the news: a paternity suit, a messy

divorce, a child custody battle, a dispute with two women the press euphemistically referred to as "chorus girls," one of whom shot him in the leg. Stokes was well known for carrying a pistol or two, laying them on the table beside his plate as he ate.

An ardent follower of the eugenics movement, Uncle Will believed that America's Anglo-Saxon gene pool was being corrupted by immigrants from places like Italy, Eastern Europe, and Russia. He was enraged to find his hotel employees on strike—with his nephew's wife as one of the organizers. He fired off a choleric letter to Rose:

You have upset the minds of thousands of waiters, buses [busboys] and cooks who came here from distant lands, some, perhaps with the honest intention of becoming good American citizens. You have made them dissatisfied, unhappy and caused them to lose their positions. ... The sooner this country gets rid of this rotten trash the better.

His next attack on her would be far worse.

.....

AS ROSE PASTOR STOKES played an ever more prominent role in events like these, her husband now seldom appeared on the platform with her. Even in the excitement of their first years of touring together, he enjoyed it far less than she. "At the ends of meetings,"

she would later write, there were always “workers pressing forward for a handclasp and a word. ... To me the experience was like healing. ... But Graham always wearied. I could not understand how it was with him. ‘Come on, Girlie, I am tired to death!’ he would moan.”

Graham Stokes now lived a peculiar double life. A Socialist candidate for public office several times in all, he also served on the party’s seven-member national executive committee, writing letters on party business that closed with “Fraternally Yours.” Yet at the same time he dutifully helped his father in managing an array of businesses, among other things traveling to Nevada once or twice a year to check on the family’s railroad and gold and silver mines there. He seemed able to compartmentalize the strangeness of it all, appearing with Eugene Debs before wildly cheering workers one day and heading for his office near Wall Street the next to deal with leases, mortgages, audits, and insurance. Even in the midst of that 1908 election season, when he and Debs were on the ballot together, the family sold a large mine in Nevada, where a local newspaper identified Graham as “the moving spirit” behind the deal.

By 1914 or 1915, friends began noticing signs of tension between him and his wife. But a disagreement burst into the open only in late 1917, after the United States entered the First World War. Unlike most other socialists, Graham and a small group of his friends in the party, almost all of them similarly wellborn, were vocal enthusiasts for the war; Graham’s ardor was so strong that he enlisted. To his frustration, he was too old at 45 to be sent overseas, but he spent several years in uniform in the New York National Guard. Rose, however, came to feel that the United States should have no role in this battle between rival capitalist powers and that it was making a huge mistake.

“Mrs. Stokes and I still have the same ideals, the same aims,” Graham judiciously explained to a reporter from the *New York Tribune*, “but we differ on the means of attaining them.” They greeted the journalist together in front of the living room fireplace in the Greenwich Village townhouse they had recently moved into, but Rose went upstairs while Graham described his position on the war, and he did the same while she laid out hers. Despite the blazing fire, it sounded like a chilly occasion.

For the first time in her life, Rose now embarked on a campaign totally opposed to what her husband stood for. By early 1918, she was on the road, speaking out against the draft and the myth, as she told one audience, “that this war is being fought to make the world safe for democracy. It is being fought to make the world safe for capital.” Some crowds hissed and booed, sometimes people walked out—unusual experiences for her—but she continued undaunted.

Meanwhile, the government used the war effort as an excuse to crack down brutally on organized labor, breaking strikes, raiding every IWW office in the country, and shipping Wobbly organizers to Chicago in sealed freight cars, where more than 100 of them were put on trial.

Some 75 newspapers or magazines either had issues banned by the government or

were shut down altogether. With Justice Department encouragement, vigilante groups broke up antiwar or left-wing meetings and hunted down suspected draft dodgers. A mob wrecked the Socialist Party office in Boston. In Tulsa, hooded men captured 17 Wobblies and whipped, tarred, and feathered them. A crowd in Collinsville, Illinois, seized a coal miner who had the bad luck to be German born, stripped off his clothes, wrapped him in an American flag, marched him to a tree outside town, and hanged him. When 11 members of the mob went on trial, a jury deliberated for 45 minutes and voted to acquit them of all charges while a military band played outside the courthouse.

Graham's Uncle Will enthusiastically shared this martial spirit. For months he had been firing off letters to government officials, passing on to them wildly unreliable tips about sinister Jews who might be disrupting the war effort. Finally he wrote to Assistant Attorney General Charles Warren, an influential Boston Brahmin who shared his enthusiasm for eugenics, about one Jew in particular. "My nephew, J. Graham Stokes ... married Rose Pastor. He is as fine a young man as ever lived, but he is married to a woman who was born under a cloud with a grievance, and she is dangerous."

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USING THE DRACONIAN NEW Espionage Act, the government wasted little time in prosecuting prominent leftists who spoke out against the war effort. Eugene Debs, Emma Goldman, and Wobbly leader Big Bill Haywood—all friends Rose had worked with—were sent to prison. Rose's turn to be arrested came when she was on a speaking tour in Missouri. The pretext was a letter she had written to the editor of *The Kansas City Star*, saying, "No government which is *for* the profiteers can also be *for* the people, and I am *for* the people, while the government is for the profiteers."

Graham rushed to Kansas City and hired a lawyer, who won his wife's release from jail on \$10,000 bail. "It was a bitter thing for me," Rose wrote to a socialist comrade, that she had to depend on his money. Graham made his own political position clear by announcing that he was spending another \$10,000 to buy war bonds.

When Graham joined her in Kansas City—leaving neither of them home at the townhouse—his uncle telephoned the New York office of the Bureau of Investigation (the predecessor of the FBI), which logged his call: "Agent received word from W. E. D. Stokes that ... if a search was made of the premises some valuable information could be secured." The next day, two agents searched the house.

Ten days later, when the couple returned to New York, Uncle Will fired off another letter to the Justice Department saying that he had talked to both of them. Graham, he reported, "thinks she has gotten a good scare. ... She, on the other hand seems to covet jail or anything else for the good of her cause." What the government needed to do, he insisted, was deport her: "Do you suppose ... that she could be given a passport to go to Russia, the country from which she came, and let the matter end there?"

Rose's trial lasted only three days. Channeling the xenophobic spirit of the day, a prosecutor reminded the jury that she was an immigrant, speaking of "the venom that is in the heart of this foreign-born woman." Rose was asked, "Do you believe in patriotism as defined in Webster's Dictionary as the love and adoration for one's country?"

"I love all countries," she replied.

She was found guilty. He was horrified by the verdict, but Graham's response was not without grace. "There is compensation in everything," he told a Kansas City reporter. "Mine is that I think more of her than I ever did in my life."

He promptly headed back to New York to march in a parade with his National Guard regiment. A few weeks later, Rose was sentenced to 10 years in prison.

Still out on bail, she appealed the verdict. It was now the summer of 1918. From a Europe bled dry by four years of brutal fighting came reports that trade unionists and left-wing legislators in the Allied countries were pushing for a peace conference—anathema to their governments, which wanted no negotiations short of a German surrender. Graham managed to persuade the State Department to let four members of his small group of pro-war socialists travel to Britain, France, and Italy to lobby their European colleagues to abandon their calls for peace.

His National Guard service kept him in New York, but the delegates set off across the Atlantic, and soon he was receiving upbeat telegrams about successful meetings in London, Paris, and Bologna. "Dangerous tide pacifism turned back," said one. However, the real tide now turned back was the all-or-nothing attack into which the German army had poured its last remaining manpower, aiming to capture Paris. As the Germans retreated, an Allied victory seemed assured, and so interest in a peace conference evaporated. Nevertheless, Graham proudly believed that his small group had played a key role in boosting Allied morale. When the delegation returned, he wrote, "President Wilson personally invited me and half a dozen of my most intimate associates ... to meet him at the White House where he extended to us a most cordial expression of his gratitude." Has there ever been a case where one member of a couple was received in the Oval Office while the other had just been sentenced to 10 years in a federal prison?



Graham Stokes's uncle William Earl Dodge Stokes, who wished to see Rose deported to Russia, "from which she came"

NEARLY TWO YEARS AFTER Rose's trial, the U.S. Court of Appeals declared that the evidence against her was convincing but found fault with the judge's instructions to the jury and remanded the case to the lower court. For the Justice Department, this meant a new trial. The attorney general asked the president whether to proceed. "I believe that Mrs. Stokes is one of the dangerous influences of the country," Woodrow Wilson answered, but he did not want to prosecute her again. "I think the country feels that the time for that is past."

By now, the political paths of Rose and Graham had completely diverged. Serving in the National Guard gave him a focus that his life had previously lacked. In correspondence, his secretary and even people not writing on Guard business began referring to him as "Major Stokes." He abandoned all interest in progressive politics and joined a number of military and patriotic societies.

Rose, meanwhile, moved steadily further to the left, joining what would become, after a confusing period of doctrinal feuding and name changes, the Communist Party. In 1922, as an enormous parade of soldiers, workers, trucks, artillery pieces, and lance-carrying cavalymen trooped through Moscow's Red Square to celebrate the fifth anniversary of the Bolshevik seizure of power, Rose was among the guests of honor. She was an American delegate to a congress of the Communist International, which was addressed by Lenin in the gold-and-white marble hall in the Kremlin that had once been the throne room of the tsars.

Back in New York, she found her marriage now stiff and uneasy, with many subjects off limits. Others tried to avoid getting caught in this minefield. "I have been intending to write to you and apologize for not accepting your invitation to come to dinner," the novelist Upton Sinclair wrote to Rose. "I should have felt so unhappy about meeting Graham under the circumstances existing. I am very fond of Graham personally, and I should like to sit down and have a heart to heart talk with him, but to meet him and not refer to the subject of politics—I just wouldn't know how to do that."

They parted finally in 1925, when Rose stormed out of the house and did not return. "We are active soldiers in opposing armies, you and I," she wrote to Graham. "We cannot set up for ourselves a peaceful tent in No-Man's-Land." Yet at some level neither of them wanted to separate. One of Graham's letters begged her, "*Come back, Girlie.*" And Rose, too, felt torn. "I passed Graham on the street," she wrote to a friend 10 months after she walked out. "He did not see me. But I caught the look in his face, his eyes; and I have been weeping myself blind over it." This was the last time she would ever see him.

THEIR DIVORCE PUT THEM briefly back on the front pages, but following that, the couple dropped out of the news. It was their unusual marriage that had made them

celebrities. Without it, Graham was merely a wealthy, aging former radical with no particular profession, and Rose was a true-believing Communist at a time when, in the America of Calvin Coolidge and Herbert Hoover, that movement was minuscule.

Furthermore, something took Rose by surprise when she stalked out of their red-brick townhouse forever. She seemed to lose all interest in political work. “As I look back at the last few years,” she wrote to her best friend, “I verily believe that, if it had not been for Graham’s hard opposition I’d have given up long ago my intensive activities. ... Now that the break with Graham is complete ... I haven’t the least desire to get into crowds, to go to meetings, public or private.” Her 20 years of campaigning came to an end. “I am not very active now, Comrade,” she wrote to a Communist Party official. “I look forward to the day when I can get into the fight as usual,” she added, but that day never came.

As a matter of principle, Rose refused to ask for alimony. For a time, she shared a \$40-a-month flat with a roommate, and then, moving to a small, heavily mortgaged cottage in Connecticut, she took in a boarder and a child for whose care she was paid \$15 a week. For the first time in a quarter century she sometimes went hungry; at one point, after borrowing a few dollars from a sister and a brother, she owed money to the grocer and possessed only 36 cents in cash. She finally found a secretarial job at a small, Communist Party-connected relief agency.

She and Graham each married again, Graham to a much younger woman who was the daughter of a railroad executive, Rose to a penniless Jewish immigrant from Russia and fellow Party member. In early 1930, a reporter went looking for the woman to whom the nation’s press had once devoted hundreds of thousands of words. He found her living back in Manhattan with her new husband and her 10-year-old stepson in a cramped fourth-floor walkup flat on Second Avenue near 13th Street. Several newspapers picked up the story—“Once Rich ‘Ghetto Rose’ Now Reported Destitute,” read one headline—and also revealed that she was suffering from cancer.

As the news spread, old friends and admirers sent messages of support, and from one doctor came an offer to treat her without payment. Upton Sinclair and other friends—almost certainly without Rose’s knowledge—appealed to Graham to help pay for her cancer treatment. “I am now assured by friends of hers in New York, that sufficient funds for her care for a year have been raised,” Graham replied to Sinclair’s plea. “If I could help her without helping her work, much of which appears to me to be so very abominable, I should gladly do so, but I don’t see how I can.” Rose died in 1933, one month before her 54th birthday. Graham would live until the age of 88, dying in 1960.

But Cinderella-like dreams live on. “The Cinderella story,” wrote Tennessee Williams, “is our favorite national myth.” Today, Rose and Graham Stokes are long forgotten, but during their 20 years on the national stage they embodied that myth in a more dramatic and haunting way than any other Americans, before or since. ●

POETRY

Living in the Song

LANGDON HAMMER

RHYME AND METER are commonly understood today as technical constraints, as barriers to expression, standing between the poet and experience. But what if we were to turn the idea around and view them as vehicles of access, perhaps even a means of letting go, of getting closer to life?

A. E. Stallings plays with this question subtly in “Getting In.” She starts by making a distinction between people at the beach who dive right in and those who take a considered approach. The poem is on the side of patience, and its own formal organization makes the case. As the poem proceeds couplet by rhymed couplet, each pair suggests a foot put forward, followed and completed in the next line by a second step. Pause ... for the length of a stanza break. Then we are ready to go forward in the same way, and head in deeper.

Or consider the meter, which conveys Stallings’s idea kinetically. “Some *people jump*, some *people dive*”: four plump iambs confidently splash, to begin the poem. Then a reversal of the stress pattern puts on the brakes: “*Others inch by inch arrive.*” In order to hear clearly the difference between those rhythms, add an unstressed filler word like *while* or *the* to the start of the second line. This will give the line the iambic pattern of the first and take the energy and interest out of it. The contrast between plunging forward and holding back is captured on still another level in the same couplet (this is phonology now, not meter)—in the difference between the pushy plosive p’s

of “people jump” and the sharp, short intakes of breath required by the i’s in “inch by inch.”

Such effects are simultaneously minor and essential, almost beneath notice *and* what we are intimately attuned to when we respond to poetry. A poet creates them not by counting syllables and weighing stresses in a mechanical exercise of technique, but by employing a flexible working knowledge of language’s expressive properties and potential, which we might as well just call feeling. And feeling, feeling your way into an experience, “inch by inch” and line by line, is very much what “Getting In” is about. Going slow is a good way, maybe the best way, to go deep.

But “Getting In” is not a poem about poetry, or if it is, it functions like any poem that deeply engages its medium while also reflecting on it. No, “Getting In” is a poem about the awkward pleasure and tangy discomfort, indeed all the physical sensations, involved in wading into a lake or the ocean, until you are really *in* the alien medium and “out of your depth.”

Life and language—Stallings’s poetry loves them both and discovers each one in and through the other. This is what happens in the triumphant wordplay of “Daylilies,” where the flower’s name becomes the name for lost time. Richard Wilbur might have written “Funeral of a Bumble Bee” and been satisfied with it. In the elegy “Song for Jacqueline,” the singer disappears in the song, and it preserves her when she is gone.

FIVE POEMS | A. E. Stallings

Getting In

Some people jump, some people dive,
Others inch by inch arrive

And give themselves up to the chill,
Piecemeal, with a grudging will:

First toes, then ankles tempt the cold,
And backs of knees, that, tender, fold,

Then thighs that start to pimple, blotch,
A shock like ice that slaps the crotch

And slides up shivering past the hips,
(And into the bellybutton slips).

Elbows hitch higher, till a ripple
Laps the aureole and nipple

(Sea-urchin shells, repoussé, round).
The armpits shrug until they're drowned,

Now collarbone, now nape, now chin,
And now, out of your depth, you're *in*.

Daylilies

I remember them, a lifetime back,
Fanta orange, the way they grew
Feral by the railroad track,
Abundance in abandon, swarms
On the embankment, gravelled, steep.
I'd pick some for a vase, or two,
Back then, when I held beauty cheap,
There for the taking, in your arms.

Each afternoon was thunderstorms,
High dudgeon in the crowns of oak
And umbraged clouds, lightning would drop,
And then a hundred dishes broke.
And just as quickly, it would stop,
A dripping peace, the sodden worms,
Birdsong in the treble wires,
The clouds cerise with under-fires.

Is memory a kind of praise?
Each day the same storm would unfold,
And in post-thunder afternoons,
The after-light was syrup-gold,
As one by one, the flowers scrolled
Shut, like jaundiced silk cocoons,
And some plunked on the tabletop,
Those days ephemeral as days.

Funeral of a Bumblebee

I found a bumblebee, who'd died:
Its head was bowed, its torso curled,
It lay, tipped over to one side
Here at the coda of the world.

Its black wings smooth as polished oars
Were poised mid-stroke. An empty tower
Of silence droned, as loud as snores
That drowsed their way from flower to flower.

Its sable fur was trimmed with gold,
Its hands were folded to its chest.
Let poppies close now, unconsolated,
And six ants bear it to its rest.

Song for Jacqueline

*When she was stressed she would tuck herself away and sing. I
always knew when she had been singing because she would emerge
from the cellar where she had privacy absolutely beaming.*

—Barney Spender

She went to song when she was stressed,
The room where she was host and guest,
And when the world was highly strung,
The song was where she went to rest.

Though song is disembodied, sung,
An air that's made of air, among
The other breaths, the sigh, the rose,
And melts like silence on the tongue,

Yet song is where the singer goes
Down scales and up arpeggios,
The tall shelf where she puts her pain,
And takes down radiance and repose.

Does singer or does song contain
The tears that rain down right as rain,
The bridge and hook, the blue note bent,
The burden that is song's refrain?

The song had need of her—her scent,
Her warmth, her body's instrument,
And now we must take up the song
Because the song is where she went.

Little Iliad

Achilles,
begin
counting
down.
Even
for
god-like
Hector,
Ilium
just
keens
lullabies.
Mourn
no
orphans.
Priam's
quiet
ransom
settled,
today's
unsung
victory
won't
extinguish
yesterday's
zeal.

GEORGE BRADLEY

Negative Space

Philip Larkin was middle aged at birth
and came into his post-imperial world
dressed in spectacles and quiet clothing.
Proud of being nasty, he produced art
drunk or sober in little poems distilled
from a homemade mash of equal parts
envy, bile, self pity and self loathing.
Some were quite well done, for what it's worth.

Myself, I never liked it much, the verse.
Put beside the undeniable glories
of English poetry, the reaching wild
cosmology of Blake, the tender yet
unblinking gaze of Keats, the squalid stories
Larkin tells appeared inadequate
if not decayed, clotted trifles that spoiled.
The letters he sent are evidently worse.

Now I begin to wonder if he hasn't
been waiting up ahead. Come in my turn
to the inglorious reduced reality
of middle age and waking late at night
to take a piss and read awhile, I learn
the use of poets who appreciate
negative space, not capability,
not writing what life was, but what it wasn't.

George Bradley is a Yale Younger Poet and the author of five books of verse. His *New & Selected Poems* will be published next autumn.

Peggy's War

A PIONEERING AMERICAN JOURNALIST TRAVELED
THE WORLD WHILE FIGHTING HER OWN BATTLES AT HOME

PAMELA D. TOLER

PEGGY HULL HEARD THE NEWS of V-E Day on a static-filled radio in the orderly room at a location she described in her dateline only as “A Little Army Camp in the South Seas.” She and “her boys” found it hard to get too excited about the news. Hull had lived alongside the young soldiers for several months, roughing it, as she wrote to a friend, “in a hut in an army camp—sleeping on a canvas cot—running out of doors to a latrine and a shower shed quite a distance away—plowing through dust one day and mud the next.” Some of the soldiers had been at their stations for more than three years, longer than any American forces had been in the European theater. The most they were hoping for was that Germany’s surrender would free up forces to support them. As Hull reminded her American readers, “It is over on that side of the world, but it is not over, over here.”

Yet “over here” was exactly where Hull wanted to be. During World War II, new opportunities opened up for women in the newspaper business as men left to become soldiers or war correspondents. With publishers desperate to fill the vacant positions, women reporters made the leap from the society page to the front page. By 1943, newspaper staffs in smaller American cities were 50 percent female. Some women worked as copy editors and typesetters. Some ran presses. But almost 130 found their way overseas as war correspondents.

At 54, Peggy Hull was determined to be one of them. The first woman accredited as a war correspondent by the U.S. military, she had already reported on four armed conflicts between 1916 and 1932, often traveling alongside the soldiers, and she was eager to get back into the game. As Hull told a reporter for *Editor & Publisher* shortly after she arrived in the Pacific theater, “I’ll never tire of doing this work, and as long as we have American boys in isolated parts of the world, I want to write their story for them.”

Pamela D. Toler is an independent scholar. She is the author of eight books of popular history for children and adults, including *Women Warriors: An Unexpected History*.

IN 1905, 16-YEAR-OLD Henrietta Goodnough applied for a reporting job at the *Junction City Sentinel*, a small-town paper in her native Kansas. The editor told her he didn't need another reporter, but if she didn't care about the condition of her fingernails and was willing to set type, she had a job. She took it. Two weeks later, she received her first reporting assignment.

Over the next 10 years, she moved from newspaper to newspaper, chasing opportunities and, for a time, following her first husband, a charming journalist with a drinking problem named George Hull, whom she married in 1910 and divorced six years later. She worked at newspapers in small towns and big cities in Colorado, California, Hawaii,

Ohio, and Minnesota. Her editor in Minneapolis encouraged her to use a pseudonym, saying he wouldn't be caught dead putting a name like Henrietta Goodnough Hull at the top of a column in his paper. Together they came up with Peggy Hull—the name she would use for the rest of her life.

"As long as we have American boys [at war], I want to write their story for them," said Hull, pictured here with three Army officers during World War II.



