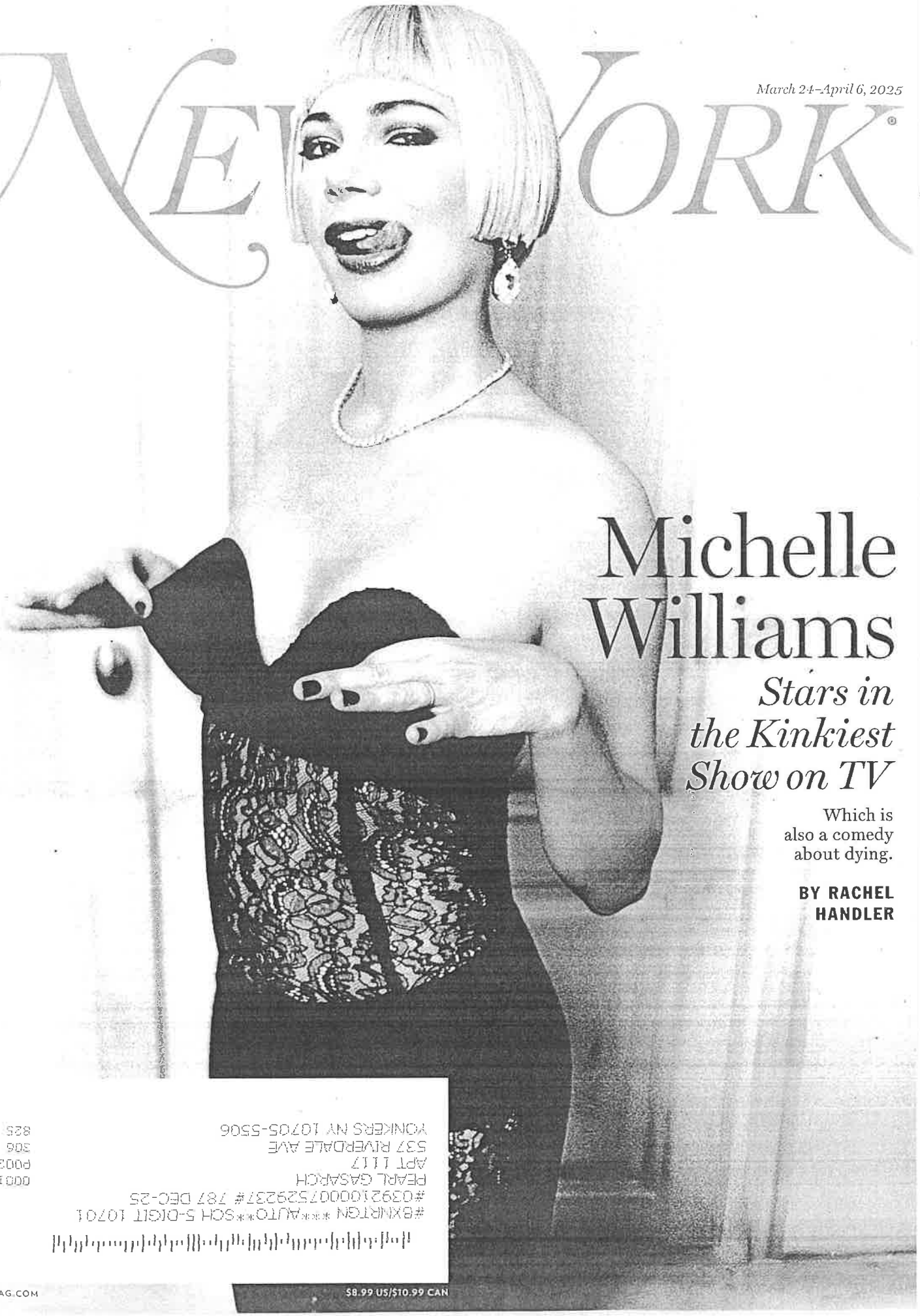
NEW YORK®

March 24–April 6, 2025



Michelle Williams

Stars in the Kinkiest Show on TV

Which is also a comedy about dying.