She wrote feature stories, human-interest pieces, “little tales” for the children’s section, and accounts of trials, plus shopping columns that were the early-20th-century ancestor of native advertising, a form she fell back on whenever reporting jobs were in short supply. Hull was writing one such shopping column for the *Cleveland Plain Dealer* in 1916 when President Woodrow Wilson mobilized the Ohio National Guard to patrol the Mexico-U.S. border as part of General John “Black Jack” Pershing’s Punitive Expedition against the Mexican revolutionary general Pancho Villa. Hull decided that she wanted to travel with the troops as a reporter.

The transition from shopping columnist to war correspondent was not an obvious one. The managing editor of the *Plain Dealer* refused to give her the assignment, saying he “wouldn’t be a party to sending a girl to an army camp.” Unable to get financial backing from the newspaper’s editorial department, she announced her intention to work as a freelancer, selling stories to any newspaper that would buy them.

So many reporters requested permission to accompany Pershing’s troops into the field that an overwhelmed War Department was forced to improvise a lottery system. With even reporters from major publications jockeying for permissions, it’s not surprising that a woman freelancer was not allowed to travel to the front. Although Hull didn’t make it into Mexico with Pershing’s army, she managed to become the darling of the troops that guarded the border when she marched with them on a grueling 15-day hike from El Paso, Texas, to Las Cruces, New Mexico.

The march turned out to be harder than she expected. The uniform she had designed for herself, based on those worn by the Ohio guard, consisted of a gray wool skirt that reached to midcalf, a tailored flannel tunic, and a campaign hat with a chin-strap, but it did little to protect her from the elements, and her heavy rubber-soled shoes were not as sturdy as the soldiers’ boots. Hull’s feet started to hurt before she reached the El Paso city limits. As the day went on, she lagged farther and farther behind. She wasn’t alone. By the day’s end, a young soldier limped beside her. The next day was even worse. A sandstorm blew up, and Hull reported to her readers:

Units became separated. Minor commands were lost. Water wagons were overturned in the desert, or else lost their way and wandered from the main column. The wind raged and blinded us all with fine white sand. We had no luncheon and no dinner. About one o’clock in the morning after the storm had spent itself, our weary field kitchen staggered into camp and the First Kentucky Field Hospital—I was traveling with them—turned out for food—and such food. Sanded bacon—sanded bread—sanded coffee sweetened with sanded sugar.

She was miserable. She felt as if she “had never had a bath,” and her hair was so bristly that it was hard to sleep on it. But she had convinced the officer in charge of the march



As a reporter, Hull didn't have a uniform, so when she accompanied the troops to New Mexico, she designed her own.

to allow her to join it, and she refused to quit. By sheer determination, she lasted until she reached Las Cruces.

Hull's account of the discomforts of her march with the men was typical of her reporting from the border: sassy, brassy, and humorous. Most of her stories were short, chatty pieces that described her experiences of being near, if not on, the front. The reports gave people back home a reassuring glimpse into the daily lives of the troops. But the headline of Hull's final story about the Punitive Expedition made it clear that this story would have a different tone: "Pershing's Ten Thousand Back From Mexico Desert, Silent, Swarthy and Strong." Her description of the expeditionary force's return ran on the front page of the *El Paso Morning Times* on February 6, 1917, and was accompanied by a picture of Hull in the uniform that she had designed for herself.

The article is heavy with dust, exhaustion, and the sound of tramping boots. When General Pershing and his aides rode past, she noted that "their faces were seamed and white dust hung heavily on their faded uniforms." As the dust from their horses' hooves settled, the infantry marched into view, heralded by "a hundred tiny beams from the barrels of glistening rifles [belonging to the] boys who had walked—over hundreds of miles of dry country—over rocks, hills and almost impassable mountains—all the way there and now—all the way back." This was not "the triumphal return of a victorious army," but it was also not the dejected retreat of the defeated. Eleven months in Mexico in pursuit of Pancho Villa's elusive band had transformed Pershing's amateurs into "an efficient, unsentimental, hardened fighting machine."

A different version of Pershing's return appeared on page four of the *Morning Times*. Hull had upstaged the general by meeting him on horseback as he led his troops out of Mexico and into El Paso. The *Morning Times* ran a photograph of Hull riding next to Pershing on a white horse and holding a giant bouquet, with the caption, "Peggy Rides at Head of Cavalcade of Distinguished United States Army Officers." Newspapers around the world published the same picture with the caption,

“American girl correspondent leads troops out of Mexico with General Pershing.” Black Jack Pershing was not amused.

If the Punitive Expedition failed to capture Pancho Villa, it did accomplish something more important. It served as a training ground for America’s entry into the war then raging in Europe. It also seasoned self-styled “girl reporter” Peggy Hull. Denied permission to cross the border into Mexico and report on the activities of Pershing’s troops in the field, she developed what would become her trademark style of reporting: “little stories” about the daily life of an army at war, almost two decades before Ernie Pyle became famous for a similar approach. She also made contacts that would be important for the rest of her career—members of the press corps such as Floyd Gibbons and Webb Miller, who would become influential correspondents, lieutenants who would become colonels, and colonels who would become generals. Many of them would help Hull overcome bureaucratic hurdles in the future.

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THE OHIO NATIONAL GUARD returned to Cleveland at the end of the Punitive Expedition, but Hull stayed in El Paso, writing for the *Morning Times*. When the United States entered World War I two months later, in April 1917, Hull hinted to her El Paso readers that she was up to something: “I can’t tell you now just what I’m going to do, but it is a great big secret and oh goodness, but you’ll be surprised.” The first person she surprised with her plans was James Black, the managing editor of the paper. When Hull asked him to send her to France as its war correspondent, his immediate response was that her proposal was “perfectly ridiculous.”

She wore him down. By the time she left Black’s office that day, she had received a “roving commission” to write human-interest stories about the war and a commitment that the paper would pay most of her expenses—if she could get the necessary passport and visas. That was a big if, so big that Black may have thought it was a way to say no without saying no. But as so many others would do over the years, Black underestimated Hull’s persistence. With her passport and the necessary British and French visas in hand, she arrived in Liverpool four days behind Pershing, who was now the commander of the new American Expeditionary Force (A.E.F.). She stayed in Britain just long enough to have a tailor make a new uniform for her. Even with the tailoring delay, Hull reached Paris in time to see the first American troops march into the city on July 4, 1917.

In the summer of 1917, American soldiers were not yet at the front. Instead, they were receiving training in trench warfare and artillery in camps in the safe regions of France, a situation ideal for producing the human-interest stories that Hull specialized in. While the accredited male correspondents waited in the field headquarters in the town of Neufchâteau for American soldiers to move forward to the Western Front, Hull reported on news wherever she found it, no matter how small.

She used her relationship with several high-ranking officers whom she had met at the Mexican border, including General Pershing himself (who had forgiven her for upstaging him at Las Cruces the year before), to wrangle permission to stay at the American training camp in the French town of Le Valdahon, even though she did not have a pass that allowed her access to the camp. For nearly six weeks, she enjoyed the hospitality of the A.E.F. and the camp's commander, Brigadier General Peyton C. March. A young lieutenant escorted her to the area where men trained to use trench mortars, happily answering her questions. A French aviator took her up in a plane that "looked more like a mosquito than an airplane" so that she could observe artillery fire from the air, before giving her the heart-stopping experience of spinning back down toward the earth. She ate breakfast in the mess hall with young soldiers, spent chilly afternoons in the rain with them, and rode along to the train stations from which they departed for the front.

Soon Hull's stories about her experiences, published under the title "How Peggy Got to Paris," were appearing not only in the *Morning Times* but also in the *Chicago Tribune* and the *Tribune's* Army Edition, a four-page tabloid for American soldiers in France. The stories were chatty and amusing, with a byline simply of "Peggy" and an unnamed American training camp as the dateline. Soon other American papers were picking up her stories from the *Tribune*. The accredited male war correspondents, who believed they had written everything there was to write about the troops in the training camps and were waiting impatiently for a chance to report "real" news about the war, started getting cables from their editors asking why Peggy, whoever she was, was turning in stories they hadn't found.

These correspondents knew that no woman had received credentials as a war correspondent with the A.E.F., although some had applied. They were frustrated by Pershing's unwillingness to talk to them and the restrictions imposed on them by Major Frederick Palmer, a former war correspondent who headed the A.E.F. press division. When Hull informed the *Tribune's* readers that she was a guest of the training camp's commanding general thanks to special permission from Pershing himself, the complaints began to roll in.

The recipient of those complaints, Major Palmer, was if anything more upset than the correspondents over Hull's unofficial privileges—and that she had bypassed both his office and the military censors. Palmer immediately sent a long, bureaucratic memo to Pershing, demanding that matters be rectified. Pershing had bigger—and literal—battles to fight. Unaccredited, and without a powerful supporter, Hull was forced to head home.

BACK IN EL PASO, Hull couldn't let go of the idea of returning to Paris as an accredited war correspondent. In the summer of 1918, she traveled to Washington, D.C., prepared to make it happen. Once in Washington, news of an exciting new military expedition wiped out all thoughts of Paris.



In early July, President Wilson approved sending a small force of American soldiers to Siberia as part of an Allied initiative to support White Russians fighting the Bolsheviks in the Russian Civil War. From a military perspective, the Siberian intervention was a sideshow within a sideshow. From a hungry journalist's perspective, it was a fresh story without a crowd of competing reporters already in place. Two familiar obstacles stood in Hull's way: she needed a newspaper to pay her expenses to Siberia, and she needed approval from the War Department.

Hull with novelist Hobert Skidmore. One young officer suggested that she observe the war from a rocking chair.

The managing editor of the *Tribune's* Army Edition had offered her work before she left Paris, but that wouldn't help her get to Siberia. In her search for a sponsor, Hull contacted every editor she had ever known. Then she wrote to editors she had no history with. She received 50 refusals before she got a positive response from S. T. Hughes, editor of Newspaper Enterprise Association, a syndicate whose primary outlet was the *Cleveland Press*.

Despite her troubles with the press division in France, the second hurdle proved to be relatively easy, thanks to her friend, General March, who was back from Paris and now the army chief of staff. He worried that the press would overlook the men sent to Siberia, and he liked the kind of stories Hull wrote, which he felt gave people at home

a good feel for the life of an American soldier. As long as she had an editor to send her, he was willing to accredit her, even when it meant overruling the bureaucrats at the Office of Military Intelligence. When one of them told Hull that she shouldn't even bother to submit an application, she left the office and returned an hour later with a memorandum signed by March stating, "If your only reason for refusing Miss Peggy Hull credentials is because she is a woman, issue them at once and facilitate her procedure to Vladivostok."

On October 15, 1918, Hull sailed from San Francisco on a Japanese steamer. In her luggage she carried the first war correspondent credentials given to a woman by the U.S. War Department. An impressive document printed on heavy vellum and signed by the director of military intelligence, it assigned her to the headquarters of the American army in Siberia under the command of Major General William Graves. A month later, she arrived in Vladivostok, where she learned that the armistice had been signed a few days earlier. Graves, his 9,000 troops, and Peggy Hull were all in Siberia in pursuit of a military exercise that no longer had a clear purpose.

Hull spent nine frustrating months in Siberia. Her credentials did not give her greater access to the front line than she had as an unaccredited correspondent in France. Now she was hampered by the same restrictions as other correspondents.

Although she still inserted herself as an active player in the stories she reported, Hull dropped the playful "Peggy" persona in favor of serious reporting on conditions in Vladivostok, including a long piece on the behavior of American troops, who had taken advantage of easy access to cheap vodka, engaged in drunken brawls, wrecked a building, been involved in several reckless shooting incidents, and generally made themselves unwelcome to the residents of the city. At some level, it didn't matter what she or any of her fellow correspondents wrote. American readers were more interested in peace negotiations at Versailles than a politically driven mission in a place that no one had heard of. She was just as eager to leave as any American soldier when the army prepared to withdraw its troops in the summer of 1919.

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BETWEEN 1919 AND 1932, Hull was a journalistic rolling stone. She worked as a reporter in Shanghai, then in Paris, then in Shanghai again. She made a second hasty marriage to yet another charming drunk—this time a British ship captain named John Kinley. When their marriage finally failed, she returned to the United States, where she discovered that she had lost her citizenship by marrying a foreigner. Supported by the National Women's Party and her friends in editorial positions around the country, she fought a highly visible campaign to change the law and regain her citizenship.

While she battled the Immigration Service, she made the Hotel Bretton Hall in New York City her home base, from which she traveled as needed to cobble together

work as a freelancer. In New York, she fell in love with an old friend from her days at the *Denver Post*: Harvey Deuell, now the managing editor of the *New York Daily News*. They wanted to marry, but Hull was still married to John Kinley. She was sure that an American divorce would be sufficient. Deuell was more cautious. He asked her to get divorced in Shanghai to be sure it was legal.

Hull arrived in Shanghai only days before the Japanese attacked the city on January 29, 1932, part of the undeclared war between China and Japan that had begun with the Japanese invasion of Manchuria four months earlier. She had never before reported on active combat. Now she had her chance. The *New York Daily News* did not have a reporter in Shanghai. Deuell cabled Hull: “Go to work; you’re our correspondent.” She filed her first report later that day.

For the next 33 days, Hull worked to the edge of exhaustion, writing and filing stories for the *Chicago Tribune* and *New York Daily News* syndicate, and regularly scooping her fellow reporters with the help of an acquaintance who owned a shortwave radio. She described bombings minutes after viewing them from the roof of a flour mill that she used as an observation post. She wrote about the misery of Chinese workers seeking shelter after Japanese bombs destroyed their homes, Buddhist temples transformed into shelters for the wounded, guerrilla warfare in the streets, and panic among foreign nationals who discovered they were as vulnerable as the rest of the city.

The fighting ended on March 3, and Hull filed her last story for the *Daily News* the next day. She never entirely recovered from her experience of reporting from a city under attack. Five years later, she wrote to a fellow journalist that “I still suffer from the noise and terror. ... A door slamming violently makes me tremble before I have a chance to remember that it isn’t a shell or a bomb. I dread the sound of airplanes overhead and do not believe I will ever get over that feeling.”

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BUT THE RESIDUAL NERVOUS EFFECTS of her experiences in Shanghai weren’t enough to keep Hull away from the battlefield when the United States entered World War II, almost 10 years later. Her official press credentials had never been canceled, so she assumed that her main challenge would be finding a newspaper to sponsor her, since she had been out of the business since returning from Shanghai. After 11 months, she finally persuaded the editor of the *Cleveland Plain Dealer*—the paper whose previous editor had declared he “wouldn’t be a party to sending a girl to an army camp”—to send her as one of its correspondents.

When she went to Washington, D.C., to apply for an assignment, she found she had a new fight on her hands. Though the War Department was slightly more accommodating about the question of women war correspondents, Hull’s age was against her. She was now in her mid-50s. One young officer suggested she’d be better off observ-

ing the war from a rocking chair “on the old front porch.” He was no more successful in discouraging her than his predecessors had been. Hull wore the War Department down, going to the accreditation office every day until the officer in charge gave up and handed her the application.

Instead of applying for a European assignment, Hull wanted to be sent to the Pacific theater of operations. Because of the time she had spent in China, she requested permission to join Lieutenant General Joseph Stilwell’s command in Asia. It took him four months to respond with a single word: “No.” Never willing to give up, she applied to join the command of Lieutenant General Robert C. Richardson Jr. in Hawaii. She received permission five days later.

But when she arrived in Honolulu, she learned that Admiral Chester Nimitz, who did not want women in his theater of operations, had revoked a pass allowing Hull to travel by naval transport. Hull was restricted to Hawaii. As always, she adapted. She filed her first report from Honolulu in January 1944, under the byline Peggy Hull Deuell, having married a third time in 1933. Unable to get close to the action, she used the techniques that had served her well in France, combining her personal experiences with stories she heard from men who had recently returned to Hawaii from combat areas. She ate breakfast with the enlisted men at the mess hall. She told her readers about camping on flea-infested islands. She described what it was like to ride in a Jeep: “There is nothing to hang onto. You hold your seat by sheer wishful thinking.” She wrote heartbreaking accounts of the wounded men she visited in the hospitals on Oahu, and reminded her readers of the chronic homesickness that all “the boys” suffered.

In November 1944, Hull got permission to travel within the Hawaiian Islands and broaden the scope of her reporting. In January, she finally received authorization to travel around the islands of the Pacific theater. Allowed to follow the troops as soon as the nurses had landed, Hull now found herself in spots that were not quite pacified. After her first night in a camp in the Marianas, she woke up to the news that a Japanese soldier had been killed the previous night within a hundred yards of the tent where she slept. Not an unusual occurrence, a young soldier reassured her.

Marching with the troops on the Mexican border, Hull had slept on the ground wrapped in her poncho. Now she slept alongside the troops again, on a cot in one of the tents that stood “in orderly rows looking like small pyramids in the soft moonlight.” She responded to air raid alerts in the night, pulling on bathrobe, boots, and helmet as she ran to stand with the soldiers in “a long narrow slit which resembled nothing so much as an open grave.” And yet, writing to an old friend from a recently pacified island in the Marianas, Hull reported, “Never in my life have I enjoyed each day as much as I do now. No one could ever have convinced me that such an age could possibly bring such sheer pleasure in living.”

Hull knew that at such an age she was lucky to be “over there.” She envied and admired

the young women who served, particularly the first nurses to land in Saipan, whom she described as “young hardy brave soldiers perfectly competent to look after themselves.” She laughed when a young officer, who had plans with a hot date, asked her to entertain a visiting older British general for him on the thin grounds that she could understand the general’s jokes. In an earlier war, she would have been the date, the sweetheart of the troops. Now she was a mother figure who mended uniforms, comforted wounded soldiers, and listened to her boys tell stories about home, comrades, and war.

Her age was now a benefit as well as a burden. During her time in the Pacific, she earned a deeper love and respect from the young men whose stories she told. Over the course of the war, they showed their affection for her by giving her patches from their units, which she wore on large berets that became her trademark—an unorthodox addition to the official uniform for female correspondents. Also unorthodox: the three campaign ribbons she proudly wore that designated her presence in the Mexican Punitive Expedition, World War I France, and the Siberian Intervention. No other woman correspondent could claim the same history.

Hull received her first patch in the spring of 1944 from PFC Frederick White of Wellington, Ohio. “You seem to like our outfit,” he told her. “We thought you might not mind being adopted.” By the war’s end, she owned seven berets, covered with 50 patches that had been presented to her by men of every rank from every service.

When the war ended in August 1945, Hull went home and hung up her berets. Her days as a war correspondent were over, but she was not entirely forgotten. In April 1946, she received a special commendation, signed by Rear Admiral H. A. Miller and Secretary of the Navy James Forrestal, “For Outstanding Performance and Service Rendered to the United States at War, as an Accredited Navy War Correspondent.”

Hull summed up her own career in a column for the *Cleveland Plain Dealer*, dated August 20, 1944:

There will be no scoops, no prize awards, no Purple Hearts or memories of desperate hours well shared with brave Americans. I am a woman and as a woman am not permitted to experience the hazards of real war reporting. After a long and varied experience in the First World War, on the Mexican border, in France, Siberia and China, these restrictions have laid a heavy hand upon my dreams. But I have found work to do. There [are] the little stories to write—the small, unimportant story which [means] so much to the G.I. ...

Hull, who died in 1967, underestimated the importance of that work. “You will never realize what those yarns of yours ... did to this gang,” one soldier wrote to her in August 1944 from the Pacific atoll of Makin, after reading her account of his unit’s experience digging a well there. “Nothing but a 30-day furlough or a shipload of beer could have topped the lift they got. You made them know they weren’t forgotten.” ●

Why the Egg Matters

A MEDITATION ON REMEMBRANCE, FAMILY, AND TIME

LAURA BERNSTEIN-MACHLAY

LATELY I’VE NOTICED MY MEMORY glitching more than usual, not that it was stellar to start with. I’m constantly forgetting grocery items—the vital eggs, say, for my daughter Celia’s birthday brownies. Or I mislay the phone 1.5 seconds after I put it down, or wander into the basement for clean jeans for myself and my husband, only to emerge a half-hour later with just a flashlight clutched in my fist.

Then there are names, which float away from my awareness like dust motes mere moments after I hear them. Faces, too, have always been tricky, especially when attached to humans who’ve stepped outside their usual context. As when I’m minding my business at the drugstore, and who should appear but a friend of a friend or a newish work colleague. Of course this person approaches me in the Digestive Health aisle, where I’m waffling between the Pepto-Bismol or its generic equivalent, and they’re all, “Well, hi there! I haven’t seen you around in ages!” (*Um, around where exactly?*) Or, “Well, hi there! Have you thought more about that thing we discussed?” (*Er, nope.*)

I blame some of these memory malfunctions on my hard-fought, only recently acknowledged ascendance into middle age. That’s when, among other bodily indignities, women’s hormones surge and recede like the tides, and we spend our days shuffling through brain fogs thick as split-pea-soupers.

As part of my own miasma, I’ve begun misplacing words when I really, really need

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them, when I was *planning* on using them mere milliseconds later. Take *plethora*, for example. It's a positive word, at least in my head, so I'd never use it to describe the number of (dreaded) student lit essays deluging my inbox. Instead, it's a showoff-y word indicating a quantity of something pleasant. I like it. I also like to show off occasionally, though I'm kind of embarrassed by this trait in myself.

But nowadays, I'll see a word I want—p-l-e-t-h-o-r-a—spelled out behind my eyes; I'll taste it on my tongue, it's that close. But when I go to speak it, say, in response to Nameless-Colleague-Loitering-by-the-Pepto-Bismol, when she asks how many student memoirs (fun!) I have to read this weekend, what comes out is ... nothing. Empty air. Or sadder yet:

"Oh ... yes. I've got a ... I mean, lots. But not 'lots.' Better. What's that word? With more syllables?"

It gets worse. Sometimes, I misplace entire trains of thought, leaving myself derailed in the middle of sentences. Like a few days ago at my local Kroger's. The teenager working the cash register—Juliet, said her name tag—finished scanning my items. *Zip zip*, she was fast. Then together we cooled our heels, watching the bag boy and the bag boy in training attempt to load groceries into my reusable shopping sacks.

"Soooo," said Juliet, stretching out the word while shaking her awesome curls. "Did you find everything you needed?"

"Yep," I said. Then, "Or no. Now ..."

"Now what?" asked Juliet when, apparently, I hadn't spoken for a while.

"Um? Now that I think about something?"

She took charge then. "Something you forgot, maybe?"

"Okay," I said.

"And that was?" Her eyes were glazing over.

I shrugged. "Can't remember." We turned together to check out the bagger boys, who slowed even further under our scrutiny. At last they finished with the final sack, carefully placing the ripe plums beneath cans of low-fat soup and my CarbMaster milk and setting the giant Hershey's bar on top like the bow on a present. *Juliet*—I checked the nametag again—gratefully moved on to the person behind me in line, and I wheeled my haul toward the store's exit. Only then did the missing item arrive with a hard thud in my brain.

"Eggs," I yelled in Juliet's direction. "It was eggs. I remember that I needed them for my daughter's brownies. But I never got them, and now I have to come back."

Juliet, clearly done with me, didn't bother turning around, but everyone else did.

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DURING A VISIT TO MY GYNECOLOGIST, I happen to mention my problematic memory. Dr. Y. is my age, maybe a little younger or older. After I explain my concerns, she cants



her head to the side, tips her pretty hair over her shoulder.

“You’re normal enough,” she says. Whatever that means. Then she confirms what I’ve already guessed, that I’m in the throes of the hormonal brouhaha that comes with being *a woman of a certain age*. That’s when, apparently, it’s commonplace to go mute or incomprehensible, to meander off topic at any given moment. To be fretting about brownies one minute, then remembering the appointment I’d set out for in the first place—before stopping at a 7-Eleven for those damn eggs, which I’d forgotten again—and then having to run to arrive at the doctor’s office 10 minutes late. In other words, to crack up. Like Humpty Dumpty after he tipped off his wall.

I mention all this to Dr. Y.

“At least your moods seem stable,” she says. I scowl in response. “In any case, it’ll pass eventually. Come see me then for estrogen replacement.”

“But how do I get anything accomplished in the meantime?”

She shrugs. “I’m right there with you, along with half my patients. In my clinical opinion, someone should give us medals for tenacity in the face of extreme aggravation.”

If that happens, I want my medal to have an egg carved into it.

EGGS ARE A MARVEL. Chicken’s eggs, for instance, are said to be a perfect food. High in protein and healthy fats (great for brain fitness!), they also contain antioxidants, vitamins, and minerals galore. They’re easy enough to gather (minus the fretting, pecking mother hens), to prepare in multiple delicious ways, to digest.

But there’s more: eggs from all species are the most accomplished of vessels, each coming complete with a mission and the intrinsic know-how, not to mention onboard supplies, to carry it out.

Or consider human eggs, those petite planets: largest cells in the body, visible to the naked eye. They’re jam-packed with goodies such as DNA, ooplasm (formative and nutritive yolk), and a plethora of mitochondria, tiny energy factories churning night and day for the life of the cell.

Don’t get fooled by the egg’s apparent apathy. For all that it floats around the fallopian tubes twiddling its thumbs, waiting on the arrival of sperm to hook up with, some scientists now postulate that the human egg cherry-picks the precise sperm it wants—that it lures, captures, pulls inside itself the gamete of choice, thus maintaining its perfect self-containment, its flawless totality.

Even as it goes on to divide like gangbusters, until it becomes a whole person, bloody and new, blinking on your chest in the delivery room. And mere moments after that, the wriggling creature swaddled and pressed like a birthday gift into your arms. Like a bombshell, that moment—a revelation that comes to you in the flesh, in a flash, in its entirety. So you know it’s essential to your existence.

Like a memory, perhaps, an ancient one you can’t shake, floating somewhere in the dark.

I’M YOUNG, MAYBE FIVE, and I’m tiptoeing behind Jenny, a teenager who’s been hired to look after me for the night. We make our slow way down the dark street, hiding behind trees when cars pass or adults open and close their doors.

I’m also shivering a little—because, though Jenny’s wearing her puffy, Pepto-Bismol–pink jacket, she’s forgotten to put me in my own coat. I don’t complain, however, not wanting to ruin her good opinion of me. I think Jenny is cool. *Cool*, I whisper under my breath, for the round feel of the word in my mouth.

I cross my arms and clutch my shoulders to create warmth on this chilly night,

which smells of jack-o'-lanterns, dried leaves, and something burning. I imagine secret things moving beneath the dusk all around me—bats maybe, or ghosts. Because it's the night before Halloween, what we inhabitants of southeast Michigan call Devil's Night, though only Detroit suffers the fires and break-ins and worse. Here in the suburbs, the most that happens is toilet paper strewn through tree branches, or a few eggs lobbed at cars or houses.

"Hurry now," says pale-haired Jenny. She tugs my hand, and I trot to keep up. She stops where Poppleton Park opens onto Wimbledon Drive. Suddenly a pack of teenagers appears like smoke from behind naked shrubs and shut gates. They're older, taller

than Jenny. Some carry flashlights, the beams dipping and weaving such that I catch snapshots of faces, more puffy coats, and scarves wrapped around necks. Jenny drops my hand, starts talking to a girl beside her, but I can't hear their words.

"Let me," I say, reaching for Jenny and trying to snuggle close.

"No, get back."

I understand she wants to ignore me, that I'm extremely uncool with my stubby legs and frizzy tangle of hair. At least I'm wearing my red turtleneck, as opposed to the hated dashiki my mother got me at one of her consciousness-raising groups.

"What've you got there?" asks a boy who's now standing with Jenny.

"Just this girl I have to watch." Jenny notices me looking, pulls me closer, and flips her Marcia Brady hair. "She's okay, I guess."

"All right!" says the boy to the crowd of teens all around. "Are we ready to wave our freak flags?" I look around for flags.

"Hell yeah!" someone whisper-shouts. And, "What a gas!" A *gas*?

The boy crouches to my level. I notice his freckled nose, the fringe of dark bangs beneath a ski cap. "Hold this, okay?" He opens the clenched fingers of my right hand, places an egg in my palm, then closes my fingers gently around it. The boy looks into my eyes, his black to my blue, and for a moment I am suffused with love, so I feel its song moving under my skin. "Careful of that now," he says, referring to the egg. "Use it when you're ready." *Ready for what?*

The egg's shell is velvety soft, smooth as new paper. It warms to my touch, so even as the wind kicks at my back, I feel this heat against my skin and squeeze it almost immediately, the better to enjoy it.

The boy: "Ew! That's a drag, little flake."

And Jenny: "What's wrong with you?"

Some scientists now postulate that the human egg cherry-picks the precise sperm it wants—that it lures, captures, pulls inside itself the gamete of choice, maintaining its flawless totality.

“Hey, ease up,” the boy says to Jenny. “Anyway, we gotta split. Either stay with the kid or come on.”

I stand there, my open hand drenched in the viscous wetness, cold now from the chill air. With the pointer finger of my left hand, I poke the slimy, slightly bouncy yolk, watch it break into smaller blobs. Meanwhile, the kids prowl away.

Is Jenny with her bright jacket among them? Or did she give up her night of adventure to take me home?

I don’t remember. There’s just this: the goop dripping from my fingers onto my tennis shoes, the broken bits of shell that dig into my palm, the twinge of love in my chest, so decades later I still feel that bite.

WHY DID I HOLD ON TO this memory: the egg in my palm, the shell both whole and shattered? The solidity of it as I squeezed, the soft *pop* as it gave. The wet.

Why do I remember this event so meticulously when I’ve forgotten so many other aspects of my past? When just yesterday I neglected to press Start on the dryer, so my wet jeans moldered in the dark machine? When I can barely recall my phone number or where I park my car half the time?

The answer is, I don’t have a clue. Memory is slippery, after all. It shimmies like a water snake; it’s as capricious as a hummingbird’s flight path. You shouldn’t trust it to save your life.

I consider its nature: how memory is a viscous thing, dense and bright in some places, thin and colorless in others. How it takes on the shape of whatever surrounds it at the moment—the shell of the time, place, mood where it commenced, and where it’s being remembered. How it all comes down to context.

This is especially true of our oldest memories, the ones circulated again and again like well-loved jeans run innumerable times through wash and dry cycles until they soften and fade and become entirely transformed. In this way, what we currently remember of an event isn’t the experience that first sparked the memory, but the memory of the most recent memory, and that of the ones before it. Until the original breaks apart and slides between our fingers, until we can’t say for sure what happened in the first place.

And maybe that’s the point.

Maybe the provable reality of some event matters less than what we’ve chosen to carry of it. Because as it is now, my Devil’s Night recollection *feels* authentic and as whole as an egg, containing within it a beginning, a middle, and an end. Because after all this

**I stand there, my open hand
drenched in the viscous
wetness, cold now from the
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finger of my left hand, I
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it break into smaller blobs.**

time, it's become one of many memory eggs that, when gathered together, add up to me.

Among that heap find my red turtleneck, a nameless boy who bothered to notice me, the gift in my hands. There are years and decades of events, countless students and endless classes, old lovers and best friends. There are my husband's palms pressed to my belly, the jolt of a kick from within. And of course there's Celia, her squirming body on my chest. Love and love and love.

Celia, who came into the world complete and perfect. So I had no words, yet couldn't remain silent.

"Oh, oh, oh," I vocalized, so I can hear it still—echoing in the delivery room, and in my head. This sound, round and unbroken, containing all that came before, remembered or not. Everything that counted in my world.

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THE EGG: FUNDAMENTAL INGREDIENT of brownies. Without it, there'd be nothing but a muddle of sugar, chocolate, flour, water, hunkering in the mixing bowl, each element minding its own business. No cohesion, no blending to make something new and important.

Without eggs, there'd be no richness.

My middle-aged life is rich, never mind the superfluous details I'm constantly misplacing. I carry with me everything that's important: the family I made, my husband's and daughter's faces, the primal song of Celia's birth, and a collage of her various selves leading to this instant.

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CELIA IN HER FLOWERY DRESS hunches over her birthday brownies while her father snaps photos to post on Facebook. Celia flips her corkscrew curls off her forehead, blows out all 19 candles, and makes her wishes. Her eyes are half shut in concentration, her nose scrunched, her mouth pursed into a pretty bow. All these details are fixed, etched into the walls of my brain. There's the paper bright on the gifts beside her, the twists of candle smoke climbing the air, the sound of a fan whirring, so we've all got goose bumps and I catch myself shivering a little.

But that's all right. Any second now, one of us will get up to flip the switch, and I'll stop shivering. Celia will tear into her presents, then we'll lug the dessert dishes to the sink, the wrapping scraps to the recycling bin, and Celia will take off with her friends. Later today, I'll probably forget the cats' treats until they howl their dismay, or spend an hour searching for the glasses perched atop my head.

For now, there's just this: the sun bright through the window, setting the dust motes on fire; the three of us floating in that perfect shine, outside of time. Celebrating everything that really matters. ●

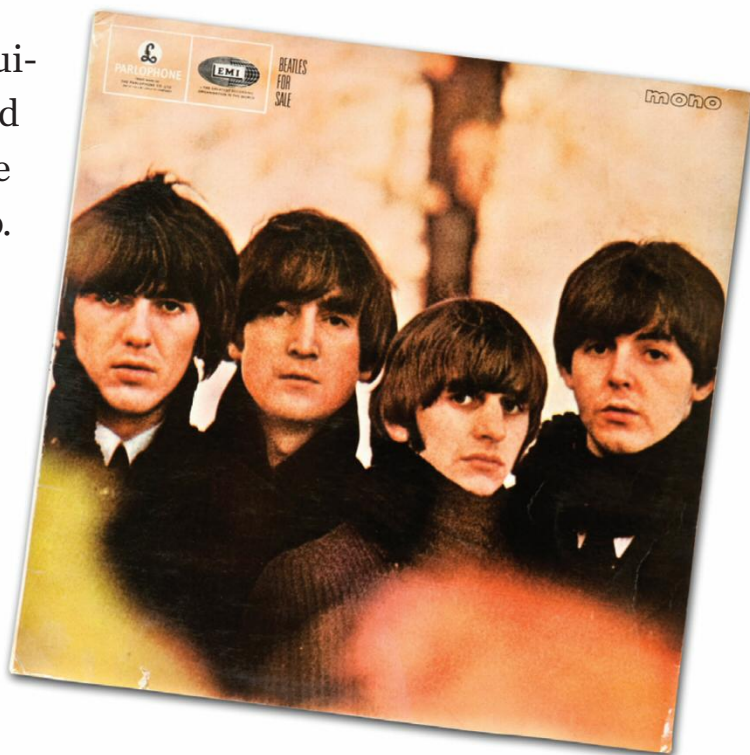
My Hairy Past

SHOULDER LENGTH OR LONGER, MY MANE WAS ABOUT MY LOOKS, YES, BUT ALSO ABOUT THE NEED FOR JUSTICE

DAVID OWEN

WHEN THE BEATLES APPEARED on *The Ed Sullivan Show* for the first time, in 1964, I was about to turn nine and knew nothing about them, although my parents and my six-year-old sister, Anne, somehow did. So did my best friend, John Ruth, who explained that the round things on their guitars—which I had guessed were decorative moons—were control knobs. My ignorance wasn’t permanent. When *A Hard Day’s Night* came to Kansas City, where we lived, John Ruth and I went to see it more than once, and we watched it the way we watched *Dr. No* and *Goldfinger*, by going to the theater without checking the starting times, and staying in our seats until the movie had come back around to where it had been when we sat down. Then, if we had nothing else to do, we let it go around again.

We studied the (tiny) selection of electric guitars in the Sears mail-order catalog and debated about which of them each of us would play in the “singing group” that would make us famous, too. The only friend of ours who ever actually got an electric guitar was Ralph Lewis, whose house was catty-corner to John Ruth’s. One afternoon, Ralph, John, another friend, and I loaded Ralph’s guitar and amplifier into my old Radio Flyer red wagon, rolled everything down the street to my house, and plugged the amplifier into an outlet to the left of our front door. I was wearing jeans and a shiny dark-blue wind-breaker, which to me looked like a leather jacket, even



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The author (left) and his pal John Ruth on their way to summer camp in 1964. The boys aspired to, but had not yet achieved, Beatles mop tops.

though it had a hood. I made my hair seem as long as I could by using my palm to smooth it onto my forehead, then rang the bell, and when my mother opened the door, I gazed (through sunglasses) into her astonished eyes while loudly, tunelessly strumming. This was how we had planned to persuade her that I, too, should have an electric guitar, but the tactic didn't work.

When I was in kindergarten, my friend Freddy Bartlett used his mother's electric clippers—with which she gave haircuts to him and his older brother—to shave a parking space on his head for one of his Matchbox cars. Most of the boys I knew in 1964 had haircuts like his (minus the parking space). The closest my friends and I could come to Beatles hair were some beehive-shaped molded-plastic “play wigs”—one blond, one brunette, one redhead—that belonged to Anne and were unpleasant to wear, especially around the ears. Yet even though our real hair was short, we probably looked somewhat more like Beatles when we were not wearing the wigs. My parents occasionally employed a high-school-age babysitter from our neighborhood who preferred the Dave Clark Five, and she said that if you looked closely at any picture of any Beatle, you could tell that his hair wasn't real. I privately examined my Beatles trading cards,

and although I told her she was wrong, there were cards that gave me pause.

In a photograph of John Ruth and me taken shortly before we boarded the bus for YMCA summer camp that same year, John looks like a miniature army inductee: his head is shaved everywhere except for a small, round clump in front. My own hair by then was slightly longer—partly because of the Beatles, perhaps, but mainly because of Robert Vaughn, who played Napoleon Solo on *The Man from U.N.C.L.E.* The front portion of Vaughn’s hair formed an adze-like overhang, and I wanted one of those (and also his cleft chin). My father told me that if I regularly combed and parted my hair, as he did, I would eventually “train” it to remain in position. But my hair lacked structural integrity, and it never stayed put. Another problem—this was the era before daily showering—was that while I slept, my hair knotted itself in spiky clumps, mainly on the right side of my head, and I could never get everything flat again before school. I coveted my grandmother’s hairnet, and I once tried sleeping with a tight-fitting plastic mesh bag pulled down to my ears. But doing that made things worse—a foretaste of difficulties to come.

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IN JULY 1967, *Time* published a cover story called “The Hippies: Philosophy of a Subculture,” which I studied in my room. Recently, I bought an old copy of the magazine on eBay and read the article again. It said: “Historically, the hippies go all the way back to the days of Diogenes and the Cynics (curiously, no rock combo has yet taken that name), who were also bearded, dirty and unimpressed with conventional logic.” It said that the hippies “preach altruism and mysticism, honesty, joy and nonviolence” and that they “consider any sort of arithmetic a ‘down trip,’ or boring.” The text was accompanied by many arresting photographs, two of which I remembered clearly: one of some long-haired, bearded guys wearing clothes made from American flags, and one of a hippie girl crouching in front of a primitive-looking hippie dwelling, with nothing on. Reading that article when it came out had made me think that someday I, too, would like to have long hair, a beard, a flag shirt, and a naked girlfriend. I remember exactly where I was—in our Buick station wagon, approaching a stop sign at a particular intersection near our house, on a very sunny day—when I told my mother, based on my reading of *Time* magazine, that the hippies seemed to have some interesting ideas. At camp that summer in Colorado, a counselor, whose name was Tom Love, lent me a book he recommended, *The Prophet* by Kahlil Gibran. Another counselor told me later that of all the counselors on the staff, Tom came the closest to being a hippie—a statement I didn’t know how to interpret, because Tom’s hair was no longer than mine.

My hair crept over my ears during the late ’60s, although it didn’t begin to approach hippie length until I was in high school, in the early ’70s. My hair is very fine—it’s almost as soft as cat fur—and when it was at its longest, I could keep it out of my eyes

only by sitting still or walking into a breeze. I also had a problem with what my sister was able to identify as split ends—although in some ways the frizziness was useful, because in the more troublesome sections it functioned like rebar. I hesitated to use my hand to move my hair off my forehead, for fear of making the front part greasy, so I leaned slightly to the left and gave my head an occasional snap, to throw it back. My mother, cruelly, recommended bobby pins, and although I scowled at her remark, I privately considered how easy my life would be if I could use them (or her Final Net).

Nevertheless, I liked my hair. In 10th grade, the coach of the track team told me at the beginning of the season that I had to either get it cut or give up pole vaulting, and I quit the team. My school was boys only, and the general rule was that your hair couldn't touch your shirt collar. That limit was interpreted broadly for a while, and my friends and I had strategies for stretching it further, including tipping our heads forward in the presence of authority figures. Periodically, though, a school administrator or my parents would force me to go to the barber. I would warn the barber to take off no more than "an eighth of an inch, all around," then grip the arms of the chair and stare at the mirror until he had finished. During a school assembly one morning when I was in 11th grade, the principal, who was new in the job, announced that he was fed up, and he took a pair of scissors from a pocket and told 20 of us to stay behind. Several boys escaped through a window. The incident came to be known as the Hair Purge. I was the editor of the student newspaper, and in the next issue we published a photograph of the principal examining the back of the head of my friend Henry, who now has very little hair but then had quite a lot. We also published a letter from a man who was a teacher and a member of the school's board of trustees. In the letter he described the Hair Purge as "degrading beyond belief" and "one of the saddest, most humiliating scenes" he had witnessed in his 12 years at the school.

That letter made me happy, although even at the time it struck me as an overreaction. Then the principal overreacted, too. He suspended me from the newspaper, on the grounds that I had failed to give anyone an opportunity to censor the letter, and he did so over the contrary recommendation of the Discipline Committee, of which I was a member but from which I had had to recuse myself for this, our first case ever. I remember reading somewhere that, to an adolescent, the paramount moral issue is fairness. My suspension must have seared a permanent lesion in the fairness node of some primitive part of my brain, because today that principal is the person at whom, by several decades, I've stayed angry the longest. In 1985, my wife and I and our daughter, who was a year old, moved from Manhattan to a small town in Connecticut about 90 miles north of the city, but we almost moved to a small town in New York State about the same distance away. I learned later that the head of one of the New York town's schools, which our daughter might have attended, eventually, if we had moved there instead, was my old high school principal from Kansas City. We'd have had to move again.

AN ARGUMENT THAT TEACHERS, coaches, parents, and others made against long hair was that boys who had it not only looked like girls but also, inevitably, used drugs. My friends and I objected that this was an example of post hoc reasoning, which in some class or other we had learned to eschew, but in fact, as we ourselves knew, the correlation was more than accidental, and one of the things I'd found compelling in the *Time* article—although I hadn't mentioned this to my mother—was its discussion of mind-altering substances. The article said that a drug called marijuana (“the green-flowered cannabis herb that has been turning man on since time immemorial”) was “ubiquitous and easily grown, can be smoked in ‘joints’ (cigarettes), baked into cookies or brewed in tea (‘pot likker’).” It also said, “Defenders of the hippie subculture liken it to a super-Eucharistic ritual, one that has brought drug users, particularly of LSD (‘the mind detergent’) and other synthetic hallucinogens, into epistemological experience and thus changed their lives forever.”

The idea that your understanding of the world could be transformed by something you smoked or swallowed seemed more startling to me in 1967 than it possibly can to anyone nowadays. An occasional sleepover activity with my friends when we were younger had been hyperventilating, which took you to the tingly edge of unconsciousness. The drugs favored by the hippies, I inferred, induced a similar condition, but for longer periods. When I was in eighth grade, in the bedroom of my friend Duncan, several of us tried chemically assisted hyperventilation by spraying Arrid Extra Dry through socks held over our mouths and inhaling deeply. When a friend's older sister learned what we'd been up to, she was so horrified that she began supplying us with marijuana.

Later that summer, in a park in our neighborhood, Duncan produced an envelope containing what he said was LSD, and five of us each swallowed a crumb-size orange piece. I don't think I expected anything to happen, but after 30 minutes or an hour, I realized that I was minutely examining a sun-bleached dog turd in the grass where we were lying, and began to wonder. Most of the rest of that afternoon, evening, and night consisted for me of confusion, anxiety, and intense paranoia, punctuated by (admittedly) impressive perceptual effects, including a cartoonlike animation that played on the interior surface of my eyelids when I closed my eyes.