BY RACHEL HANDLER

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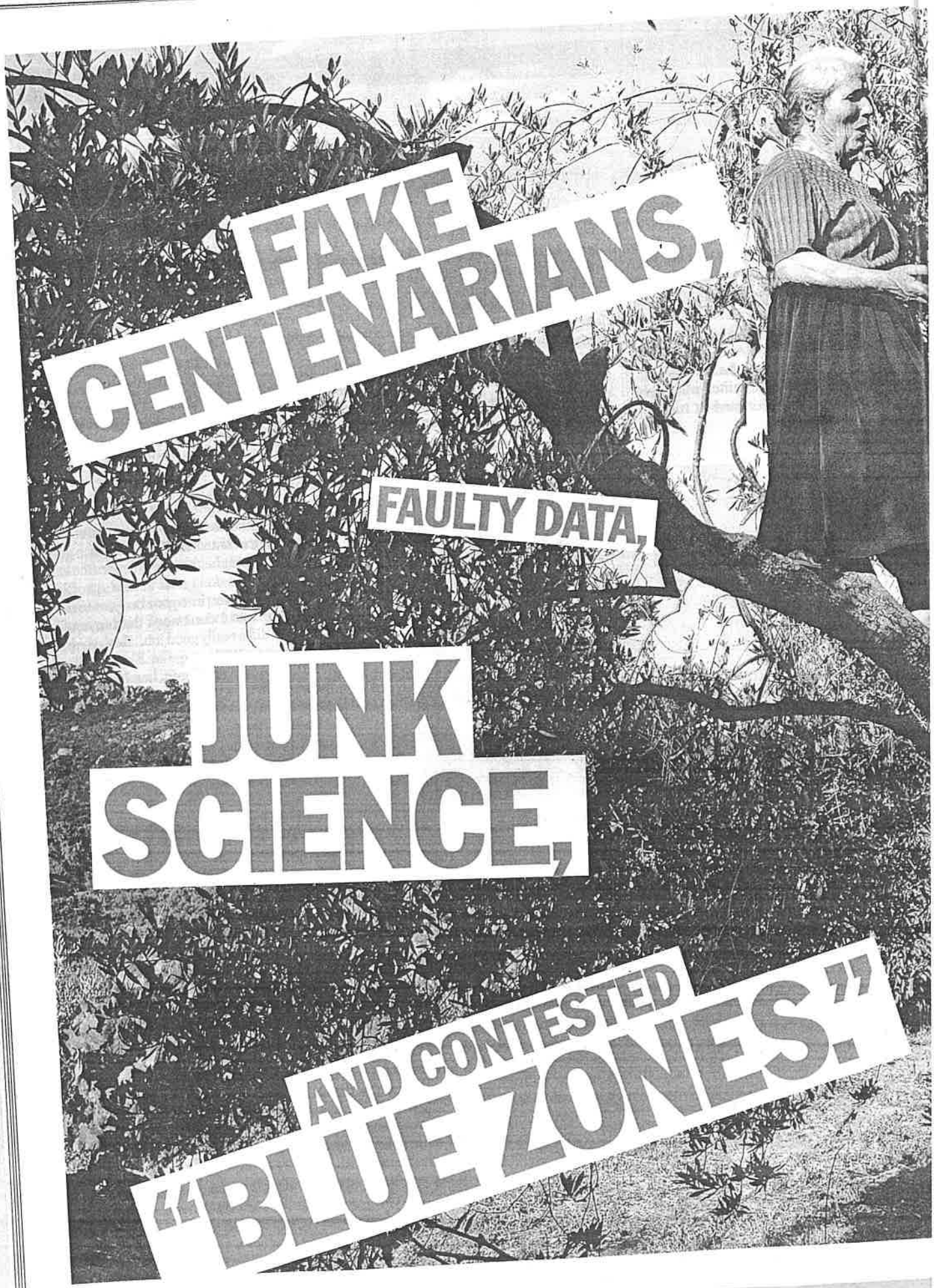
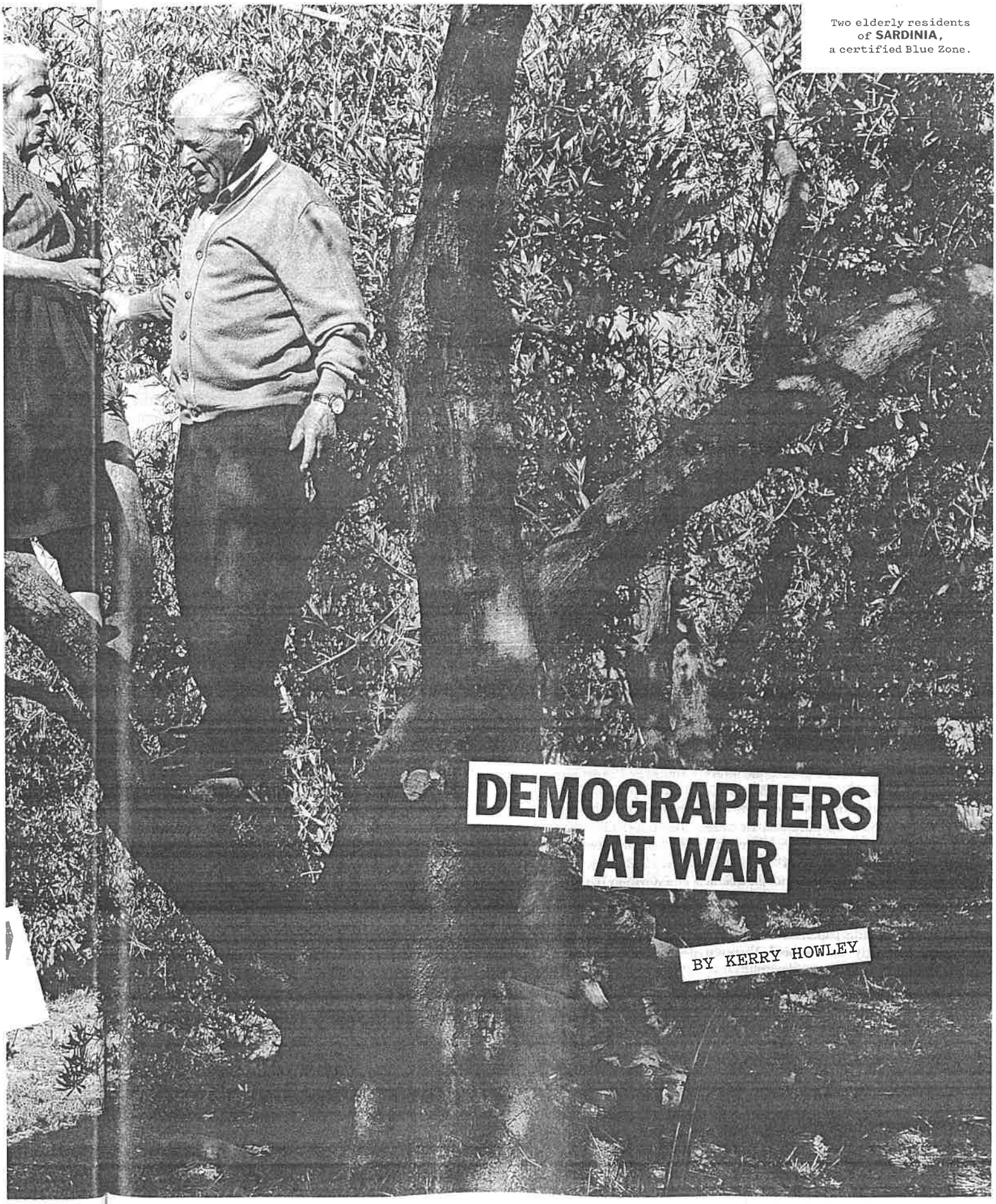

FAKE CENTENARIANS,
FAULTY DATA,
JUNK SCIENCE,
AND CONTESTED
"BLUE ZONES."



Two elderly residents of **SARDINIA**, a certified Blue Zone.

DEMOGRAPHERS AT WAR

BY KERRY HOWLEY

IT IS EXCEPTIONALLY hard to know how long long-lived animals endure. For the vast majority of species there are no growth rings to count, no blood tests to perform, no methods beyond marking time. The way scientists assess the longevity of wild animals is to tag them, go away, and hope to see them again. We know albatrosses live long lives because a 38-year-old ornithologist put a ring on a bird and caught her again when he was 84. Once, a termite queen lived in the laboratory for 21 years; no one can say whether this is typical in the wild or particular to this singular, persistent insect. How long tortoises live is unclear. We know bowhead whales live past 100 because in 2007 a whale was caught with harpoon points lodged in its shoulder bone, weapons not used in well over a century.

Our recordkeeping is more sophisticated when turned on ourselves; the average life expectancy of an Australian human male is solidly 81. In 2016, Saul Newman was a clean-shaven 31-year-old working in a sterile glass box in Canberra, Australia, part of a lab where geneticists probed the internal mysteries of wheat. Saul Newman loves plants. "Broccolini was invented in the '80s by the Sakata Seed Corporation," he once said to me. "Isn't that *wonderful*?" One day a friend from his Ph.D. cohort sent him a paper in *Nature* called "Evidence for a limit to human lifespan," thinking he might be interested in the subject. What interested Newman about this paper, as he made his way, increasingly exasperated, through pages of arguments for a maximum lifespan of about 115 years for humans, was how extraordinarily bad it was. "A horror show," he called it. "They've done everything wrong," he said to a colleague, astonished that such work could appear in a journal as prestigious as *Nature*. When he ran the data independently, he got a wildly different result.

Scientists would later describe Newman and his work to me in the following ways: "totally inappropriate," "just plain offensive," "misleading," and "potentially libelous." He was not even a demographer, his future enemies would delight in telling me, but a "crop scientist." This last part was true. Newman's grasp of graph theory and interpretable machine learning made him ideally suited to understand gene-environment interactions in wheat. He was thus unaware that he had stumbled into the most bitter feud in academic demography, between S. Jay Olshansky, a Chicago-based biodemographer who believes there is a natural limit to human life, and the late James Vaupel, who led the Max Planck Institute for Demographic Research in Germany until 2017 and believed life to be potentially limitless. In Olshansky's telling, Vaupel would misrepresent Olshansky's work at conferences, Olshansky would publicly correct him, and Vaupel would shout at him before a collective hundreds of people over decades.

Olshansky was not a co-author of the paper Newman found fault with, but he was a reviewer; the paper tracked with his ideas about limited lifespans. Newman published a response to the paper. Many scientists, in fact, published responses to this paper, which had become notorious. "They just shoveled data into their computer like you'd shovel food into a cow," was the response from Jim Vaupel. In 2018, Vaupel and his colleagues published a competing paper called "The plateau of human mortality," arguing that after age 105, death rates plateaued, which implied that people could live for far longer. Newman read the paper written in opposition to the paper he had called a "horror show." He found this paper equally bad. The authors chose a seemingly arbitrary age range for their analysis. When Newman tested every other age range—he found 861 possibilities—none came back with a publishable result. "A remarkable coincidence," Newman called it in his acid response. The first instance had at least looked like incompetence; this seemed like something else.

Newman had no strong feelings about limits to human life, but he was passionate about proper statistical practice. By now, he was involved. He was immersed. It wasn't obsession, he insists; it was the vexing sense that "someone was wrong on the internet," "like a nail poking up that you just haven't hammered down." His marriage to the mother of his two young children was failing. In his free time, he sought out stories of the longest-lived people in history, and it seemed to him that, inevitably, these people turned out to be frauds.

He admired the elderly con artists—good for them—but not the evidentiary standards on which their stories were based. There was Shigechiyo Izumi, thought to be the oldest man alive, Guinness validated, though it seems that he was impersonating his brother. There was Venezuelan Juan Vicente Pérez Mora, also Guinness approved, thought to have lived until the age of 114, though he had no documentation until the age of 54. When he analyzed U.N. data, Newman found that Western Sahara, a region without a functional government, ranked at the top of the longevity hierarchy, along with Malawi, one of the poorest countries in the world. Rather than ask whether this might be due to poor recordkeeping, it seemed to Newman, demographers turned to surprising theories about the longevity of Black people. In a 2020 paper titled "Why are supercentenarians so frequently found in French Overseas Departments?" French demographer Jacques Vallin sought to explain the data in Martinique and Guadeloupe. His answer: Owing to "the high fertility of Black people," the island was largely populated with those benefiting from "the tremendous health selection effect of slavery." In a master's thesis written by Robert Young, who runs a database of supercentenarians (those 110 and older) frequently referenced in peer-reviewed studies and relied upon by Guinness World Records, Newman found a different theory: African Americans may have skin that is "less wrinkled and thicker than" white skin, which "protects their internal organs." "There is even a saying in the black community," Young adds. "Black don't crack."

"It is not that racist ideas and largely fake data are present in the literature," Newman would later write, "although these are extremely serious problems, but that such issues are met by a resounding absence of criticism or action."

Newman was already convinced he had happened upon a thoroughly corrupt field of study when he came upon something called "blue zones." Blue zones were supposedly places where people lived exceptionally long lives, places like Okinawa, Japan; Ikaria, Greece; and a handful of villages in Sardinia. It was Newman's contention that these were simply areas with high rates of error or fraud; people were given to lie about being old, and demographers were given to believe them. He included an assault on the concept of blue zones in a paper on larger issues in demography, called it "Supercentenarians and the oldest-old are concentrated into regions with no birth certificates and short lifespans," and sent it out to journals in 2019.

Newman had not had trouble publishing in the past, but in this instance he fielded rejection after rejection. He reasoned that he was trying to publish a paper attacking

PHOTOGRAPH (PREVIOUS SPREAD): CLAUDINE DOURY/AGENCE VU'/REDUX

the field of demography in demography journals refereed by academic demographers, which was like "trying to tell the yeti-hunting society that yetis did not exist." Feeling defeated, he posted the paper on the preprint server bioRxiv and linked to it on Twitter, where he had only a couple hundred followers, possibly because a typical tweet of his read "Adding dynamic rate of change vectors to expression levels? Pretty cool." The post got seven retweets.

In 2021, Newman interviewed for a new job at the Leverhulme Centre for Demographic Science at the University of Oxford, a quantitative-demography center that focuses on creative uses for extant data. The center put out an open call for researchers and got what associate professor of data science and informatics Charles Rahal, who was on the hiring committee, called "a very, very large" number of applications. The pool, said Rahal, was "extraordinary ... unbelievably strong and highly diverse." Newman was hired, in part, on the rigor of his training: He was not just a statistician but one with training in genetic analysis, which is particularly complex.