Everyone I knew seemed to handle reality altering better than I did. One night in high school, my girlfriend and I knelt in the back seat of a friend's car and looked out the rear window, laughing, while the friend drove backward down a roller coaster-like county





The principal and Henry during the Hair Purge, opposite, and the hirsute author in striped sweater, above, during his college years.

road in rural Missouri. He assured us that we were safe because he wasn't drunk but "just tripping," and I remember feeling not afraid or reckless but abashed by the certainty that if I had been in his condition, I would have been too overwhelmed to steer straight. Another evening, the same girlfriend and I took some mescaline that I had bought at school, and although it wasn't very strong, I became hopelessly lost in the narrative complexity of the television program *Love, American Style*, which we were watching on a small black-and-white TV. (A complicating factor was that each episode consisted of multiple unrelated mini-episodes featuring many of the same actors. I was as baffled as I later was by *Finnegans Wake*.) A tenet of hippie thinking was that hallucinogens are windows on the soul—a grim notion, as far as I was concerned, since my own soul, based on what I had glimpsed of it, appeared to consist mainly of confusion, cravenness, and dread.

DURING THE SUMMER after eighth grade, which was also the summer of Woodstock, my friends and I began attending rock concerts at Memorial Hall in Kansas City, Kan-

sas—beginning with Vanilla Fudge and including, eventually, Steppenwolf, Jefferson Airplane, Led Zeppelin, Janis Joplin, and the Grateful Dead. I wore bell-bottoms and, when I thought of it, lifted my shoulders a little, to make my hair seem longer. In May 1970, a new concert hall, called Freedom Palace, opened closer to where we lived, in a building that when my parents were teenagers had contained an enormous dance floor mounted on steel springs. (The building had also had an ice rink, and when my grandmother came to pick up my mother after a skating party there in the 1940s, she embarrassed her daughter by placing a package of lamb chops on the ice to keep them cold while she waited.) Tickets for Freedom Palace shows cost as much as \$3.50, and you could buy them at Tiny Tim's Magic Circus, where you could also shop for rolling papers, water pipes, roach clips, and edible body oil, among other hippie staples. We went to the inaugural show, by Canned Heat, and to many shows after that. We saw The Who on a typically suffocating Kansas City July evening in 1970. Hundreds of counterfeit tickets had been sold, and the building either wasn't air-conditioned or wasn't air-conditioned enough. The power kept going out. Roger Daltrey angrily threw a microphone at the wall behind the stage. People standing in the balcony near the concession stand threw ice into the swelter below. Ten or 15 feet ahead of us, two long-haired girls, who were only a little bit older than we were, took off their shirts.

Even in 1970, the name Freedom Palace seemed slightly ridiculous, but the impulse behind it was something I had come to understand and believe in. Electric guitars, illegal drugs, and long hair had evolved into political and moral arguments against the depravity—against the essential *unfairness*—of the horror-filled world of adults, which at that point was presided over by Richard Nixon and Spiro Agnew. (Freedom Palace opened four days after the Ohio National Guard fired on unarmed students at Kent State University.) Among the many things that surprised me about *Time*'s hippie article, when I read it again, is that it contained no mention of Vietnam, other than an observation that hippies “feel ‘up tight’ (tense and frightened) about many disparate things—from sex to the draft.” Maybe the editors didn't perceive a connection, or did but dismissed it as unworthy of discussion, since at that point the magazine's position was virtually indistinguishable from Lyndon B. Johnson's, Robert McNamara's, and my father's. By the time Freedom Palace opened, cutting your hair could feel like an endorsement of evil; John Lennon (whose hair was exactly what I wanted mine to be) was a far more appealing moral exemplar than any of the usual candidates, Yoko Ono notwithstanding. Grownups missed the point about long hair when they triumphantly pointed out that the so-called nonconformists sure looked an awful lot alike. Recently, my mother, who is almost 90, told me that she and a friend had been discussing the old hair confrontations. “Why were we so upset?” she asked. “It wasn't like you wanted tattoos.” But of course, if no one had been upset, it would have had to be something else. Maybe even tattoos.

IN 1983, ON A REPORTING ASSIGNMENT, I joined 67 American Beatles fanatics on an organized tour of London and Liverpool. We visited Abbey Road, Penny Lane, Strawberry Field, the site of the old Cavern Club, and other landmarks, and we met Liverpudlians who had known John Lennon, or said they had. One of the women on the trip swore she wouldn't leave England until she had met at least Ringo, and a few weeks later she mailed me a photograph of herself standing on a sidewalk in London with Paul McCartney. I myself met McCartney 18 years later, in Paris. By that time, his hair and mine were approximately the same length, although mine had more visible gray. I was working on an article about his daughter Stella, the fashion designer, and after he'd answered my questions about her, I mentioned my own children and said I'd often walked past their bedroom doors and heard them inside playing 35-year-old Beatles songs on their electric guitars (ahem).

My son, whose name is John, didn't get just the electric guitar I'd once wanted; he also got the hair. He grew it long in grade school and again in high school, and it stayed out of his eyes all by itself, among other remarkable features. I often worried that I had somehow willed him to want long hair, for my vicarious benefit—or that my wife had, since she seemed to be at least as interested in it as he was. We influence our children in elusive, insidious ways—or maybe we don't. At any rate, I had a complicated emotional reaction when the head of his school demanded that he get it cut or face consequences. Thirty years of reflection and life experience had deepened my feelings about the power of idealism, and—to the dismay of everyone else in my family—I took the side of the school. There was much angry shouting in our house that evening. But in the end I prevailed. The barbershop had closed by then, but I reached the barber at home, and she agreed to see John there. She cut his hair, to shirt-collar length, in an old barber chair in her basement, and the next morning he was allowed to take the PSAT.

The following fall, John wrote a long, tightly reasoned letter to his school's administrators in which he argued that it was unfair to treat boys' hair differently from girls'—and he made his case so well that, remarkably, they changed the rule. It was the kind of victory I had yearned for in high school but hadn't believed was possible, and by the time John went to college he had the ponytail of his father's dreams. When he got there, however, he noticed that few other students had hair as long as his—and as my wife and I were helping him move in, I noticed the same thing. Long hair had no meaning then; it was just a style, and an anachronistic one, at that. Not long afterward, in a bookstore, a neo-hippie girl spotted John's hair from the back and mistook him for someone else, a neo-hippie boy who, for spare change, often performed in a public square near the campus. "Hey, Juggler Man," she said as she came up behind him. And the next day he got it all cut off. ●

FICTION

Solstice

DAVID JAMES POISSANT

From our room in Reykjavík, we move to the balcony and watch the beacon break the night in two.

"It's like the bat signal," my wife says.

What we're looking at is the Imagine Peace Tower, a beam of dense, white light cooked up by Yoko Ono and probably a tourism bureau or two.

This is Iceland, and today is the Winter Solstice.

In the room, my cell rings. I move to answer it, but Maria holds me by the sleeve.

"What if it's your mother?" I ask.

"What if it is?" Maria asks.

"It could be an emergency."

"They're fine," Maria says. "In Florida, it's four in the afternoon. Nothing bad happens at four in the afternoon."

The phone quiets. I zip up my coat and tighten my scarf. A thermometer on the wall reads two degrees, which throws me until I see I'm reading Celsius.

I'm still struggling to convert the temperature to Fahrenheit when the phone rings again, and

I leave Maria on the balcony. It's her mother at our home in Pensacola.

"I can't find the colander," she says. "I'm trying to strain pasta, and I swear this kitchen has no colander."

"Above the microwave," I say.

"Above the microwave," Maria's mother says. "I see. Hold on."

There's a rattle of pans, then Kate's in the background, laughing. The TV is on, tuned to the show with the animals that pilot a submarine and rescue marine mammals in danger. The show's educational, sort of. It beats princesses, though that's a low bar.

"I swear all this child eats is mac and cheese," Maria's mother says.

"You found it?" I ask.

"Found what?" she asks before saying, "Oh, the strainer. Yes, it's here. It's *plastic*. For Christmas, I'm buying you a nice metal one."

"Well," I say, "thanks again for watching Kate."

"Hold on," she says. I hear water gushing into the sink, then the clatter of the pot being returned to the stove, then Maria's mother is back on the line. "You kids have fun. I'll see you Christmas Eve."

David James Poissant is the author of *The Heaven of Animals*, a collection of short stories. His work has appeared in *The Atlantic*, *The New York Times*, *One Story*, *Ploughshares*, *The Southern Review*, and *Best American Experimental Writing*. His novel *Lake Life* will be published this summer.



“See you Christmas Eve,” I say.

On the balcony, Maria’s crying. I go to her. I want to put my arms around her. I want to say, “Honey, it’s nothing. Not nothing, but things could be worse.” But I don’t. I grip the iron railing. I watch the beam. I lean into the wind.

I let my eyes unfocus, let the Peace Tower go to jelly and the lights of the buildings fuzz to flame.

The sun rose today at 11:23 A.M. and set at 3:30 P.M. Just over four hours of light, total, for the day. When the sky went dark, the Tower turned on.

Iceland in winter was Maria’s choice. Iceland is supposed to save us, I just don’t know how.

.....

LAST YEAR, MARIA HAD an affair with a man from work. I don’t know how long the affair lasted or

how many times they rendezvoused. I didn’t ask, and I don’t want to know.

In time, the guilt caught up with them. The man from work confessed to his wife, took a transfer, and moved their family to Phoenix. Maria confessed to me.

Every day, I wish she hadn’t. Every day, I wish I never knew.

Every day, I consider Maria’s confession and whose benefit it was for and how it wasn’t for mine.

Maria told me over dinner in the spring. The confession was planned—worse, somehow, than if I’d pulled it out of her or if the confession had sprung, unbidden, from a sob. She was in therapy, had been, it turned out, for a month. Her therapist had helped her find the courage to be honest with me, and, as Maria put it rather woodenly

that night, she'd helped her find the courage to forgive me for whatever I said next.

"Forgive *me*?" I said.

The whole thing turned lamentable pretty fast. There was shouting. There was cursing. A wineglass may have hit the floor. Kate woke, and we lost an hour getting her back to sleep. By then, it was late. Dinner was cold. We were too tired to fight. I made a call, and, when the pizza arrived, I locked myself in our bedroom, ate all 12 slices, threw up, and went to bed. I woke early, ran five miles, threw up again, showered, took Kate to school, called in sick to work, and returned home. Maria took the day off too. We shared the house that day, Maria upstairs, me downstairs. We passed once, midmorning, on the stairs, and, in that moment, I felt a tug so strong that I found myself gripping the banister, holding back. The urge wasn't to push my wife down the stairs, but to throw myself down them, to hit the bottom and see how long it took the woman I loved to reach my side.

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THE CONCIERGE RECOMMENDS a restaurant not far from the hotel. Though the place is small and unassuming from the darkened street, inside it is warm and bright. We're shown to a table, white linen and place settings for multiple courses and wine. The wine list is short, too short for such a fancy place. Under reds, there's a Chianti, a Pinot, and a Rioja, plus a Syrah from a place I can't make out.

"Where the fuck is Frakkland?" I ask.

"France," Maria says. "It's Icelandic for France."

"But France is France."

"Not in Iceland," she says.

Maria's the expert. On the plane, she read the travel guides she's read so many times before, the *Rick Steves* dog-eared to the point it won't quite shut. She's studied Iceland, planned this trip for years. She's told me all about the thermal pools, the architecture, the language, the whales. She told me about these little horses that can only be seen here. *Not even in zoos?* I asked, and Maria

shook her head, very proud, as though small horses were as good a reason as any to fly eight hours and 4,000 miles to an island of dark and cold.

This isn't the vacation Maria wanted. This isn't the right time of year or the right point in our marriage. Nor do we have the money for this. This trip, its impetus was desperation. But the decision to come here was Maria's. The decision regarding what's next for us will be hers too.

I order the Frakkland. When the server returns and pours the wine, I'm ready to order dinner.

"I'm not hungry," Maria says. She sips her wine.

"Order something," I say.

Maria glances at the menu. The server excuses himself. When he returns, she's still looking at the menu. The server clears his throat, and Maria points at the appetizer page. The server nods, nods again when I order the fillet of lamb, then he's gone.

I try the wine. It's plummy, sweet like a Zin, a little peppery. I'm no wine expert, but it's fine.

"Excellent Frakkland," I say, doing my best imitation of a sommelier. "Good year. You can really taste the growing season."

All day, my strategy's been to keep the conversation light, as though making Maria love me is as simple as making her laugh. But Maria hasn't been laughing, and she doesn't laugh now. She won't look at me.

"What are you thinking?" I ask.

My cell rings.

"Sorry," I say.

I pull my coat from the back of my chair and step outside. By now, in Pensacola, Kate's eaten. Soon, she'll be bathed and ready for bed.

"Kate dropped her toothbrush in the toilet," Maria's mother says. "Are there spares?"

Through a frosted window, I watch the server set a small plate before my wife. I watch him refill her wineglass. He says something, and, though I can't be sure, from here, she seems to smile. She smiles, and I want to punch the server, hard.

"There should be an extra toothbrush or two in my medicine cabinet," I tell Maria's mother.

"No," Maria's mother says, "for Kate. I need a *child's* toothbrush."

Your daughter cheated on me, I don't say. I don't say, *Every time you call, you fuck things up*.

"I'm sure she'll survive one night with dirty teeth," I say.

"Is Maria there?"

"She's indisposed."

"It's that food," Maria's mother says, "that foreign food. You'll both be in the bathroom the whole time. Did you bring granola bars?"

"I have to go, Alice," I say. "It's late here. Let's talk tomorrow, okay? Unless it's an emergency?"

"Oh," Maria's mother says. Then, "Oh! Oh, dear. I'm so sorry. Am I ... interrupting?"

"No," I say. Then I get her meaning. Reflexively, perhaps too emphatically, I repeat myself. "No."

Maria and I haven't had sex in months. I can't say we haven't had sex since her confession. We've been married long enough that sex is like breathing. It fills a void, fulfills a bodily need. But there's no love in it.

"Okay, dear," Maria's mother says. "You lovebirds enjoy yourselves."

.....

AT THE TABLE, MARIA picks at her plate. The dish looks like some sort of raw fish mixed with cucumbers nestled on a bed of seaweed.

"What is that?" I ask, and Maria tells me it's raw fish and cucumbers nestled on a bed of seaweed.

"Any good?" I ask.

"Does it look good?" Maria asks.

I shrug. I can no longer guess what looks good to my wife.

You're the Iceland expert, I want to say. *You're the one who raved about the cuisine*.

"You're welcome to my dinner when it arrives," I say.

Maria shakes her head, and it occurs to me, as it's occurred to me every day for eight months, that I'm the wronged party here. So why is it *I'm*

the one trying so hard to make this work? And the answer arrives as it has every day for eight months: Kate.

Our daughter, age three, my love, my light. If my marriage ends, the end will be ugly. We'll both fight for Kate. I can't say how the fight would end, but I'd fight to win, and I wouldn't hold back. I'd fight with everything I had, down to my last dollar and bit of strength. This fact, it's not a threat I've ever made. I don't have to. My wife knows me well enough to know.

The server returns with my lamb fillet. I don't thank the man. I don't meet his eye. I slice the meat and move half to Maria's plate.

"It's raw," she says.

"It's rare," I say.

"It's bloody," she says,

and I return the lamb to my side of the table.

.....

"WHY DO YOU BOTHER?" my younger brother asked. This was last month, Thanksgiving, after I let slip the particulars of my situation.

If Maria and I hoped to make this work, we couldn't advertise our grief, lest, years from now, friends and family would watch us sideways, waiting for an explosion from the bomb that never went off. We agreed to tell no one. Maria promptly told her sisters, so I felt little remorse telling my brother.

"I love Maria," I said. And I did, I do.

"Bro," my brother said, "we're talking about some other dude's dick. *In* your wife. My wife ever cheated on me, you'd better believe I'd ditch the bitch."

"You say that," I said. "But you're not married. You don't have kids. Things get tricky when you have kids."

My brother pushed his hair out of his eyes. He'd just dumped his girlfriend of six months and was already on to the next. In the kitchen, the new girlfriend was talking to my parents, tell-

ing them a censored version of how she and my brother met, one that didn't involve a bar and a bathroom stall.

"You don't get it," I said.

"What's there to get?" my brother said. "Ditch the bitch."

"All right. Enough. That's my wife."

My brother drank a beer. He smiled, but he could no longer look me in the eye.

He didn't understand. He has yet to love someone more than he loves himself, and that's fine. That's youth. But I hope for more for him. I hope, one day, he finds what I had, or thought I had, not so very long ago.

.....

I FINISH THE LAMB, then I finish Maria's pickled fish.

We're quiet. Perhaps Maria's mad at me for taking her mother's calls. Perhaps we're dying of politeness, each waiting for the other to speak first. Perhaps we've simply run out of things to say.

Together, we finish the wine and order a second bottle. We didn't use to be big drinkers. This year we've drunk more and made love less. We've talked less and fought more.

Outside, the snow comes down, a few flakes at first, then what looks like a curtain of confetti pulled white against the glass.

"Would you look at that?" I say.

Maria spins her glass, working a small puddle of spilled wine into a red ring on the tablecloth.

"I'm sorry," she says.

"It's fine," I say. "It's our second day in the city. We'll find a better restaurant tomorrow."

"No," Maria says, "I'm sorry. I thought I could make this work."

My eyes shut the way they do when you don't want to watch the fastball hit your face.

"We," I say. "We can make this work. And we will."

"You hate me," she says.

"I don't."

"Well," Maria says, "you should."

"You wouldn't hate me," I say. "If the roles were reversed, you'd still love me, right?"

As soon as I ask it, I know by the look on her face, by the silence that follows, by the hum of the bubble that is nothing—pure, unadulterated *nothing*—that envelops our table, that this is the wrong question to ask.

Because Maria will never forgive me. She'll never forgive me for forgiving her.

Except that, my secret, the thing I don't know how to tell my wife, is that I *haven't*.

Outside, more snow comes down, and Maria turns to watch it. There are 30 things I want to say to her and not one that will fix this, and I keep my mouth shut.

I wait. I hope. I pay the bill.

Maria rises.

At the door, we put on our winter gear, and I follow my wife outside. My phone rings, and I ignore it.

.....

THE HOTEL IS CLOSE, but we hail a cab, eager for its warmth. The driver greets us in Icelandic, then switches to English when I tell him where we're going.

"No," Maria says. "I want to see the city. I don't care what it costs."

So, the driver drives, and we see Reykjavík. We see the church and the concert hall. We see the houses and the harbor. We see the Pearl and the pond. Everything is icy, powdered white, like fallout. And everywhere, we see the Imagine beacon, that tower of light that is meant to stand for peace, like the song it commemorates. From every angle, the beacon is beautiful. From every angle, it's easy to forget that the life of the man who wrote the song ended with four hollow-point bullets to the back.

"Keep going," Maria tells the driver. The driver asks what she hopes to see, and, when she doesn't answer, we leave the city. We drive through the dark in a cloud of snow until there is a glow, three cars parked on the side of the road.

"Stop," Maria says.

The driver stops the cab, and I see what's caught Maria's eye. It's a geothermal pool sev-

eral car lengths from the roadside. A few heads rise from the water like Japanese snow monkeys in those nature videos everyone's seen. The sky above the pool is a skein of steam.

And she's out of the car, Maria, across the grass, down a path of fieldstones, and up a half-flight of wooden stairs.

I pay the driver. I ask him to wait. I step out of the cab.

My phone rings, and I answer it.

"This had better be an emergency," I say.

"Everything's going to be fine," Maria's mother says. "The break isn't bad."

Maria stands at the top of the stairs. She waves for me to join her, and I hold up one finger.

"Didn't you get my message?" Maria's mother says. "We're at the hospital now. Kate fell out of bed, landed wrong on her wrist. The fracture's a hairline, but the doctor is going to put a cast on her, just to be safe."

"We're coming home," I say.

"No," Maria's mother says. "It's fine, we're *fine*. Hold on."

Then, it's my daughter's voice on the phone.

"I picked green, Daddy," she says. "Grand-mommy said she'll sign it for me!"

"Kate," I say. "Kate, I love you."

The cab idles. Maria's gone. The world is out of focus, a commotion, a whirl.

"Will you write your name on my cast when you get back?" my daughter asks.

"Of course," I say. "Kate—"

But Kate's no longer on the phone. Instead, it's my mother-in-law, calm and self-assured, voice firm as orthopedic shoes.

"See?" she says. "Kate's *fine*. You kids relax. Don't come back early on our account."

I don't know what to say. I'm shaking, either from cold or from fear. How fragile the human body is. More fragile than marriage. More fragile than ice holding up a skater on a pond.

"Thank you," I say. "And, Alice, I'm sorry. I'm sorry this happened when you were there."

"Oh, honey," she says, "don't mention it."

"Thank you for taking good care of Kate."

Alice laughs. "Thank you for taking good care of my daughter."

I wince. We hang up. I return to the cab, where the driver assures me he'll wait, then I'm up the path and down the stairs, just in time to see my wife disrobe.

"Maria," I say, but she's got one foot in the water already, then she's in.

She's not embarrassed by her nakedness the way I'd be. The others in the pool are naked too. Their clothes are bright piles on rocks at the water's edge. The steam is thick, snowflakes gone before they reach the surface of the pool.

I want to go to my wife, to tell her there's been an accident. I want to wrap my arms around her in the water. I want my daughter's break to be the thing that saves us.

I bring my hand to my collar, but I can't bring myself to pull the zipper down.

"Maria," I say, but no one's paying attention to me. They're not watching Maria either. Their heads are angled at the sky.

"Darling," my wife says. "Look up."

And there they are, a thing Maria's talked about, a thing we've never seen: the Northern Lights, like ribbons dancing inside of ribbons, funneling and fanning. An orgy of color. A kaleidoscope of light.

I take off my clothes. For a minute, I am very cold, then very warm.

Maria makes room for me beside her.

We watch the lights.

"Who was it," Maria asks, "on the phone?"

And, though I know she'll never forgive me, though I know, tomorrow, when she talks to her mother, she'll learn I knew and hate me for keeping this from her, I also know that all we have is now, this night and these lights and this warmth. And would I trade the chance at a lifetime of love and goodwill for pretty skies and one night of gentle recklessness?

I would. And I do.

"Who was it?" Maria asks.

"Wrong number," I say.