"was *I need to agree to disagree with you.*" In any case, his paper had been rejected a dozen times; what was the point? He would move on. He was concerned about the encroaching war with Russia, and what it would do to the price of wheat, and the starvation that would result. He went to a protest against the war and there saw a woman he had met once before, a 40-year-old Ph.D. student from Russia named Elena Racheva. She was surprised about how emotional he was about the wheat. A few months later, Racheva began working in the sociology department at Oxford. She saw Newman in the office. "I'm from a culture where you are supposed to be very blunt," Racheva told me in her thick Russian accent. "You're supposed to unload everything that you feel and think now. I know that it's not the way to behave here, and I try to adjust my personality toward rules of etiquette in the U.K. If someone asked, *How are things,* you would just answer, *Fine.* And so we met next to the coffee machine. I asked, *So how are things?* And he said, *You know what? My brother was diagnosed with a tumor.*"

another codger, but a 130-year-old man ... is a celebrity, a guru of longevity whose advice on successful living is broadcast far and wide." Birth records did not become universal in the U.S. until the 1940s. When records are cleaned up, centenarians vanish, as 94 percent of American centenarians did after the 1970 Census. When literacy increases, the number of centenarians falls. Sweden, thought to have the best records in the world, has a reasonable number of centenarians: just under 28 per 100,000. U.N. statistics put Puerto Rico at an incredible 78 centenarians per 100,000; in 2010, owing to widespread fraud, the territory declared all birth certificates null and void.

With surprising regularity, people simply forget how old they are. They lie about their ages to collect pensions and to avoid military drafts. If you are a Japanese mother who loses a child in wartime conditions, you may not want to walk a full day to register your next child; you may simply transfer the old registration to the living newborn. In 2010, Tokyo welfare officials wanted to congratulate Sogen Kato, the city's oldest man, on his 111th birthday. Family members said he had

HE SOUGHT OUT STORIES OF THE LONGEST-LIVED PEOPLE IN HISTORY, AND, INEVITABLY, THESE PEOPLE TURNED OUT TO BE FRAUDS.

Newman arrived during the height of COVID. He was locked out of Australia, where his children were, and spoke, in Oxford, only to the doorman of his building. His paper remained unpublished, and he was profoundly depressed. It seemed to him that he had made an incredible discovery—an entire academic subfield built on bad data!—but no one would listen. He grew his hair out into a messy red mane, his beard bushy and his mustache a symmetrical circus-strongman curl. When he traveled to Portugal, the first person he encountered offered him cocaine. "*This is hilarious,*" he thought, warming to the new look.

Newman saw that his engagement with the world of old-age demography, in particular the rejection by gatekeepers from that world, was making him deeply unhappy. Online, he was called arrogant and attention seeking; Robert Young, of the thicker-skin hypothesis, called him uninformed. Newman's paper was not particularly subtle in its attacks on other scientists, but he didn't seem to like where the animosity led. "The most aggressive thing I ever heard anyone say in plant science," he told me,

Elena and Saul moved in together. Newman spoke rapturously of rice; a man had figured out how to increase the lifespan of rice eight times over, wasn't it wonderful? They bought some fish and, thinking they were not long for this world, named them Fíli and Kíli, after two dwarves who die in *The Hobbit.* When Newman spoke of the statistical horrors of demography, it was something he had given up long ago. He didn't want to think about numerical dates; he wanted to think about actual dates. In 2008, researchers found a 2,000-year-old date seed under Herod's fortress in Israel. They planted it. It grew. "There's a little thing that's alive in there," he told me, his eyes alight, "like a little spaceship."

THE PROBLEM IS THIS: A century is a very long while in which to keep time. Age exaggeration, writes Steven Austad, a professor of biology at the University of Alabama at Birmingham, "is a universal form of vanity among aged humans. An 85-year-old man is just

"become a living Buddha" and turned them away, but authorities eventually forced their way in to find Kato in his pajamas, mummified in his own bed, perhaps 30 years dead. His daughter and granddaughter were charged with pension fraud. Authorities in Japan, where the current official number of centenarians is an impressive 76.5 per 100,000, thought it might be a good time to check on Tokyo's oldest woman; her daughter hadn't seen her in 30 years. "Over 230,000 Japanese centenarians," Newman writes, "were discovered to be missing, imaginary, clerical errors, or dead—an error rate of 82 percent in data then considered among the best in the world." Jeanne Calment, who most demographers consider the oldest person on record, died in 1997 at 122, but this is controversial; some people think her daughter was impersonating her. "Come on," Newman told me. "She burned her personal effects."

In the late '90s, Belgian demographer Michel Poulain heard a presentation on the concentration of the oldest old in a few villages in Sardinia. All the demographers in the room, he said, were skeptical; so

PHOTOGRAPH (PREVIOUS SPREAD): CLAUDINE DOURY/AGENCE VU'/REDUX

many supposed Shangri-las had turned on nothing more than credulous scientists. "It's impossible," a colleague in Rome told him. It was too mountainous; there would be no records. "I was convinced before going there," Poulain told me, that "I will find quickly the reason why the ages are false." He arrived in Sardinia on January 20, 2000; there was a snowstorm, and in one of the villages that night a celebration for four alleged centenarians. "I say, *Wow, I will not go in there to congratulate them and then to say after them they are false*, okay? That would be very bad. So I decide to run to the municipality to see if some documents at least exist." They did, to his surprise, exist; they were readable and sequential, written in a loping careful script in broad, thin books he pulled from a high shelf while two officials, seated at desks, watched. There was an annual book for births, and one for deaths, and another for marriages. The date of death was marked in both the death register and in the margin of the birth register. If these records were consistent, he was satisfied, though never, he said, certain. ("You have a positive feeling, but you leave the door open.") If there was an inconsistency, he turned for help to baptismal records at a nearby church. With Gianni Pes, the researcher who had initially told him about Sardinia, Poulain would construct a genealogical tree of the entire village, piece by piece. He visited with 40 claimed centenarians. "Most of the time I take their hand," he said, "and there is a lot of energy that transfer between us. This is for me the most important moment. I am able to sit nearby a centenarian to take their hand just to feel their intense flame inside."

Every time they validated a centenarian, his team marked a blue dot on a map; places with a high concentration of dots became blue zones. ("You will ask me why is it blue," he said, a question I did not have. "It's just because I like the blue color. There's nothing else than this.") Sardinia was especially surprising because, while women centenarians usually outnumber men four-to-one, here their numbers were roughly the same. He found among the villages' centenarians one error; Damiana Sette had her age listed as 110, but she was "only 107"; her older sister had died at age 2, and the records had gotten mixed up. He would return to Sardinia, he said, 50 times, becoming so intimate with the documentation in these particular villages that municipal authorities would call him, in Belgium, when they had a question.

All of the scientists and demographers I spoke to for this story who believed there was something to the concept of blue zones believed it because they trusted Michel Poulain. "If Michel gives it his blessing, then that means that these ages have been validated reliably, and you don't have to worry about it," Olshansky told me. "He basically wrote the book on how to validate extreme ages," said Austad, who advises skepticism in believing whatever age your local zoo claims for its eldest tortoise ("The chelonian chain of custody always goes murky") and has a pet parrot named Hector he thinks *may* be 72. "He's been an extreme skeptic all along. And so the fact that he would validate those things suggests to me that they're really solid because he questions everything."