And, in this way, I forgive my wife. ●

ARTS

PAINTING

If You Frame It Like That

So much depends on the way a work is formatted

LINCOLN PERRY

PICTURE THIS. IN THE FOREGROUND, by a thatched farmhouse, a beautiful woman holds by the claws the chicken she's just slaughtered, her white apron stained with blood. She talks, perhaps flirts, with an equally gorgeous hunter in leather, a hawk on his gloved arm. Behind them loom the picturesque ruins of a Welsh castle, gray clouds throwing it all into high relief. I once came upon this scene while on vacation, and it would have made for a memorable photograph, the image preserved within the confines of a four-by-six-inch print. But instead of fumbling around for a camera, I continued instead to gaze at the scene before me, which, in all its expansive, seemingly limitless glory, became burned into my frontal cortex. For that I am forever grateful.

Artists have always faced this issue: the world is immense, so what slice can evoke the whole cake? How to summon the gestalt of passing clouds, birdsong, the smell of the chicken's fresh blood? How are we to frame our experience, to fence that particular field? The animals painted on the walls of the Lascaux Cave in southwestern France cavort in free-range fashion on undulating rock; their descendants take the form of graffiti, spray-painted on subway cars around the world. But art generally tends to confine itself, and for

artists, limitation and freedom, prohibition and potential, are locked at the hip. In choosing the format for their work—whether it be a canvas, a subway car, a rock face, or a wall—they court implicit meaning and metaphor.

The frame's orientation also influences the way



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The vertical format is critical in Anthony van Dyck's Queen Henrietta Maria with Sir Jeffrey Hudson (opposite) and The Transfiguration by Raphael.

where the past becomes occluded, the present visible, and our future viewable only through unrolling. (The rectangular format of TV and movie screens, for example, was chosen for a reason.) But when all sides of the rectangle can be seen at one time, we intuitively become conscious of the frame, comparing length with height, and we begin to subdivide the space into sections,

we see what's depicted within. A horizontal rectangle might suggest a landscape vista or, like a Chinese scroll, movement through time,

in many of Rembrandt's drawings, where leaps in virtual space are needed to get from one disjunctive location to another. The first reflects a belief that those of us well behaved here on earth will gain fluid entry to heaven. The latter posits that only grace will bridge the yawning gaps of unworthiness.

What happens when the rectangle's height and width approach each other and finally become identical? The square might evoke timelessness, but it's a tough format because its balance also implies stasis, a moment contained, and it is less often used than one might think. A circle can tuck into a square like an old LP record in its jacket, a confluence that

creating boundaries—without which our minds and eyes might wander, like the animals of Lascaux, nibbling on this and that.

Turn the horizontal rectangle vertically, and everything changes. Consider the kind of full-scale portrait perfected by the Flemish Baroque painter Anthony van Dyck. The power, accomplishment, and rectitude of his subjects are reinforced by their vertical format. We look up to those figures, holding them in high regard. We raise or lower our eyes in wonder, as if seeing a skyscraper for the first time. If the horizontal lends itself to narrative time, the vertical might be made for epiphanies, for momentary, momentous realizations. In vertical Chinese brush paintings of the misty mountains of Hunan Province, with the sky above and the mud below, the format itself suggests hierarchy. Heaven is up, earth is down, with varying degrees of access from one realm to the other. The late art historian David Smith contrasted the Catholic aesthetic, in paintings such as Raphael's towering *Transfiguration*, in which all parts of the format's space are easily accessible, to the Protestant aesthetic, as

intrigued Leonardo, whose famous Vitruvian man is the measure not just of his own squared circle but also of the universe itself. A circle can bloom into a sphere, perfectly packed within a cube, carrying intimations of cyclical time or heavenly perfection. We can read Raphael's *Madonna della Seggiola*—an example of a tondo, or circular work of art—as a spherical space, bulging out toward us and away at the periphery. (See p. 99.) Still smaller subspheres are embodied by the three heads in the painting. The Virgin's red-clad arm divides the surface into a quite clear yin-yang configuration of interlocking commas. The close-knit upper bodies of Mary and Jesus form one comma head, and this sub-circle might suggest its own smaller yin/yang as well. Commas, like comets, imply movement, and we feel the whole format wanting to rotate. (The bedpost acts as a brake, helping to slow down an otherwise giddy spin.)

The metaphorical, even metaphysical, implications of the tondo can be consciously played off against those of the square. Consider one of Albrecht Dürer's woodcuts depicting the Virgin Mary crowned by two angels. As Mary hovers in a heavenly bubble above a stark and worldly landscape, these two formats have a chance to compete, as if the old LP were floating free of its jacket. The tondo seems to compress Mary claustrophobically, squashing her into an almost fetal position of the sort shared by her child, but the facial expression on her central, almost spherical head seems contented enough. She has traded the confining rectilinear fence for a new circular corral, but she has managed to escape the bleak and sterile freedom of the borderless earth below. If her tondo implies cyclical time, the broken square below points into a void, with no temporal or spatial guidelines. Dürer had not only an otherworldly dexterity for wood engraving but also a genius for thinking profoundly about pictorial structure.

The rectangle and the circle can be more happily reconciled—as shown by any number of Ascension scenes in which earth and heaven are unified—by making one new format. In Federico



Barocci's *The Vision of Saint Francis*, his use of the amalgamated format clearly reflects the sphere above, the box below. (In Italian, the word *disegno* can sig-

nify both drawing and composition, and we're told that Barocci, while underrated today, was so envied for his *disegno* that he was poisoned by jealous rivals. Better to be underrated, perhaps.) The suppliant Saint Francis has to lean way into our space to try and peer above the cloud on which his savior floats. Our earthbound location is defined by stiff verticals and horizontals, with two pilasters squeezing Francis like a pair of bookends. Above, in the curvilinear realm, the nimbus surrounding the head of Jesus sends out fluid waves that break on the rocky architectural

Above: Dürer's woodcut depicting the Virgin Mary hovering above a landscape; opposite top: Raphael's *Madonna della Seggiola*; opposite bottom: Barocci's *The Vision of Saint Francis*



shoals below. All is palpable, as Christ walks on air above us, and Francis leans toward us so far that his hand breaks the picture plane.

Is this a frustrated desire to break free of two-dimensional space and enter into the world of sculpture? I don't think so. Format is also a threshold, the border between our space, our reality, and a fictional world within. This transition from real to illusory is as permeable as most borders, such that Saint Francis meets us halfway, projecting into our space, in order to apprehend what resists framing.

Barocci's contemporaries started painting church ceilings with very credible clouds that emerge with their holy freight from their restraining frames, at precisely the time when people were becoming hyperaware of the precarious line between reality and fiction. Shakespeare's famous "All the world's a stage, / And all the men and women merely players" was one of the favorite tropes of Barocci's age—not just an artful conceit, but a woozy sense that reality is profoundly open to interpretation, that we're in a reciprocal, mirror-like relation with illusion. Barocci's work strikes me as much more compelling than, say, a clever performance, or a magic trick. Is Francis really seeing Christ? Or are we watching a man, like Hamlet, wondering whether the ghost of his dead father is "really" there? Elsewhere, other forms threaten to fall out of their format altogether, as they do in Ludovico Carracci's *Saint Sebastian Thrown Into the Cloaca Maxima* (see p. 100). Roman soldiers are dumping the saint's dead body into their sewer system, but we feel that Sebastian's corpse might emerge from the painting and land right at our feet. Where saints might descend from above in a vertical format, lightly riding a cloud, this Carracci work is all horizontal heaviness, a world of rock, gravity, and death.

The German Romantic artist Caspar David Friedrich went out of his way to imply extension and continuation left and right, top and bottom, off camera, so to speak. The concept of the sublime had recently been put forward to make sense of that which inspired terror or awe, defying compre-



hension or measure. This notion of the sublime was set against the frameability of the picturesque and the internal order of the beautiful, and it questioned whether we could describe, convey, or picture such experiences at all. Nevertheless, Friedrich looked for pictorial equivalents to give the sense of being dwarfed by nature, the rapture or dread we find in our own insignificance. His *Chalk Cliffs on Rügen* is meant to give us physical and metaphysical vertigo, for the painting makes the fatal drop-off coincide with his format's bottom edge. If Saint Sebastian threatens to fall out of his format, in the Friedrich, we risk falling off the cliff edge and into the abyss. Humbled and awestruck spectators are our proxies in peering out at the horizonless fog or down into a measureless void.

For Mark Rothko, format is a box, into which his shapes are placed like sardines in a can. For Franz Kline, format is a way station through which to pass, or perhaps a plywood sheet on the road being driven over by muddy wheels. Such analogies are respectfully meant to give the viewer, or the artist trying to make a painting, some grasp of structural choice. You might apply the same ideas to music, poetry, dance—any number of art forms. The painter who uses format as a box, for example, might resemble the composer who writes in sonata form or the poet who opts for the clearly defined, bordered form required by the haiku, sonnet, or villanelle. Treating format as a runway might evoke the music of Philip Glass or John Adams, or the novels of Jack Kerouac, headlong rushes from here to there, East Coast to West, cover to cover. There are artists passionately committed to the self-contained work, a world in small with an internal order that might reflect or clarify our world but that stands proudly apart from reality. Others see this concept as deeply misleading and want to advertise continuity between our side of



the canvas and what lies within.

Michael Fried (born in 1939) has been writing about this choice for

Carracci's Saint Sebastian Thrown Into the Cloaca Maxima (1612): the body of the saint seems ready to tumble out of its format.

some time, starting when, as a critic, he wanted to distinguish between contemporary art he deemed theatrical and art he called absorptive. These terms had been used by the 18th-century critic Denis Diderot, who condemned as theatrical work that addressed or included the viewer. Both critics considered Jean-Baptiste-Siméon Chardin's paintings to be self-sufficient worlds, turned in and absorbed in their own order. As helpful as this assessment may be, however, I cannot understand how either Diderot or Fried could consider another 18th-century French painter, Jean-Baptiste Greuze, absorptive. A wise man once said, "Comedy is for those who think. Tragedy is for those who feel. Melodrama is for those who think they feel." In canvases such as *Broken Eggs* and *The Broken Pitcher*, Greuze is playing to the audience so melodramatically, so desperately, and in my opinion so cynically that he could stand for theatricality at its worst.

Is there an ethical difference between art that connects inner with outer, and that which keeps to itself? Chardin is one of my favorite artists, as is

Gian Lorenzo Bernini; why choose between them? Bernini was joyously, profoundly, and even explicitly theatrical—not only was he the leading sculptor of his time and a noted architect, he also wrote plays that would have driven Diderot berserk. Bernini was fascinated by the line between actor and audience. His staging of a flood scene in *Inundation of the Tiber* required that a mass of water come washing out toward the viewers, stopped by a barrier only at the last possible second. In his play *The Fair*, one of the actors intentionally set fire to the scenery on stage, allowing the audience to experience fear and panic before the flames were put out. Peter Paul Rubens also played with boundaries between real-

Friedrich's Chalk Cliffs on Rügen (c. 1818): with its figures peering over the edge, the painting "is meant to give us ... vertigo."

ity and illusion, as in his oil sketches, little studies for history paintings in which the figures come to be seen as woven into

a tapestry held aloft by grinning putti, straining to pull the cloth out to the limits of the format. Rubens and his putti challenge us to recognize that all the world's a stage. If we can peel our reality like an onion, Rubens has found a brilliant conceit for this sense of layer upon layer of artifice.

In that thought-provoking Dürer engraving of Mary in her floating tondo, such centripetal containment could be praised as absorptive, as self-sufficiently, meditatively whole, or it could be rejected as overly constricting, cut off from the world and perhaps smugly symmetrical. Indeed, the metaphorical implications of borders in art could extend to the world beyond it. When nations try to determine how permeable their borders should be, it's as if they were deciding between the closure of Mark Rothko and the openness of Franz Kline. The concept could apply to the earth itself; some might consider our planet to be claus-

trophobically limiting and yearn to break our gravitational boundaries to explore our cosmic context, a desire others would deem to be destructive, self-deluding escapism. We need both views, aspiring to visit the billions of alternate worlds while working not to destroy this one. Issues of individuality and the common good might be thought of as centripetal and centrifugal as well. Like consciousness, our bodies seem discrete and separate, but any Zen master will tell you that separateness is an illusion, that we are contiguous with the world while moving through it. Once again, I seem to be advocating a centrist acceptance of both proclivities. I cherish my mental image of the beautiful rural Welsh couple and the ruined castle, but there's a part of me that wishes that I'd been able to take a photograph, to sneak a shot of that sweet flirtation. We are allowed to want it all.



PHOTOGRAPHY

Hunger

ANNIE DILLARD

IF—AS SEEMS LIKELY—we keep heating the globe and depleting its groundwaters, many of us will starve. In the history of humans, starvation—not war—has been our overwhelmingly biggest killer.

People stuck on Pacific islands during World War II starved. On uninhabited islands the only food was coconuts. The Japanese themselves were starving in Japan, and their troops overseas fared worse. Allied prisoners of war, like the two Americans in this photograph, starved on islands or on hellships hauling them to POW camps in Japan.

The brains of mammals like us must live at any cost or the whole animal dies. Starving, our brains eat the rest of us in descending order of survivability. They skip vital organs, quickly deplete fats, and settle on consuming muscles. For a visual gauge of wasting, watch how far clavicles protrude. ●

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Annie Dillard is the author of numerous books, including *Pilgrim at Tinker Creek*, which won the Pulitzer Prize.



PHOTO BY CARL MYDANS/THE LIFE PICTURE COLLECTION VIA GETTY IMAGES

BOOKS

ESSAY

Searching for Amos Oz in Jerusalem

The acclaimed novelist, who died in 2018, translated Israeli reality

RANDY ROSENTHAL

“JERUSALEM SEEMED QUIET and thoughtful that winter,” Amos Oz writes in his final novel, *Judas* (2016). “From time to time, church bells rang out. A westerly breeze stirred the tops of the cypresses.”

It’s a lovely image, but Jerusalem wasn’t at all quiet and thoughtful when I visited this winter. It was noisy and bustling, even hectic. As a disgruntled American exclaimed in the baggage-claim hall of Ben-Gurion Airport, after the carousel broke and people climbed

up to get their bags from the conveyor belt: “It’s chaos! There’s no law and order.” But you’d expect Jerusalem to feel more chaotic in the winter of 1959 and 1960, when *Judas* takes place, because back then the city was split by a hostile border. As Oz continues after the lines above, “Once in a while, a bored Jordanian sniper fired a stray shot toward the minefields and the wasteland that divided the Israeli from the Jordanian city.”

Randy Rosenthal teaches writing at Harvard. His work has appeared in *The New York Times*, *The Washington Post*, and many other publications.

In 1949, when the War of Independence ended with a stunning Jewish victory, Jerusalem was divided in two; the new state of Israel got the western parts, and Jordan occupied everything else,

including the Old City. Concrete walls, barbed wire, minefields, observation posts, and snipers separated the Israeli and Jordanian sections for nearly two decades. Then, after the Six-Day War of 1967, the entire city of Jerusalem came under Jewish control

“The city has been destroyed, rebuilt, destroyed, and rebuilt again. Conqueror after conqueror has come, ruled for a while” ... and left.

for the first time in more than 2,000 years—since the Maccabean revolt and subsequent Hasmonean period, a brief era of independence between 129 and 63 BCE. After the Hasmoneans, Jerusalem was ruled by the Romans, the Byzantines, the Arabs, crusaders, the Turks, and the British. And before the Romans, the Greeks controlled the city, and before them the Persians, and before them the Babylonians, and long ago, way before King David made Jerusalem the capital of a united Jewish kingdom around 1000 BCE, it was inhabited by the Jebusites, who built a small city on a ridge of Mount



In the labyrinthine Old City of Jerusalem, Orthodox Jews hurry on David Street to a boisterous celebration of the Sabbath.

Moriah, where, according to legend, Abraham nearly sacrificed his son Isaac, and God created the world.

I thought about all this myth and history on a chilly Sabbath eve this January, as I walked from my hotel near the Downtown Triangle through the shuttered streets of West Jerusalem to the Jaffa Gate, into the labyrinthine Old City and to the Western Wall. And as I marveled at the boisterous celebration, I recalled how Oz casually sums it all up in his beloved memoir *A Tale of Love and Darkness* (2004): “The city has been destroyed, rebuilt, destroyed, and rebuilt again. Conqueror after conqueror has come, ruled for a while, left behind a few walls and towers, some cracks in the stone, a handful of potsherds and documents,

and disappeared. Vanished like the morning mist down the hilly slopes.”

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OZ WAS BORN IN JERUSALEM in 1939, as Amos Klausner, and died in December 2018. His father, Yehuda Arie, arrived in British-occupied Palestine in 1933, and his mother, Fania, in 1934. Yehuda Arie was raised in Odessa before moving to Vilna, and Fania came from a wealthy family in Rovno (both Vilna and Rovno were then part of interwar Poland). In Jerusalem, Oz’s parents were frustrated intellectuals; Yehuda Arie worked at the National Library on Mount Scopus, and Fania worked as a tutor. He could read 16 or 17 languages, and she could read about half as many. They spoke Russian or Polish when they didn’t want young Amos to understand, and taught him only Hebrew, which was still developing into a

modern, living language—Oz’s great-uncle, the famous scholar Joseph Klausner, invented many new Hebrew words.

Raised in Kerem Avraham, a West Jerusalem neighborhood crammed with secular, petit bourgeois Russian Jews, Oz was brought up among poets, scholars, and books. In fact, when he was very young, his ambition was to grow up to be a book—not a writer, but a book. “People can be killed like ants,” he writes in *A Tale of Love and Darkness*. “Writers are not hard to kill either. But not books.”

Long before he began writing stories, Oz played a game with himself where he remade history, attempting to reverse the results of past wars. For instance, he “refought the great Jewish revolt against the Romans,” having Bar Kochba’s troops push Titus’s army all the way back to Rome, where they planted the Hebrew flag on top of the capitol. With the use of modern weapons, Oz “turned the doomed struggle of the defenders of Masada into a decisive Jewish victory with the aid of a single mortar and a few hand grenades.” As an adult, he felt this urge “to grant a second chance to something that could never have one” whenever he sat down to write a story.

THE FIRST HALF OF *A Tale of Love and Darkness* reminds us how deeply the history of modern Jerusalem is tied with the pre-Holocaust anti-Semitism endemic to Eastern Europe. By the time Oz’s parents left interwar Poland, anti-Semitism was so bad, so violent, so humiliating that Jews actually considered emigrating to Germany—in 1933. Despite Hitler’s rhetoric, they thought Germany at least had law and order. Oz’s Aunt Sonia told him there was “fear in every Jewish home” in Rovno, “the fear that we never talked about but that we were unintentionally injected with, like a poison, drop by drop ... the

chilling fear that perhaps we really were not clean enough, that we really were too noisy and pushy, too clever and money-grubbing.” Overall, Aunt Sonia explained to young Amos, “there was a terror that we might, heaven forbid, make a bad impression on the Gentiles, and then they would be angry and do things to us too dreadful to think about.”

The Nazis arrived in Rovno in 1941. Over the course of two days, they and their collaborators murdered the city’s 23,500 Jews. Everyone Oz’s

mother knew in Rovno was killed. A decade later, in January 1952, Fania committed suicide. She had lived through persecution and pogroms, avoided the Holocaust, survived the Siege of Jerusalem and the War of Independence, only to take her only life. She

His mother committed suicide when he was 12. He and his father never spoke of her again. But she pervades his best work like beets through borscht.

was 38. And intelligent, and beautiful, like an Ashkenazi Rita Hayworth. But she was plagued with migraines and insomnia. Doctors could never determine what caused her illness, but Oz suspects it was from an overabundance of romantic melancholy.

He was 12 at the time. About a year later, his father remarried, and they moved from Kerem Avraham to the more upscale Rehavia. A year after that, Amos left Jerusalem, went to live on a kibbutz, and changed his last name. He and his father never spoke about his mother again. But her presence pervades his best work like beets through borscht.

In Hebrew, the word *oz* means “strength.”

A FEW YEARS INTO LIVING at Kibbutz Hulda, in central Israel, Oz came across a translation of Sherwood Anderson’s story collection *Winesburg, Ohio*, and it blew him away. He realized he could write about what he knew—the relationships in his village—and did not need to live in Paris or New York to be an author. So he wrote *Where the*

Jackals Howl and then *Elsewhere, Perhaps*. But his first bestseller was *My Michael*, published in 1968, when Oz was 29. It's set in 1950s Jerusalem, and nearly everyone I spoke with in Israel was familiar with it—even the El Al airline security agent who interrogated me for more than an hour told me his mother named him Michael because of Oz's novel.

Interestingly, Oz's literary fame began well before he published his first book. It's a story that could have happened only in nascent Israel. Its first prime minister, David Ben-Gurion, fancied himself an intellectual and wrote long theoretical reflections on philosophical questions, his columns regularly published in the newspaper *Davar*. In 1961, when Oz was 21 and a committed Labor Zionist, he wrote a response disagreeing with Ben-Gurion on the subject of socialist equality. The prime minister himself responded with a long letter, sealing Oz's name in the index of his collected writings. Soon afterward, Ben-Gurion summoned Oz to his office in Tel Aviv. There, at 6:30 in the morning, the 74-year-old prime minister lectured an understandably intimidated Oz about Spinoza. Later, Oz reflected that Ben-Gurion was no intellectual. Rather, he was a "visionary peasant," bringing to mind the likes of Rasputin or a Hassidic master. "There was something primeval about him," Oz writes in *A Tale of Love and Darkness*, "something not of this day and age. His simplicity of mind was almost biblical; his willpower resembled a laser beam."

Today, I doubt Benjamin Netanyahu would invite an unknown 21-year-old to his office to discuss philosophy. Indeed, Israel has changed. Oz's old neighborhood of Kerem Avraham has been "haredized," now crammed with the black hats and skirts of the ultra-Orthodox Haredim, like neighboring Mea Shearim and Geula (where

Shtisel, a show on Netflix, is set). The apartment building on Amos Street where Oz grew up now has a tiny synagogue on the ground floor. But in general, outside the Haredi areas, West Jerusalem is much more modern and cosmopolitan than when I first visited 10 years ago. Strolling through the posh outdoor Mamilla Mall feels like being in Santa Barbara or Capri. American accents are everywhere. And perhaps most significant, a high-speed train now runs direct from Ben-Gurion Airport to Jerusalem in just 20 minutes, physically and symbolically connecting the city with the rest of the world.