In 2004, when Poulain was 57, he was approached by a 44-year-old journalist-explorer named Dan Buettner. Buettner was a three-time Guinness World Record–setting long-distance biker. He was an educational entrepreneur. He had energy, and ambition, and, most important, money—an overall budget of $250,000 from *National Geographic*. Thus began one of the most complex entanglements of Poulain's life. With Poulain as a source, Buettner published a cover story, "The Secrets of Living Longer," in *National Geographic* in 2005, against an image of an 84-year-old Okinawan man doing a headstand on the beach. In 2006, with tens of thousands in *National Geographic* Explorer grants, Buettner came to Poulain with a new idea: They could use the money to verify more blue zones beyond Okinawa (which had been verified by a Japanese researcher in the '70s) and Sardinia. Buettner, Poulain, Pes, and their team ventured to Costa Rica and Ikaria together. There were so few centenarians in the blue zones they visited that it was possible, with Buettner's money, to do what Poulain considered a thorough investigation of every one.

The *National Geographic* article and the 2008 book that followed—("A must-read if you want to stay young!" according to Dr. Mehmet Oz)—described the lives of centenarians and active elderly as Buettner saw them. He identified four blue zones: Okinawa, small areas within Sardinia and Costa Rica, and the Adventist community of Loma Linda, California, which did not actually meet Poulain's criteria for a blue zone but was included on the theory that Americans would care more about having an American blue zone than about maintaining methodological consistency.

Poulain had his ideas about why the blue zones were producing so many centenarians; the key to long life, he told me, was "to live and to love." Buettner had a similar perspective, and he wanted to sell it. He developed a succinct series of rules he called the "Power Nine" with advice like "avoid meat" (Plant Slant); "relieve stress" (Downshift); "engage in low-intensity physical activity, such as gardening" (Move Naturally); and "participate in a spiritual community" (Belong). His claims referenced work by scientists who reinforced the view that a simpler, more bucolic existence led to longevity; he leaned heavily, for instance, on the work of Craig and Bradley Willcox, authors of *The Okinawa Program*, who claimed that Okinawans' devotion to imo, a Japanese sweet potato, accounted for their unmatched ability to stay alive.

Few storytellers have so successfully translated academic work into pop-science stardom. Eat plants, exercise, be social: We love to learn what we already know. Anderson Cooper covered it, as did Oprah. It was the kind of story you could fit in a headline, the kind of story you could transform into a TED Talk, which Buettner obviously would. Diane Sawyer, Walter Cronkite, and Barbara Walters appeared in the acknowledgments. A cookbook followed, a book framed as a "four-week challenge," a book on happiness. By 2008, Buettner, founder of Blue Zones LLC, was dating supermodel Cheryl Tiegs. "Longevity equals pickleball plus sex," he told *GQ*, adding that he had just biked home from dinner with Ryan Seacrest. Today, Dan Buettner is a tall, slim, tanned white man, graying naturally and well in the manner of someone you'd expect to see wearing a performance fleece in the Denver airport. If you were not previously familiar with his empire, you will now notice it everywhere. While writing this article, I lived in Los Angeles, adjacent to the beach city of Redondo, which has contracted with Blue Zones LLC to become a Blue Zones–certified municipality, and I fled the L.A. fires for Palm Springs, a city that had just committed $180,000 for a similar Blue Zones project. I moved to Los Angeles from Iowa City, which had been Blue Zones certified but got tired of paying for it. Post-fire, I returned to Los Angeles and stocked up at the Silver Lake Whole Foods, where I came upon a $7.59 Blue Zones Kitchen Sesame Ginger Bowl "crafted for longevity," a ginger bowl I regret to say I was not eating when I came across the four-part Buettner-hosted Netflix series, *Live to 100: Secrets of the Blue Zones*. Prior to any of that, I got an email from my health-care provider, UCLA Health, advising that if I "want to live longer," I "take a closer look at blue zones," health-care advice that, I think it's fair to say, I have taken.

In the years that followed, Poulain's relations with Buettner became strained. For one thing, Buettner had trademarked the term Poulain coined without even mentioning it to him, such that Blue Zones is reserved for the company. ("It was my blue pen," Poulain said sadly.) Poulain, now a white-bearded 77-year-old, main-

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The company **Dan Buettner** founded, **Blue Zones LLC,** has expanded beyond books and documentaries to pantry items and green tea from Okinawa.

tains his own blue-zones website, which identifies itself, pointedly, as a "scientific research website by Michel Poulain" and has precisely nothing to sell you. "This is fully outside of my vision," he said when I asked him about Blue Zones–branded canned soup. "Fully. *Fully* outside." He tolerated the expansion of the Blue Zones empire for ten years, until Chanel released Blue Serum, a lotion purporting to include "ingredients native to Blue Zones," and Buettner wanted to sue. Buettner's lawyer asked Poulain to testify. "No!" he said. "Impossible! Impossible!" Poulain said he was not part of the Netflix documentary; he didn't even know which blue zones were mentioned. "I just saw that I was not involved. That is something a bit amazing? But okay, let's forget this."

IN 2023, NEWMAN, having given up on his paper, was surprised to hear from the editor of an epidemiology journal who wanted to publish it with revisions. Newman told Racheva he would revise the paper and then "never return to the topic, never in my life." He spent a month working on it, a month, Racheva recalled, in which he was "very unhappy ... he's really emotional about this." He appended a supplement that involved accusations of racism and called out the field of demography for refusing to acknowledge data that was obviously ludicrous. After it, too, was rejected, he told Racheva he was done.

A few months after that, Newman was on his bike in spitting rain when he answered a phone call from a Cambridge professor. Newman had a new job, researching mortality at the University College London, but retained a desk at Oxford and continued to live there. His paper, still unpublished, was up for a prize called the Ig Nobel, awarded by an MIT-affiliated magazine called *Annals of Improbable Research* and intended to highlight amusing academic work. The professor asked if Newman wished to be taken out of consideration, presumably because some academics might find the award embarrassing. He did not want to be taken out of consideration; Newman revels in absurdity. ("The list of people who have claimed to be the pope is *fantastic,*" he said to me once on a video call from Jaipur; his hair flowered madly over a stretchy headband like a bunch of broccoli.) Eventually, it became clear that Saul was not only under consideration; he had won.