Previously, you had to take a meandering bus, and on my way there I wondered how the new train would make it up the western hills.

But it didn't go *up* them, it went *through* them, in an impressive series of long tunnels and high bridges, before settling into a station deep underground. "The station is actually a bunker," Ari, a 30-something man in Orthodox garb, told me. He pointed

out the thick, bank vault-like steel doors we passed as we made our way from the train to the city streets, several hundred feet above. "They say it's the safest place in Israel," he added. I told him I hoped it never had to be used as a bunker. Ari gave me a sober look and said, "Things are heating up."

When I got to my hotel 30 minutes later, I learned that at the exact time I was talking with Ari, Iran had launched at least a dozen missiles at U.S. bases in Iraq, in retaliation for the assassination of the Iranian general Qasem Soleimani. Throughout the week I was in Jerusalem, the city was tense with expectation about how the situation would play out. As Adar, the young shakshuka-maker at Jahnun Bar, told me, "It's like sleeping over a time bomb."

Perhaps it wasn't the best time to visit. Not just with the tumultuous political situation

"Jerusalem always makes one feel sad," Oz writes in My Michael, "but it's a different sadness at every moment of the day and at every time of the year."



In Israel, Oz is often perceived as arrogant, acting as if he alone possessed the truth, specifically the truth about how to resolve the Israel-Palestine conflict.

across the Middle East, but because on the night I arrived, Jerusalem was being lashed by a furious storm. Cold, dreary rain continued for days.

“When it’s been raining Jerusalem makes one feel sad,” Oz writes in *My Michael*. “Actually,” he continues, “Jerusalem always makes one feel sad, but it’s a different sadness at every moment of the day and at every time of the year.”

IT’S DIFFICULT TO EXPRESS the particular charge in Jerusalem’s atmosphere, but in her recent book *The Passion of Jerusalem*, Israeli author Michal Govrin pretty much nails it: “The Deep crouches in the bottom-most depth of Jerusalem, the navel of the universe and the eye of the storm.” Govrin is interested in the shifting mythology of the city, and Oz was too, though in a different, less biblical way. Rather, he was entranced by a mythic sophisticated Jerusalem he suspected existed just outside his neighborhood or in the era before he was born, that of internationally renowned scholars

such as Martin Buber, Gershom Scholem, and S. Y. Agnon. Young Oz envisioned them socializing in the gardens of Rehavia, in cafés on Ben Yehuda Street, and in the lobby of the King David Hotel.

In another affluent part of Jerusalem, the German Colony, I met Dalia Cohen-Knohl for coffee. Cohen-Knohl has a PhD in literature from Haifa University and has published three novels and several plays in Hebrew. She attributes Oz’s status more to the time period in which he first published than the quality of the work itself. From the 1950s through the 1970s, she explained, Israel was suffused with a spirit of communal Zionism, where authors praised the new state ruled by the Labor Party. Then, after the 1967 war, when Israel occupied the Palestinian territories, and during which Oz served with a tank unit in Sinai, there was a break from this perspective. Young authors like Oz and A. B. Yehoshua started to express different views, opposing the Zionist socialist-collective mentality. *My Michael* came out in 1968, during this shift.

My Michael introduced “a new voice,” Cohen-Knohl told me, “speaking about the individual, which was innovative then.” Oz

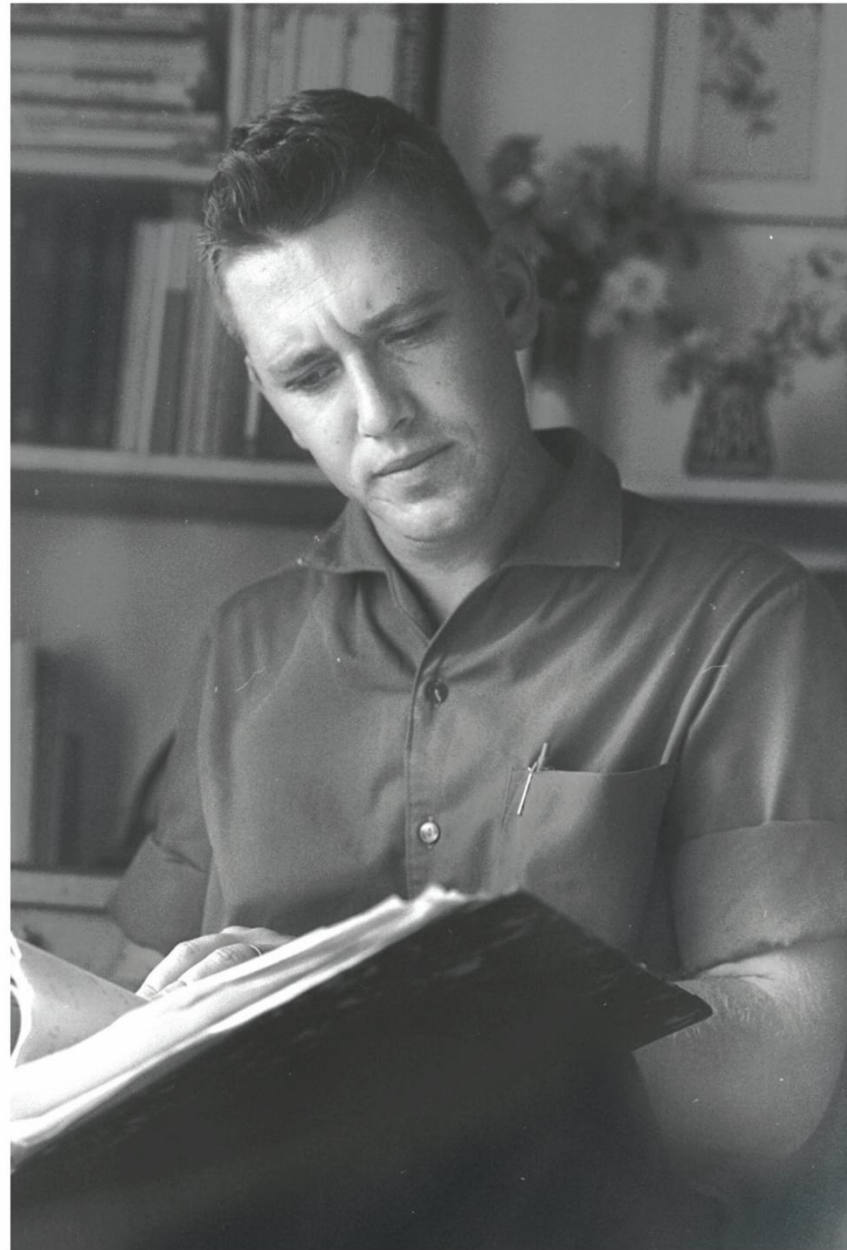
became “the leading author,” she continued.

She mentioned the Romanian intellectual Mircea Eliade’s idea of how everyone goes back to their mythical time. “For Oz,” she said, “that mythical era is Jerusalem before ’67.” That is, when Jerusalem was “very small, very naïve, separated from the West Bank and Old City.” In *My Michael*, in *Judas*, and in *A Tale of Love and Darkness*, Oz “writes with longing and nostalgia about this period.”

And yet, though she thinks Oz is “very talented; his Hebrew is so rich, so exquisite,” Cohen-Knohl also said that in some of his novels, Oz “doesn’t touch your heart” because “he walks beside the emotion,” a phrase I adored.

After meeting with Cohen-Knohl, I walked through Talbiya to see Oz’s second and last home in Jerusalem, on Ben Maimon Avenue in Rehavia. And in a bookstore across the street, I met Cassandra Gomes-Hochberg, a book critic and editor for *The Jerusalem Post*. Originally from Brazil, she wrote in a recent eulogy on the first anniversary of Oz’s death that, for her, Oz was “the translator of Israeli reality.” Oz’s books have been translated into 45 languages, more than any other Israeli writer, so it makes sense that many people abroad would get to know Israeli culture through his work. His wide appeal must also have had to do with the power of the writing itself; after all, he’s often referred to as a prophet. And as someone who meticulously studied the Hebrew Bible during an arduous process of converting to Judaism, Gomes-Hochberg believes that Oz is indeed like a prophet, speaking in the “same harsh and wise tones of Jeremiah, Isaiah, and Amos.”

Later, at a bar in Nahalat Shiva, a lively neighborhood of quaint pedestrian streets, Gomes-Hochberg clarified that Oz writes prophetically only in his political journalism. She spoke of his 2004 essay “How to Cure a Fanatic,” but it occurred to me that his most crucial essay could be “The Meaning of Homeland,” published in 1967 soon after the Six-Day War (and later collected in *Under This Blazing Light*), in which he bluntly expresses his pro-Zionist but anti-occupation position. During



Oz wrote “with longing and nostalgia” about Jerusalem before the 1967 war, when the city was “very small, very naïve, separated from the West Bank and Old City.”

that critical time in modern Israeli culture, then, Oz published both *My Michael* and “The Meaning of Homeland,” two works with different

approaches that launched him as Israel’s pre-eminent author and ultimately turned him into a liberal symbol more than an artist.

Yet like most writers I spoke with in Jerusalem, Gomes-Hochberg also admitted that Oz’s prophetic style of political writing grated on her. (In fact, many Israelis expressed purely negative feelings about Oz’s work, though they did not want to say so publicly—Israeli literary culture is small.) After all, nobody likes a prophet, and a prophet is never welcome at home. So, in Israel itself, Oz is often perceived as arrogant, acting as

if he alone possessed the truth, specifically the truth about how to resolve the Israel-Palestine conflict. He consistently advocated for a two-state solution, ceding the West Bank to Palestine in what he termed a “divorce.” And in “The Meaning of Homeland,” he wrote prophetically:

As I see it, the confrontation between the Jews returning to Zion and the Arab inhabitants of the country is not like a western or an epic, but more like a Greek tragedy. It is a clash between right and right (although one must not seek a simplistic symmetry in it). And, as in all tragedies, there is no hope of a happy reconciliation based on a clever magical formula. The choice is between a bloodbath and a disappointing compromise, more like enforced acceptance than a sudden breakthrough of mutual understanding.

Israelis on the right loathe Oz for this position of pragmatic compromise. It’s been this way since the 1970s, especially after the conservative Likud Party came to power and, in response, Oz helped found the organization Peace Now. His 1983 book *In the Land of Israel*, in which he reported from the West Bank settlements, made him even more unpopular with the right. And now that Israeli politics has swung even further right, he’s despised by ideologues on both sides. Because Israel, like the United States, is now a place of ideological extremism, where anyone who presents a nuanced perspective, one that captures the complexities of reality, is suspect. The far left resents Oz for his unapologetic Zionism and clear-eyed support of the military—as he writes through a character in *Judas*:

Am I saying that we do not need military might? Heaven forbid! Such a foolish thought would never enter my head. I know as well as you that it is power, military power, that stands, at any given moment, even at this very moment while you and I are arguing here, between us and extinction.

And yet the far right reviles Oz for his opposition to the West Bank settlements and his support of a Palestinian state, for which he’s seen as a traitor. A Judas.

OZ LIVED AT KIBBUTZ Hulda until 1986, then moved to Arad, in the Negev Desert, and spent the final years of his life in Tel Aviv. But in his last novel, he returned to the Jerusalem of his youth. That nostalgic city of *Judas* no longer exists. Today’s Jerusalem hardly resembles the city of that first generation of Israelis to be born there, when the only concern was survival and when expansion, much less occupation, was unthinkable. And yet Jerusalem is so old that it can’t really change. Because outside the new Jewish areas there is still what Oz calls, in *A Tale of Love and Darkness*, “the other Jerusalem”:

a city of old cypress trees that were more black than green, streets of stone walls, interlaced grilles, cornices, and dark walls, the alien, silent, aloof, shrouded Jerusalem, the Abyssinian, Muslim, pilgrim, Ottoman city, the strange, missionary city of crusaders and Templars, the Greek, Armenian, Italian, brooding, Anglican, Greek Orthodox city, the monastic, Coptic, Catholic, Lutheran, Scottish, Sunni, Shi’ite, Sufi, Alawite city, swept by the sounds of bells and the wail of the muezzin, thick with pine trees, frightening yet alluring, with all its concealed enchantments, its warrens of narrow streets that were forbidden to us and threatened us from the darkness, a secretive, malign city pregnant with disaster.

Yes, Jerusalem is still like that.

And sometimes, just sometimes, when dusk is falling, and the cypress trees become silhouettes against an indigo sky, and the street lamps cast weak yellow light on the white stone walls, and all you hear is the trilling of blackbirds, or the pealing of church bells or the hypnotic call to prayer, Jerusalem still does seem quiet and thoughtful. ●

REVIEWS

War by Other Means

Subverting governments with lies is nothing new

Review by James Gibney

ACTIVE MEASURES: The Secret History of Disinformation and Political Warfare

BY THOMAS RID

Farrar, Straus and Giroux, 528 pp., \$30

AS NOVEMBER'S PRESIDENTIAL contest looms, reminders of Russia's hacking of the 2016 election pepper every news cycle, with warnings of more to come. The number of countries running disinformation campaigns has more than doubled to 70 over the past two years, abetted by "black PR" firms that slander and deceive for hire. Yet as high anxiety over digital disinformation swells, the United States—and open societies everywhere—risk deeper damage by seeing what's happening today as something entirely new under the sun. As Thomas Rid, a political scientist at Johns Hopkins University, writes in his engrossing new book, *Active Measures*, "This sense of novelty is a fallacy, a trap. The election interference of 2016 and the renewed crisis of the factual has a century-long prelude."

Democracies have survived previous onslaughts. Although the Internet has opened myriad avenues for mischief and skullduggery, Rid contends that it has also created a dynamic that has prompted many observers "to highlight the potentials of disinformation over its limitations." A comparison of old and new methods not only reveals the latent deficiencies of digital disinformation but also can remind us of how best to preserve "our ability to assess facts on their merits and to self-correct accordingly," the central building block for any open society.

James Gibney is an editor at *Bloomberg Opinion* and a former foreign service officer.

What should we learn from the evolution of "active measures"—the term coined by the Soviet Union and Warsaw bloc for what the Central Intelligence Agency called "political warfare"—from the 1920s to the present? Start by recognizing that "active measures are not spontaneous lies by politicians, but the methodical output of large bureaucracies." Rid shows that we have the Cold War to thank for this professionalization, "with American intelligence agencies leading the way in aggressive and unscrupulous operations."

Postwar Berlin was a prime battleground. The CIA's just-minted Office of Policy Coordination bankrolled West German activist groups that tracked East German political prisoners, exposed Soviet informers, sabotaged East German factories with fake orders, and let fly 15,000 leaflet-bearing balloons a month. A publishing front headed by a former U-boat commander created slick fakes of East German publications targeting official audiences, even a jazz magazine that became popular among East German youth organizations. As Bill Harvey, its swashbuckling CIA overseer, told his bosses, "Along with astrology, we consider [jazz] one of the most potent psychological forces available to the West for an attack on Moscow Communism." Hepcats of the world unite—the stars are on your side!

Although active measures always contain some element of disinformation (forgery, for instance, or fake sourcing), some of the most effective ones trafficked in truth. Consider *The Penkovsky Papers* (1965), the memoirs of Oleg Penkovsky, a Soviet military intelligence colonel and one of the Cold War's most effective spies (among other things, he provided U.S. intelligence with details of Soviet



Top: Colonel Oleg Penkovsky stands trial for espionage in Moscow in 1963. Bottom: a desecrated synagogue in Cologne, Germany, in 1959

missile launch sites in Cuba). Because the CIA wanted to sow turmoil in the ranks of Soviet intelligence as well as lay bare its methods for a

broadier public, writes Rid, “the covert operators in Langley did not falsify any content, only the cover story” of how the manuscript reached the

public. (Full disclosure: my journalist father, Frank Gibney, edited the book as a witting CIA asset.) Serialized in major newspapers around the world, it became a bestseller that also inspired John le Carré’s 1989 novel, *The Russia House*.

Active measures have always worked best by playing on existing societal divisions. Ladislav Bittman, a Czech defector who spearheaded numerous such schemes, told Rid that for disinformation to succeed, it must “at least partially respond to reality, or at least accepted views.” In 1959, for instance, the KGB and East German intelligence tapped unease over Germany’s Nazi past by defacing synagogues in West Germany and Europe with swastikas and anti-Semitic slogans—a coordinated effort that also hit synagogues and Jewish cemeteries in New York and elsewhere in the United States, Israel, and other countries.

The goal was not just stirring general fear and turmoil. Successful active measures are targeted measures. As a decrypted message from Moscow to East Berlin praising the campaign put it, “the socialist [Russian] government’s argument that West Germany is a potential bastion of Nazism and that consequently West Germany must under no circumstances be fully rearmed has been considerably

strengthened.” By the mid 1960s, the KGB was running 350 to 400 such disinformation operations per year.

Yet by then, according to Rid, U.S. intelligence had “retreated from the disinformation battlefield almost completely.” That categorical assertion may raise an eyebrow, but certainly public unease and greater congressional oversight led to more restraint, and with good reason. Rid

explains: “It is impossible to excel at disinformation and at democracy at the same time.” Active measures erode trust in factual authority and the institutions upon which open societies depend.

The Soviet Union had no such epistemic quibbles, ramping up to exploit Vietnam-era tensions by leaking dubious forgeries to antiwar groups all too eager to believe them. That strategy also bore fruit in the subversion of European peace activists protesting nuclear weapons—a concerted effort that East Germany’s Stasi labeled, with Orwellian precision, as *Friedenskampf*, or “peacewar.”

The West’s proven ability to withstand this barrage of falsehoods should offer comfort. But secular trends that predate the winning of the Cold War—the decline of public trust in institutions and the rise of postmodern thinking—pose a larger challenge, especially with the Internet’s toxic powers. Facebook and Twitter have disempowered gated journalism, mainlining disinformation and privileging feelings over facts. Utopian notions of radical transparency have inspired leakers, who can now acquire and share information with greater anonymity and ease. Indeed, Rid cites the “celebrity culture” that enfolded high-profile leakers such as Julian Assange, Chelsea Manning, and Edward Snowden as a main ingredient in creating “a dream come true for old-school disinformation professionals.”

Russia, led by a former KGB agent who honed his disinformation skills in Cold War Dresden, is making the most of this moment. Rid, who testified before Congress on Russia’s interference in the 2016 election, provides an authoritative blow-by-blow of the hacking of the Democratic National Committee and Clinton campaign and the accompanying social media disinformation effort. Whether or not that nefarious activity tipped the election (Rid thinks few U.S. voters were persuaded to change their votes by Russian disinformation on Facebook and Twitter),

it has raised seismic doubts in the public’s mind about both the 2016 outcome and the integrity of U.S. elections moving forward.

Yet the paradoxes revealed in the course of that effort hold lessons for the future. First, although disinformation has been turbocharged by the Internet, it has also become a “low-skilled, remote and disjointed” endeavor that is “harder to control and harder to assess.” The nearly 1,000 trolls at Russia’s fabled Internet Research Agency were not happy Stakhanovites, much less hard-

bitten KGB agents. They had quotas to meet, but the metrics they generated tended to overstate their real impact. Rid’s breakdown of their operations suggests that “social media had actually *increased* the significance of traditional journalism as an ampli-

fier of disinformation operations.” In one case, a front-page *New York Times* story on a crude and hitherto obscure IRA Facebook ad gave it a visibility that it utterly lacked the first time around.

In other words, when confronted by disinformation, remain calm and carry on. Whether it is media inadvertently playing up a false story, or governments ham-handedly silencing one, Rid argues that “one of the most insidious threats posed by successful disinformation campaigns” is overreacting to them.

Rid is mostly silent on the larger issue of how to address the mistrust and polarization that create such fertile ground for information mayhem. But FBI Director Christopher Wray recently suggested a time-tested way forward. Pushing back on President Trump’s contention that Ukraine, not Russia, interfered in the 2016 election, he said: “I think part of us being well-protected against malign foreign influence is to build together an American public that’s resilient, that has appropriate media literacy, and that takes its information with a grain of salt.” A tall order, to be sure, but one that reading Rid’s invaluable work can make easier.

Disinformation has been turbocharged by the Internet, but it has also become a “low-skilled, remote, and disjointed endeavor” that is “harder to control.”

Image Was Everything

A new biography of the seminal pop artist of the 20th century

Review by Meryle Secrest

WARHOL

BY BLAKE GOPNIK
Ecco, 976 pp., \$45

ONE SHOULD APPROACH this elephantine account of Andy Warhol's life—perhaps modeled on one of his endless films, like *Sleep* (1963)—with caution. To begin with, there are no source notes—some 7,000 of them are available online but not on a page. For a work that plainly hopes to be termed “definitive,” this is a curious omission.

Then there is the staggering length, almost 1,000 pages, made all the more challenging by Blake Gopnik's verbosity, which reveals a steely determination to tell you far more than you ever asked to know. Given the two schools of biography—telling a rollicking good story and details be damned versus a minute chronology and reader be damned—this author opts for the latter. Apart from the book's tantalizing start, which is centered on the moment when radical feminist Valerie Solanas, gun at the ready, almost killed Warhol in June 1968, the narrative takes the predictable path.