He flew to MIT. He wore a suit with a colorful *Tetris* print and a conical party hat over his voluminous hair. He read, onstage, a poem:

I was working away in my little lab,
Undisturbed by bunkum and woo,
When I was told the way not to get old
Was the Blue Zones lifestyle breakthrough...

But the secrets fell over like a lover in clover
When I checked the government books.
The blue zones are poor, the records no more,
The hundred-year-olds are all crooks!

After the Ig Nobel Awards, journalists began calling Saul Newman so often he was having trouble responding: *The Guardian,* the New York *Times,* NPR. He did a month of media, night and day, and he was a great interview: concise and specific and winsomely exasperated.

In the many versions of his paper, Newman finds that the alleged blue zones in Sardinia, Okinawa, and Ikaria are, in their respective countries, notable for their poverty, low incomes, and bad health. Other supposed hot spots had a suspiciously low percentage of 90-somethings. They are poor areas in high-welfare states, an incentive to fraud. "Every proposed BZ displays patterns," he writes, "that suggest a dominant role of error, fraud, and (to phrase it generously) researcher degrees of freedom in explaining the distribution

of extreme-age records." On Okinawa he is particularly savage. Citing national data, Newman contends that the prefecture has the highest murder rate per capita, highest unemployment, second-lowest median income, highest percentage of older people on welfare, highest per capita intake of KFC, highest BMI, lowest per capita consumption of Japanese sweet potatoes, and, as a legacy of American occupation, averages 14 cans of SPAM annually per person. "All nine claimed drivers of extreme longevity," writes Newman, "are assessable through data measured by the government of Japan. The 'power nine' claims are directly contradicted in every single case, usually through population-representative surveys of hundreds of thousands of people, with levels of inaccuracy that border on farce":

> *The older residents of Okinawa are not filled with purpose, or* ikigai, *at remarkable rates: Over-65 Okinawans have the fourth-highest suicide rate in Japan. Older Okinawans do not "grow gardens": They self-report the lowest rate of gardening in the country, beating only the apartment-dominated Tokyo and Osaka megacities. Okinawans do not eat "Meat ... only five times per month" in three-to-four-ounce servings, which would total 5.1 to 6.8 kilograms a year: They consume well over 40 kilograms of meat a year without including seafood. Nor do Okinawans overwhelmingly "belong to some faith-based community": They are 93.4 percent atheist, the most irreligious population in Japan, ranking third to last in the country for religious attendance.*

During the firebombing of Okinawa in WWII, a majority of family records were lost and afterward reissued by representatives of an American occupation government that neither spoke the language nor used the same calendar, events Newman refers to, in the archest of academic language, as "the enrichment of regular error-generating processes."

Michel Poulain wouldn't even read Newman's paper because it wasn't peer-reviewed. ("I refuse! I refuse because I will not lose my time. Have you seen this video where he receives the prize? It's crazy! Really crazy!") He was the blue-zones guy, not the Blue Zones guy, and yet his work, now under attack, had been leashed to Buettner's "Power Nine." But it was Buettner who couldn't stop thinking about it. He felt the press coverage was malpractice; couldn't journalists see that the paper was hackwork from a crop scientist, whereas his books referenced credentialed experts in their respective fields? He knew data could be unreliable; this was why he had turned to Poulain. Newman was using data that did not correspond precisely to the blue zones themselves, which were not official jurisdictions. "The real story here," he told me, "is the sad state of science journalism." He sent a letter from himself, the Willcox brothers, and other demographers and scientists attesting to the legitimacy of the blue zones. He sent comments from Jay Olshansky, who had been asked to review Newman's paper and rejected it "as it was loaded with unsupported assertions that bordered on libelous." He hoped I had time to talk to Michel Poulain, and Bradley Willcox, and other scientists who would speak to the validity of his claims, and in fact did, notwithstanding their thoughts on Buettner himself. His usual method in encountering criticism was to reach out, make a call, forge a connection. But he had already reached out to Newman in 2019, when the preprint first appeared.

"I actually like your pluck and your statistical prowess," he wrote in an email to which neither man can remember whether Newman responded. "Instead of focusing on a decade-plus-old process, how about we team up to take advantage of more robust data and updated techniques to evolve the definition of blue zones? I've been commissioned by *National Geographic* to identify a sixth blue zone. We could discuss a new definition so we could do a good job—we could actually travel there and do the verification together."

WHEN I ASKED TO meet him in mid-to-late February, Buettner came back immediately with a list of choices: I could come with him to see his family in Minnesota, somehow get to a talk he was giving in Bangkok, watch him testify alongside Senator Kirsten Gillibrand in D.C., visit him at home in Miami Beach, or come, within 48 hours, to a Wisconsin-based event called "Frosty Friday," wherein he and a dozen friends play a hockey-adjacent game called broomball, go for a midnight ski, carve a hole in a frozen lake, and jump into it. As nice as Miami Beach sounded, professional duty entailed Frosty Friday, and so I dug out a parka, flew to Minnesota, and drove out to his remote vacation home just as a snowstorm descended. "You're a brave girl," Buettner said when he opened the door. (Longevity people were always calling me "girl," or saying things like "You wouldn't understand, since you're in your 20s," which, every time, I appreciated.)

The lake house, an ostentatiously gilded, insistently masculine retreat, with ornate doors, spindly chandeliers, and a carving of mountain-scaling bucks above the stone fireplace, was never Buettner's style. What was Buettner's style was offering the original owner, who was in some kind of legal trouble, more than a million below the asking price. "I lowballed him," he said more than once. Now it is the site of Buettner's happiest days: surrounded by his adult kids and, on Frosty Friday at least, his friends, mild middle-aged Minnesota men who excel at concisely explaining themselves. A guy who ran an indie-music venue had recently fallen through the ice of a local lake while riding his electric bicycle across it. A hotel scion squeezing lime after lime into a copper canister of mezcal casually dropped that he had once been on the Olympic team for the canoe slalom. "Ever heard of Earth Day?" one man said. "That's me."

"Are you an ice-fishing enthusiast?" I asked a man carving a hole in the lake with a long saw.

"No," he said, "I'm a sauna enthusiast." He founded something called Longevity Financial Partners. He was wearing three layers, but they were all unbuttoned; his chest was exposed to the cold.

"More people will turn 65 this year than ever have in the history of the country," he said, drawing the saw back and forth against the ice.

Buettner had sold Blue Zones LLC to a nonprofit called Adventist Health in 2020. I would spend months confused about why he was so troubled by Saul Newman, a researcher with what amounted to a popular blog post about a company Dan Buettner no longer owned. Buettner had traveled the world, scaled mountains, and come home with a tale for which Americans were incredibly, enduringly receptive. His Netflix documentary had recently won an Emmy. He was living what was by all appearances a fantastically prosperous life in a walkable urban environment. Saul Newman was a guy in a library arguing about statistics. The contrast didn't seem to matter. "I feel like," Buettner told me, "did you ever read *The Trial*, by Franz Kafka? I feel like that guy. I'm being accused of something I never did, and it's kind of ruining me, and it's not fair. It hurts my soul."

Before I landed at the lake house, I knew that Dan Buettner had three world records for long-distance biking. What I did not understand until February was that Buettner had not broken these records; he had established them. He had written to *The Guinness Book of World Records* and *pitched* a record. "I wanted to bike and I couldn't afford it," he said. "I asked them what they thought of a bike ride from Minnesota to Argentina. And they said 'Well, that's a nice idea, but we'd be more likely to consider it if you start, say, in the Arctic Ocean.'" He wrote 880 letters soliciting equipment. He wanted a Casio watch but it was Rolex that responded, so he wore it on his 305-day, 15,536-mile trek from Alaska to Argentina. Thus began a series o

grueling rides across continents in a time before GPS. On his trip across Siberia, he and his team forded freezing rivers holding their bikes overhead and trudged through so much mud their legs pruned like fingers in the bath. Riding on dirt paths was like "sitting on a jackhammer" for 15 hours straight; at the end of the day, their hands were shaking so hard they could barely hold forks to eat whatever local food they had acquired: buckwheat, raw pig fat. In the Sahara Desert, the team biked against a dust storm, got themselves lost, and simply sat for 24 hours, assuming they would die.

On Frosty Friday, Buettner was cooking for everyone in the kitchen. "It's all bullshit," he was telling me, referring to pretty much everything trending in longevity at the moment: metformin, rapamycin, integrating your 18-year-old son's body fluids, biohacking writ large.

"It sells people false hope. You have to follow the incentives. Nobody makes money off of encouraging people to find authentic friends and connecting with them. Nobody makes money out of you finding a sense of purpose." If this was a strange thing to say in the kitchen of a $1.4 million Wisconsin lake house where Buettner escapes when weary of life in his $5.5 million waterfront Miami Beach condo, both undoubtedly paid for by Buettner's series of books arguing, in part, for social connection, I was increasingly convinced that Buettner was living the principles on which his fortune was based. He was mixing a giant pot of minestrone (No. 5: Plant Slant). He was hosting a dozen friends (No. 9: Right Tribe). He had a purpose (No. 2: Purpose), and that purpose was defending his life's work against a single man trying to undermine it. Blue zones, Buettner told me, "withstood 20 years of scrutiny until the academic equivalent of Krusty the Clown won a satirical award."

Someone had placed a ladder in the hole in the ice. The men played a hale round of broomball (No. 1: Move Naturally) under a full moon as the temperature dropped to ten degrees; some wiped out. "You feel like you're watching the movie *Cocoon* right now?" Buettner's 38-year-old son asked, sweeping past older men to make a goal. Brooms snapped in half. After a few rounds, the men disappeared into a sauna and emerged, one by one, in a way that did not seem entirely free of social pressure, to rip off their clothes and dip their swimsuited bodies into the hole the man from Longevity Financial Partners had carved into the ice. Buettner showed up shirtless wearing a neon-green beanie that read FROSTY FRIDAY 2024. His shadow stretched long on the lake. He stepped out of his sneakers, walked barefoot on the ice, descended the ladder, and moaned as his shoulders dipped out of sight. As I left, the broomball court was dusted over, erased. The hole remained dark and waiting.

THE LAST TIME Jay Olshansky saw his old rival, Jim Vaupel, they were at a conference in Washington. Olshansky walked up to the man who had screamed at him in public. "Look, Jim," Olshansky said. "I'm glad you've been around all these years." He said it half-jokingly, but he meant it. "It's given me an opportunity to publish a large number of articles correcting all of your mistakes." Vaupel smiled. "Same here," he said.

In January, Newman mentioned that he had an opinion piece coming out in the New York *Times*, a fact I would forget about until Dan Buettner sent me an email titled "Fake News?" responding point by point to Newman's arguments and comparing himself to Blake Lively. The strongest argument against Newman's paper is this: Newman attempts to discredit all of old-age demography by highlighting its worst, most credulous actors, without distinguishing between what almost everyone else would consider high- and low-quality data. The blue zones, he writes, "should be considered in the context of other diverse and incongruous patterns observed in extreme old-age studies." Should they? The paper focuses largely on suspect data regarding supercentenarians, but neither Blue Zones nor blue zones hinge on supercentenarians. On Okinawa, Buettner and Bradley and Craig Willcox, the co-authors of *Okinawa Program*, argue that Newman is using contemporary aggregate data about an increasingly unhealthy society to cast doubt on the narrow demographic of the oldest old, who they say remain healthy. (Newman counters that Japanese data from 1975 shows that the cohort of over-75-year-olds was already the unhealthiest in Japan.) Bradley Willcox adds that he has published statistical analyses showing that the rates of oldest old on Okinawan islands where records were not bombed are the same as those that were. Even Poulain, though, isn't quite sure about Okinawa's numbers; they're so high, and he has not independently verified them, which would be both prohibitively expensive and, to his mind, rude.

I wasn't convinced of the scientific value of knowing about a handful of very old men in Sardinia, but I was increasingly convinced that it was inaccurate to conflate Michel Poulain with people who had simply never bothered to check official records. At his dining-room table in Oxford, I asked Newman if *any* level of document verification would satisfy him. "No," he said. "Because there is a whole history ..." He trailed off. People have paper; the papers are wrong. "This has happened before, again, and again, and again, and again," he said. Records can be perfectly consistent, he said, as with Shigechiyo Izumi, who was thought to be impersonating his brother, and be false. Only an accurate biological test, a technology that does not yet exist, would suffice.

After receiving the call but before the award ceremony, Newman got a call from MIT Press. *Oh God,* he thought. *Now I have to write a book.* He wanted to call it *Morbid*; MIT Press wasn't so sure. He had been experiencing the roller coaster of elation and desperation familiar to authors everywhere. It was Racheva's position that the manuscript contained too many anecdotes about the corpses of old people hidden in freezers.

"No more than five ladies in the freezer per chapter," she said.

"Are there really multiple stories of people hidden in freezers?" I asked.

"Heaps!" Newman said.