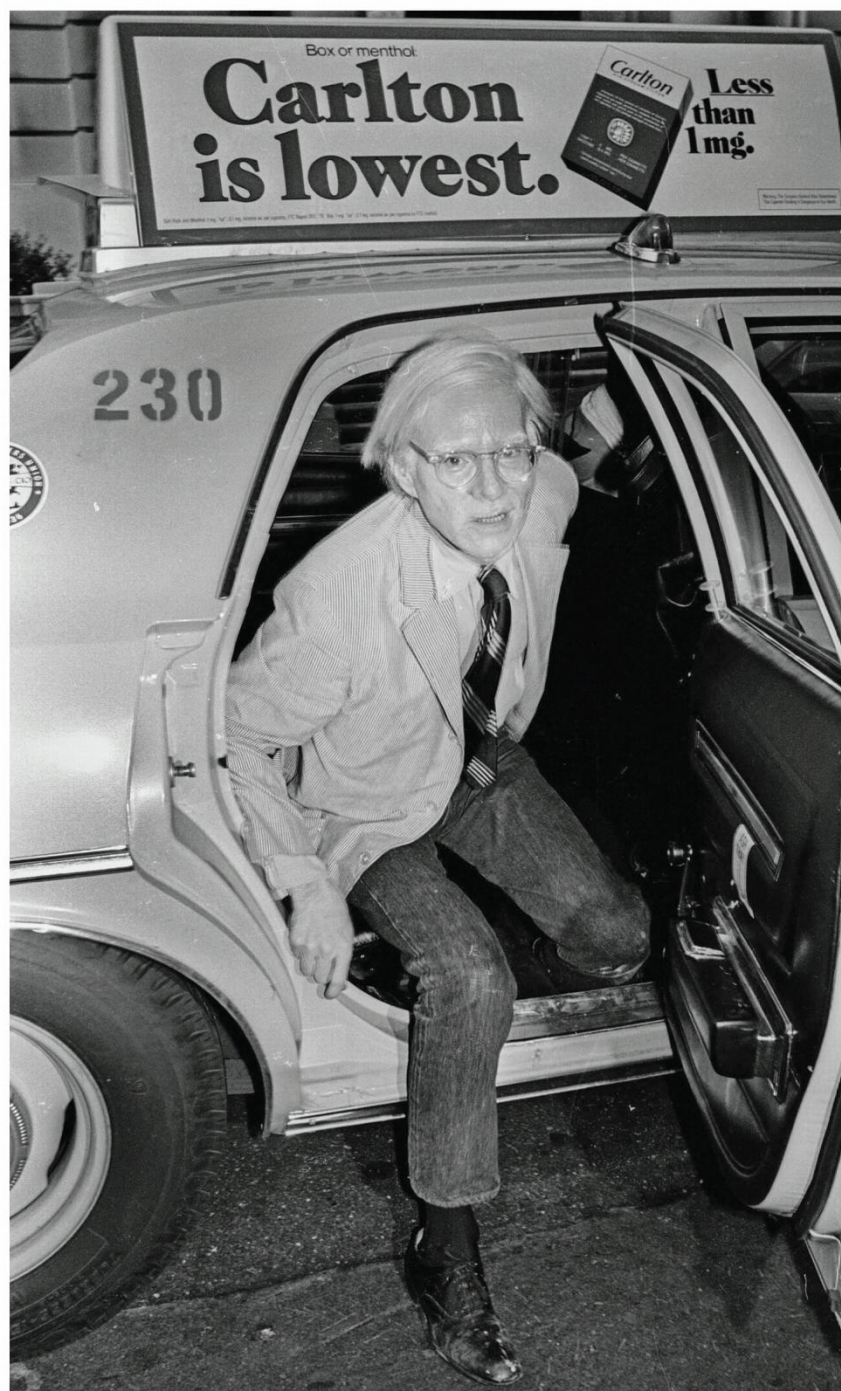
So we have the familiar story of Andy, the son of poor immigrants, a slight, sensitive, pimply-faced misfit, and the book's impetus slows to a halt. The author's professional interest—he is an art critic—takes charge, and the narrative explores the meandering stages by which an unpromising child discovers his talent, which naturally

Meryle Secrest is the author of numerous biographies about figures in the arts. She received the National Humanities Medal at the White House in 2006. Her latest book is *The Mysterious Affair at Olivetti: IBM, the CIA, and the Cold War Conspiracy to Shut Down Production of the World's First Desktop Computer*.

interests Gopnik but not necessarily the general reader. There are numerous small exhibitions to be endured, confident predictions of greatness to come, and much description of temporary quarters, with or without cockroaches, before something interesting happens. When, oh when, will Warhol reach “the cutting edge”? A refrain Gopnik repeats at least six times in the book's first 300 pages.

The pace picks up once he begins to describe an unsuspected resolve behind a seemingly aimless series of experiments on Warhol's part, and the single-

Andy Warhol in 1981. He carried what he had learned in retail and advertising to the art world, displaying an irresistible will to fame.



mindfulness of the ambition and will to fame that it concealed. The hesitancy, the self-effacement, the self-hatred (he had plastic surgery to correct the supposed defects of his nose) all vanished where his creativity began. He had no reason to be so sure of himself, but he was, and almost at once.

One of his instructors said, “Warhol wasn’t the best at taking a problem and solving it,” but “[i]f he had been running a tailor shop and [you] went in for a pair of pants, you’d come out with a lovely coat.”

In 1948, Warhol discovered French director Jean Cocteau’s haunting cinematic retelling of *Beauty and the Beast* and became a fervent admirer. No doubt he knew one of Cocteau’s famous maxims, *Ne t’attardes-pas avec l’avant garde* (“Don’t lag behind the avant-garde”).

Warhol’s awareness of this vital necessity began in 1947, when he was enrolled as a student in Carnegie Tech. He took a course in avant-garde advertising techniques and began to experiment with the blotting and scumbling innovations that he would incorporate into his later, and justly famous, silkscreen prints.

By then, he had had practical experience in the art of marrying fine art with advertising. While still a student, he helped build window displays for the upscale Joseph Horne Company in downtown Pittsburgh. Warhol had little drawing talent, but Milton Glaser, a noted graphic artist, thought he had something more valuable: “an enormous sense of style, and he could bring that burnished style to a product.”

When I was a member of the creative team at Lazarus in Columbus, once the biggest and most innovative department store in Ohio, lunch conversation every day was fixated on “What’s next?” to the point of obsession. As the immediate proof of the store’s up-to-the-minute approach, the shop windows were something of a barometer as they tracked the fickle tastes of their customers.

In retrospect we can see how Warhol’s singular personality, his special gifts, his secret need to shock people, and most of all his perseverance

were valuable assets once he, with his messy hair and eccentric appearance, caught the eye of magazine editors. From direct marketing to editorial content is a short step. The content may be the same; only the goal is less obvious.

Warhol made surprisingly rapid progress from merchandising to advertising to art gallery walls. By the time he was 25, he had arrived at the ultimate nose-thumbing—a Campbell’s soup can, tenderly depicted and ready to be hung in a museum. What was going on here? Was it all tongue-in-cheek? Gopnik is sure it was. It was Warhol’s way of lampooning “the old-fashioned mediocrity of postwar marketing, even once modern design was supposed to have taken hold,” he writes.

Warhol and his like-minded lampooners—sculptor Claes Oldenburg and painter Jasper Johns among them—certainly stirred up a storm. One forgets how bold, impudent, and even sinister a reaction such glorification of kitsch—soon dubbed Pop Art—had caused. What scandalized some enraptured others. A critic for *The Washington Post* wrote that “their thesis [of the Pop artists] is anti-thesis; their philosophy, anti-philosophy; their technique, anti-technique.” Others were ecstatic for more practical reasons.

Gopnik makes clear how short a distance actually exists between today’s grubby, scrawling graffiti on a subway train and the upscale gallery dealer for whom making money from art has to trump aesthetic considerations of style. In 1982, as I was visiting one of Leo Castelli’s New York art galleries in New York, I noticed some graffiti on the wall next to the front door:

Art’s
What
\$ellS

The soup can, as we all know, opened tempting vistas of high prices for Warhol and his lucky art dealers. The Campbell’s soup can was soon followed by Coca-Cola bottles, Marilyn Monroe, Elizabeth Taylor, the widowed Jacqueline Kennedy, and other high priests and priestesses

of popular imagination, printed up in identical images like sheets of postage stamps. Even Warhol's own image, eventually. He was famous, too.

True to form, Warhol opened up a salesroom of his own in Midtown Manhattan, called the Factory, one that also served as a studio and meeting place for a random coterie of friends and hangers-on. His theme was silver (speaking of money), and newcomers were treated to the sight of silver balloons floating lazily overhead and bumping against the high ceilings. It became an impromptu chrysalis for the idea of the moment, whether a new film, a new magazine, or more artwork. There was a resident rock band and a nightclub. At the height of Warhol's almost mythical fame, his casual friends became famous themselves.

One of them was Edie Sedgwick, a rich girl with enormous eyes and a prepubescent figure. Edie's traumatic childhood would lead to her death when she was only 28. But when she appeared at the Factory one day, something about her waif-like charm took hold of Warhol as it later did of George Plimpton, who edited a best-selling oral history about Sedgwick, compiled from hundreds of interviews with people who knew her. For Warhol, she was a twin being. They even began to adopt identical outfits. She would arrive with him on TV shows and provide his answers, tongue in cheek.

In June 1969, on assignment for *The Washington Post*, photographer Ken Feil and I went to the Factory to interview Warhol. I remember his unnerving silences and the feeling that he was transfixed at the angry center of a psychodrama that was constantly being written by others around him. It was not a very satisfactory interview, but one of the photographs Ken took, now lost, was quite otherwise. Ken positioned Warhol on a chair in front of a set of three-way mirrors, the kind used in department stores to show off views of the front and sides of an outfit. Then Ken angled his shot so that the image was cut and broken up into tiny slits multiplying into the distance, a Warhol infinitely reflected. How poignant. How appropriate. It should have been his epitaph.

Not Quite Forgotten

The unheralded success of a fine American novelist

Review by Steven G. Kellman

CHILD OF LIGHT:

A Biography of Robert Stone

BY MADISON SMARTT BELL

Doubleday, 608 pp., \$35

A PROFILE OF NOVELIST Robert Stone that appeared in *New York* magazine in 1997 offered this summary: "It has been Stone's peculiar fate to have great success without great recognition." Nearly 60, he had already won the National Book Award, for *Dog Soldiers* (1974), which was, in addition, a finalist for the Pulitzer Prize. *A Flag for Sunrise* (1981)—which was also a finalist for the Pulitzer and the PEN/Faulkner Award—and *Outerbridge Reach* (1992) had been finalists for the National Book Award. More honors and bestsellers were yet to come before his death in 2015.

However, despite Madison Smartt Bell's assertion that Stone attained "a secure place in the American literary pantheon," nowhere is he mentioned in the *Columbia Literary History of the United States* (1988) or the more recent and unconventional *New Literary History of America* (2009). Born in 1937, Stone has already faded from cultural conversation in a way that his close contemporaries Don DeLillo (b. 1936), Thomas Pynchon (b. 1937), and Raymond Carver (b. 1938) have not. The Modern Language Association International Bibliography lists 1,039 items on DeLillo, 1,905 on Pynchon, and 413 on Carver but only 53 on Stone. Moreover, since 2010, he has been the subject of only six articles.

Steven G. Kellman is a professor of comparative literature at the University of Texas at San Antonio. His most recent book is *Nimble Tongues: Reflections on Literary Translingualism*.



Bell, a prolific novelist best known for a trilogy about the Haitian revolution, is determined to propel Stone into the pantheon. He has edited *The Eye You See With*, a posthumous selection of Stone's nonfiction, and put together a single volume containing *Dog Soldiers*, *A Flag for Sunrise*, and *Outerbridge Reach* for the canonical Library of America, a publisher with the prestige to confirm an author as a peer of Herman Melville, Nathaniel Hawthorne, and Mark Twain. Though he does not stint on Stone's self-destructive tendencies, Bell's biography of Stone, *Child of Light*, is an act of character resuscitation. "He was the writer I wished I could become," Bell writes. "We were close friends." Some of the strongest writing in the book recounts Bell's two perilous trips to Haiti with the often-stewed Stone.

Raised in New York by a schizophrenic mother who moved them through a series of Salvation Army shelters and welfare hotels, Stone never knew who his father was. Four years in a grim Catholic orphanage left him a skeptic who hungered for faith. A tour in the Navy showed him the wider world, and a Stegner Fellowship at Stanford launched him on his writing career. It

also introduced him to Ken Kesey and other psychedelic pranksters and immersed him in the 1960s counterculture. Throughout his life, drugs and alcohol would undermine his artistic discipline.

According to Kesey, Stone saw "sinister forces behind every Oreos cookie." Like Ron Strickland, the cynical documentary filmmaker in *Outerbridge Reach*—and like Hawthorne, Melville, and Twain—Stone seemed to think it "was his job to look clearly into the dark." His bleak vision is embodied in the paranoid structure of his fictions, typically a system of calamitous convergence in which unrelated characters eventually collide. Stone's eye for evil fixes its gaze on New Orleans, Vietnam, Central America, Israel, Haiti, Hollywood, the high seas, and the centers of American power.

The United States has become more fractured and its writers more diffident, but Stone was one of the last American novelists with the ambition and arrogance to confront the enormity of his troubled country. Of virtually all his work, he

Stone and his wife, Janice, in Hawaii, c. 1979. Stone had "the ambition and arrogance to confront the enormity of his troubled country."

could say, as he did about his first novel, *A Hall of Mirrors* (1967): “I had taken America as my subject, and all my quarrels with America went into it.” Those quarrels were fierce, exacerbated by disillusionment. Recounting his own visit to wartime Vietnam, Stone characterized himself as a “thoughtful tourist trying to draw a moral. But there isn’t any moral, it makes no sense at all.” He shared with John Converse, his alter ego in *Dog Soldiers*, the sense that “I don’t know what I’m doing or why I do it or what it’s like. ... Nobody knows.”

Bell finds in Stone’s lapsed Catholicism the key to a sensibility that led him away from dogma but toward fundamental cosmic mysteries. “I felt at various times that I was taking seriously questions that for most educated people were no longer serious questions,” Stone told an interviewer in 1986, “and I ascribed that to my Catholic background. I mean specifically the question of whether or not there is a God or whether or not you can talk about life and its most important elements in religious terms.”

Though Stone lived to 77, much of the latter half of Bell’s biography is a litany of boozy binges, drug overdoses, and stints at rehab facilities as well as physical woes including sciatica, gout, diverticulitis, and emphysema. He broke his elbow at least four times. Yet, until almost the end, he maintained a vigorous schedule of book tours and expeditions to remote and dangerous places. Stone simultaneously juggled as many as four scattered residences on a budget that was sometimes precarious, forcing him into a succession of teaching jobs. An autodidact, his only degree was an honorary one bestowed by Amherst College.

Through it all, Stone’s wife, Janice, Bell’s indispensable informant, was the novelist’s secretary, editor, house manager, and inspiration. She called herself the “handmaid to genius,” though the genius dallied with other women and even fathered a daughter with one. A serious infatuation—with someone Bell coyly calls “Melisandra,” while offering enough clues to suggest her

true identity—did not quite wreck a marriage that lasted 55 years.

Stone’s dramas of moral choice under extreme duress have not yet passed their pull date. But what Bell credits as his “unusual instinct for tracking the zeitgeist” might bar Stone’s entrance into the pantheon, as times cease to favor truculent white male titans. Although, echoing Stone’s 1986 *Children of Light*, Bell calls his biography *Child of Light*, its subject was spawned in shadows. He makes Stone’s darkness visible.

Making Their Voices Heard

The story behind passage of the 19th Amendment

Review by Nancy Isenberg

SUFFRAGE: Women’s Long Battle for the Vote

BY ELLEN CAROL DUBOIS

Simon & Schuster, 383 pp., \$28

WE AMERICANS LOVE the myths about our nation’s past. We pretend to be a land of unlimited opportunity, despite a painful legacy of discrimination based on the unholy trinity of race, class, and gender. We celebrate abstract notions of natural rights, human liberty, and social equality, even though Americans have routinely embraced deeply egalitarian ideas of white supremacy, class pedigree, and maternity as women’s destiny.

Take California. In 1850, the new Free Soil state prohibited slavery yet protected peonage (servitude) of Native Americans. After passage of the 15th Amendment, southern states used grandfather clauses, literacy tests, and poll taxes to deny black males and poor whites the right to vote. In the presidential election of 1924, despite

Nancy Isenberg is the author of *White Trash: The 400-Year Untold History of Class in America* and *Sex and Citizenship in Antebellum America*. Her latest book, coauthored with Andrew Burstein, is *The Problem of Democracy*.

the passage of the 19th Amendment, only 20 percent of the eligible electorate in states with poll taxes voted.

Ellen Carol DuBois, an emeritus professor at UCLA, is not interested in the ugly morass of suffrage history. She has spent her entire career writing about Elizabeth Cady Stanton and women's suffrage, and she readily admits that she sees the past primarily through Stanton's eyes. In *Woman*

believe—called a convention in her hometown of Seneca Falls, New York. DuBois ignores the fact that Stanton met with Lucretia Mott, Paulina Wright Davis, and others a year earlier in Boston, and there discussed the idea of a convention. Of further concern, DuBois elevates the Declaration of Sentiments drafted for the Seneca Falls meeting into a timeless, sacred relic, reprinting it in the book's appendix, yet chooses not to analyze the rich array of argu-

ments that animated women's rights as part of antebellum political culture.

So why, in fact, did Stanton call for women's suffrage in 1848? States were revising their constitutions; New York did so in 1846. Even earlier, at Virginia's state constitutional convention in 1830–31, women's suffrage was debated, though rejected. In 1841, Rhode Islanders staged a suffrage uprising, the "Dorr War," when disenfranchised white men demanded a new constitutional convention without legislative approval.

This was Stanton's world. She was influenced by New York judge Elisha Hurlbut,

who in 1845 came up with a brilliant tactical strategy to enfranchise women. Building on the experience of New Jersey, the one state that from 1776 to 1807 had allowed unmarried, propertied women to vote, and buoyed by the success of the Gradual Emancipation Act (1799) that ended slavery in New York, Hurlbut proposed a three-step process: first, enfranchise single women who paid taxes; next, all single women; and finally, all women. Gerrit Smith, Stanton's favorite cousin, also shaped her views when he advocated women's suffrage in the platform of the Liberty League (a radical offshoot of the Liberty Party). In 1847, the Liberty League included two women as possible



Suffrage and Women's Rights (1998), she wrote, "A reasonable critique of my work is that often, when writing of 'suffragism' or 'women's rights,' I am really referring to Stanton and the women who shared her ideas." Even so, her new book says precious little about the intellectual milieu that fed early women's rights activity. She opens the book by resuscitating the now-debunked origin myth that Stanton was the leading intellectual force behind the entire movement who in 1848—by mere happenstance, we're meant to

Elizabeth Cady Stanton (left) and Susan B. Anthony, in a portrait taken by photographer Napoleon Sarony, c. 1870, a half century before women won the vote.

nominees for their presidential candidate: the celebrated Quaker minister Lucretia Mott (star attraction at Seneca Falls) and the popular writer Lydia Maria Child. Not just Seneca Falls but all the women's rights conventions held in Massachusetts, Ohio, Pennsylvania, and New York matter as a template for understanding voting rights and popular constitutionalism.

There is another reason why DuBois is less interested in delving into Stanton's ideas. In the 1860s and 1870s, Stanton opposed the 15th Amendment, once it was drafted to exclude women while protecting the right of black men to vote. So to quote Stanton in full would only tarnish her image as an advocate of human rights. DuBois acknowledges Stanton's racism and elitism without explaining how her arguments against "manhood suffrage" conformed to the abject bigotry pervading partisan politics. In 1868, Stanton wrote, "If woman finds it hard to bear the oppressive laws of a few Saxon Fathers, of the best orders of manhood, what may she not be called to endure when all the lower orders, natives and foreigners, Dutch, Irish, Chinese and African, legislate for her and her daughters?" Making a case for literacy laws and voicing ethnic, racial, and class contempt, Stanton knew that democracies pitted one class against another.

The women's suffrage movement never overcame these antagonisms. As the attractive woman featured on the book's cover would suggest, the movement's core constituency was educated upper- and middle-class white women. DuBois also ignores how suffragists (despite Susan B. Anthony's opposition) disavowed Stanton's heterodox *Woman's Bible* (1895), which antisuffragists used to paint the movement as a den of atheists and homewreckers.

The last phase of the suffrage campaign is compellingly laid out in DuBois's synthesis. Carrie Chapman Catt's National American Woman Suffrage

Association and Alice Paul's National Woman's Party got suffrage across the finish line. Both organizations used all the resources they could muster to win over politicians, cajole wealthy donors, and finally persuade President Woodrow Wilson.

Paul emulated the radical tactics of British suffragists by staging protests outside the White House, which led to arrests, imprisonment, and hunger strikes. Catt and her associates built a "suffrage machine" and carefully cultivated political allies in the U.S. Congress and state legislatures. Wisconsin was the first state to ratify the 19th

Amendment, and Tennessee the needed 36th state. Still, DuBois ignores the refusal of southern hold-out states (deeply afraid of black women's voting, wary of federal interference) to ratify for decades: Maryland held out to 1941, Virginia to 1952, Alabama

to 1953, and Georgia, Louisiana, North Carolina, and South Carolina did not ratify until 1969–1971.

Women's suffrage reveals the best and worst of American democracy. Its organizers ingeniously deployed old and new forms of democratic expression—conventions, petitions, treatises, oratory, parades, vigils, and artwork. By the 1900s, they had created a network of educational programs and handbooks to foster an informed female public. They worked for constitutional reform that empowered conservatives and liberals, Democrats and Republicans alike. Yet suffrage did not end women's status as second-class citizens, which is why Paul supported the Equal Rights Amendment.

Anna Howard Shaw, one-time president of the National American Woman Suffrage Association, perfectly captured the dubious doublespeak of democracy in 1914: "It is indeed fearful and humiliating to belong to a class of people men can forget when speaking of fundamental privileges, but it is even more unfortunate to belong to a class of people men can forget without knowing they are forgetting anything."

Making a case for literacy laws and voicing ethnic, racial, and class contempt, Stanton knew that democracies pitted one class against another.

Poet of the Newsroom

A journalist with the unteachable gift of making you read on

Review by Henry Allen

FINAL DRAFT: The Collected Work of David Carr

EDITED BY JILL ROONEY CARR

Houghton Mifflin Harcourt, 400 pp., \$28

NEARLY A CENTURY ago, Stanley Walker, city editor of the *New York Herald Tribune*, was a living legend of journalism, a hard-eyed Texan who wrote about the speakeasies and ruckus of New York City. He foretold the future of other living legends in his beloved newspaper business, which is to say the prizes you get and the prices you pay for spending a gritty life in a gritty newsroom.