In the next room, against expectation, Kíli was still alive. *(Continued on page 93)*

"DID YOU EVER READ 'THE TRIAL,' BY FRANZ KAFKA? I FEEL LIKE THAT GUY. I'M BEING ACCUSED OF SOMETHING I NEVER DID."

CONTINUED FROM PAGE 43

Newman wrote part of his book here, in a little cottage that looks like many other cottages in the Marston area of Oxford, on a narrow street with a corner grocery and a Scout hall with a painted sign that read, ominously given our subject, BE PREPARED.

Newman has the magnetic quality of someone keeping at bay a great sadness. He expresses a radical and all-encompassing skepticism; every closed door he cracks slightly open. I mentioned, in passing, the caveman diet; he pointed out that we knew about cavemen owing to preservation bias; people who may have lived in other environments are lost to the historical record. I mentioned Olshansky's theory that we are meant to live between 30 and 60 years and everything beyond that is "manufactured time" gifted us by medicine and modernity; Newman said we didn't really have any idea how long hunter-gatherers lived; it's difficult to date bones, and the tribes that survive are not representative. It was incredible to him how little progress had been made in the field of longevity, how much of it was noise and how little signal.

Even if we disregard Newman's warnings about statistical chicanery, there remains the question of whether longevity hot spots have anything to tell us about longevity itself. The Blue Zones books are an upsetting read for anyone attuned to the distinction between correlation and causation. Why, one might ask, have we decided that the root of Okinawan longevity is the sweet potato rather than the pork? The soy rather than the prewar starvation? "It's not even anecdotal evidence," Australian researcher Sarah Pasfield-Neofitou remarks on her podcast, *Blue Zones: Revisited*, which she made entirely because her family kept asking her to watch Buettner on Netflix. "The evidence doesn't even come from the anecdotes."

"For me," Nir Barzilai, the director of the Institute for Aging Research at the Albert Einstein College of Medicine, said, "this is genetics." "Maybe some" people reach 100 "by just being good," but most of the centenarians he has studied "are actually not good. Fifty percent of them are smoking. Fifty percent obese ... Only 50 percent do even walking, moderate exercise. And yet they get to be 100." (Barzilai, says Bradley Willcox, "doesn't get it.")

Around the time Newman got the Ig Nobel, Buettner did what he did every time someone criticized Blue Zones: He asked the academics to respond. He emailed Poulain "five or six times," according to the demographer, who refused. He emailed Jay Olshansky. "Dan, this isn't my fight," Olshansky said. Bradley Willcox did respond, and Gianni Pes, and Robert Young. The letter was posted on the Blue Zones site. To get to it, one clicked a link: "Response to Recent Misinformation About Blue Zones." To get to the link, one had to read past the Blue Zones landing page, past two different profit-seeking ventures ("transform your life" and "transform your community"), to "our research." That took you to a page labeled "Blue Zones Institute," though the "Institute" appeared to be a list of research from other sources. It was easy to get distracted, as I was, by a quiz; upon answering a series of questions I was told I could expect to live 90.6 years but could add 6.3 more years "with a few simple changes." In fact, I could start by pressing "add 6.3 years," which I did, upon which I landed on a directive to "Improve Your Attitude," which linked directly to a Mayo Clinic page: "10 Tips to Tame Your Temper." The question of whether one had to be deeply, irretrievably lost to consult the Mayo Clinic's "10 Tips to Tame Your Temper" in pursuit of six years of life was an open one, but nothing about this journey cleared the cloud of suspicion Newman cast upon the project.

The response to Newman did not take. Media could always say, Questions raised. Why was everyone so interested? "Because," Buettner said, with the air of someone who would know, "it's a good story." It is a good story, a story you could fit in a headline such as "Do People in 'Blue Zones' Actually Live Longer?" (New York *Times*) or "The Longevity Hot Spots That Weren't" (*The New Republic*), a story you could transform into a TED Talk, which he probably would. Bradley Willcox professed to be amazed at all the press over "a paper that's like written by a high-school kid," but he also had a theory: Perhaps the "profit-based" way in which Blue Zones was positioned had people feeling they'd been "sold a bill of goods." "Dan is about Dan," Willcox, whom I called at Buettner's behest, told me. He "created this whole program based on our work without including us. If you're making money off the scientists' back, why don't you have some kind of foundation to give back? Why not have a research foundation to study longevity or something?"

At the lake house, when we were talking about his deep past, his world records, Dan Buettner's knee was bothering him, and I asked him about it. He said it was fine, and went silent for a long moment. It was as if he had suddenly realized why we were both there. "I had these people who trusted me on doing this work," he said. He took off his glasses and placed his thumb and forefinger on the bridge of his nose. He apologized. He had not been sleeping. He was overwhelmed. "I don't know why—this has been really stressful," he said. "I never do that. I don't know why I'm doing this."

A friend walked into the kitchen, got a drink from the fridge, and walked back out. "And nobody pays attention to the work. One guy who has no expertise is trying to grab attention and now has it. And now because he's got all this attention, it just keeps propagating and nobody stops to really say, 'Look at the work that we really did.' And it was hard. And it took years. And I try to be honest, and now people think I'm lying."

Later the hotel scion was telling me about all the social events Buettner had organized: charitable galas, European bike trips for men Buettner considered interesting. Here was one side of never failing to ask for precisely what it is you want: a stack of freshly printed FROSTY FRIDAY 2025 shirts. A night with friends you'd persuaded into your space, while others, in their hesitation, watched the snow alone. It was striking to see what someone could build, socially and financially, on the very American idea that truth-telling and moneymaking were not in tension, and how earnest attachment to this idea was, in the end, a kind of vulnerability to depressive realists asking irritating questions. Buettner hadn't lied; he had simply chosen, again and again, to believe the science easiest to sell.

When I last spoke to Michel Poulain, he was very busy. He had an interview coming up with *El País* and another with a London-based publication. He had no doubt who had triggered this new interest in the original research. "So the main conclusion," he told me, beaming, "is that this Saul Newman, with his story, is promoting my work!"

In January, Newman and I walked around the damp courtyards of Oxford. We ducked into the Percy Bysshe Shelley Memorial, where a marble sculpture of the poet, hair splayed as if just drowned on the beach, stood behind a metal grate. Shelley, I realized only later, had been expelled from Oxford for his atheism. Newman was talking about how old Oxford was. We stood there marveling at its antiquity, how long this ground had played host to the fraught search for knowledge. "It's been here for 775 years," he said and then stopped himself. "Well, that's when they started writing things down." ■