To wit: in the 1920s, Walker wrote,

What makes a good newspaperman? The answer is easy. He knows everything. ... He can go for nights on end without sleep. ... Men admire him; women adore him. ... He hates lies, meanness and sham but keeps his temper. ... When he dies, a lot of people are sorry, and some of them remember him for several days.

A few generations later, the legend in question would be the gritty David Carr, author of this posthumous collection of journalism, *Final Draft*, assembled by his widow, Jill Rooney Carr. It is his second book.

His first book was *Night of the Gun*, a memoir of his grievous and impassioned addictions to cocaine, crack cocaine, and alcohol, with side orders of speed, LSD, psilocybin, marijuana, et alia, along with stints in a lot of rehabs, the birth of children, and the death of relationships while

Henry Allen won the Pulitzer Prize for his criticism in *The Washington Post*. A Marine veteran of Vietnam, with seven grandchildren, he is the author of *Where We Lived: Essays on Places*.

he hacked his way through Minneapolis weeklies and business journals.

Carr shared Walker's style of finger-in-the-chest newspaper writing. One suspects lessons were learned from Raymond Chandler—he describes TV pundit Ann Coulter as “a blonde who knows her way around a black cocktail dress.”

He wrote with the hard facticity of an AA meeting. He had the unteachable gift of making you read on and on about his misadventures as he slouched toward *The New York Times* to be born.

Gritty as hell, Carr wouldn't seem to be the *Times* type, but the *Times* had accepted that someone had to write about topics like media and celeb-



Carr collapsed and died in the newsroom of The New York Times in 2015. “He wrote with the hard facticity of an AA meeting.”

rities and Zeitgeist. Carr was just the man. He became renowned for his acute perceptions, his feel for New York, and his television guest appearances—he barked away in a hoarse Midwest accent that flattened all the vowels. His energy was visible, the sort of subliminal tremor you sometimes sense in ex-addicts.

In 2015, at 58, Carr collapsed in the newsroom of the *Times* and died after a life of disfiguring cancer, bad women, worse addictions, and relapses into all of them.

As for Walker, he went back to Texas, announced he had a fatal illness in 1962, and killed himself with a shotgun. As he predicted, no one remembers him, the point being that living is the only kind of legend that newspaper people tend to be. There were exceptions, like the early practitioners of the New Journalism—Tom Wolfe, Jimmy Breslin, Gay Talese, Hunter Thompson—but Carr was late for that party.

Print journalism was just starting to lose its mojo in 1989, the date of the first piece in *Final Draft*, a freelance story in the *St. Paul Pioneer Press*. Already, at 33, this intense, charming kid from the Minneapolis suburbs had a whole lifetime as a druggie behind him.

It begins: “I often hear the sounds of sirens at the rehab center where I live ...”

At the beginning, there are accounts of rehabbers on a fishing trip and an airline captain who went to jail for flying drunk.

He covers the tribulations of single fathers, a gay Republican, Minneapolis’s bad boy Tom Arnold—one-time husband of Roseanne Barr. There’s an indicted senator, a gambling addict married to a sheriff, and the cancer Carr discovered in his neck. He wrote a lot about AIDS.

Then he left Minneapolis to edit the *Washington City Paper*, a survivor of the age of alternative journalism. Carr saw quickly that the media was a world in itself in Washington, with the *Post*, *The New Republic*, *The New Yorker*, and the *Times* being a sort of reality bubble that dinner-party Washington lived inside.

He was fascinated by *The New Republic*, a tiny policy magazine that once had a genius for creating stars in the Washington media firmament. How important they seemed, especially when they went wrong, as in the compulsive plagiarism of Ruth Shalit, the later sexual misconduct of Leon Wieseltier, the lawsuits of Sidney Blumenthal, and the outrageous fabrications of Stephen Glass, who

Carr became renowned for his acute perceptions. His energy was visible, the sort of subliminal tremor you sometimes see in ex-addicts.

held on to his stardom long enough to be the subject of a movie in 2003.

Attacking the *Post* was part of Carr’s job description, of course, but no one there minded very much. (Disclosure: I worked there.)

He spends four pages faulting a story about a seven-year-old girl who said she’d driven her father to the hospital. The girl became a momentary celebrity but she was fibbing, as the *Post* soon revealed.

There were the mandatory shots at a *Post* writer named Sally Quinn, who once had the ability to embarrass the *Post* but was safely married to the executive editor.

In 2002 Carr was recruited by the *Times* to cover the magazine business. He soon expanded his purview.

He made a stab at profiles—Neil Young, Julian Assange—but they’re more about facts than human beings. Carr does not forgive Jayson Blair, but he sympathizes conspicuously with him, Blair being the *Times* reporter who covered the Washington sniper from his New York apartment, making up the details as needed. He and Carr had a common history in cocaine.

Carr’s profile of actor Robert Downey Jr. should be a comfortable fit, with his time in jail for drugs and guns, but again it’s just the facts, ma’am. His postmortem on Philip Seymour Hoffman is best when he discusses the universal truths of chemical dependency—what William Burroughs called “the algebra of need.”

It’s a good clip file. Carr fights his way into Manhattan after the al-Qaeda planes destroy the World Trade Center. He takes his family to a cabin in the Adirondacks. He chronicles the squalid decline of the *Chicago Tribune*.

He is everything that Stanley Walker foresaw. The problem with this new collection is that it’s yesterday’s news, a set of clippings, a souvenir from another world. To be remembered for more than several days, Carr will have to let the memoir do the job.

Heaven and the Heretic

A brilliant scientist whose life is a cautionary tale

Review by Sam Kean

GALILEO AND THE SCIENCE DENIERS

BY MARIO LIVIO

Simon & Schuster, 304 pp., \$28

MARIO LIVIO MORE or less apologizes up front for writing yet another biography of Galileo. After all, hundreds of books on the physicist already exist, so what's left to say? Still, Livio thinks that *Galileo and the Science Deniers* can add to the Galileo canon in three ways. And though he succeeds with two of his aims, he comes up short on the third, albeit through no fault of his own.

The first reason Livio wrote the book is that most Galileo biographies are pretty dense. There's a lot to cover in Galileo's life—physics, astronomy, bastard children, his spat with the Catholic Church—and it's all set amid the wild energy of the Italian Renaissance. You can pen a thousand pages, easy. Livio, in contrast, wanted something brisk for general readers, and at just 304 pages, his book fits the bill.

Despite the brevity, Galileo comes across as a fully human character, including his faults. For one thing, he was incapable of keeping his mouth shut. He called one scientific rival a “poisonous reptile” and the “enemy not only of me but of the entire human race.” And however brilliant, he could be remarkably stupid politically, especially in his dealings with Pope Urban VIII. Urban actually supported Galileo's teaching of the heretical heliocentric theories of Copernicus in a limited fashion, as a calculation tool, until the scientist pushed too hard. Worse, in one of

Sam Kean is the author of five science books, including *The Disappearing Spoon* and *The Bastard Brigade*.

his dialogues, Galileo put Urban's own words in the mouth of a dunce named Simplicio. Many historians blame Galileo's conviction for heresy on his mulishness and poor judgment. Livio tries to absolve Galileo of these charges, but it's hard not to shake your head sometimes.

Livio also highlights the surprising ways in which Galileo's artistic education informed his science. In late 1609 and early 1610, Livio writes, “Galileo probably made more earthshaking discoveries than any other person in the history of science.” The first of these came when he trained a homemade telescope

on the moon. Galileo was not the first to do so. English astronomer Thomas

Galileo on trial at the Inquisition in Rome in 1633. A pioneering thinker, he also “could be remarkably stupid politically.”



Harriot had studied the moon through a “perspective tube” months earlier. But whereas Harriot saw only black and white splotches on the lunar surface (a “strange spottedness”), Galileo discerned mountains and craters. This was the first evidence that, contra Aristotle, the moon was not a smooth pearl. The moon had topography.

So why did Galileo see this ruggedness when

Harriot did not? Because as a young man, Galileo had studied art and knew all about chiaroscuro—the use of light and shadows to produce three-dimensional effects. Both astronomers saw the same details, but only Galileo understood what he saw. If there’s a better argument for a liberal arts education than that, I haven’t heard it.

Livio’s second aim in writing the book was to add a modern perspective to Galileo’s story. Livio works as an astrophysicist (he contributed to the Hubble Space Telescope), and he can take Galileo’s biggest achievements and show how modern science has built upon them.

In 1610, for instance, Galileo spied four unexpected specks of light orbiting Jupiter and deduced that they must be moons. These were the first new heavenly bodies discovered since antiquity. We

now know that Jupiter has at least 79 moons, only 53 of which even have names. More profoundly, Galileo’s work on the phases of Venus, which waxes and wanes like our moon, provided the strongest proof yet of the Copernican vision of the Earth rotating around the sun. Livio then explains how scientists since Galileo have generalized the concept of Copernicanism. First, we removed Earth from the center of the solar system. Then we realized that the sun itself was not the center of the universe but an unremarkable star in the galactic suburbs. Now even our universe might be just one of many multiverses. At each stage, our proud little world got demoted a bit. But in exchange,

we got a broader, more cosmic perspective.

The third reason Livio wrote the book was his belief that Galileo’s life is something of an allegory. “There is a striking similarity,” he says, “between some of the religious, social, economic, and cultural problems that a person in the seventeenth century had to struggle with, and those we encounter in the twenty-first century.” Galileo’s

life, he believes, is a cautionary tale.

In laying out this idea, Livio walks readers through Galileo’s trial for heresy and argues that the real issue wasn’t heliocentrism per se but the intrusion of science into Church matters, especially in interpreting scripture. Livio also includes a fascinating chapter contrasting the religious views of Galileo and Einstein, as well as some admirably tolerant passages about the positive role that religion can play in people’s lives.

A decade or two ago, this might have been a worthy contribution to the ongoing science-religion wars. In 2020, it tastes a bit flat. To be sure, some fundamentalists are still teaching creationism and intelligent design, and there are still some furious atheist bloggers out there. But the larger culture has moved on. The religious right has been marginalized by the populist, nationalist right. And the great left-right cultural civil war of today revolves not around science versus religion but around (depending on your perspective) long-overdue social justice reform versus political correctness run amok. The science-religion wars have been superseded.

Livio also draws parallels to the cavalier dismissal of scientific expertise today, especially with climate change. But however urgent this might be politically, it’s a stretch to link Galileo’s story to it. Galileo and the Church were essentially having a high-level theological debate that didn’t affect anyone’s life. Climate change, meanwhile, involves the fate of the whole planet. And although politicians who deny global warming do real harm, combatting the problem requires vast structural changes; those of us who believe the science have a lot of work to do as well. In the context of a Galileo biography, the asides on climate change and “fake news” mostly just interrupt the narrative.

Still, if the parallels to modern times don’t quite land, that doesn’t take away from the book overall. It’s both breezy and insightful, a tough combo to pull off. And no matter what, Galileo is still timely because he was such an original thinker. No matter the shifting political winds, genius always remains relevant.



Glamour and Violence

A group portrait of the brutal Belle Époque

Review by Anka Muhlstein

THE MAN IN THE RED COAT

BY JULIAN BARNES

Knopf, 288 pp., \$26.95

THE MAN IN THE red coat on the cover of Julian Barnes's eponymous biography has neither a name nor a face—a fitting mystery, as Barnes had never heard of him until he happened on his “tremendous” portrait done by John Singer Sargent in 1881. A few pages in, the reader is told that the man clad in this sumptuous red coat was Samuel Pozzi and learns quickly that he was known as a remarkable gynecologist and an indefatigable lover. Sarah Bernhardt, who knew him in both guises, nicknamed him *Docteur Dieu* (Doctor God).

To be sure, Barnes does not take himself for a biographer god. “We cannot know,” he repeats over and over again. In his view, “biography is a collection of holes tied together with string and nowhere more so than with the sexual and amatory life.” He even admits that his story could begin in many different ways:

In June 1885, three Frenchmen arrived in London. One was a Prince, one was a Count, and the third was a commoner with an Italian surname ... Or we could begin with a bullet, and the gun which fired it ... [Or even] across the Atlantic, in Kentucky, back in 1809, when Ephraim McDowell ... operated on Jane Crawford to remove an ovarian cyst containing fifteen liters of liquid.

He settled on the trip to England for the three gentlemen—Dr. Pozzi, Count Robert de Montes-

.....
Anka Muhlstein is a French writer living in New York. Her most recent books are *Balzac's Omelette* and *Monsieur Proust's Library*. She was awarded the Prix Goncourt for her biography of Astolphe de Custine.

quiou, and Prince Edmond de Polignac—saving the other themes for later. At the end of the book, a whole cast will have emerged à la Proust “as in the game wherein the Japanese amuse themselves by filling a porcelain bowl with water and steeping in it little pieces of paper which ... the moment they become wet, stretch and twist and take on color and distinctive shape, become flowers or houses or people, solid and recognizable.” The three men were emblematic of French society during the Belle Époque, which Barnes terms as “that time of peace between the catastrophic French defeat of 1870–71 and the catastrophic French victory of 1914–1918.”

Of the trio, Polignac was the “most invisible and unregistered. [He] was gentle, whimsical and rather hopeless.” He was also inept when it came to money: by the time he was 57 in 1892, all that he had left was his title. Montesquiou devised a solution that could have been dreamed up by Henry James or Edith Wharton. An American heiress, Winnaretta Singer, was on the market. The fact that Polignac was a discreet but known homosexual turned out to be his “unique selling point,” as Winnaretta was herself a discreet but declared lesbian. Their marriage was to be a resounding success.

Montesquiou was much more flamboyant. He fit the era's stereotype of the ultimate homosexual dandy—vain, nasty, and elegant. We cannot know, as Barnes stresses, whether he indulged his urges. Whatever the case, the gossip endured. Montesquiou proved irresistible to many writers, and Barnes zigzags skillfully between fiction and fact. Was he the inspiration for Joris-Karl Huysmans's character, the aesthete Jean Des Esseintes? Did Proust preserve him in the form of Baron de Charlus? Although Montesquiou joked, after the publication of Proust's *Sodom and Gomorrah*, that he might now be known as Montesproust, he astutely pointed out to Proust that Charlus was more than anything else the heir of Balzac's Vautrin. He may have felt that his own authenticity was threatened by all these literary shadows and envied Pozzi's steadiness and invaluable work.

Pozzi was born to a Protestant family of Italian

origin. He was thus something of an outsider in French society. But in those years of French acute nationalism, Pozzi was an exception. He was patriotic but convinced that “chauvinism is one of the forms of ignorance.” He learned from the pioneering surgeon Joseph Lister in Scotland, and from a visit to the Mayo Clinic, which had been founded by Englishman William Worrall Mayo in 1889 in Rochester, Minnesota. Pozzi’s bedside manner was so charming that his patients became his friends

John Singer Sargent’s 1881 portrait of the French gynecologist and “indefatigable lover” Samuel Pozzi, also known as Doctor God.

(in the case of ladies, sometimes more than friends). Montesquiou wrote with uncharacteristic simplicity that



he had “never met a man as seductive as Pozzi ... never saw him being anything other than his smiling, affable, incomparable self.” Everyone loved him, except perhaps his wife.

For all his worldly success, though, Pozzi was never able to escape the brutality of the period. And Barnes makes no effort to hide it. Readers should not be fooled by Barnes’s unconventional humor—Henry James’s praise, he writes, often seems “enshrouded, as it were, in what one might call bubblewrap”—or his comical and ironical take on a glittering, frothy society. Underneath it all lay the deadly violence of a nation obsessed by duels, ready to absolve murder, tolerating death threats. The 19th century was a time of amazing medical progress, yet a number of doctors were shot by irascible patients. Nothing was easier in the Paris of the day than to buy a revolver. But by the time the government decided to impose gun control measures, the First World War had erupted and “mass, rather than individual slaughter was of greater concern; and there was no problem with open carry in the trenches.”

In 1915, Pozzi inexplicably agreed to operate on the varicose veins in the scrotum of a tax collector named Maurice Machu. Why? We cannot know, but Barnes nevertheless speculates: “Perhaps the notion that, in the middle of mass European carnage, a man might worry about his scrotum appealed to his sense of the absurd. Or perhaps it was simpler: here, at least, is something I can fix.” The operation was a success, but three years later, the patient was still impotent. On June 13, 1918, Pozzi returned home from the military hospital where he operated to find Machu waiting for him. After entering Pozzi’s consulting room, Machu shot the doctor three times and then killed himself. Pozzi died a few hours later.

Julian Barnes wrote this book during the somber year that led to Britain’s vote for Brexit. In an afterword, he reveals that it was the figure of Samuel Pozzi, rational, enthusiastic, generous, “a sane man in a demented age,” who saved him from utter pessimism. It may be the best reason for us to read it now. ●

Collected by Anne Matthews

Commonplace Book

The pawn is the soul of chess.

—**François-André Danican Philidor**,
Analysis of the Game of Chess, 1749

.....
But only when I am wrapped, naked, by these soft spring clouds of evening steam, as now, do I feel I could well become someone from a past age. The steam envelops me but not so densely that the visible world is lost to view; neither is it a mere thin, silken swath that, were it to be whipped away, would reveal me as a normal naked mortal of this world.

—**Natsume Sōseki**, *Kusamakura*, 1906,
tr. by Meredith McKinney

.....
This or any other procedure is merely a dam against the spring tide of memories which surges toward any collector as he contemplates his possessions. Every passion borders on the chaotic, but the collector's passion borders on the chaos of memories.

—**Walter Benjamin**, "Unpacking My Library,"
Illuminations, 1931

.....
... Meanwhile
my dog runs off, noses down packed leaves into damp, mysterious tunnels.
He says the smells are rising now stiff and lively; he says the beasts are waking up now full of oil, sleep sweat, tag-ends of dreams ...

—**Mary Oliver**, "Spring," *American Primitive*, 1983

.....
Superb weather. Hideous sore throat and black melancholy for thirty-six hours. ... After the desolation of winter, when spring is bring-

ing new life, man, of all animate beings, wearies most quickly and most completely of the delights of outside nature. ... Why is his capacity for happiness so short-lived that it cannot last through one week of pleasant weather?

—**George Sand**, journal entry, June 6, 1837

.....
He had sold vitality, in one form or another, all his life and when your affections are not too involved you give much better value for the money.

—**Ernest Hemingway**,
"The Snows of Kilimanjaro," 1936

.....
(How all things flash! How all things flare!)
What am I now that I was then?
May memory restore again and again
The smallest color of the smallest day:
Time is the school in which we learn,
Time is the fire in which we burn.

—**Delmore Schwartz**, "Calmly We Walk Through This April's Day," *Summer Knowledge: New and Selected Poems*, 1959

.....
If you don't know the exact moment when the lights will go out, you might as well read until they do.

—**Clive James**, *Latest Readings*, 2015

.....
The human animal originally came from out-of-doors. When spring begins to move in his bones, he just must get out again. Moreover, as civilization, cement pavements, office buildings, radios have overwhelmed us, the need for regeneration has increased, and the impulses are even stronger. When all the

routines and details and the human bores get on our nerves, we just yearn to go away from here to somewhere else. ...

Furthermore, no one commits crime while fishing.

—**Herbert Hoover**, “Men Are Equal Before Fish,”
September 1951

.....
A farm murders natural diversity and extracts the life force from nature’s carcass to sell for profit. Most farming is voodoo ecology that makes a walking zombie out of nature. So why do we celebrate America’s farmers with such a soft heart? Why do we find beauty in the farm-scape but not in the well-landscaped shopping mall or subdivision? It’s sentimentality.

—**Wallace Kaufman**, “Confessions of a Developer,”
Orion Nature Quarterly, Autumn 1989

.....
May with its light behaving
Stirs vessel, eye and limb,
The singular and sad
Are willing to recover,
And to each swan-delighting river
The careless picnics come ...

—**W. H. Auden**, “May,” revised 1966

.....
I have for some time now been haunted by the Saami vision of the underland as a perfect inversion of the human realm, with the ground always the mirror-line, such that ‘the feet of the dead, who must walk upside down, touch those of the living, who stand upright.’ The intimacy of that posture is moving to me—the dead and the living standing sole to sole. Seeing photographs of the early hand-marks left on the cave walls of Maltravieso, Lascaux or Sulawesi, I imagine laying my own palm precisely against the outline left by those unknown makers. I imagine, too, feeling a warm hand pressing through from within the cold rock, meeting mine fingertip to fingertip in open-handed encounter across time.

—**Robert Macfarlane**, *Underland: A Deep Time Journey*, 2019

I owned my farm for two years before learning that the [woodcock] sky dance is to be seen over my woods ... on the first warm evening in April at exactly 6:50 P.M. The curtain goes up one minute later each day until 1 June, when the time is 7:50. The sliding scale is dictated by vanity, the dancer demanding a romantic light intensity of exactly 0.05 foot-candles. Do not be late, and sit quietly, lest he fly away in a huff.

—**Aldo Leopold**, *A Sand County Almanac*, 1949

.....
Who in the rainbow can draw the line where the violet tint ends and the orange tint begins? Distinctly we see the difference of the colors, but where exactly does the one first blindingly enter into the other? So with sanity and insanity. In pronounced cases there is no question about them. But in some supposed cases, in various degrees supposedly less pronounced, to draw the exact line of demarcation few will undertake though for a fee becoming considerable some professional experts will.

—**Herman Melville**, *Billy Budd, Sailor*,
published posthumously, 1924

.....
If any part of the following mixture of truth and fiction strikes the reader as unconvincing, he has my permission to disregard it. I would be content to stick to the facts if there were any.

—**William Maxwell**, *So Long, See You Tomorrow*, 1980

.....
My friend, my friend, I was born
doing reference work in sin, and born
confessing it. This is what poems are:
with mercy
for the greedy,
they are the tongue’s wrangle,
the world’s pottage, the rat’s star.

—**Anne Sexton**, “With Mercy for the Greedy,” 1962

.....
In politics, what begins in fear usually ends in folly.

—**Samuel Taylor Coleridge**, *Table Talk*,
October 5, 1830

AMERICAN PLACES



Christian Enns lives in Puako, an oceanfront community on the Big Island of Hawaii, a region that inspires many of his colorful, highly textured works—for example, the painting shown here, *Blue Abstract* (oil on canvas, 30" × 40").

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